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BACKGROUND STUDY REPORT NAS BRUNSWICK ME
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TETRA TECH

Background Study Report
for
Naval Air Station Brunswick

Naval Air Station Brunswick

Brunswick, Maine

Naval Facilities Engineering Command Mid-Atlantic

Contract Number N62467-04-D-0055
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BACKGROUND STUDY REPORT

FOR

NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE

COMPREHENSIVE LONG-TERM
ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT

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By affixing my seal to the "*Background Study Report for Naval Air Station Brunswick, Brunswick, Maine*" prepared by Tetra Tech and dated March 2012, I am certifying that the geologic information and interpretations herein are true and correct to the best of my knowledge. I further certify that I am licensed to practice in the State of Maine and that it is within my professional experience to verify the correctness of information.

STATE OF MAINE
TIMOTHY S.
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ACRONYMS AND ABBREVIATIONS

bgs	Below Ground Surface
BRAC	Base Realignment and Closure
BTV	Background Threshold Values
CD	Compact Disc
CLEAN	Comprehensive Long-Term Environmental Action Navy
COC	Contaminants of Concern
CTO	Contract Task Order
DDE	Dichlorodiphenyl dichloroethylene
DDT	Dichlorodiphenyl trichloroethane
DO	Dissolved Oxygen
DoD	Department of Defense
DPT	Direct Push Technology
DQI	Data Quality Indicators
DQR	Data Quality Review
EC	Electric Conductivity
EPA	United States Environmental Protection Agency
FA	Factor Analysis
FFA	Federal Facility Agreement
ft	Feet
IAS	Initial Assessment Study
ICP	Inductively Coupled Plasma
ICS	Interference Check Sample
ID	Inside Diameter
IDW	Investigation-Derived Waste
IQR	Interquartile Range
IRP	Installation Restoration Program
LCS	Laboratory Control Sample
LCS	Laboratory Control Sample Duplicate
LTM	Long-Term Monitoring Plan
MCPP	2-(4-Chloro-2 methyl phenoxyl) propionic acid
MEDEP	Maine Department of Environmental Protection
mL/min	Milliliter per minute
MS	Matrix Spike
MSD	Matrix Spike Duplicate
msl	Mean Sea Level

MRP	Munitions Response Program
MW	Monitoring Welll
NAS	Naval Air Station
NEESA	Naval Engineering & Environmental Support Activity
NPL	National Priorities List
NAVD83	North American Datum of 1983
OD	Outside Diameter
ORP	Oxidation Reduction Potential
PAH	Polycyclic Aromatic Hydrocarbons
PAL	Project Action Limit
PCB	Polycholorinated Biphenyl
PID	Photoionization Detector
PMO NE	Program Management Office Northeast
POL	Petroleum Oil Lubricant
ppm	Parts Per Million
PVC	Polyvinyl Chloride
NAS	Naval Air Station
QC	Quality Control
QSM	Quality Systems Manual
RI	Remedial Investigation
SAP	Sampling Analysis Plan
SOP	Standard Operating Procedure
TAL	Target Analyte List
TCL	Target Compound List
TOC	Total organic carbon
Tt	Tetra Tech NUS, Inc.
UPL	Upper Prediction Limits
USGS	United States Geologic Survey
%R	Percent Recovery

1.0 INTRODUCTION

This report presents the results of the Background Study conducted at Naval Air Station (NAS) Brunswick, Brunswick, Maine (Base). The investigation was performed by Tetra Tech on behalf of the Base Realignment and Closure (BRAC) Program Management Office Northeast (PMO NE) under the Comprehensive Long-Term Environmental Action Navy (CLEAN) Contract Number N62467-04-D-0055, Contract Task Order (CTO) 432.

This section presents the objectives and scope of the background investigation and summarizes the site location, description, and site history.

1.1 OBJECTIVES AND SCOPE

The Background Study at NAS Brunswick was performed primarily to gather enough data on base-wide background conditions in soil, groundwater, surface water, and sediment for current and future application to environmental site investigations and cleanups at NAS Brunswick. The primary goal of the study was to establish statistically based background data sets for selected chemical constituents for soils from predominant soil types at the base, groundwater from identified hydrologic units, and surface water and sediment from non-site areas for comparison of site data to base wide background data. The results of the background study will be used in other NAS Brunswick projects to determine whether detected constituents are site-related or reflect background conditions, to identify contaminants of concern (COCs), and to develop appropriate cleanup goals. Consistent with the methodology used at other Federal Facility Sites in EPA Region I, all COPCs, including site-related and background, will be carried through the human health risk assessment process and documented in the RAGS Part D tables. RAGS Part D Table 10 will include a footnote identifying those chemicals which are considered background or not site-related. The footnote will reference the specific sections of the RI that discuss the background analysis and site-related and total risk characterizations. Total risk and site-related risk will be discussed in the Risk Characterization section of human health risk assessment text in the Final RI. Only site-related risks and COCs will be discussed in the Conclusion section of the Final RI.

1.2 SITE LOCATION AND DESCRIPTION

NAS Brunswick is an active base, owned and operated by the federal government through the Department of the Navy, and is located in Brunswick, Cumberland County, Maine, south of the Androscoggin River. The base occupies approximately 3,094 acres of land that include the Main Station (also referred to as “the Base”), and several remote areas including McKeen Street Housing, Topsham Annex, the Former East Brunswick Radio Transmitter Site, and two small rake stations (not shown). The

operational area of the Main Station lies east of the two parallel runways and consists of numerous office buildings, barracks, recreational facilities, hangers, repair shops, and other facilities to support NAS Brunswick aircraft. Forested areas, grasslands, shrub land, marsh, and open water comprise approximately 83 percent of the base with the remaining 17 percent consisting of an operations area and paved areas (primary flight ramps and runways). The southern edge of the Base borders Harpswell and Buttermilk Coves, estuaries of the Gulf of Maine.

Undisturbed topography at NAS Brunswick is characterized by low undulating hills with deeply incised brooks. Ground surface elevations range from mean sea level (msl) in lowland drainage areas and the Harpswell Cove estuary to more than 110 feet (ft) above msl west and southwest of the southern end of the runways. Topography in the developed areas of the base has been modified by construction, with ground surface elevations generally ranging from 50 to 75 ft above msl.

Property uses surrounding NAS Brunswick are primarily suburban and rural residential, with some commercial and light industrial uses along bordering highways. An elementary school and a college are located within a 1-mile radius of the western base boundary.

Groundwater on the Base is not used for potable purposes. The industrial and residential portions of the Base are connected to a public water supply administered by the Brunswick-Topsham Water District.

1.3 SITE HISTORY

The Navy prepared an Initial Assessment Study (IAS) in 1983 to identify and assess potential sites due to contamination from past hazardous materials operations [Naval Engineering & Environmental Support Activity (NEESA), 1983]. In 1987, NAS Brunswick was placed on the National Priorities List (NPL) by the United States Environmental Protection Agency (EPA). In 1990, the Navy issued a Remedial Investigation (RI) report for multiple sites, and entered into a Federal Facilities Agreement (FFA) with the EPA and the Maine Department of Environmental Protection (MEDEP). The Navy has been addressing various environmental sites under the Installation Restoration Program (IRP) in accordance with MEDEP petroleum regulations. In addition, the Navy is currently conducting Site Inspections at several sites under the Department of Defense (DoD) Munitions Response Program (MRP). The environmental sites are shown on Figure 10-2 in the SAP (Tt, 2009).

Samples from environmental media at the active sites discussed below are being collected for laboratory analyses in support of long-term monitoring (LTM), site delineation and characterization, and remedial/removal actions at IRP Sites 1 & 3, 2, 7, 9, 17, the Eastern Plume, two active petroleum, oil, lubricant (POL) sites (The Navy Exchange Service Station and the Old Navy Fuel Farm), and six active

military munitions sites (Site 12, the former Machine Gun Bore Sight Range, the former base Skeet Range, the former Munitions Bunker West, the Quarry, and the Topsham Annex Skeet Range). The background data will be used in evaluating impacts from these sites as well as other areas of the base.

The remaining sections of this report are organized as follows:

- Section 2.0 presents a description of the field work performed during the 2009 field investigation. Tasks are listed in chronological order of execution. Sample collection procedures and analytical parameters are described and a description of the targeted soil types is presented.

- Section 3.0 presents the conclusions from the Data Quality Review (DQR).

- Section 4.0 presents the analytical results and conclusions of the statistical evaluations for soil.

- Section 5.0 presents the analytical results and conclusions of the statistical evaluations for groundwater.

- Section 6.0 presents the analytical results and conclusions of the statistical evaluations for surface water.

- Section 7.0 presents the analytical results and conclusions of the statistical evaluations for sediment.

- Appendix A contains the detailed statistical analyses for each media.

- Appendix B contains the detailed DQR.

- Appendix C contains the soil boring logs, field sampling sheets, well construction logs, and any other pertinent field data sheets.

- Appendix D contains the analytical data base.

- Appendix E contains the responses to regulatory comments on the Draft Background StudyReport for NAS Brunswick.

- Appendices A through E are on a compact disc (CD).

2.0 INVESTIGATION ACTIVITIES

This section presents a description of the Background Study investigation activities conducted in fall 2009 and spring 2010. The activities were specified in the approved Sampling and Analysis Plan and Quality Assurance Project Plan for Background Study, NAS Brunswick, Brunswick, Maine (SAP) (Tt, 2009). The activities completed during this investigation included the following:

- Electric conductivity profiling at 12 locations.
- Advancement of 34 soil borings.
- Surface and subsurface soil sampling at 32 locations.
- Monitoring well (MW) construction and development at 37 locations.
- Two rounds of groundwater sampling at all 37 newly installed background wells and 13 existing wells.
- Two rounds of surface water sampling at eight locations in Mere Brook and eight locations in Coffins Ice Pond.
- Two rounds of sediment sampling at eight locations in Mere Brook and eight locations in Coffin Ice Pond.
- Surveyed sample locations.
- Characterization and disposal of investigation-derived waste (IDW).

The following sections present descriptions of the investigation activities for the Background Study.

2.1 ELECTRIC CONDUCTIVITY PROFILING

Electric conductivity (EC) profiling was conducted on August 10, 11, and 21, 2009. EC profiling logs aided in defining zones of higher hydraulic conductivity or coarse grained and more permeable subsurface materials, including identifying the Lower Sand Unit. EC profile data assisted in refining monitoring well locations and screen intervals and provided consistency in well construction and data comparability within the groundwater data set.

EC profiling was executed in two phases. Phase I consisted of seven profiling locations and Phase II consisted of five additional profiling locations based on the review of Phase I EC profiles. A Lower Sand Unit was not encountered at two of the Phase I locations; therefore, five additional EC locations were profiled for Phase II in order to provide an adequate number of monitoring wells screened in the Lower Sand for data comparability. The additional EC profiling locations in Phase II were discussed with the Navy, MEDEP, and EPA. EC profiling was not performed at the EC08 location due to the close proximity of underground utilities.

EC profiling was performed with a Direct Image Field Instrument FC5000 and EC Probe SC500 in accordance with the Tetra Tech SAP (Tt, 2009 – Standard Operating Procedure (SOP) S3). The EC probe was driven using direct push technology (DPT) on a track-mounted Geoprobe® Model 6620DT. At each EC profiling location, the EC probe was driven into the Presumpscot Clay or to refusal, whichever was encountered first. A calibration check for the EC probe was completed at every EC profiling location in accordance with the SAP (Tt, 2009). EC profile graphs were generated for each profiling location, presented in Appendix C, and each EC graph was reviewed by a professional geologist to determine monitoring well screen intervals.

2.2 SOIL CHARACTERIZATION

A total of 34 soil borings were advanced in August and November 2009 for collection of surface and subsurface soil samples from the Upper Sand and Transition Unit characterizations and laboratory analysis, as required for the Background Study. The following sections describe the soil characterization program.

2.2.1 Soil Boring Advancement

Soil borings SB01 through SB32 and SB39 and SB40 were drilled across the study area. Borings SB33 through SB38 do not exist. Borings 33-38 is an (inadvertent) gap in the numbering sequence that resulted when additional borings were added to fulfill the number of soil samples required by the Final SAP. This gap does not affect the results of and conclusions of the background investigation. A total of 34 soil borings were advanced in Areas 1, 4, 5, 6N, 6S, 7, and Bowdoin Pines as shown of Figure 2-1. Soil samples were collected at 32 of the 34 soil boring locations. Soil samples were not collected at SB20 and SB40. Soil samples were not collected at SB20 because the targeted soil unit was not observed, and soil samples were not collected at SB40 because the targeted number of Upper Sand soil samples from Area 7 had already been collected. One surface soil [0-1 ft below ground surface (bgs)] and one homogenized subsurface soil (1-10 ft bgs) sample was collected at each of the 32 soil sample locations. A summary of soil sample locations is summarized in the table below:

Background Area	Soil Unit	Number of Soil Sample Locations
1	Upper Sand	5
4	Transition Unit	9
5	Transition Unit	3
6N	Upper Sand	4
6S	Transition Unit	3
7	Upper Sand	4
Bowdoin Pines	Upper Sand	3
Area Northwest of MW-303	Upper Sand	1
	Total	**32**

Soil locations were sampled with the intent of sampling a certain soil type, as described above. Some of the soil locations did not have the same soil types for the intended sample depth range. Any soil sample locations that varied from the intended sample depth range of 0 to 1 and 1 to 10 ft bgs are listed in the table below:

Soil Sample Locations	Varied Sample Depth (ft bgs)
SB07	1-9
SB18	1-7
SB19	1-5
SB21	1-5
SB22	1-3
SB30	1-7

Soil borings were advanced using the same DPT rig used to advance the EC probe. A Tetra Tech geologist observed the soil boring program activities and documented findings.

Surface and subsurface soil samples were collected with a dual-tube soil sampling system or a Geoprobe® Macro-Core® piston rod soil sampling system. The dual-tube samples consisted of a 1-inch inside diameter (ID), 5-foot long core barrel with a clear plastic liner. If additional soil was needed from a specific interval, the Macro-Core® piston rod soil sampling system was used. The Macro-Core® samples consisted of a 1.5-inch inside diameter, 5-foot long core barrel with a clear plastic liner. Soil samples were collected from 0 to 1 ft bgs for surface soil and from 1 to 10 ft bgs for subsurface soil at each boring. As each sampler was opened, soil was visually inspected and scanned with a photo-ionization detector (PID). All PID screenings were 0.0 parts per million (ppm) except for one reading from SB02 at 0.3 feet (0.8 ppm). PID screening results are noted on the boring logs located in Appendix C.

2.2.2 Soil Sampling Procedures

Soil samples were selected based on soil type and were collected from a single predominant soil type at each location. If more than one soil unit was represented, the samples from the targeted soil unit were separated, and the target soil unit homogenized. Soil samples were homogenized in an aluminum pan and placed into appropriate laboratory-supplied containers for laboratory analysis. Rinsate blanks were collected off of the aluminum pans and aluminum results were non-detect. If additional soil was needed to fulfill volume requirements, an additional acetate liner was obtained from the desired depth and homogenized with the original soil. Soil cores were characterized according to the Unified Soil Classification System. Soil boring and soil sample logs can be found in Appendix C.

Soil samples submitted for laboratory analysis were collected from the surface soil (0 to 1 ft bgs) and the subsurface soil (1 to 10 ft bgs). Surface soil samples from soil borings were analyzed for the following parameters:

- Target Analyte List (TAL) metals by EPA Methods,6010B, 6020, and 7471A
- Target Compound List (TCL) pesticides by EPA Method 8081A
- Herbicides by EPA Method 8157A
- Polynuclear aromatic hydrocarbons (PAHs) by EPA Method 8270 SIM
- Total organic carbon (TOC) by EPA Method 9060A

Subsurface soil samples from soil borings were analyzed for the following parameters:

- TAL metals by EPA Methods 6010B, 6020, and 7471A
- PAHs by EPA Method 8270 SIM
- TOC by EPA Method 9060A

More than one analytical method was required for TAL metals due to a wide range of metals concentrations. Method 6020 was used for low concentrations, and Method 6010B was used for high concentrations. A separate analytical method, Method 7471A, was used for mercury.

2.2.3 Background Study – Overburden Geology

The overburden geology in the vicinity of NAS Brunswick is interbedded sand, silt, and clay units that overlie the undulating bedrock surface with some occasional discontinuous till. The formation exhibits a general coarsening upwards sequence (E.C. Jordan, 1990). There are four major soil units at the base that have been described in previous reports (E.C .Jordan, 1990, 1991). The four major overburden soil

units present are the Upper Sand Unit, the Transition Unit, the Lower Sand Unit, and the Presumpscot Clay. All four units are not always present, and the thickness of each unit varies from area to area.

The overburden geology was examined in nine separate areas for the Background Study. These were Area 1, 3, 4, 5, 6N, 6S, 7, Bowdoin Pines, and the Area North of MW-303. The soils investigation portion of the Background Study was limited to the upper 10 feet of overburden (Tt 2009). Because the Lower Sand and Presumpscot Clay Units occur at depths greater than 10 feet, these units were not sampled.

Upper Sand - This unit is comprised of a fine to medium sand with minor amounts of gravel and silt. The Upper Sand unit was observed in six of the nine Background Study areas (Areas 1, 3, 6N, 7, Bowdoin Pines, and the Area North of MW-303). Soil borings completed in the northern section of NASB (Areas 1, 7, and Bowdoin Pines) showed a coarser and relatively thick Upper Sand Unit ranging from 20 to 40 feet in thickness. In the central and west-central section of the Base (Areas 3 and the Area North of MW-303) the Upper Sand Unit ranged from 4 to 31 feet in thickness. A thin Upper Sand Unit ranging from 0 to 6 feet in thickness was observed in the northeastern section of the Base (Area 6N). In the southern and western sections of the Base (Area 4, 5, and 6S) the Upper Sand was completely absent with the Transition Unit beginning at ground surface. The Upper Sand unit at locations SB18, SB19, SB21, SB22, and SB30 did not extend to 10 feet bgs.

Transition Unit - The Transition Unit lies between the Upper Sand and Presumpscot Clay unit and is comprised of silt, clay and minor amounts of sand and gravel. The Transition Unit is commonly identified as predominantly gray clayey silt with varying amounts of fine sand and interbeds of silt, silty clay, and clay layers. Sand is dominant in some places but is underlain by finer grained sediments. The Transition Unit was observed in all nine Background Study areas; thicknesses ranged from 1.5 feet in Area 6N to 25 feet in Area 4. The Transition unit at location SB07 did not extent to 10 feet bgs.

2.3 GROUNDWATER CHARACTERIZATION

A total of 50 monitoring wells were sampled for groundwater characterization. Thirteen existing wells and 37 newly installed wells were sampled for collection of groundwater samples from four units (Upper Sand, Transition, Lower Sand, and Bedrock). The following sections describe the groundwater characterization program.

2.3.1 Monitoring Well Installation

A total of 37 monitoring wells were installed (MW01 through MW44 excluding MW14, MW20, MW22, MW26, and MW33 through MW35 which do not exist). Table 2-1 provides a summary of the total depth, and screened interval for each of these wells and well construction logs are provided in Appendix C. The

monitoring well locations were selected to characterize background groundwater quality in the Upper Sand, Transition, and Lower Sand units (Note, four existing monitoring wells were used to characterize the Bedrock unit. Four monitoring wells (MW01 through MW04) are located in the northwest area of the Base in Area 1. Three of the monitoring well locations (MW05, MW41, and MW42) were completed in Area 3 just south of the Base. Eight monitoring wells (MW06 through MW13) were completed south of the Base and public golf course in Area 4. Five monitoring wells (MW15 through MW17 and MW43 and MW44) are located in Area 5 in the Weapons Area on the Base, and four wells (MW36 through MW39) were completed in the Area North of MW303. Three monitoring wells (MW23 through MW25) are located in Area 6S, and three more monitoring wells are located in Area 6N (MW18, MW19, and MW21); both Area 6S and 6N are located in the northeast section of the Base. Four monitoring wells (MW27 through MW29 and MW40) are located in Area 7, and three wells (MW30 through MW32) are located northwest of the Base in a portion of Bowdoin Pines. Figure 2-2 shows the well locations

Monitoring wells installed in Areas 1, 6N, 7, and Bowdoin Pines were completed with well screens set in the Upper Sand unit based on the examination of the soil cores. Monitoring wells installed in Areas 4, 5, and 6S were completed with well screens set in the Transition unit, with the exception of MW43 and MW44 which were screened in the Lower Sand unit. Monitoring wells installed in Areas 3, 6N, and the Area North of MW-303 were completed with screens in the Lower Sand unit.

Manufactured pre-packed well screens consisting of 2.5-inch outside diameter (OD), 1-inch ID Schedule 40 polyvinyl chloride (PVC) flush-threaded, machine-slotted well screen (0.010 inches slot openings) were utilized for each of the well installations. Five- or 10-foot long pre-packed well screens were used in the wells. A 5-foot long well screen was used if the geologic unit thickness was less than 11 feet. A bottom PVC plug was flush threaded to the bottom of each monitoring well. Silica sand was placed in the annulus around the pre-packed well screen to approximately 2 feet above the top of the screen. A bentonite seal rock chips were placed in the annular space above the sand pack to approximately 3.5 feet bgs. A silica sand drainage layer was placed above the bentonite seal, and a steel outer protective casing (4-inch ID by 5 feet long) was installed around the PVC riser pipe. Silica sand was placed in the annulus of the protective casing. A surface seal was not constructed due to the temporary status of the monitoring wells. The monitoring wells were locked with keyed-alike locks. Well construction logs are provided in Appendix C.

A black mark was drawn to the top of the PVC well riser to serve as a reference point for the well survey and groundwater depth measurements upon completion of each well. The horizontal and vertical locations of all wells were surveyed following the completion of well construction (see Section 2.9).

2.3.2 Monitoring Well Development

The majority of the 37 newly completed monitoring wells were developed using peristaltic pumps to avoid pulling in large amounts of silt present in each of the geologic formations. Fine-grained material around the well screen was drawn into the well and removed by agitating the well water while simultaneously pumping water from the well at a discharge rate of approximately 150 to 350 milliliters per minute (mL/min). Waterra pumps and Waterra tubing were used at six wells (MW27 through MW29 and MW05, MW40, and MW41) due to water depths greater than 25 ft bgs. Water produced during development was poured onto the ground at each monitoring well location. Well development data are presented in Appendix C.

Water quality parameters including pH, temperature, specific conductance, dissolved oxygen (DO), and turbidity were monitored during well development activities at 5- to 10-minute intervals. Well development continued until the pH, temperature, DO, and specific conductance stabilized and turbidity was below 10 nephelometric turbidity units (NTUs), or two hours of development was completed, whichever occurred first.

2.3.3 Water Level Measurements

Water level measurements were collected prior to each round of groundwater sampling. Water level measurements were recorded for Round 1 between September 14 and 24, 2009, and on November 30 and December 1, 2009. Water level measurements for Round 2 were conducted between April 12 and 21, 2010. Water levels were measured in the newly installed wells and 13 existing wells as summarized on Table 2-1 and Appendix C.

Groundwater level measurements were obtained using an electronic water level indicator. Water level measurements in wells were recorded from the reference point marked in black of the top of the PVC riser.

2.3.4 Groundwater Sampling

Two rounds of groundwater samples were collected from 50 monitoring wells. Round 1 groundwater samples were collected between September 14 and 24, 2009, and on November 30 and December 1, 2009. Round 2 groundwater samples were collected between April 12 and 21, 2010. The number of sampling locations for groundwater are summarized in the table below.

Background Area	Hydrostratigraphic Unit	Number of Wells
1	Upper Sand	4
3	Lower Sand	3
4	Transition Unit	8
5	Transition Unit	3
5	Lower Sand	2
6N	Upper Sand	3
6S	Transition Unit	3
7	Upper Sand	4
Bowdoin Pines	Upper Sand	3
Existing Wells	Transition Unit	1
Existing Wells	Lower Sand	8
East of Merriconeag Stream	Bedrock	4
Area Northwest of MW-303	Lower Sand	3
Area Northwest of MW-303	Upper Sand	1
Total Number of Upper Sand Wells		15
Total Number of Transition Unit Wells		15
Total Number of Lower Sand Wells		16
Total Number of Bedrock Wells		4
Total		**50**

Groundwater samples were collected following EPA low-flow purging and sampling procedures. Water produced during groundwater sampling was poured onto the ground at each monitoring well location.

Microbladder pumps with dedicated 1/4-inch OD Teflon tubing and 1/6-inch OD polyethylene airline tubing were used for groundwater sampling. The monitoring wells were purged at flow rates on average between 20 and 70 mL/min, depending on the drawdown observed during purging. Discharge rates were controlled to minimize drawdown as required by the EPA low flow protocol. During Round 2, after a wet period, three wells were artesian (MW43, MW44, and MW339) and had significantly higher flow rates of 110 to 200 mL/min. Water quality parameters including pH, temperature, oxidation/reduction potential (ORP), specific conductance, turbidity, and DO were monitored at 5 to 10 minute intervals during groundwater sampling. Low flow sampling continued until pH, temperature, specific conductance, and turbidity had stabilized in each of the wells. Field parameter measurements are summarized on Table 2-2 and are provided in Appendix C along with groundwater sample logs.

Groundwater samples were placed in laboratory-supplied containers, preserved as required by the analytical method, and transported with a chain-of-custody form to the laboratory for analysis. Round 1 groundwater samples were analyzed for total and dissolved TAL metals by EPA Methods 6010B, 6020, and 7470A, and for both chloride and bromide by EPA Method 300.0. Round 2 groundwater samples

were also analyzed for total and dissolved TAL metals by the same methods but were not analyzed for chloride and bromide. Groundwater samples were filtered in the field using a 0.45 micron filter.

2.4 SURFACE WATER CHARACTERIZATION

Surface water samples were collected from 16 locations co-located with sediment samples (Figure 2-3). During Round 1, eight co-located surface water and sediment samples were collected from Coffins Ice Pond on September 8, 2009, and eight co-located samples from Mere Brook on September 3, 2009. During Round 2, samples were collected from the same locations in Coffins Ice Pond and Mere Brook on April 6 and 7, 2010. The surface water samples were collected at 60 percent of the depth of the water column. During Round 1, the surface water samples at locations SW03 through SW08 were collected with a Kemmerer sampler. At locations SW01, SW02 and SW09 through SW16, the depth to water was less than 2 feet; therefore, the Kemmerer sampler could not be used. These sample locations were collected by directly dipping a dedicated, unpreserved bottle into the surface water and transferring the sample into appropriate sample bottles. During Round 2, surface water samples at locations SW02, SW03, and SW05 through SW08 were collected with a Kemmerer sampler. At locations SW01, SW04 and SW09 through SW16, the depth to water was less than 2 feet and samples were collected using the direct dip method.

After collection of surface water samples, the pH, temperature, specific conductivity, DO, salinity, and turbidity of surface water was measured in-situ and recorded on sample log sheets (Appendix C). Field parameter measurements are summarized on Table 2-3 and provided in Appendix C. Surface water samples were analyzed for total and dissolved TAL metals by EPA Methods 6010B, 6020, and 7470A and PAH by EPA Method 8270 SIM. Surface water samples were filtered in the filed using a 0.45 micron filter. Chain-of-custody forms are included in Appendix C.

2.5 SEDIMENT CHARACTERIZATION

Sediment samples were collected from eight Coffins Ice Pond locations and eight Mere Brook locations to characterize the sediment. The sediment samples were collected following collection of the co-located surface water sample at each location. During Round 1, sediment samples SD01 through SD08 were collected at Coffins Ice Pond on September 8, 2009. During Round 2, sediment samples SD01 through SD08 were collected on April 7, 2010. Sediment samples at locations SD01 through SD08 were to be collected using a 20- by 2-inch Wildco Hand Core Sampler with a dedicated acetate liner and dedicated basket. However, due to very soft and wet sediment conditions, the hand core sampler and dedicated basket did not keep the sample from falling out of the acetate liner. Therefore, a 6- by 6-inch Wildco Ponar Sample Dredge was used to collect sediment samples to a depth of 6 inches in Coffins Ice Pond. Sediment samples SD09 through SD16 were collected from Mere Brook on September 3, 2009

(Round 1), and on April 8, 2010 (Round 2). Sediment samples at locations SW09 through SW16 were collected using a stainless steel hand auger to a depth of 6 inches. Samples were homogenized in an aluminum pan, decanted if necessary, and transferred into appropriate bottle ware. Rinsate blanks were collected off of the aluminum pans and aluminum results were non-detect. One sample log sheet was completed for each sediment sample collected (included in Appendix C). Chain–of-custody forms are included in Appendix C. Sediment samples were analyzed for the following parameters:

- TCL Pesticides by EPA Method 8081A
- Herbicides by EPA Method 8151A
- PAHs by EPA Method 8270 SIM
- TOC by EPA Method 9060A
- TAL Metals by EPA Method 6010B/6020/7471A
- Grain Size (sieve analysis only) by ASTM

2.6 SAMPLE LOCATION SURVEY

A Maine-licensed surveyor measured the horizontal locations of all sample points and the elevations of the monitoring well casings. Survey control was maintained by tying into the Maine State Grid coordinate North American Data of 1983 (NAD83) West Zone for horizontal datum and the NVGD1988 system for vertical datum. Elevations were referenced to a USGS benchmark. Surveyed features were located horizontally to within +/-0.1 foot and vertically to within +/-0.1 foot.

2.7 INVESTIGATION-DERIVED WASTE

Materials generated from the field investigation included decontamination fluid and spent calibration fluid. IDW was containerized into 5-gallon buckets and then transferred to the groundwater treatment system.

TABLE 2-1

WELL COMPLETION SUMMARY
NAVAL AIR STATION, BRUNSWICK, MAINE

Monitoring Well	Date Installed	Aquifer Screened	Well Inside Diameter (in)	Depth to Top of Well Screen (ft bgs)	Depth to Bottom of Well Screen (ft bgs)	Fall 2009 Depth to Groundwater (ft from TPVC)	Spring 2010 Depth to Groundwater (ft from TPVC)	Ground Surface Elevation (ft)
NASB-BG-MW01	8/20/2009	Upper Sand	1	12	22	15.1	12.4	72.8
NASB-BG-MW02	8/20/2009	Upper Sand	1	12	17	15.1	12.4	71.9
NASB-BG-MW03	8/20/2009	Upper Sand	1	8	18	11.6	8.7	71.7
NASB-BG-MW04	8/20/2009	Upper Sand	1	8	18	11.9	9.0	72.2
NASB-BG-MW05	8/12/2009	Lower Sand	1	52	62	31.5	30.7	56.9
NASB-BG-MW06	8/18/2009	Transition	1	13	18	7.5	5.3	38.8
NASB-BG-MW07	8/18/2009	Transition	1	4	9	8.2	6.9	42.6
NASB-BG-MW08	8/18/2009	Transition	1	5	10	8.8	4.8	38.3
NASB-BG-MW09	8/17/2009	Transition	1	5	10	6.5	4.6	40.1
NASB-BG-MW10	8/17/2009	Transition	1	5	10	8.0	6.2	42.3
NASB-BG-MW11	8/17/2009	Transition	1	5	10	7.2	4.8	40.8
NASB-BG-MW12	8/18/2009	Transition	1	5	10	11.5	10.1	35.5
NASB-BG-MW13	8/18/2009	Transition	1	5	10	9.9	11.0	33.7
NASB-BG-MW15	8/26/2009	Transition	1	24	29	19.0	18.6	43.7
NASB-BG-MW16	8/25/2009	Transition	1	24	29	15.3	15.0	42.2
NASB-BG-MW17	8/25/2009	Transition	1	11.5	16.5	12.8	11.7	43.7
NASB-BG-MW18	8/13/2009	Upper Sand	1	3	8	4.4	3.8	48.5
NASB-BG-MW19	8/13/2009	Upper Sand	1	1.5	6.5	4.7	4.2	47.0
NASB-BG-MW21	8/14/2009	Upper Sand	1	1	6	6.8	6.0	47.9
NASB-BG-MW23	8/17/2009	Transition	1	6	16	8.9	7.5	40.9
NASB-BG-MW24	8/14/2009	Transition	1	3	13	12.7	14.0	35.5
NASB-BG-MW25	8/14/2009	Transition	1	5	15	14.2	11.9	37.9
NASB-BG-MW27	8/19/2009	Upper Sand	1	25	35	28.7	27.4	53.1
NASB-BG-MW28	8/19/2009	Upper Sand	1	25	35	28.8	27.2	54.1
NASB-BG-MW29	8/19/2009	Upper Sand	1	22	32	27.5	26.1	53.7
NASB-BG-MW30	11/11/2009	Upper Sand	1	7	17	7.2	5.8	57.7
NASB-BG-MW31	11/11/2009	Upper Sand	1	7	17	10.2	8.5	56.9
NASB-BG-MW32	11/11/2009	Upper Sand	1	7	17	11.4	8.2	56.9
NASB-BG-MW36	8/12/2009	Lower Sand	1	54	64	6.9	5.4	39.0
NASB-BG-MW37	8/13/2009	Lower Sand	1	38.5	48.5	14.4	13.5	41.3

TABLE 2-1

WELL COMPLETION SUMMARY
NAVAL AIR STATION, BRUNSWICK, MAINE

Monitoring Well	Date Installed	Aquifer Screened	Well Inside Diameter (in)	Depth to Top of Well Screen (ft bgs)	Depth to Bottom of Well Screen (ft bgs)	Fall 2009 Depth to Groundwater (ft from TPVC)	Spring 2010 Depth to Groundwater (ft from TPVC)	Ground Surface Elevation (ft)
NASB-BG-MW38	8/12/2009	Lower Sand	1	33	38	14.4	13.6	41.8
NASB-BG-MW39	8/17/2009	Upper Sand	1	12	22	16.1	15.4	42.6
NASB-BG-MW40	8/20/2009	Upper Sand	1	20	30	24.1	22.9	52.0
NASB-BG-MW41	8/27/2009	Lower Sand	1	36	41	30.0	28.4	60.9
NASB-BG-MW42	8/27/2009	Lower Sand	1	35	40	16.2	16.6	54.9
NASB-BG-MW43	11/12/2009	Lower Sand	1	56	61	0.0	0.0	18.2
NASB-BG-MW44	11/12/2009	Lower Sand	1	70	80	0.9	0.0	20.0
MW219	8/21/1989	Lower Sand	2	58.4	68.4	28.6	27.9	48.6
MW231A	9/14/1989	Lower Sand	2	50	60	18.4	16.7	42.5
MW303	10/2/1990	Lower Sand	2	59	69	10.5	9.0	42.0
MW310	9/18/1990	Lower Sand	2	61	71	23.6	22.1	50.3
MW314A	10/3/1990	Lower Sand	2	49.5	59.5	4.6	3.6	24.3
MW314B	9/21/1990	Transition	2	23	33	5.9	3.4	23.9
MW315A	9/20/1990	Lower Sand	2	64.5	74.5	1.3	0.7	20.6
MW316A	10/15/1990	Bedrock	2	89.5	99.5	22.5	24.3	51.1
MW316B	10/16/1990	Bedrock	2	45	55	12.0	10.4	51.9
MW317A	109/1990	Bedrock	2	108	118	15.5	13.8	67.7
MW317B	10/15/1990	Bedrock	2	84.5	94.5	15.5	14.2	67.5
MW335	8/3/2003	Lower Sand	2	76.0	86.0	16.9	16.2	38.2
MW339	8/20/2003	Lower Sand	2	62	72	1.4	0.3	20.0

Elevations are based on feet above mean sea level (NAVD 1988).

bgs - Below ground surface.
ft - Feet;
in - Inches.
NA - Not applicable.
NAVD - North American Vertical Datum
PVC - Polyvinyl chloride.
TPVC - Top of PVC riser.

TABLE 2-2

GROUNDWATER FIELD PARAMETER DATA
NAVAL AIR STATION, BRUNSWICK, MAINE

Well Identification	Sample Date	Depth Sampled (ft bgs)	Initial Clock Time	Final Clock Time	Sample Time	Water Depth Below MP (ft)	Purge Rate (mL/min)	Total Volume Purged (gal)	Temp (^oC)	Spec. Cond. (µS/cm)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
NASB-BG-MW01	9/24/2009	21	820	935	940	15.1	50	1	14.8	29	5.57	197	9.55	0
NASB-BG-MW02	9/24/2009	18.5	805	850	853	15.06	50	0.5	13.69	20	5.56	215.2	10.44	2.3
NASB-BG-MW03	9/24/2009	14.85	840	1020	1025	11.55	60	1	18.87	21	5.51	-98.9	11.15	4.9
NASB-BG-MW04	9/24/2009	16.58	1001	1201	1203	11.89	50	1.5	16.9	14	5.77	341.8	9.21	6.26
NASB-BG-MW05	9/23/2009	58.77	1403	1550	1553	31.45	50	1	16.36	33	6.54	147.2	9.72	20.5
NASB-BG-MW06	9/22/2009	17	908	1010	1015	7.45	50	0.5	13.25	82	6.2	-181.7	1.25	4.7
NASB-BG-MW07	9/22/2009	9.3	1325	1525	1530	8.22	40	0.5	16.4	110	7.04	-178	1.31	8.3
NASB-BG-MW08	9/21/2009	11.5	1520	1610	1618	8.75	40	1	13.88	94	6.18	99.8	1.86	0
NASB-BG-MW09	9/21/2009	10.3	1050	1305	1310	6.49	50	1	16.8	99	5.9	-191.2	1.18	32
NASB-BG-MW10	9/21/2009	10.02	1515	1635	1640	8	50	0.5	14.42	231	6.26	-197	0.61	140
NASB-BG-MW11	9/21/2009	10.43	1518	1612	1615	7.21	30	<0.5	14.77	166	6.25	134.5	1.09	195
NASB-BG-MW12	9/22/2009	11.5	1100	1328	930	11.5	10	<0.5	15.29	128	7.26	205.2	2.86	0
NASB-BG-MW13	9/22/2009	11	1056	1141	944	9.88	40	<0.5	13.6	70	6.09	172.1	7.77	3.61
NASB-BG-MW15	9/15/2009	28.5	930	1220	1225	18.95	60	1.5	13.24	214	7.43	-95.1	1.38	49
NASB-BG-MW16	9/15/2009	27	910	1015	1020	15.32	60	1.75	13.2	115	6.77	-39.5	3.49	2.1
NASB-BG-MW17	9/15/2009	17.47	812	956	1000	12.78	50	1	12.07	143	7.04	-75.4	0.32	4.96
NASB-BG-MW18	9/16/2006	7.71	1402	1506	1511	4.39	55	1	13.69	20	4.88	219.9	3.09	3.71
NASB-BG-MW19	9/14/2009	8.67	1430	1750	1755	4.7	60	1.75	14.04	46	5.59	-32.7	0.34	4.58
NASB-BG-MW21	9/14/2009	8.81	1527	1619	1622	6.83	50	0.5	16.22	29	5.08	212.4	1.56	0.55
NASB-BG-MW23	9/14/2009	14	1320	1520	1530	8.91	50	1	14.77	138	6.34	-102.9	0.38	11
NASB-BG-MW24	9/15/2009	14.27	1300	1500	800	12.7	25	1.5	16.93	104	6.49	273.9	5.91	16.2
NASB-BG-MW25	9/14/2009	16.65	1133	1315	1320	14.2	50	0.5	15.08	72	6.19	197.8	4.5	5
NASB-BG-MW27	9/18/2009	34.5	930	1005	1010	28.65	40	0.75	13.32	143	6.4	191	10.9	1.5
NASB-BG-MW28	9/18/2009	32.54	759	940	943	28.84	40	0.5	12.37	345	5.64	225.2	12.8	0
NASB-BG-MW29	9/18/2009	32.85	825	910	915	27.51	60	0.3	10.86	35	5.92	-77.3	11.21	0
NASB-BG-MW30	11/30/2009	12	1350	1440	1445	7.24	50	1.25	7.8	407	5.09	298.6	9.48	5.65
NASB-BG-MW31	11/30/2009	12	1050	1150	1205	10.19	60	2	8.16	40	4.93	306.8	10.7	0.42
NASB-BG-MW32	11/30/2009	12	1100	1140	1145	11.35	50	0.5	7.3	139	5.59	210	11.55	0.39
NASB-BG-MW36	9/17/2009	61.25	1250	1435	1440	6.91	60	1.5	12.42	267	5.78	-106	0.43	3.5
NASB-BG-MW37	9/17/2009	44.04	939	1118	1123	14.4	50	1	13.58	157	7.68	-158.6	0.31	26.3
NASB-BG-MW38	9/17/2009	37	1000	1115	1120	14.42	50	1.25	11.19	145	8.2	-171.6	0.56	0
NASB-BG-MW39	9/17/2009	19.75	935	1050	1055	16.1	50	0.5	12.89	242	6.01	-100.1	2.96	0.15
NASB-BG-MW40	9/18/2009	27.02	1130	1220	1225	24.1	50	0.5	14.94	81	4.93	-62.7	8.87	3.2
NASB-BG-MW41	9/23/2009	39.95	1540	1715	1720	30	50	0.5	16.9	88	8.1	-205.2	1.05	310
NASB-BG-MW42	9/23/2009	40	1215	1405	1410	16.18	50	0.5	16.68	100	8.42	-199.8	0.45	310
NASB-BG-MW43	12/1/2009	61	855	935	940	0	150	2.5	7.47	102	7.68	-137.7	0.6	0
NASB-BG-MW44	12/1/2009	75	850	1050	1055	0.94	50	4	6.45	187	8.34	-263.9	0.29	11.4
MW219	9/15/2009	67.25	1234	1408	1410	28.56	70	1.5	14.04	90	5.8	320	8.64	0.01

TABLE 2-2

GROUNDWATER FIELD PARAMETER DATA
NAVAL AIR STATION, BRUNSWICK, MAINE

Well Identification	Sample Date	Depth Sampled (ft bgs)	Initial Clock Time	Final Clock Time	Sample Time	Water Depth Below MP (ft)	Purge Rate (mL/min)	Total Volume Purged (gal)	Temp (^oC)	Spec. Cond. (µS/cm)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
MW231A	9/16/2009	56.19	1038	1121	1123	18.44	60	<0.5	11.99	45	6.7	150.1	9.82	0
MW303	9/17/2009	67.76	1301	1352	1355	10.51	60	0.5	10.53	155	7.87	-161.3	0.85	0
MW310	9/15/2009	66	1310	1350	1355	23.55	65	1.25	15.31	158	6.07	232.9	6.5	0
MW314A	9/16/2009	56.9	840	945	950	4.6	80	2	13.05	107	7.45	-85.9	7.77	4.9
MW314B	9/16/2009	20	1125	1325	1330	5.93	50	1	16.79	59	7.56	-96.4	6.2	39
MW315A	9/15/2009	72.2	940	1145	1150	1.3	60	4	13.05	110	7.81	-154.8	0.59	317
MW316A	9/22/2009	98.81	1535	1624	1627	22.49	35	<0.5	13.17	154	9.18	48.4	2.64	0
MW316B	9/22/2009	51.7	1319	1402	1407	12.03	35	<0.5	12.24	140	7.95	182	2.49	0
MW317A	9/23/2009	115	910	1155	1200	15.48	60	2.25	14.49	299	7.89	115.6	0.68	58.8
MW317B	9/22/2009	92	1420	1530	1535	15.53	50	1.5	13.85	257	7.8	193.5	5.8	88.2
MW335	9/15/2009	81	1410	1455	1500	16.9	60	0.5	15.66	303	7.3	-101.1	1.19	4.9
MW339	12/1/2009	70	1005	1045	1050	1.44	110	1.75	7.33	116	7.97	-96.3	0.67	2.21
NASB-BG-MW01	4/13/2010	19.7	1500	1655	1655	12.43	40	1.2	8.72	30	5.31	181.5	8.16	4.5
NASB-BG-MW02	4/13/2010	15	1333	1440	1440	12.41	40	0.69	9.9	25	5.4	339.5	9.27	1.5
NASB-BG-MW03	4/13/2010	14	1315	1450	1455	8.68	50	1.18	10.25	17	4.42	123.5	6.91	4.16
NASB-BG-MW04	4/13/2010	14.8	1230	1405	1405	8.96	40	1.25	13.07	19	5.62	163.4	9.35	3.6
NASB-BG-MW05	4/20/2010	61.5	1500	1650	1650	30.72	60	2	11.79	37	6.48	12.1	7.37	1.4
NASB-BG-MW06	4/15/2010	18	1150	1300	1305	5.3	40	0.8	9.49	79	5.31	60	0.52	0
NASB-BG-MW07	4/15/2010	10.9	1210	1410	1412	6.88	30	1	10.25	111	6.59	152	0.91	0
NASB-BG-MW08	4/15/2010	12	1220	1332	1332	4.78	25	0.5	9.84	106	6.58	21.5	2.4	3.8
NASB-BG-MW09	4/16/2010	11	1000	1205	1205	4.6	40	1.5	5.52	93	5.99	-41.8	0.32	4.5
NASB-BG-MW10	4/16/2010	10.5	835	1035	1040	6.18	30	1	6.25	232	5.81	38.7	0.77	41.5
NASB-BG-MW11	4/16/2010	10.25	835	1035	1037	4.8	30	3.6	6.07	212	6.04	196	0.55	17
NASB-BG-MW12	4/15/2010	12	1440	1640	1645	10.1	16	0.7	9.47	157	6.04	37.3	1.67	5.78
NASB-BG-MW13	4/16/2010	11	1450	1637	820	11	30	0.66	7.86	83	6.38	-147.2	2.05	11
NASB-BG-MW15	4/21/2010	29.5	835	1040	1040	18.64	40	2	12.87	213	7.45	-8.9	0.8	18
NASB-BG-MW16	4/20/2010	30	1110	1310	1315	14.95	50	1.6	11.4	107	5.78	48.5	3.01	9.42
NASB-BG-MW17	4/20/2010	17	825	1025	1030	11.66	40	1.3	9.76	184	6.31	41	0.52	11.3
NASB-BG-MW18	4/14/2010	9	1450	1645	1645	3.84	30	1.25	9.93	24	5.1	137.2	3.92	4.1
NASB-BG-MW19	4/14/2010	9	1140	1315	1315	4.23	35	0.75	11.1	60	5.78	31.4	0.86	3.1
NASB-BG-MW21	4/14/2010	6.5	1120	1320	1325	6.04	50	1.6	9.58	30	3.85	87.3	1.53	8.97
NASB-BG-MW23	4/14/2010	14	850	955	955	7.45	40	1	7.95	108	6.29	116.6	1.25	3.9
NASB-BG-MW24	4/14/2010	14	835	1015	1048	14	30	1.43	8.48	127	6.77	222.8	2.11	14
NASB-BG-MW25	4/14/2010	16	825	1003	1005	11.92	40	1	8.38	66	5.1	79.7	5.93	1.87
NASB-BG-MW27	4/13/2010	34	1103	1203	1205	27.38	40	0.63	8.55	152	6.44	301	9.3	0.15
NASB-BG-MW28	4/13/2010	31.74	850	1015	1015	27.15	40	0.75	7.89	201	5.84	97.7	9.45	1.38
NASB-BG-MW29	4/12/2010	19.6	1525	1640	1645	26.1	20	0.5	9.36	28	4.53	145.7	10.74	0
NASB-BG-MW30	4/12/2010	14.8	1255	1355	1400	5.78	50	0.8	8.97	144	4.2	132.3	8.6	0

TABLE 2-2

GROUNDWATER FIELD PARAMETER DATA
NAVAL AIR STATION, BRUNSWICK, MAINE

Well Identification	Sample Date	Depth Sampled (ft bgs)	Initial Clock Time	Final Clock Time	Sample Time	Water Depth Below MP (ft)	Purge Rate (mL/min)	Total Volume Purged (gal)	Temp (^oC)	Spec. Cond. (µS/cm)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
NASB-BG-MW31	4/12/2010	14.7	1340	1520	1522	8.46	25	0.5	9.01	29	3.28	432.2	9.9	0
NASB-BG-MW32	4/12/2010	14.2	1325	1425	1425	8.21	45	0.5	9.44	50	5.17	154.5	11.13	3.6
NASB-BG-MW36	4/14/2010	62	1530	1730	1735	5.43	60	1.8	9.58	238	5.16	29.9	0.17	4.65
NASB-BG-MW37	4/15/2010	43.5	820	1020	1022	13.47	60	1.9	11.77	220	7.9	-81.6	0.54	6.3
NASB-BG-MW38	4/10/2010	37	850	1005	1005	13.58	60	1.5	8.03	136	8.36	-71.1	0.41	1.8
NASB-BG-MW39	4/14/2010	20	1535	1645	1647	15.35	40	0.74	13.22	245	6.09	229.8	4.38	0
NASB-BG-MW40	4/13/2010	27	820	910	915	22.88	50	0.66	7.89	95	4.34	109.5	8.98	0
NASB-BG-MW41	4/20/2010	40.8	1504	1704	1706	28.35	30	1	11.9	100	7.89	25.4	0.67	9.4
NASB-BG-MW42	4/20/2010	41	1500	1700	1705	16.58	50	1.7	11.84	103	7.41	1.9	0.3	20.5
NASB-BG-MW43	4/20/2010	60.5	820	905	905	0	120	1.25	8.57	103	7.3	-131.5	0.84	0.58
NASB-BG-MW44	4/20/2010	80	930	1030	1030	0	110	2	8.79	195	8.08	-148.8	0.08	4.8
MW219	4/19/2010	75	1145	1235	1235	27.9	60	1	11.92	105	6.37	4.6	6	3.5
MW231A	4/21/2010	56.2	1135	1220	1220	16.71	85	1	10.54	70	6.98	65.6	8.35	0
MW303	4/15/2010	66	850	1000	1005	9.01	60	1.16	7.17	217	7.4	-3	0.62	0
MW310	4/19/2010	66	1345	1430	1430	22.08	70	0.75	12.57	181	5.72	10.4	4.24	0.28
MW314A	4/20/2010	57	1100	1300	1302	3.6	60	2	12.35	72	6.56	249.2	9.39	0.1
MW314B	4/20/2010	30.6	820	1020	1022	3.42	50	1.6	11.6	61	7.47	196.7	2.87	36
MW315A	4/20/2010	72.2	1145	1235	1235	0.7	70	1.5	11.3	137	7.92	-117.3	0.66	0
MW316A	4/19/2010	97.6	1005	1205	1210	24.28	40	1.3	9.44	202	7.9	39.3	0.33	4.03
MW316B	4/19/2010	52	1010	1210	1212	10.4	60	2	8.5	150	6.92	147.2	1.45	0.1
MW317A	4/19/2010	115.7	1450	1630	1632	13.84	60	1.6	9.5	315	7.63	214.1	2.63	0.95
MW317B	4/19/2010	92	1445	1645	1650	14.24	50	1.6	9.47	267	7.35	40.7	1.25	44.3
MW335	4/19/2010	83.5	950	1045	1045	16.15	70	1.25	7.85	266	7.04	-86.5	0.48	0
MW339	4/20/2010	72	1045	1125	1125	0.3	200	3	9.17	124	7.95	-133.5	0.43	0

Abbreviations:
^oC - degrees Centigrade
µS/cm - microSiemens per centimeter
DO - dissolved oxygen
ft bgs - feet below ground surface
gal - gallons
mg/L - milligrams per liter
mL/min - milliliters per minute
MP - measuring point
mV - millivolts
NTU - nephelometric turbidity units
ORP - oxidation reduction potential

TABLE 2-3

SURFACE WATER FIELD PARAMETER DATA
NAVAL AIR STATION, BRUNSWICK, MAINE

Sample ID	Sample Location	Sample Date	Sample Time	Depth of Water (ft btsw)	Depth of Sample (ft btsw)	Temp (^oC)	Spec. Cond. (µS/cm)	pH	DO mg/L)	Turbidity (NTUs)
NASB-BG-SW01	Coffin's Ice Pond	9/8/2009	1135	2	1	11.83	154	6.51	12.31	1
NASB-BG-SW02	Coffin's Ice Pond	9/8/2009	1125	1.7	1	12.78	178	6.88	13.01	7.37
NASB-BG-SW03	Coffin's Ice Pond	9/8/2009	1110	2.3	2	10.43	172	7.22	5.8	4.52
NASB-BG-SW04	Coffin's Ice Pond	9/8/2009	1025	2.9	2	12.24	220	7.73	11.65	3.48
NASB-BG-SW05	Coffin's Ice Pond	9/8/2009	1010	3.5	2.5	11.36	188	6.46	6.97	5.96
NASB-BG-SW06	Coffin's Ice Pond	9/8/2009	955	4	3	11.22	187	6.62	7.93	11.22
NASB-BG-SW07	Coffin's Ice Pond	9/8/2009	940	3.7	2.1	11.51	186	6.95	8.85	3.46
NASB-BG-SW08	Coffin's Ice Pond	9/8/2009	920	3.3	2	10.9	2.1	7.24	7.34	3.46
NASB-BG-SW09	Mere Brook	9/3/2009	1305	0.8	0.8	16.17	196	6.95	10.87	5.1
NASB-BG-SW10	Mere Brook	9/3/2009	1235	1.55	1.55	15.67	194	6.98	10.89	2.88
NASB-BG-SW11	Mere Brook	9/3/2009	1215	0.5	0.5	15.3	192	7.01	10.88	4.68
NASB-BG-SW12	Mere Brook	9/3/2009	1150	1	0.95	14.98	191	6.97	10.96	6.6
NASB-BG-SW13	Mere Brook	9/3/2009	1100	1	1	14.45	188	6.85	2.85	3.1
NASB-BG-SW14	Mere Brook	9/3/2009	1030	0.8	0.75	14.2	186	6.86	10.84	2.12
NASB-BG-SW15	Mere Brook	9/3/2009	0955	0.77	0.77	13.77	183	6.93	10.77	1.33
NASB-BG-SW16	Mere Brook	9/3/2009	0920	0.9	0.9	13.43	183	6.99	10.5	5.32
NASB-BG-SW01	Coffin's Ice Pond	4/6/2010	1130	2.8	1.5	8.8	251	6.13	15.4	4.1
NASB-BG-SW02	Coffin's Ice Pond	4/6/2010	1140	2.2	1.2	8.99	262	5.43	11.4	1.6
NASB-BG-SW03	Coffin's Ice Pond	4/6/2010	1200	2.9	1.6	8.82	254	5.04	10.98	3.6
NASB-BG-SW04	Coffin's Ice Pond	4/6/2010	1220	2.1	1.1	8.84	243	4.8	12.16	1.7
NASB-BG-SW05	Coffin's Ice Pond	4/6/2010	1300	4	2.5	8.39	250	4.56	11.07	1.2
NASB-BG-SW06	Coffin's Ice Pond	4/6/2010	1310	4.1	2.5	8.87	253	4.58	11.61	1.8
NASB-BG-SW07	Coffin's Ice Pond	4/6/2010	1330	4.5	2.5	8.16	241	5.01	10.03	1.6
NASB-BG-SW08	Coffin's Ice Pond	4/6/2010	1350	3.5	1.75	8.76	207	5.08	8.92	315
NASB-BG-SW09	Mere Brook	4/8/2010	1045	0.6	0.4	10.9	203	3.47	10.09	1.13
NASB-BG-SW10	Mere Brook	4/8/2010	1035	2.25	2.1	10.89	203	3.08	10.11	0.88
NASB-BG-SW11	Mere Brook	4/8/2010	1025	1.25	1.1	10.89	202	3.06	10.14	1.23
NASB-BG-SW12	Mere Brook	4/8/2010	955	1.3	1	10.86	203	3.58	9.99	1.19

TABLE 2-3

SURFACE WATER FIELD PARAMETER DATA
NAVAL AIR STATION, BRUNSWICK, MAINE

Sample ID	Sample Location	Sample Date	Sample Time	Depth of Water (ft btsw)	Depth of Sample (ft btsw)	Temp (^oC)	Spec. Cond. (µS/cm)	pH	DO mg/L)	Turbidity (NTUs)
NASB-BG-SW13	Mere Brook	4/8/2010	940	1.75	1.5	10.79	198	3.78	10.11	0.81
NASB-BG-SW14	Mere Brook	4/8/2010	930	0.9	0.7	10.8	199	4.46	10.05	0.88
NASB-BG-SW15	Mere Brook	4/8/2010	925	1.4	1.2	10.8	199	5.02	10.01	1.44
NASB-BG-SW16	Mere Brook	4/8/2010	915	1	0.8	10.81	199	5.73	10.46	1.1

Abbreviations:
^oC - degrees Centigrade
µS/cm - microSiemens per centimeter
DO - dissolved oxygen
ft btsw - feet below top of surface water
gal - gallons
mg/L - milligrams per liter
mL/min - milliliters per minute
MP - measuring point
mV - millivolts
NTU - nephelometric turbidity units
ORP - oxidation reduction potential

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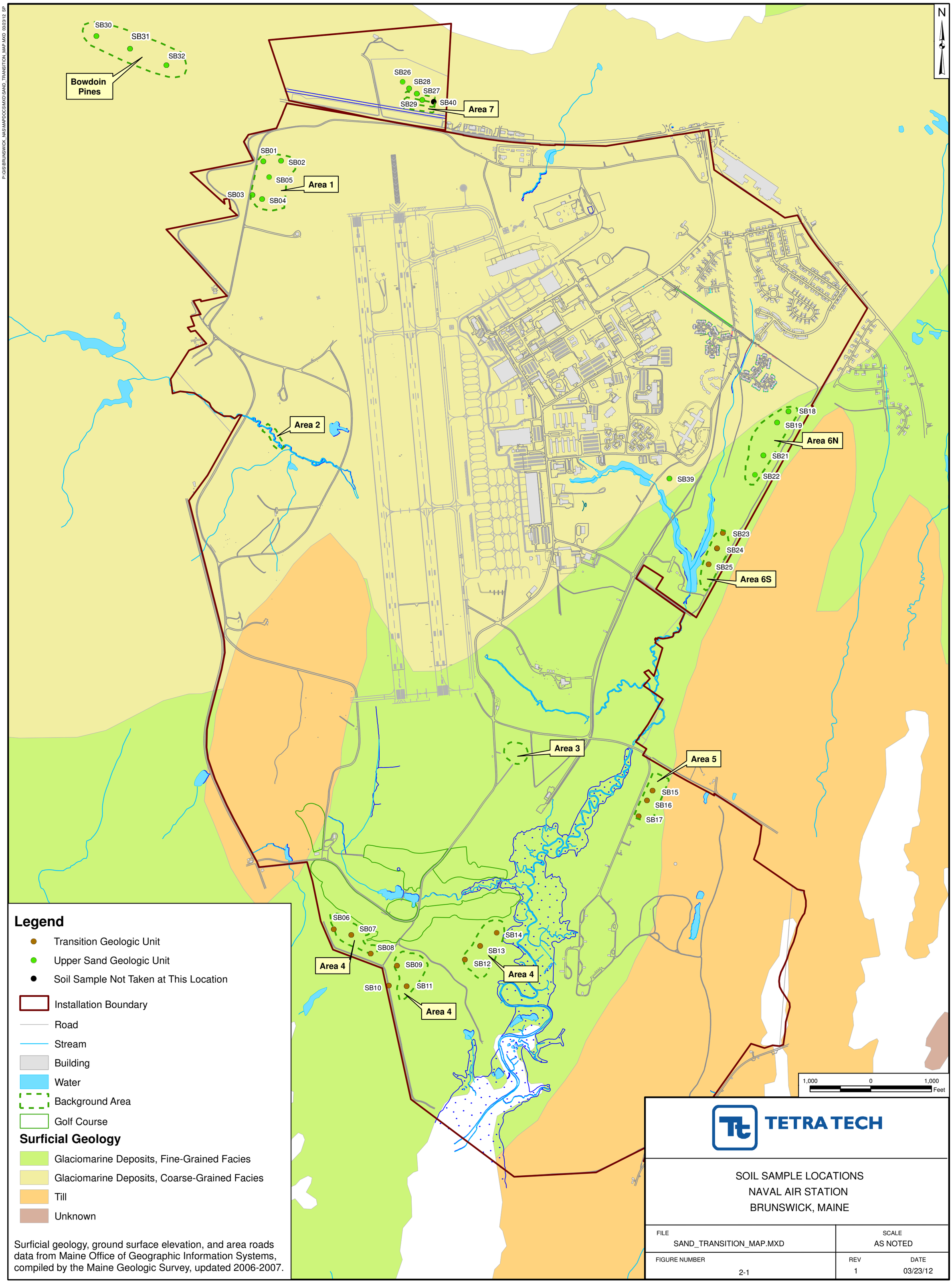

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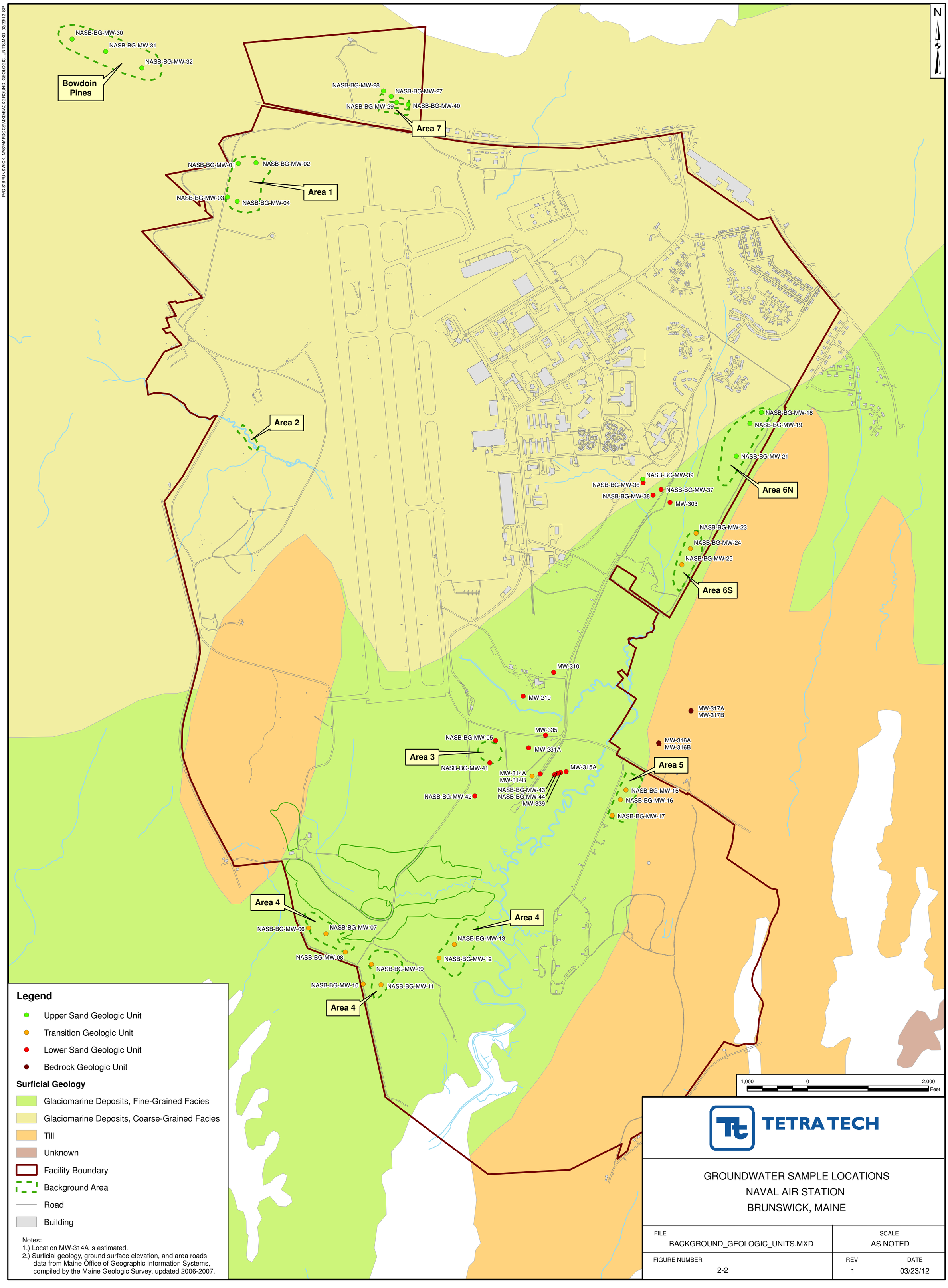

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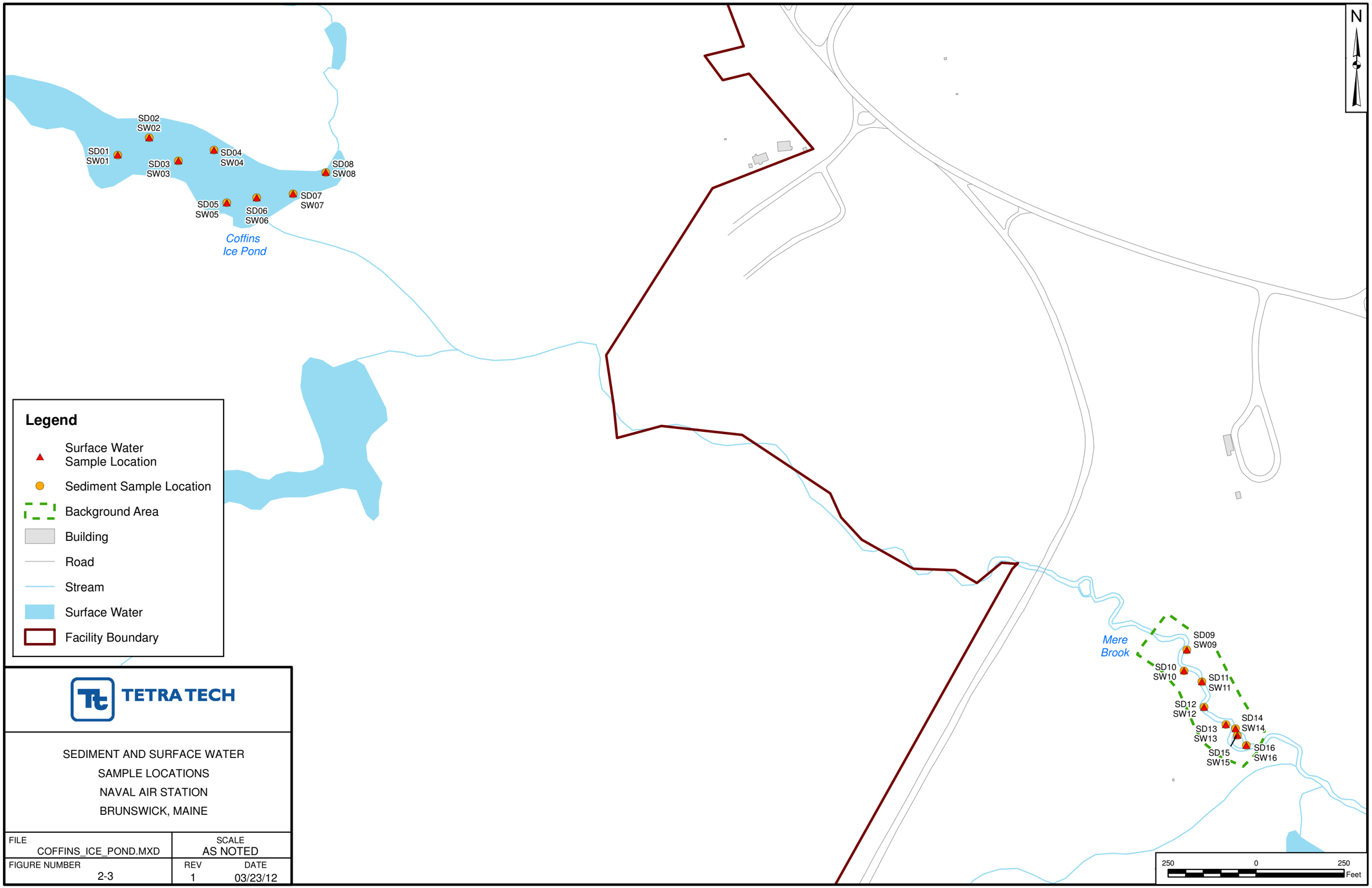

TETRA TECH

SEDIMENT AND SURFACE WATER
SAMPLE LOCATIONS
NAVAL AIR STATION
BRUNSWICK, MAINE

FILE	SCALE	
COFFINS_ICE_POND.MXD	AS NOTED	
FIGURE NUMBER	REV	DATE
2-3	1	03/23/12

3.0 DATA USABILITY

Soil, groundwater, surface water, and sediment data usability was assessed by evaluating completeness, sensitivity, accuracy/bias, precision, comparability, and representativeness as outlined in Worksheet #37 of the Background Study SAP (Tt, 2009). For the statistical comparisons and mathematical manipulations summarized in Sections 4 through 7 and described in detail in Appendix A, one half the detection limit will be used for non-detected concentrations. Duplicate results (original and duplicate) will not be averaged for the purpose of representing the range of concentrations. However, the average of the original and duplicate will be used to represent the concentration at that sample location. Following is a summary of the data quality assessment findings. A Data Quality Review (DQR) is provided in Appendix B.1 that details soil data completeness, sensitivity, accuracy/bias, precision, comparability, and representativeness. A DQR is provided in Appendix B.2 that details the groundwater, surface water, and sediment data completeness, sensitivity, accuracy/bias, precision, comparability, and representativeness.

3.1 COMPLETENESS

For soil, over 100 percent of the planned samples were collected for the Upper Sand and Transition units (32 collected versus 30 planned for the two units). As noted in Section 2, the soils investigation was limited to the upper 10 feet of overburden. The Lower Sand and Presumpscot Clay units occur at depths greater than 10 feet so soil samples were not collected from these geological units. The 95 percent completeness goal for this project, as defined in Worksheet #12 of the Background Study SAP (Tt, 2009), was met for the Upper Sand and Transition units.

All groundwater, surface water, and sediment sample collection and laboratory analysis completeness goals were met in accordance with the Background Study SAP (Tt, 2009).

3.2 SENSITIVITY

Most pesticides and some selenium non-detected results exceeded the Project Action Limits (PALs), which was expected because analyses were selected based on frequently used analytical methods at NAS Brunswick, as described in Note 2 of Worksheet #15a in the Background Study SAP (Tt, 2009). Total and dissolved arsenic and thallium groundwater non-detected results; total and dissolved arsenic and thallium, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-CD)pyrene surface water results; and endosulfan I, endosulfan II, endrin, and gamma-chlordane sediment results exceeded their corresponding project action limits (PALs). Data usability issues for compounds with detection limits greater than minimum screening criteria will be evaluated on a site-specific basis in corresponding reports and additional

background data may be collected and analyzed using more sensitive analytical instrumentation, methodology, or both, if needed.

For groundwater, surface water, and sediment, total and dissolved arsenic and thallium groundwater non-detected results; total and dissolved arsenic and thallium, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-CD)pyrene surface water results; and endosulfan I, endosulfan II, endrin, and gamma-chlordane sediment results exceeded corresponding PALs. Data usability issues for compounds with detection limits greater than minimum screening criteria will be evaluated on a site-specific basis in corresponding reports and additional background data may be collected and analyzed using more sensitive analytical instrumentation, methodology, or both, if needed.

3.3 ACCURACY/BIAS

For soil results reported, for 2-methylnapthlene, antimony, calcium, magnesium, manganese, potassium, and TOC were qualified due to matrix spike (MS) percent recovery (%R) noncompliance. None of the data qualified due to MS noncompliance were qualified as rejected; therefore, all data qualified due to MS noncompliance are considered usable. However, the MS analyses indicate result biases, as described in Appendix B.1.

Copper, 2-methylnaphthalene, acenaphthene, benzo(g,h,i)perylene, fluorene, and naphthalene results were qualified due to noncompliant laboratory control sample (LCS) %Rs. None of the data qualified due to LCS noncompliance were qualified as rejected; therefore, all data qualified due to LCS noncompliance are considered usable. However, the LCS analyses indicate result biases as described in Appendix B.1.

Benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene were qualified due to surrogate recovery noncompliance. The positive affected results qualified are usable as estimated values, which noncompliant surrogate data indicate are biased high.

Lead, nickel, and silver were qualified due to Inductively Coupled Plasma Interference Check Sample (ICP ICS) non-compliances, indicating that matrix effects may have biased associated qualified sample results. No data was qualified as rejected due to ICP ICS non-compliances; therefore, the qualified data are considered usable. However, ICP ICS sample results indicate bias for associated qualified results as described in Appendix B.1.

Calibration noncompliances were noted for several herbicides, PAHs, and pesticides. The calibration non-compliances were outside of quality control (QC) limits; however, those non-compliances were not

egregious enough to qualify the affected data as rejected according to the data validation guidelines used for this project; therefore, the data are considered usable.

For groundwater, surface water, and sediment, sample results were qualified due to noncompliance that affect accuracy; however, none of those data points were qualified as rejected. Therefore the data is considered usable for the purposes of this project. The data user should be aware that those results qualified due to noncompliance associated with accuracy (as detailed in Appendix B.2) may be less accurate than nonqualified results.

3.4 PRECISION

For soil lead and TOC, results were qualified due to laboratory or field duplicate precision. Data that were qualified due to laboratory and field duplicate imprecision are not rejected and are considered usable but the data user should be aware of potentially exaggerated imprecision compared with expectations.

For groundwater, surface water, and sediment, sample results were qualified due to noncompliance that affect precision; however, none of those data points were qualified as rejected. Therefore, the data is considered usable for the purposes of this project. The data user should be aware that those results qualified due to noncompliance associated with precision (as detailed in Appendix B.2) may be less precise than nonqualified results.

3.5 COMPARABILITY

Comparability is defined as the confidence with which one data set can be compared with another (e.g., among sampling points and among sampling events). Comparability for all media was achieved by using standardized sampling and analysis methods, as well as standardized data reporting formats.

3.6 REPRESENTATIVENESS

Representativeness is an expression of the degree to which data accurately and precisely depict the actual characteristics of a population or environmental condition existing at the site. The Background Study SAP (Tt, 2009) and the use of standardized sampling, sample handling, sample analysis, and data reporting procedures were designed so that the final data would be accurate representations of actual site conditions. The DQRs (Appendix B.1 for soil and Appendix B.2 for groundwater, surface water, and sediment) found the data collected for the Background Study to be representative of targeted populations.

3.7 STATISTICAL ANALYSIS

A series of statistical evaluations were conducted to determine a representative background data set for soils, groundwater, surface water, and sediment. The statistical conclusions of the statistical analysis for soil, groundwater, surface water, and sediment are presented in Sections 4 through 7 and are discussed in detail in Appendix A.

4.0 EVALUATION OF SOIL BACKGROUND CONCENTRATIONS

This section presents the data analysis and results of statistical evaluations performed to establish the background data sets for soil for NAS Brunswick. Two types of soil units were sampled, Upper Sand and Transition Unit. Figure 2-1 presents the locations of the 17 surface and subsurface samples collected from the Upper Sand Unit and 15 surface and subsurface samples collected from the Transition Unit.

4.1 CHEMICALS DETECTED IN SOIL

Tables 4-1, 4-2, 4-3, and 4-4 present the results of the chemicals detected in Upper Sand surface soil, Transition surface soil, Upper Sand subsurface soil, and Transition subsurface soil, respectively. There are no values for sodium on Table 4-1 because all Transition Unit sodium results were either reported or qualified as non-detected during data validation. The majority of the sodium detection limits were elevated due to laboratory blank contamination; however, none of those elevated detection limits due to laboratory blank contamination exceeded corresponding sodium screening concentrations listed in the Background SAP. One-half the method detection limit was used for graphical displays while the full method detection limit was used in ProUCL and denoted as a non-detect for the hypothesis test and UPLs. Duplicate results (original and duplicate) were not averaged for the purpose of representing the range of concentrations; however, the average of original and duplicate results was used to represent the concentration at the sample location for statistical evaluations.

4.2 STATISTICAL EVALUATION SUMMARY

Several statistical evaluations were performed on the data described in Section 4.1. The statistical analyses were conducted for two purposes, to determine if any of the subgroups could be combined and to determine background chemical concentrations to be used in future comparisons with site data. The statistical methods used to determine if any of the subgroups could be combined are discussed in detail in Appendices A.1.1 through A.1.4 and are summarized in Section 4.2.1. The statistical methods for comparing future site data to background concentrations are discussed in detail in Appendices A.1.5 and A.1.6 and summarized in Section 4.2.2.

4.2.1 Statistical Differences

The first step in determining if any of the chemical subgroups could be combined was to determine if the three maximum concentrations of each subgroup were candidate outliers. An outlier is a value far from most others in a data set. Candidate outliers were located on a site map to check for any pattern of localized anthropogenic contamination not representative of the background area as a whole. Sample locations SB10, SB17, SB18, SB19, SB21, SB30, SB31, and SB32 each have multiple candidate outliers.

Based on the site uses for these areas, there is no indication that the concentrations from these areas are related to site contamination. Additionally, the areas where candidate outliers were found are not located in one geographic portion of the base. Candidate outliers for metals were found at SB03, SB08, SB16, SB17, SB18, SB19, SB 21, SB25, SB30, and SB31. The candidate outliers for metals are found in both soil types in six of the background areas. Candidate outliers for PAHs were found at SB1, SB3, SB5, SB10, SB17, SB30, SB31, and SB32. Only one PAH, anthracene, had candidate outliers at SB1, SB3, and SB5. 4,4'-DDE was the only pesticide with a candidate outlier which was located at SB30. The majority of the candidate outliers in the Upper Sand were found in the Bowdoin Pines Area, and the candidate outliers in the Transition Unit were found at SB10 and SB17 in Areas 4 and 5, respectively. Based on the outlier evaluation, no candidate outliers were removed from the data sets; the candidate outliers were investigated but were retained in the analysis. The distributional shapes for each combination of substance and subgroup were examined to determine which statistical tests were appropriate to compare concentrations among groups. Formal statistical tests and graphical techniques were used to assess the distributional shape of each chemical substance and subgroup. The results of these formal statistical tests are presented in Appendix A.1.2, and the graphical presentations appear in Appendix A.1.3.

After the mathematical shapes of the data set distributions were determined, statistical tests were used to determine which, if any, subgroups were similar and could be combined into single data sets. The detailed statistical results are presented in Appendix A.1.4. For TOC the surface soil samples in the two soil groups are similar and the subsurface soil samples in the two soil groups are similar. For chemicals in the inorganic fractions, with the exception of antimony, calcium, lead, mercury, selenium, and silver the Upper Sand surface soil and Upper Sand subsurface soil data sets represent the same populations, while the Transition surface soil and Transition subsurface soil represent the same population. For antimony the surface soil concentrations in both soil groups are similar while in the subsurface soil antimony was only detected in the transition soil group. For calcium, the Transition surface soil and the Upper Sand subsurface soil are similar while the other two groups represent different populations. For lead the Upper Sand subsurface soil represents a different group than the other three groups. Mercury was only detected in the surface soil and the two geological units are statistically similar. Selenium was only detected in the Transition subsurface soil. For Silver all four groups are similar. PAHs, with the exception of benzo(a)anthracene and fluoranthene in one sample, were not detected in subsurface soil of either unit. Based on the two-sample hypothesis results comparing the two geological groups for surface soil, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3)pyrene concentrations represent the same population and may be combined into one data set. The two geological units for fluoranthene, phenanthrene, and pyrene do not represent the same population and should not be combined. No analysis for pesticides and herbicides was performed for subsurface soil. Based on the

two sample hypothesis tests, the samples of the two geological units for 4,4'-dicholordiphenyl dichloroethylene (DDE) represent the same population and may be combined into one data set, but the concentrations of 4,4'-dichlorodipheny trichloroethene (DDT) do not represent the same population.

4.2.2 Comparison of Site to Background Data

For future comparisons of site data to background data, either site-wide tests or individual comparison tests will be used. Site-wide comparison tests require that the site and background media data sets being compared meet certain general assumptions. General requirements are that a specific minimum number of samples be included in the site and background data sets so that there is sufficient confidence in the test conclusions. As stated in the SAP (Tt, 2009), enough site and background samples will be collected to test the null hypothesis that site conditions are not representative of background conditions against the alternative hypothesis that site conditions are representative of background conditions, with alpha and beta levels of 0.05, and a minimum detectable difference of two background standard deviations. If enough site data to meet the criteria for site-wide comparisons cannot be obtained, the alternative is to perform a separate comparison of each site sample to background using individual comparison tests. Two types of individual comparison tests will be available, background threshold value and geochemical Upper Prediction Limit(UPL). USEPA's Pro UCL version 4.00.05 calculates multiple background values and accounts for non-detected concentration. One of the background threshold values calculated by Pro UCL is a 95 percent Upper Prediction Limit (UPL). For the UPL comparison, site samples will be compared individually to the background UPL. If the site concentration exceeds the UPL, then the site concentration is not representative of background conditions. Geochemical UPLs were also calculated using linear regression and factor analysis (FA). Geochemical prediction limits are applicable to metals in soil. For a geochemical UPL based on linear regression, if the site concentration exceeds the UPL of the regression line, then the site concentration is concluded not to be representative of background conditions. Frequently, the regression plots based on FA can provide a more accurate estimate of the linearity of the correlation and a narrower prediction limit. After the FAs are computed, the FA model is used to predict background concentration levels. If a site concentration exceeds the UPL based on the FA model, the site concentration does not represent background concentrations.

4.2.2.1 Upper Prediction Limit Comparisons

UPLs were established for each analyte in each data subgroup. Each UPL was based on the null hypothesis that individual site concentrations are within the background concentration range. Concentrations of each chemical from each site sample are compared to a UPL for that chemical that represents a statistically derived upper limit on the average background concentration. UPLs were calculated based on the ability to combine datasets (Appendix A.1.4). UPLs were also calculated using all the data to represent upper limits from mixed soils for areas where soils have been disturbed or filling

has occurred. UPLs were calculated using USEPA's ProUCL 4.1.00 software which can calculate UPLs for chemicals with non-detected concentrations. Details of the chemical-specific UPLs for NAS Brunswick are presented in Appendix A.1.5. Tables 4-5 and 4-6 present the 95-percent UPLs for Upper Sand and Transition Unit and mixed soils, respectively.

4.2.2.2 Geochemical Upper Prediction Limit Comparisons

Two types of geochemical UPLs were planned, one based on regression analysis and the other on FA.

As discussed in Appendix A.1.4, concentrations of several metals in Upper Sand surface and subsurface soil were determined to represent the same population, and several metals in Transition Unit surface and subsurface soil were also determined to represent the same population. These metals were used in the regression geochemical evaluation. Prediction limits were calculated for trace metals that were highly correlated with aluminum and iron. Background limits can then be predicted for trace metals that correlate highly with aluminum and iron because aluminum and iron commonly appear in high concentrations in soil and are chemically associated with trace metals through chemical sequestration and other mechanisms. A correlation coefficient greater than or equal to 0.70 was used to define high correlation. Regression lines and 95-percent UPLs were computed for each chemical in each soil type that was highly correlated with iron or aluminum. For Upper Sand soils, antimony, beryllium, chromium, iron, and vanadium are highly correlated with aluminum, and aluminum, antimony, beryllium, chromium, and vanadium are highly correlated with iron. For Transition Unit soils, barium, beryllium, chromium, iron, vanadium, and zinc are highly correlated with aluminum, and aluminum, arsenic, barium, beryllium, chromium, cobalt, copper, manganese, nickel, vanadium, and zinc are highly correlated with iron. UPLs define the expected upper limit for background soil concentrations. When this linear regression and the associated prediction limits are superimposed on a scatter plot of site data, any site samples falling outside the prediction limits are subject to further scrutiny. They may belong to the 5 percent of the background population lying outside of the background-derived prediction envelope, or they may represent contamination.

FA is a mathematical method that attempts to reproduce an entire data set of sample results by extracting certain common factors, each of which is represented by a linear combination of the different variables, in this case, metals concentrations (Malinowski, 1991; Sharaf, 1986). This is analogous to each sample comprising various amounts from each mineral (factor), although the extracted factors may not actually represent pure mineral components because other properties such as cation exchange capacity or organic carbon content may also affect the mineral concentrations. There is no scientific answer to the sample size requirement for FA; however, there are multiple rules of thumb on sample size, most of which state that sample size should be at least 50. The number of factors considered to be significant in the FA model is determined by evaluating the following three criteria:

- Kaiser's Rule: Retain factors having eigenvalues (computed during the FA) greater than unity.

- Examination of Scree Plot: Retain factors with eigenvalues in the sharp descent portion of a Scree Plot line adjacent to the point where leveling occurs.

- Retain as many factors as will account for a specified total variance (at least 70 percent).

FA cannot be used in conjunction with multiple non-detected concentrations. Based on the criteria described above for surface soil and subsurface soil, only one factor was retained in the FA model. With only one factor, the FA model does not describe any differences between soil groups or chemicals. Based on the limited sample size and the number of factors in the FA models, it is recommended that the linear regression approach discussed above be used to characterize the geochemical relationships.

4.3 BACKGROUND DATASET USABLITIY – SOILS

The Navy, U.S. EPA, and MEDEP have reached consensus agreement that the background soils datasets are representative and appropriate for use at the former NASB. Use of the soil datasets will be determined by consensus on a site-specific basis, considering the site geology, soil type, history of activities at the site (i.e. historic excavation/fill activities), and location, especially in developed areas where non-site related anthropogenic effects are likely to have altered background soil conditions to some degree.

TABLE 4-1

SUMMARY OF SURFACE SOIL BACKGROUND DATA - UPPER SAND UNIT
NAVAL AIR STATION, BRUNSWICK, MAINE

Parameter	Frequency of Detection	Minimum Detected Concentration	Maximum Detected Concentration	Location of Maximum Detection	Minimum Nondetect	Maximum Nondetect	Average of Detected Concentrations	Overall Average	Standard Deviation
Inorganics (mg/kg)									
ALUMINUM	17/17	3810	19800	SB-18	-	-	9277	9277	4421
ANTIMONY	3/17	0.03 J	0.08 J	SB-18	0.01	0.05	0.1	0.02	0.02
ARSENIC	17/17	0.77	8.8	SB-31	-	-	2.3	2.3	1.9
BARIUM	17/17	5.7	16.1	SB-30	-	-	10.3	10.3	2.3
BERYLLIUM	17/17	0.24 J	0.84	SB-21	-	-	0.4	0.4	0.1
CADMIUM	14/17	0.03 J	0.07 J	SB-18	0.01	0.02	0.04	0.03	0.02
CALCIUM	17/17	156 J	439	SB-30	-	-	300	300	79.7
CHROMIUM	17/17	3.6	18.7	SB-21	-	-	8.4	8.4	3.7
COBALT	17/17	0.55	4	SB-26	-	-	2.6	2.6	1.1
COPPER	15/17	4	5.5	SB-01, SB-26	1.5	3.2	4.8	4.4	1.3
IRON	17/17	2230	16900	SB-21	-	-	8214	8214	3359
LEAD	17/17	2.7	19	SB-30	-	-	7.9	7.9	4.8
MAGNESIUM	17/17	356	1470	SB-26	-	-	1020	1020	311
MANGANESE	17/17	24.2 J	235 J	SB-32	-	-	141.2	141.2	69.2
MERCURY	13/17	0.01 J	0.09	SB-03	0.01	0.01	0.04	0.03	0.03
NICKEL	17/17	1.3 J	8.9	SB-26	-	-	5.4	5.4	2.0
POTASSIUM	17/17	194	565	SB-39	-	-	358	358	113
SILVER	7/17	0.1 J	0.29 J	SB-21	0.05	0.07	0.2	0.1	0.1
SODIUM	11/17	26.3 J	41.8 J	SB-32	40.4	63.3	33.6	30.8	6.2
VANADIUM	17/17	7.5	32.6	SB-21	-	-	14.9	14.9	6.3
ZINC	17/17	3.5	16.1	SB-03	-	-	12.5	12.5	3.2
Pesticides/PCBs (µg/kg)									
4,4'-DDD	3/17	0.93 J	1.1 J	SB-32	0.44	0.58	1.0	0.4	0.30
4,4'-DDE	10/17	0.51 J	3.6 J	SB-30	0.4	0.49	1.1	0.7	0.83
4,4'-DDT	7/17	0.8 J	3.4 J	SB-30	0.45	0.56	1.5	0.8	0.84
ENDOSULFAN I	1/17	0.8 J	0.8 J	SB-32	0.28	0.56	0.8	0.3	0.15
GAMMA-BHC (LINDANE)	1/17	1.1 J	1.1 J	SB-29	0.31	0.64	1.1	0.3	0.21
PAHs (µg/kg)									
ACENAPHTHYLENE	1/17	2 J	2 J	SB-05	1	2	2.0	0.7	0.40
ANTHRACENE	5/17	2 J	8 J	SB-05	1	2	5.2	2.0	2.45
BENZO(A)ANTHRACENE	10/17	2 J	24	SB-31	2	2	9.2	5.8	7.87
BENZO(A)PYRENE	7/17	4 J	30	SB-31	3	4	14.9	7.3	9.38
BENZO(B)FLUORANTHENE	5/17	12 J	53	SB-31	2	3	32.8	10.5	17.74
BENZO(G,H,I)PERYLENE	8/17	2 J	12 J	SB-31	2	3	6.9	3.8	3.70
BENZO(K)FLUORANTHENE	5/17	5 J	13 J	SB-32	3	4	9.4	3.9	4.09
CHRYSENE	11/17	2 J	39	SB-32	2	2	12.6	8.5	12.40
DIBENZO(A,H)ANTHRACENE	3/17	5 J	6 J	SB-31, SB-32	2	2	5.7	1.8	1.85
FLUORANTHENE	15/17	2 J	65	SB-31	2	2	16.9	15.1	21.17

TABLE 4-1

SUMMARY OF SURFACE SOIL BACKGROUND DATA - UPPER SAND UNIT
NAVAL AIR STATION, BRUNSWICK, MAINE

Parameter	Frequency of Detection	Minimum Detected Concentration	Maximum Detected Concentration	Location of Maximum Detection	Minimum Nondetect	Maximum Nondetect	Average of Detected Concentrations	Overall Average	Standard Deviation
INDENO(1,2,3-CD)PYRENE	10/17	2 J	42	SB-31	2	2	14.6	9.0	13.81
PHENANTHRENE	12/17	2 J	34	SB-31	2	2	11.4	8.4	11.01
PYRENE	13/17	3 J	64	SB-31, SB-32	2	3	19.9	15.5	22.12
Miscellaneous Parameters (mg/kg)									
TOTAL ORGANIC CARBON	17/17	6200 J	34000 J	SB-31	-	-	17406	17406	8752

J = Estimated concentration.

Only chemicals that were detected in at least one sample are listed.

TABLE 4-2

SUMMARY OF SURFACE SOIL BACKGROUND DATA - TRANSITION UNIT
NAVAL AIR STATION, BRUNSWICK, MAINE

Parameter	Frequency of Detection	Minimum Detected Concentration	Maximum Detected Concentration	Location of Maximum Detect	Minimum Nondetect	Maximum Nondetect	Average of Detected Concentrations	Overall Average	Standard Deviation
Inorganics (mg/kg)									
ALUMINUM	15/15	9200	33600	SB-17	-	-	22970	22970	6532
ANTIMONY	7/15	0.02 J	0.07 J	SB-24	0.02	0.08	0.04	0.03	0.02
ARSENIC	15/15	3.8	10.6	SB-17	-	-	6.65	6.65	2.01
BARIUM	15/15	24	102	SB-17	-	-	64.98	64.98	20.65
BERYLLIUM	15/15	0.3 J	1.7	SB-17	-	-	0.96	0.96	0.34
CADMIUM	14/15	0.03 J	0.07 J	SB-13	0.02	0.02	0.04	0.04	0.01
CALCIUM	15/15	466 J	1600 J	SB-16	-	-	854.67	855	269
CHROMIUM	15/15	14.1	55	SB-17	-	-	35.63	35.63	11.02
COBALT	15/15	3.7	27.1	SB-17	-	-	11.93	11.93	5.47
COPPER	15/15	8.6	30.1 J	SB-16	-	-	17.94	17.94	5.78
IRON	15/15	10500	46800	SB-11	-	-	29113.33	29113	9364
LEAD	15/15	5.9 J	18.7	SB-11	-	-	12.41	12.41	3.76
MAGNESIUM	15/15	2080 J	9590	SB-17	-	-	5906.33	5906	2032
MANGANESE	15/15	122 J	1210	SB-17	-	-	436.90	437	259
MERCURY	14/15	0.01 J	0.06	SB-14	0.01	0.01	0.03	0.03	0.02
NICKEL	15/15	10	43.6	SB-17	-	-	26.34	26.3	8.8
POTASSIUM	15/15	1050	4560	SB-25	-	-	2836.00	2836	1060
SELENIUM	6/15	0.58	1.3	SB-14	0.26	0.7	0.79	0.47	0.33
SILVER	5/15	0.16 J	1.6 J	SB-08	0.08	0.17	0.62	0.24	0.41
VANADIUM	15/15	19.1	62.9	SB-17	-	-	47.09	47.1	12.6
ZINC	15/15	21.7	96.6	SB-17	-	-	59.45	59.5	19.1
Pesticides/PCBs (µg/kg)									
4,4'-DDE	9/15	0.55 J	0.84 J	SB-14	0.45	2	0.66	0.54	0.25
4,4'-DDT	1/15	3.1 J	3.1 J	SB-10	0.51	0.63	3.10	0.47	0.73
PAHs (µg/kg)									
ACENAPHTHYLENE	1/15	2 J	2 J	SB-10	1	2	2.00	1.0	0.3
ANTHRACENE	1/15	2 J	2 J	SB-10	1	2	2.00	1.0	0.3
BENZO(A)ANTHRACENE	5/15	3 J	12 J	SB-10	2	3	5.05	2.4	2.9
BENZO(A)PYRENE	2/15	10 J	14 J	SB-10	4	5	12.00	3.4	3.6
BENZO(B)FLUORANTHENE	4/15	4 J	17 J	SB-10	3	4	8.56	3.4	4.4
BENZO(G,H,I)PERYLENE	5/15	3 J	26 J	SB-17	2	3	9.85	4.1	6.6
BENZO(K)FLUORANTHENE	2/15	13 J	14 J	SB-10	4	5	13.50	3.6	4.0
CHRYSENE	8/15	2 J	17 J	SB-10	2	2	5.25	3.3	4.3
DIBENZO(A,H)ANTHRACENE	2/15	13 J	14 J	SB-17	2	3	13.50	2.7	4.4
FLUORANTHENE	10/15	3 J	28	SB-10	2	2	6.90	4.9	6.7
INDENO(1,2,3-CD)PYRENE	6/15	3 J	26 J	SB-17	2	3	8.75	4.2	6.6
PHENANTHRENE	6/15	3 J	15 J	SB-10	2	3	4.75	2.5	3.5
PYRENE	8/15	3 J	26	SB-10	2	3	7.09	4.5	6.2

TABLE 4-2

SUMMARY OF SURFACE SOIL BACKGROUND DATA - TRANSITION UNIT
NAVAL AIR STATION, BRUNSWICK, MAINE

Parameter	Frequency of Detection	Minimum Detected Concentration	Maximum Detected Concentration	Location of Maximum Detect	Minimum Nondetect	Maximum Nondetect	Average of Detected Concentrations	Overall Average	Standard Deviation
Herbicides (µg/kg)									
2,4-D	1/15	8 J	8 J	SB-16	6.6	9	8.00	4.2	1.1
Miscellaneous Parameters (mg/kg)									
TOTAL ORGANIC CARBON	15/15	1900	30000	SB-14	-	-	16286.67	16287	7562

J = Estimated concentrations.

Only chemicals that were detected in at least one sample are listed.

TABLE 4-3

SUMMARY OF SUBSURFACE SOIL BACKGROUND DATA - UPPER SAND UNIT
NAVAL AIR STATION, BRUNSWICK, MAINE

Parameter	Frequency of Detection	Minimum Detected Concentration	Maximum Detected Concentration	Location of Maximum Detect	Minimum Nondetect	Maximum Nondetect	Average of Detected Concentrations	Overall Average	Standard Deviation
Inorganics (mg/kg)									
ALUMINUM	17/17	3350	9040	SB-21	-	-	4875.9	4876	1370
ARSENIC	17/17	0.56	2.1	SB-18	-	-	1.3	1.3	0.4
BARIUM	17/17	8	15.9	SB-02	-	-	11.1	11.1	2.2
BERYLLIUM	17/17	0.19 J	0.69	SB-02	-	-	0.3	0.3	0.1
CADMIUM	9/17	0.03 J	0.04 J	SB-28	0.01	0.02	0.03	0.02	0.01
CALCIUM	17/17	504 J	1110 J	SB-21	-	-	715.1	715	171
CHROMIUM	17/17	5	9.6	SB-21	-	-	6.9	6.9	1.3
COBALT	17/17	2.1	4.1	SB-02	-	-	3.2	3.2	0.7
COPPER	17/17	3.4	6.8	SB-02	-	-	5.6	5.6	0.9
IRON	17/17	5060	8740	SB-18	-	-	6763.8	6764	912
LEAD	17/17	2.1	3.7 J	SB-27	-	-	2.7	2.7	0.4
MAGNESIUM	17/17	1230	1910 J	SB-02	-	-	1580.0	1580	187
MANGANESE	17/17	79 J	265 J	SB-27	-	-	165.4	165	63.3
NICKEL	17/17	4.7	9.6	SB-30	-	-	7.5	7.5	1.3
POTASSIUM	17/17	486	1230	SB-19	-	-	716.6	716.6	179.6
SILVER	8/17	0.06 J	0.19 J	SB-22	0.05	0.07	0.1	0.1	0.1
SODIUM	11/17	34.2 J	85.8 J	SB-31	53.2	80.1	47.4	41.8	10.9
VANADIUM	17/17	8	17.7	SB-21	-	-	11.4	11.4	2.4
ZINC	17/17	10.6	15.3	SB-19, SB-27	-	-	13.1	13.1	1.5
PAHs (µg/kg)									
FLUORANTHENE	1/17	2 J	2 J	SB-29	2	2	2	1.1	0.2
Miscellaneous Parameters (mg/kg)									
TOTAL ORGANIC CARBON	17/17	260 J	6700	SB-19	-	-	1524	1524	1891

J = Estimated concentrations.

Only chemicals that were detected in at least one sample are listed.

TABLE 4-4

SUMMARY OF SUBSURFACE SOIL BACKGROUND DATA - TRANSITION UNIT
NAVAL AIR STATION, BRUNSWICK, MAINE

Parameter	Frequency of Detection	Minimum Detected Concentration	Maximum Detected Concentration	Location of Maximum Detect	Minimum Nondetect	Maximum Nondetect	Average of Detected Concentrations	Overall Average	Standard Deviation
Inorganics (mg/kg)									
ALUMINUM	15/15	15000	29000	SB-17	-	-	22093.3	22093.3	4854.2
ANTIMONY	12/15	0.02 J	0.05 J	SB-12, SB-14, SB-23, SB-25	0.06	0.08	0.038	0.038	0.009
ARSENIC	15/15	5	17.9	SB-12	-	-	10.1	10.1	3.9
BARIUM	15/15	49.4	93.3	SB-15	-	-	72.5	72.5	15.1
BERYLLIUM	15/15	0.54	1.5	SB-15, SB-15, SB-17	-	-	0.98	0.98	0.33
CADMIUM	15/15	0.03 J	0.06 J	SB-12, SB-16	-	-	0.04	0.04	0.01
CALCIUM	15/15	1960 J	3260 J	SB-15	-	-	2671	2671	330
CHROMIUM	15/15	28	57.5	SB-17	-	-	43.7	43.7	10.1
COBALT	15/15	10.5	24.4	SB-23	-	-	15.9	15.9	4.1
COPPER	15/15	21.2	38.5 J	SB-15	-	-	29.4	29.4	5.8
IRON	15/15	22200	44300	SB-17	-	-	33737	33737	7330
LEAD	15/15	7.8 J	16.1	SB-15	-	-	11.9	11.9	2.9
MAGNESIUM	15/15	5720	11600	SB-15	-	-	8734	8734	1930
MANGANESE	15/15	355 J	918	SB-15	-	-	618	618	175
NICKEL	15/15	24.8	50.4	SB-15	-	-	38.1	38.1	9.2
POTASSIUM	15/15	3020	6370 J	SB-15	-	-	4913	4913	1082
SILVER	2/15	0.44 J	0.74 J	SB-23	0.06	0.16	0.6	0.1	0.2
SODIUM	1/15	281	281	SB-24	161	289	281.0	123.3	47.7
VANADIUM	15/15	33.2	68.7	SB-15	-	-	53.2	53.2	11.1
ZINC	15/15	46.6	90.4	SB-15	-	-	70.1	70.1	14.3
PAHs (µg/kg)									
BENZO(A)ANTHRACENE	1/15	3 J	3 J	SB-16	2	2	2.0	1.1	0.3
Miscellaneous Parameters (mg/kg)									
TOTAL ORGANIC CARBON	15/15	530	3200	SB-10	-	-	1316.0	1316.0	690.6

J = Estimated concentrations.

Only chemicals that were detected in at least one sample are listed.

TABLE 4-5

SOIL UPPER PREDICTION LIMITS
NAVAL AIR STATION, BRUNSWICK, MAINE

Parameter	Upper Prediction Limits							
	Upper Sand Surface Soil		Upper Sand Subsurface Soil		Transition Surface Soil		Transition Subsurface Soil	
	UPL	UPL Type	UPL	UPL Type	UPL	UPL Type	UPL	UPL Type
Inorganics (mg/kg)								
ALUMINUM	13600	Gamma WH	13600	Gamma WH	32300	Normal	32300	Normal
ANTIMONY	0.054	Normal	ND	ND	0.054	Normal	0.06	Normal
ARSENIC	5.6	Nonparametric	5.6	Nonparametric	15	Gamma WH	15	Gamma WH
BARIUM	15	Lognormal	15	Lognormal	100	Normal	100	Normal
BERYLLIUM	0.57	Lognormal	0.57	Lognormal	1.5	Normal	1.5	Normal
CADMIUM	0.048	Nonparametric	0.048	Nonparametric	0.06	Nonparametric	0.06	Nonparametric
CALCIUM	444	Normal	1180	Lognormal	1180	Lognormal	3270	Normal
CHROMIUM	16.2	Nonparametric	16.2	Nonparametric	58.9	Normal	58.9	Normal
COBALT	5.2	Gamma WH	5.2	Gamma WH	22.9	Normal	22.9	Normal
COPPER	6.8	Normal	6.8	Normal	37.7	Normal	37.7	Normal
IRON	15000	Nonparametric	15000	Nonparametric	46300	Normal	46300	Normal
LEAD	18	Normal	3.4	Normal	18	Normal	18	Normal
MAGNESIUM	1950	Normal	1950	Normal	11500	Normal	11500	Normal
MANGANESE	267	Normal	267	Normal	935	Normal	935	Normal
MERCURY	0.12	Gamma WH	ND	ND	0.12	Gamma WH	ND	ND
NICKEL	9.8	Normal	9.8	Normal	50.6	Normal	50.6	Normal
POTASSIUM	940	Normal	940	Normal	6450	Normal	6450	Normal
SELENIUM	ND	ND	ND	ND	1.4	Normal	ND	ND
SILVER	0.43	Lognormal	0.43	Lognormal	0.43	Lognormal	0.43	Lognormal
SODIUM	54.1	Normal	54.1	Normal	ND	ND	NA	NA
VANADIUM	27.9	Nonparametric	27.9	Nonparametric	71	Normal	71	Normal
ZINC	15.5	Nonparametric	15.5	Nonparametric	95	Normal	95	Normal
Pesticides/PCBs (µg/kg)								
4,4'-DDD	1.4	Normal	NA	NA	ND	ND	NA	NA
4,4'-DDE	1.7	Nonparametric	NA	NA	1.7	Nonparametric	NA	NA
4,4'-DDT	3.4	Gamma WH	NA	NA	NA	NA	NA	NA
PAHs (µg/kg)								
ANTHRACENE	6.1	Normal	ND	ND	6.1	Normal	ND	ND
BENZO(A)ANTHRACENE	16.9	Gamma WH	ND	ND	16.9	Gamma WH	NA	NA
BENZO(A)PYRENE	23.5	Normal	ND	ND	23.5	Normal	ND	ND
BENZO(B)FLUORANTHENE	40.4	Normal	ND	ND	40.4	Normal	ND	ND
BENZO(G,H,I)PERYLENE	15.1	Gamma WH	ND	ND	15.1	Gamma WH	ND	ND
BENZO(K)FLUORANTHENE	13.6	Normal	ND	ND	13.6	Normal	ND	ND
CHRYSENE	22.6	Nonparametric	ND	ND	22.6	Nonparametric	ND	ND
DIBENZO(A,H)ANTHRACENE	10.6	Normal	ND	ND	10.6	Normal	ND	ND
FLUORANTHENE	86.9	Lognormal	NA	NA	16.7	Nonparametric	ND	ND
INDENO(1,2,3-CD)PYRENE	28.2	Gamma WH	ND	ND	28.2	Gamma WH	ND	ND
PHENANTHRENE	40.8	Gamma WH	ND	ND	8.9	Nonparametric	ND	ND
PYRENE	73.9	Gamma WH	ND	ND	15.4	Nonparametric	ND	ND
Miscellaneous Parameters (mg/kg)								
TOTAL ORGANIC CARBON	30800	Normal	3840	Gamma WH	30800	Normal	3840	Gamma WH

UPLs were calculated using Pro UCL version 4.1.00.
Chemicals are listed only if there are enough detected samples in one soil group to calculate a UPL.

ND = Non-Detect
NA = Not enough detected samples to calculate a meaningful UPL.
UPL = 95% Upper Prediction
WH = Wilson Hilferty

TABLE 4-6

UPPER PREDICTION LIMITS - ALL SOILS (MIXED SOILS)
NAVAL AIR STATION, BRUNSWICK, MAINE

Parameter	UPL	UPL Type
Inorganics (mg/kg)		
ALUMINUM	29000	Nonparametric
ANTIMONY	0.072	Gamma WH
ARSENIC	14.2	Nonparametric
BARIUM	89.8	Nonparametric
BERYLLIUM	1.5	Nonparametric
CADMIUM	0.055	Nonparametric
CALCIUM	2920	Nonparametric
CHROMIUM	54.7	Nonparametric
COBALT	20.8	Nonparametric
COPPER	31.9	Nonparametric
IRON	43900	Nonparametric
LEAD	17.5	Nonparametric
MAGNESIUM	10400	Nonparametric
MANGANESE	819	Gamma WH
MERCURY	0.067	Gamma WH
NICKEL	47.5	Nonparametric
POTASSIUM	5920	Nonparametric
SELENIUM	0.61	Normal
SILVER	0.43	Lognormal
SODIUM	96.3	Nonparametric
VANADIUM	63	Nonparametric
ZINC	85.7	Nonparametric
Miscellaneous (mg/kg)		
TOTAL ORGANIC CARBON	28800	Nonparametric
PAHs (µg/kg)		
ANTHRACENE	4.1	Normal
BENZO(A)ANTHRACENE	6.2	Gamma WH
BENZO(A)PYRENE	16.2	Normal
BENZO(B)FLUORANTHENE	25.9	Normal
BENZO(G,H,I)PERYLENE	5.1	Gamma WH
BENZO(K)FLUORANTHENE	10	Normal
CHRYSENE	15.9	Nonparametric
DIBENZO(A,H)ANTHRACENE	6.3	Normal
FLUORANTHENE	26.9	Nonparametric
INDENO(1,2,3-CD)PYRENE	9.9	Gamma WH
PHENANTHRENE	14.6	Nonparametric
PYRENE	27.7	Nonparametric
Pesticides/PCBs (µg/kg)		
4,4'-DDD	0.82	Normal
4,4'-DDE	1.7	Nonparametric
4,4'-DDT	1.7	Gamma WH

UPLs were calculated using Pro UCL version 4.1.00.
Chemicals are listed only if there are enough detected samples to calculate a UPL.

UPL = 95% Upper Prediction
WH = Wilson Hilferty

5.0 EVALUATION OF GROUNDWATER BACKGROUND CONCENTRATIONS

This section presents the data analysis and results of statistical evaluations performed to establish the background data sets for groundwater for NAS Brunswick. Bedrock and overburden wells in the Lower Sand, Upper Sand, and Transition hydrogeologic units were sampled twice (once in the fall and once in the spring). Figure 2-2 presents the locations of monitoring wells samples for the Background Study.

5.1 CHEMICALS DETECTED IN GROUNDWATER

Tables 5-1, 5-2, 5-3, and 5-4 present the results of the chemicals detected in bedrock wells, Lower Sand wells, Upper Sand wells, and Transition wells, respectively. One-half the method detection limit was used for graphical displays while the full method detection limit was used in ProUCL and denoted as a non-detect for the hypothesis test and UPLs. Duplicate results (original and duplicate) were not averaged for the purpose of representing the range of concentrations; however, the average of original and duplicate results was used to represent the concentration at the sample location for statistical evaluations. For the statistical analyses the groundwater data was divided into eight groups bedrock wells in the fall, bedrock wells in the spring, Lower Sand wells in the fall, Lower Sand wells in the spring, Transition wells in the fall, Transition wells in the Spring, Upper Sand wells in the fall, Upper Sand wells in the spring.

5.2 STATISTICAL EVALUATION SUMMARY

Several statistical evaluations were performed on the data described in Section 5.1. The statistical analyses were conducted for two purposes, to determine if any of the subgroups could be combined and to determine background chemical concentrations to be used in future comparisons with site data. The statistical methods used to determine if any of the subgroups could be combined are discussed in detail in Appendix A.2.1 through A.2.4 and are summarized in Section 5.2.1. The statistical methods for comparing future site data to background concentrations are discussed in detail in Appendix A.2.5 and are summarized in Section 5.2.2.

5.2.1 Statistical Differences

The first step in determining if any of the eight chemical subgroups (four hydrogeologic units sampled during two rounds) could be combined was to determine if the three maximum concentrations of each subgroup were candidate outliers. Candidate outliers were located on a site map to check for any pattern of localized anthropogenic contamination not representative of the background area as a whole. Only four samples per round were collected from bedrock wells. Due to the small number of samples, formal outlier tests were not conducted on bedrock well data. Lower Sand candidate outliers were identified at NASB-BG-MW36, NASB-BG-MW37, NASB-BG-MW41, NASB-BG-MW42, NASB-BG-MW43, MW219,

MW303, MW310, MW315A, and MW335. Transition Unit candidate outliers were identified at NASB-BG-MW08, NASB-BG-MW10, NASB-BG-MW11, NASB-BG-MW13, NASB-BG-MW16, NASB-BG-MW24, and MW314B. Upper Sand candidate outliers were identified at NASB-BG-MW01, NASB-BG-MW04, NASB-BG-MW18, NASB-BG-MW19, NASB-BG-MW21, NASB-BG-MW27, NASB-BG-MW28, NASB-BG-MW30, NASB-BG-MW32, NASB-BG-MW39, and NASB-BG-MW40. The areas where candidate outliers were found are not located in one geographic portion of the base. The candidate outliers were investigated and were retained in the analysis. The distributional shape for each combination of substance and subgroup were examined to determine which statistical tests were appropriate to compare concentrations among groups. Formal statistical tests and graphical techniques were used to assess the distributional shape of each chemical substance and subgroup. The results are presented in Appendix A.2.2, and the graphical presentations are included in Appendix A.2.3.

After the shapes of the data sets were determined, statistical tests were used to determine which of the eight subgroups were similar and could be combined as single data sets. The detailed statistical results are presented in Appendix A.2.4. Several inorganics (total and dissolved antimony, chromium, mercury, selenium, silver, thallium, and bromide) were detected infrequently; therefore, statistical hypothesis test were not conducted on these chemicals. Tables A.2.4.3 and A.2.4.4 present how the subgroups for the remaining chemicals can be combined. For most of the chemicals, statistical differences were not detected by season and the subgroups could be combined by geologic units. Total and dissolved arsenic, beryllium, cadmium, and lead, and vanadium and dissolved aluminum, barium, cobalt, iron, nickel, and zinc were detected in less than two samples in at least one of the eight subgroups. The subgroups of these chemicals were combined using the results of the hypothesis tests presented in Appendix A.2.4. Based on the statistical evaluation, the chemicals detected in all eight subgroups can be combined as follows (seasonal effects were found to be insignificant in all cases):

- One group (bedrock, Lower Sand, Transition Unit, and Upper Sand).
  - Total aluminum and iron dissolved manganese.

- Two groups (bedrock, Transition Unit, and Upper Sand as one group, Lower Sand as another group).
  - Total barium

- Two groups (bedrock, Lower Sand, and Transition Unit as one group, Upper Sand as another group).
  - Total and dissolved calcium, magnesium, potassium, and sodium, total barium, copper, lead, manganese, and zinc, and dissolved iron.

- Two groups (bedrock, Lower Sand, and Upper Sand as one group, Transition Unit as another group).
  - Total and dissolved cobalt and total and dissolved nickel.

The SAP stated that at least 15 samples were needed for each background data set. With the exception of bedrock groundwater, all subgroups have at least 15 samples; however, most of the data from bedrock wells were found to be statistically similar to the data from other wells and the data sets were combined.

5.2.2 Comparison of Site to Background Data

For future comparisons of site data to background data, either site-wide tests or individual comparison tests will be used. Site-wide comparison tests require that the site and background media data sets being compared meet certain general assumptions. General requirements are that a specific minimum number of samples be included in the site and background data sets so that there is sufficient confidence in the test conclusions. As stated in the SAP (Tt, 2009), enough site and background samples are to be collected to evaluate the null hypothesis that site conditions are not representative of background conditions against the alternative hypothesis that site conditions are representative of background, with alpha and beta levels of 0.05, and a minimum detectable difference of two background standard deviations. If enough site data to meet the criteria for site-wide comparisons cannot be obtained, the alternative is to perform a separate comparison of each site sample to background using individual comparison tests.

USEPA's Pro UCL version 4.00.05 calculates multiple background values and accounts for non-detected concentration. One of the background threshold values calculated by Pro UCL is a 95 percent UPL. UPLs were established for each analyte in each subgroup. If the subgroups were found to be statistically similar, they were combined to compute the UPLs. Each UPL was based on the null hypothesis that individual site concentrations are within the background concentration range. Concentrations of each chemical from each site sample are compared to a UPL for that chemical that represents a statistically derived upper limit on the average background concentration. Before calculating the UPLs, the data were combined for each chemical based on the results of the hypothesis tests presented in Appendix A.2.4. Details of the chemical-specific UPLs for NAS Brunswick are presented in Appendix A.2.5. Table 5-5 presents the 95-percent UPLs for bedrock, Lower Sand, Upper Sand, and Transition Unit groundwater.

5.3 GROUNDWATER BACKGROUND VALUES

Several statistical evaluations were performed on the background groundwater data to determine if any of the subgroups could be combined and to determine UPLs to be used as background chemical concentrations. UPL background values for groundwater at NAS Brunswick were calculated for each chemical for each group of data that was determined to be statistically similar and are summarized in Table 5-5.

5.4 BACKGROUND DATASET USABLITY – GROUNDWATER

The Navy, U.S. EPA, and MEDEP have reached consensus agreement that the background groundwater datasets are representative and appropriate for use at the former NASB. Use of the groundwater datasets will be determined by consensus on a site-specific basis, considering the hydrogeologic units that are present and that are being monitored.

TABLE 5-1

SUMMARY OF BACKGROUND DATA - BEDROCK GROUNDWATER
NAVAL AIR STATION, BRUNSWICK, MAINE

Parameter	Frequency of Detection	Minimum Detected Concentration	Maximum Detected Concentration	Location of Maximum Detect	Minimum Nondetect	Maximum Nondetect	Average of Detected Concentrations	Overall Average	Standard Deviation
Inorganics (µg/L)									
ALUMINUM	4/8	141 J	3640 J	MW-317B	37	174	1735.3	889.6	1313.5
ARSENIC	3/8	1.4 J	12.7	MW-316B	0.8	3.1	7.6	3.4	4.6
BARIUM	7/8	1.1 J	23.2	MW-317B	1.7	1.7	8.0	7.1	8.0
BERYLLIUM	2/8	0.15 J	0.44 J	MW-317B	0.05	0.07	0.3	0.1	0.1
CADMIUM	5/8	0.11 J	0.32 J	MW-317A	0.05	0.14	0.2	0.1	0.1
CALCIUM	8/8	7980	27100	MW-317A	-	-	19822.5	19822.5	7033.7
COBALT	6/8	0.11 J	41.5	MW-317B	0.12	0.22	13.9	10.5	16.4
COPPER	4/8	0.77 J	33.8	MW-317B	0.49	2	21.2	10.9	14.9
IRON	8/8	86.4 J	2370 J	MW-317B			837.6	837.6	903.3
LEAD	4/8	0.32 J	5.3	MW-317A, MW-317B	0.14	0.58	3.4	1.8	2.3
MAGNESIUM	8/8	863	5440	MW-316B	-	-	3967.9	3967.9	1581.8
MANGANESE	7/8	35.5	208	MW-317B	6.1	6.1	105.6	92.8	72.3
MERCURY	1/8	0.05 J	0.05 J	MW-316B	0.02	0.04	0.1	0.02	0.01
NICKEL	4/8	0.74 J	6.6	MW-317A	0.42	4.6	3.2	2.1	2.2
POTASSIUM	7/8	558 J	3880	MW-316B	270	270	2431.1	2144.1	1225.0
SODIUM	8/8	9450	44300	MW-316A			25781.3	25781.3	10782.7
ZINC	5/8	1.9 J	15.3	MW-317B	1.6	4.9	9.3	6.5	5.8
Filtered Inorganics (µg/L)									
ALUMINUM	1/8	717	717	MW-317B	12.9	42.1	717.0	100.3	249.2
ANTIMONY	1/8	0.12 J	0.12 J	MW-317B	0.1	0.15	0.1	0.1	0.02
ARSENIC	4/8	0.88 J	13.4	MW-316B	0.8	2.5	6.0	3.4	4.8
BARIUM	5/8	1.1 J	9.4	MW-317B	1.4	2.5	4.1	2.9	3.1
BERYLLIUM	1/8	0.08 J	0.08 J	MW-317B	0.05	0.05	0.1	0.03	0.02
CADMIUM	3/8	0.07 J	0.1 J	MW-316B	0.05	0.05	0.1	0.05	0.03
CALCIUM	8/8	8700	26800	MW-317A	-	-	19387.5	19387.5	6784.7
COBALT	3/8	0.06 J	15.5	MW-317B	0.05	0.21	5.9	2.2	5.4
COPPER	1/8	21.9 J	21.9 J	MW-317B	0.56	1.6	21.9	3.1	7.6
IRON	3/8	37.2 J	573	MW-317B	5.17	6.27	218.5	83.7	198.5
LEAD	1/8	1.2	1.2	MW-317B	0.05	0.19	1.2	0.2	0.4
MAGNESIUM	8/8	966	5490	MW-316B	-	-	3783.3	3783.3	1476.8
MANGANESE	6/8	6.4	152	MW-316B	1	3.4	49.5	37.4	52.1
NICKEL	2/8	0.42 J	0.76 J	MW-316B	0.27	4	0.6	0.6	0.6
POTASSIUM	7/8	518 J	4110	MW-316B	412	412	2316.9	2053.0	1231.9
SODIUM	8/8	8980	41700	MW-316A	-	-	25222.5	25222.5	10230.8
ZINC	2/8	1.9 J	5.6 J	MW-317B	1.9	3.55	3.8	2.2	1.4
Miscellaneous Parameters (mg/L)									
CHLORIDE	4/4	3.2	26	MW-317A	-	-	10.7	10.7	10.6

J = Estimated concentrations.

Only samples that were detected in at least one sample are listed.

TABLE 5-2

SUMMARY OF BACKGROUND DATA - LOWER SAND UNIT
NAVAL AIR STATION, BRUNSWICK, MAINE

Parameter	Frequency of Detection	Minimum Detected Concentration	Maximum Detected Concentration	Location of Maximum Detection	Minimum Nondetect	Maximum Nondetect	Average of Detected Concentrations	Overall Average	Standard Deviation
Inorganics (µg/L)									
ALUMINUM	10/32	135 J	8700 J	NASB-BG-MW-42	24.2	441	2368.8	779.1	2017.9
ANTIMONY	1/32	0.11 J	0.11 J	MW-310	0.1	0.35	0.1	0.1	0.02
ARSENIC	18/32	1.1 J	35.6	MW-303	0.8	7.4	12.3	7.4	9.9
BARIUM	30/32	0.59 J	46.6	NASB-BG-MW-42	0.44	3.7	7.1	6.7	10.2
BERYLLIUM	5/32	0.06 J	0.43 J	NASB-BG-MW-42	0.05	0.2	0.2	0.1	0.1
CADMIUM	4/32	0.1 J	1.1	MW-219	0.05	0.41	0.5	0.1	0.2
CALCIUM	32/32	2530	15200 J	MW-335, MW-310	-	-	8453.8	8453.8	3853.0
CHROMIUM	5/32	4.6	16.4	NASB-BG-MW-42	1.3	4.9	10.6	2.8	3.9
COBALT	17/32	0.05 J	5.3	NASB-BG-MW-42	0.05	0.63	1.2	0.7	1.4
COPPER	9/32	0.84 J	29.8	NASB-BG-MW-42	0.48	15.4	5.3	2.0	5.4
IRON	28/32	38.3 J	11700 J	MW-315A	8.7	47	1730.3	1515.9	2809.2
LEAD	8/32	0.09 J	6.7	NASB-BG-MW-44	0.05	0.83	2.8	0.8	1.7
MAGNESIUM	32/32	826	8790 J	MW-335	-	-	4275.1	4275.1	1838.8
MANGANESE	28/32	2.2 J	723	NASB-BG-MW-36	0.67	2.1	287.3	251.5	227.3
NICKEL	12/32	0.21 J	13.8	NASB-BG-MW-42	0.15	2.5	4.4	1.9	3.6
POTASSIUM	31/32	942 J	5230	NASB-BG-MW-42	860	860	2366.1	2305.6	1067.2
SILVER	1/32	0.46 J	0.46 J	MW-310	0.05	0.15	0.5	0.04	0.1
SODIUM	32/32	3180	33200	MW-303	-	-	13984.4	13984.4	9488.9
THALLIUM	1/32	0.05 J	0.05 J	MW-310	0.05	1.4	0.1	0.1	0.1
VANADIUM	9/32	0.74 J	18	NASB-BG-MW-42	0.6	4.3	6.1	2.3	4.3
ZINC	11/32	1.9 J	70.6	NASB-BG-MW-44	1.6	13.7	23.3	9.3	17.6
Filtered Inorganics (µg/L)									
ALUMINUM	2/32	940	1630 J	MW-315A	13.6	186	1232.5	92.5	308.7
ANTIMONY	1/32	0.1 J	0.1 J	MW-310	0.1	0.17	0.1	0.1	0.01
ARSENIC	19/32	0.83 J	34.2	MW-303	0.8	5.8	11.1	7.2	9.5
BARIUM	27/32	0.5 J	14.7	NASB-BG-MW-36	0.35	2.9	3.6	3.2	3.1
CADMIUM	4/32	0.09 J	1	MW-219	0.05	0.12	0.4	0.1	0.2
CALCIUM	32/32	2510	16200 J	MW-310	-	-	8469.8	8469.8	4005.8
COBALT	7/32	0.13 J	4.7	NASB-BG-MW-36	0.05	0.17	1.1	0.3	0.8
COPPER	7/32	0.5 J	2 J	NASB-BG-MW-42	0.48	4.9	0.9	0.5	0.4
IRON	22/32	17.3 J	5800	NASB-BG-MW-36	5.17	27	708.8	488.8	1073.2
LEAD	3/32	0.07 J	0.78 J	NASB-BG-MW-42	0.05	0.97	0.3	0.1	0.1
MAGNESIUM	32/32	798	8920	MW-335	-	-	4040.7	4040.7	1769.1
MANGANESE	25/32	0.41 J	761	NASB-BG-MW-36	0.37	4.5	292.5	228.6	223.4
NICKEL	5/32	0.21 J	11.2	NASB-BG-MW-36	0.2	3.4	2.9	0.8	2.0
POTASSIUM	31/32	940 J	3560	MW-303	833	833	2160.3	2105.8	820.6
SELENIUM	2/32	0.57 J	0.61 J	MW-339	0.5	1.1	0.5	0.3	0.1
SODIUM	32/32	3150	33100	MW-303	-	-	14075.9	14075.9	9631.7

TABLE 5-2

SUMMARY OF BACKGROUND DATA - LOWER SAND UNIT
NAVAL AIR STATION, BRUNSWICK, MAINE

Parameter	Frequency of Detection	Minimum Detected Concentration	Maximum Detected Concentration	Location of Maximum Detection	Minimum Nondetect	Maximum Nondetect	Average of Detected Concentrations	Overall Average	Standard Deviation
VANADIUM	5/32	0.91 J	1.3 J	MW-303	0.6	6.3	1.1	0.8	0.6
ZINC	6/32	3.6 J	59.8	NASB-BG-MW-36	1.6	33.2	14.4	4.5	10.6
Miscellaneous Parameters (mg/L)									
BROMIDE	3/16	0.14 J	0.33 J	MW-339	0.5	0.5	0.2	0.2	0.04
CHLORIDE	16/16	1.9 J	48	NASB-BG-MW-36	-	-	13.6	13.6	14.5

J = Estimated concentration.

Only samples that were detected in at least one sample are listed.

TABLE 5-3

SUMMARY OF BACKGROUND DATA - UPPER SAND UNIT
NAVAL AIR STATION, BRUNSWICK, MAINE

Parameter	Frequency of Detection	Minimum Detected Concentration	Maximum Detected Concentration	Location of Maximum DetectION	Minimum Nondetect	Maximum Nondetect	Averae of Detected Concentrations	Overall Average	Standard Deviation
Inorganics (µg/L)									
ALUMINUM	18/30	118 J	7930	NASB-BG-MW-21	16.4	357	962	595	1423
ARSENIC	3/30	1.7 J	4.2 J	NASB-BG-MW-03	0.8	3.5	2.70	1.14	0.73
BARIUM	29/30	2.7 J	215	NASB-BG-MW-30	3.4	3.4	21.26	20.61	39.87
BERYLLIUM	11/30	0.06 J	0.58 J	NASB-BG-MW-21	0.05	0.14	0.25	0.11	0.16
CADMIUM	1/30	0.24 J	0.24 J	NASB-BG-MW-40	0.05	0.21	0.24	0.04	0.04
CALCIUM	30/30	333	11800	NASB-BG-MW-39	-	-	3266	3266	3388
COBALT	21/30	0.11 J	1.6	NASB-BG-MW-32	0.05	0.69	0.43	0.33	0.35
COPPER	9/30	0.54 J	2.1 J	NASB-BG-MW-01	0.48	1.3	1.02	0.53	0.44
IRON	19/30	10.4 J	4380	NASB-BG-MW-21	5.17	63.7	771	492	1019
LEAD	15/30	0.09 J	1.3	NASB-BG-MW-21	0.05	0.54	0.34	0.21	0.28
MAGNESIUM	30/30	264	3710	NASB-BG-MW-39	-	-	894	894	894
MANGANESE	28/30	1.3 J	238	NASB-BG-MW-40	0.83	0.86	50.73	47.37	57.57
NICKEL	14/30	0.77 J	3.9	NASB-BG-MW-40	0.2	2.2	2.22	1.21	1.21
POTASSIUM	22/30	175 J	1980	NASB-BG-MW-30	239	1180	843	688	523
SELENIUM	7/30	0.53 J	0.73 J	NASB-BG-MW-40	0.5	0.83	0.61	0.41	0.14
SODIUM	30/30	1320	79900	NASB-BG-MW-28	-	-	12253	12253	18491
THALLIUM	2/30	0.05 J	0.07 J	NASB-BG-MW-27	0.05	0.11	0.06	0.04	0.01
VANADIUM	8/30	0.74 J	10	NASB-BG-MW-21	0.7	3.3	2.23	1.26	1.69
ZINC	9/30	2.8 J	9 J	NASB-BG-MW-32	1.6	3.55	4.31	2.30	1.68
Filtered Inorganics (µg/L)									
ALUMINUM	10/30	115 J	944	NASB-BG-MW-40	11.9	206	520	189	276
ARSENIC	2/30	1.6 J	2.1 J	NASB-BG-MW-28	0.8	3.3	1.51	0.95	0.38
BARIUM	28/30	2.8 J	214	NASB-BG-MW-30	3.3	4.5	21.49	20.19	39.99
BERYLLIUM	9/30	0.09 J	0.54 J	NASB-BG-MW-40	0.05	0.12	0.24	0.09	0.12
CADMIUM	1/30	0.22 J	0.22 J	NASB-BG-MW-40	0.05	0.23	0.22	0.04	0.04
CALCIUM	30/30	345	12200	NASB-BG-MW-39	-	-	3321	3321	3366
COBALT	18/30	0.05 J	1.5	NASB-BG-MW-32	0.05	0.69	0.34	0.24	0.34
COPPER	8/30	0.49 J	2.5 J	NASB-BG-MW-01	0.48	1.3	1.10	0.53	0.48
IRON	9/30	6 J	2590	NASB-BG-MW-19	5.17	172	620	191	622
LEAD	10/30	0.07 J	0.38 J	NASB-BG-MW-40	0.05	0.31	0.18	0.09	0.09
MAGNESIUM	30/30	270	3780	NASB-BG-MW-39	-	-	879	879	892
MANGANESE	27/30	1.4 J	242	NASB-BG-MW-40	0.79	1.4	47.51	42.81	59.13
NICKEL	14/30	0.97 J	4.1	NASB-BG-MW-40	0.24	1.4	2.28	1.23	1.20
POTASSIUM	23/30	126 J	1990	NASB-BG-MW-30	236	1210	830	700	521
SELENIUM	3/30	0.52 J	0.64 J	NASB-BG-MW-40	0.5	1.6	0.53	0.36	0.11
SODIUM	30/30	1300	82000	NASB-BG-MW-28	-	-	12320	12320	18607
VANADIUM	5/30	0.86 J	1.7 J	NASB-BG-MW-28	0.6	2.7	1.28	0.89	0.36
ZINC	12/30	2.5 J	9.5 J	NASB-BG-MW-32	1.7	3.55	4.37	2.68	1.97
Miscellaneous Parameters (mg/L)									
CHLORIDE	15/15	0.85 J	130	NASB-BG-MW-28	-	-	24.54	24.54	42.45

Only samples that were detected in at least one sample are listed.

TABLE 5-4

SUMMARY OF BACKGROUND DATA - TRANSITION UNIT
NAVAL AIR STATION, BURNSWICK, MAINE

Parameter	Frequency of Detection	Minimum Detected Concentration	Maximum Detected Concentration	Location of Maximum DetectION	Minimum Nondetect	Maximum Nondetect	Average of Detected Concentrations	Overall Average	Standard Deviation
Inorganics (µg/L)									
ALUMINUM	21/30	105 J	2890 J	NASB-BG-MW-11	61.4	427	1097.93	804.42	856.64
ANTIMONY	1/30	1.8	1.8	NASB-BG-MW-24	0.1	1.3	1.80	0.16	0.33
ARSENIC	13/30	1.2 J	6.2	NASB-BG-MW-11	0.8	6.7	2.81	2.02	1.28
BARIUM	30/30	1.2 J	38.4	NASB-BG-MW-13	-	-	11.88	11.88	8.33
BERYLLIUM	3/30	0.06 J	0.1 J	NASB-BG-MW-10	0.05	0.12	0.08	0.03	0.02
CADMIUM	2/30	0.05 J	0.06 J	NASB-BG-MW-11	0.05	0.12	0.06	0.03	0.01
CALCIUM	30/30	3120	17900 J	NASB-BG-MW-17	-	-	8176.50	8176.50	4381.47
COBALT	29/30	0.16 J	3	NASB-BG-MW-11	0.38	0.38	1.01	0.98	0.64
COPPER	16/30	0.64 J	28	NASB-BG-MW-24	0.48	13.4	4.15	2.84	5.06
IRON	29/30	66 J	4430 J	NASB-BG-MW-11	111	174	1211.78	1173.77	1186.55
LEAD	10/30	0.26 J	3.1	NASB-BG-MW-24	0.1	1.2	1.29	0.59	0.71
MAGNESIUM	30/30	2280	15200	NASB-BG-MW-10	-	-	6640.00	6640.00	3850.88
MANGANESE	30/30	12.6	285	NASB-BG-MW-11	-	-	105.41	105.41	70.06
MERCURY	1/30	0.03 J	0.03 J	NASB-BG-MW-13	0.02	0.04	0.03	0.01	0.01
NICKEL	20/30	1	9.7	NASB-BG-MW-11	1.7	4.4	3.73	2.91	2.06
POTASSIUM	30/30	836 J	3000	NASB-BG-MW-11	-	-	1902.37	1902.37	575.79
SELENIUM	2/30	0.62 J	0.68 J	NASB-BG-MW-24	0.5	1.6	0.65	0.39	0.16
SODIUM	30/30	4800	16700	NASB-BG-MW-24	-	-	9526.50	9526.50	3133.13
VANADIUM	3/30	6	7.8	NASB-BG-MW-11	1	7.1	6.77	2.08	1.81
ZINC	16/30	2.5 J	18.5	NASB-BG-MW-24	1.6	6.7	9.20	5.90	5.05
Filtered Inorganics (µg/L)									
ALUMINUM	2/30	284 J	553	NASB-BG-MW-10	12.5	115	418.50	48.51	107.45
ARSENIC	12/30	1.1 J	4.2 J	NASB-BG-MW-07	0.8	4.7	2.36	1.66	0.99
BARIUM	29/30	0.61 J	26.5	NASB-BG-MW-13	3	3	7.02	6.84	6.69
CALCIUM	30/30	3130	18500 J	NASB-BG-MW-17	-	-	8203.50	8203.50	4401.56
COBALT	27/30	0.11 J	1.2	NASB-BG-MW-10	0.1	0.65	0.62	0.58	0.37
COBALT	27/30	0.11 J	1.2	NASB-BG-MW-11	0.1	0.65	0.62	0.58	0.37
COPPER	8/30	0.51 J	4.7 J	NASB-BG-MW-13	0.48	3.1	1.27	0.64	0.83
IRON	17/30	16 J	806	NASB-BG-MW-10	6.4	134	157.66	98.74	151.78
LEAD	3/30	0.1 J	0.82 J	MW-314B	0.05	0.74	0.51	0.12	0.18
MAGNESIUM	30/30	2250	15000	NASB-BG-MW-10	-	-	6480.67	6480.67	3804.76
MANGANESE	29/30	10.6	230	NASB-BG-MW-10	2.9	2.9	92.46	89.43	62.30
NICKEL	16/30	0.36 J	5.2	NASB-BG-MW-23	0.33	2.5	2.42	1.69	1.29
POTASSIUM	30/30	757 J	2770	NASB-BG-MW-15	-	-	1745.50	1745.50	526.47
SELENIUM	2/30	0.56 J	0.68 J	NASB-BG-MW-24	0.5	1.4	0.54	0.37	0.14
SODIUM	30/30	4820	15500	NASB-BG-MW-24	-	-	9504.00	9504.00	3124.89
ZINC	9/30	3.2 J	29.6	NASB-BG-MW-13	1.6	4.5	8.17	3.51	5.37
Miscellaneous Parameters (mg/L)									
CHLORIDE	15/15	2.1	8.4	NASB-BG-MW-11	-	-	4.75	4.75	1.70

J = Estimated concentrations.

Only samples that were detected in at least one sample are listed.

TABLE 5-5

GROUNDWATER UPPER PREDICTION LIMITS
NAVAL AIR STATION, BRUNSWICK, MAINE

Parameter	Upper Prediction Limits															
	BEDROCK FALL		BEDROCK SPRING		LOWER SAND FALL		LOWER SAND SPRING		TRANSITION FALL		TRANSITION SPRING		UPPER SAND FALL		UPPER SAND SPRING	
	UPL	UPL TYPE	UPL	UPL TYPE	UPL	UPL TYPE	UPL	UPL TYPE	UPL	UPL TYPE	UPL	UPL TYPE	UPL	UPL TYPE	UPL	UPL TYPE
Inorganics (ug/L)																
ALUMINUM	1930	Lognormal	1930	Lognormal	1930	Lognormal	1930	Lognormal	3660	Gamma WH	3660	Gamma WH	1930	Lognormal	1930	Lognormal
ANTIMONY	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND
ARSENIC	NA	NA	13.8	Nonparametric	13.8	Nonparametric	13.8	Nonparametric	13.8	Nonparametric	13.8	Nonparametric	13.8	Nonparametric	ND	ND
BARIUM	43.3	Lognormal	43.3	Lognormal	9.8	Gamma WH	9.8	Gamma WH	43.3	Lognormal	43.3	Lognormal	43.3	Lognormal	43.3	Lognormal
BERYLLIUM	NA	NA	NA	NA	NA	NA	0.27	Nonparametric	ND	ND	0.27	Nonparametric	0.27	Nonparametric	0.27	Nonparametric
CADMIUM	NA	NA	0.61	Nonparametric	ND	ND	0.61	Nonparametric	ND	ND	NA	NA	ND	ND	NA	NA
CALCIUM	21800	Lognormal	21800	Lognormal	21800	Lognormal	21800	Lognormal	21800	Lognormal	21800	Lognormal	9640	Gamma WH	9640	Gamma WH
CHROMIUM	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
COBALT	12.1	Nonparametric	12.1	Nonparametric	12.1	Nonparametric	12.1	Nonparametric	2.4	Gamma WH	2.4	Gamma WH	12.1	Nonparametric	12.1	Nonparametric
COPPER	13.9	Nonparametric	13.9	Nonparametric	13.9	Nonparametric	13.9	Nonparametric	13.9	Nonparametric	13.9	Nonparametric	1.5	Gamma WH	1.5	Gamma WH
IRON	5090	Lognormal	5090	Lognormal	5090	Lognormal	5090	Lognormal	5090	Lognormal	5090	Lognormal	2100	Gamma WH	2100	Gamma WH
LEAD	2.2	Gamma WH	2.2	Gamma WH	2.2	Gamma WH	NA	NA	2.2	Gamma WH	2.2	Gamma WH	0.66	Lognormal	0.66	Lognormal
MAGNESIUM	13600	Nonparametric	13600	Nonparametric	13600	Nonparametric	13600	Nonparametric	13600	Nonparametric	13600	Nonparametric	2270	Gamma WH	2270	Gamma WH
MANGANESE	547	Gamma WH	547	Gamma WH	547	Gamma WH	547	Gamma WH	547	Gamma WH	547	Gamma WH	173	Gamma WH	173	Gamma WH
MERCURY	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND
NICKEL	4.1	Gamma WH	4.1	Gamma WH	4.1	Gamma WH	4.1	Gamma WH	7.1	Normal	7.1	Normal	4.1	Gamma WH	4.1	Gamma WH
POTASSIUM	3340	Normal	3340	Normal	3340	Normal	3340	Normal	3340	Normal	3340	Normal	1790	Normal	1790	Normal
SELENIUM	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	0.77	Normal
SILVER	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND
SODIUM	31600	Lognormal	31600	Lognormal	31600	Lognormal	31600	Lognormal	31600	Lognormal	31600	Lognormal	67800	Nonparametric	67800	Nonparametric
THALLIUM	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	NA	NA
VANADIUM	ND	ND	ND	ND	4.6	Gamma WH	ND	ND	NA	NA	4.6	Gamma WH	4.6	Gamma WH	NA	NA
ZINC	18.5	Lognormal	18.5	Lognormal	18.5	Lognormal	18.5	Lognormal	18.5	Lognormal	18.5	Lognormal	6.1	Normal	6.1	Normal
Dissolved Inorganics (ug/L)																
ALUMINUM	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	736	Normal	736	Normal	736	Normal
ANTIMONY	ND	ND	NA	NA	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND
ARSENIC	NA	NA	14.6	Nonparametric	14.6	Nonparametric	14.6	Nonparametric	14.6	Nonparametric	14.6	Nonparametric	14.6	Nonparametric	ND	ND
BARIUM	ND	ND	36.6	Lognormal	9.5	Gamma WH	9.5	Gamma WH	36.6	Lognormal	36.6	Lognormal	36.6	Lognormal	36.6	Lognormal
BERYLLIUM	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	0.4	Normal	0.4	Normal
CADMIUM	ND	ND	NA(1)	NA	ND	ND	0.8	Normal	ND	ND	ND	ND	ND	ND	NA	NA
CALCIUM	23800	Gamma WH	23800	Gamma WH	23800	Gamma WH	23800	Gamma WH	23800	Gamma WH	23800	Gamma WH	11700	Gamma WH	11700	Gamma WH
COBALT	NA	NA	9.1	Nonparametric	9.1	Nonparametric	9.1	Nonparametric	1.8	Gamma WH	1.8	Gamma WH	9.1	Nonparametric	9.1	Nonparametric
COPPER	ND	ND	NA	NA	NA	NA	1.8	Gamma WH	NA	NA	1.8	Gamma WH	1.8	Gamma WH	1.8	Gamma WH
IRON	NA	NA	1240	Lognormal	1240	Lognormal	1240	Lognormal	1240	Lognormal	1240	Lognormal	526	Gamma WH	526	Gamma WH
LEAD	ND	ND	NA	NA	0.20	Lognormal	ND	ND	NA	NA	0.20	Lognormal	0.20	Lognormal	0.20	Lognormal
MAGNESIUM	12000	Lognormal	12000	Lognormal	12000	Lognormal	12000	Lognormal	12000	Lognormal	12000	Lognormal	2250	Gamma WH	2250	Gamma WH
MANGANESE	432	Gamma WH	432	Gamma WH	432	Gamma WH	432	Gamma WH	432	Gamma WH	432	Gamma WH	432	Gamma WH	432	Gamma WH
NICKEL	ND	ND	2.7	Gamma WH	NA	NA	2.7	Gamma WH	5.4	Normal	5.4	Normal	2.7	Gamma WH	2.7	Gamma WH
POTASSIUM	3230	Normal	3230	Normal	3230	Normal	3230	Normal	3230	Normal	3230	Normal	1790	Normal	1790	Normal
SELENIUM	ND	ND	ND	ND	ND	ND	0.72	Normal	ND	ND	0.72	Normal	ND	ND	0.72	Normal
SODIUM	31200	Nonparametric	31200	Nonparametric	31200	Nonparametric	31200	Nonparametric	31200	Nonparametric	31200	Nonparametric	68200	Nonparametric	68200	Nonparametric
VANADIUM	ND	ND	ND	ND	1.7	Nonparametric	ND	ND	ND	ND	ND	ND	1.7	Nonparametric	ND	ND
ZINC	ND	ND	16.2	Nonparametric	NA	NA	16.2	Nonparametric	16.2	Nonparametric	16.2	Nonparametric	16.2	Nonparametric	16.2	Nonparametric
Miscellaneous (mg/L)																
BROMIDE	ND	ND	--	--	0.32	Normal	--	--	ND	ND	--	--	ND	ND	--	--
CHLORIDE	91.2	Nonparametric	--	--	91.2	Nonparametric	--	--	91.2	Nonparametric	--	--	91.2	Nonparametric	--	--

(1) Four samples is not enough to calculate a UPL.
UPLs were calculated using Pro UCL version 4.1.00.
Chemicals are listed only if there are enough detected samples to calculate a UPL.

ND = Non-Detect
NA = Not enough detected samples to calculate a meaningful UPL.
UPL = 95% Upper Prediction
WH = Wilson Hilferty
-- Chemcial was not analyzed.

6.0 EVALUATION OF SURFACE WATER BACKGROUND CONCENTRATIONS

This section presents the data analysis and results of statistical evaluations performed to establish the background data sets for surface water for NAS Brunswick. Surface water samples were from two areas, Coffins Ice Pond and Mere Brook, in the fall and in the spring. Figure 2-3 presents the locations of the surface water and co-located samples sediment samples collected during the Background Study.

6.1 CHEMICALS DETECTED IN SURFACE WATER

Tables 6-1 and 6-2 present the results of Coffins Ice Pond and Mere Brook surface water samples, respectively. PAHs were detected infrequently and were not included in the statistical analysis. One-half the method detection limit was used for graphical displays while the full method detection limit was used in ProUCL and denoted as a non-detect for the hypothesis test and UPLs. Duplicate results (original and duplicate) were not averaged for the purpose of representing the range of concentrations; however, the average of original and duplicate results was used to represent the concentration at the sample location for statistical evaluation.

6.2 STATISTICAL EVALUATION SUMMARY

Several statistical evaluations were performed on the data described in Section 6.1. The statistical analyses were conducted for two purposes, to determine if any of the subgroups could be combined and to determine background chemical concentrations to be used in future comparisons with site data. The statistical methods used to determine if any of the subgroups could be combined are discussed in detail in Appendix A.3.1 through A.3.4 and are summarized in Section 6.2.1. The statistical methods for comparing future site data to background concentrations are discussed in detail in Appendix A.3.5 and are summarized in Section 6.2.2.

6.2.1 Statistical Differences

The first step in determining if any of the four chemical subgroups (two sampling areas sampled during two events) could be combined was to determine if the three maximum concentrations of each subgroup were candidate outliers. Candidate outliers were located on a site map to check for any pattern of localized anthropogenic contamination not representative of the background area as a whole. Outliers were identified at both Coffins Ice Pond and Mere Brook. For Coffins Ice Pond, candidate outliers were identified at SW01, SW03, SW04, SW05, and SW08. For Mere Brook, candidate outliers were identified at SW09, SW10, SW12, SW14, and SW16. Candidate outliers at both Coffins Ice Pond and Mere Brook were not isolated at one location. For both areas at least 50 percent of the samples were identified as containing at least one outlier. Because candidate outlies were identified at more than 50 percent of the

samples it does not appear that there is an isolated spot at either Mere Brook or Coffins Ice Pond that is not reflective of background. The candidate outliers were investigated and were retained in the analysis. The distributional shape for each combination of substance and subgroup were examined to determine which statistical tests were appropriate to compare concentrations among groups. Formal statistical tests and graphical techniques were used to assess the distributional shape of each chemical substance and subgroup. The results of these formal statistical tests are presented in Appendix A.3.2, and the graphical presentations are included in Appendix A.3.3.

After the shapes of the data sets were determined, statistical tests were used to determine which subgroups were similar and could be combined into single data sets. The detailed statistical results are presented in Appendix A.3.4. PAHs were infrequently detected; therefore, statistical tests were not conducted for these chemicals, and none of the chemical subgroups should be combined. The following inorganics were also infrequently detected: total and dissolved cadmium, copper, and selenium, total vanadium, and dissolved lead and silver. Hypothesis tests were not conducted for these chemicals, and the corresponding subgroups should not be combined. For most of the remaining inorganic chemicals, two subgroups could be combined to provide 16 samples per background data set (see Tables A.3.4.3 and A.3.4.4). Based on the statistical evaluation, the chemicals detected in all four subgroups can be combined in the following ways:

- One group (Coffins Ice Pond and Mere Brook).
  - Aluminum and lead.

- Two groups (Coffins Ice Pond as one group, Mere Brook as another group).
  - Total and dissolved barium, calcium, potassium, and sodium, total nickel, and dissolved manganese.

- Two groups (fall samples as one group, spring samples as another group).
  - Total iron and manganese and total and dissolved magnesium.

6.2.2 Comparison of Site to Background Data

For future comparison of site data to background data, either site-wide tests or individual comparison tests will be used. Site-wide comparison tests require that the site and background media data sets being compared meet certain general assumptions. General requirements are that a specific minimum number of samples be included in the site and background data sets so that there is sufficient confidence in test conclusions. As stated in the SAP (Tt, 2009), enough site and background samples will be collected to test the null hypothesis that site conditions are not representative of background conditions against the alternative hypothesis that site conditions are representative of background conditions, with alpha and

beta levels of 0.05, and a minimum detectable difference of two background standard deviations. If enough site data to meet the criteria for site-wide comparisons cannot be obtained, the alternative is to perform a separate comparison of each site sample to background using individual comparison tests.

The SAP stated that at least 15 samples were needed for each background data set. For most of the chemicals, two subgroups could be combined to provide 16 samples per background data set. However, based on low frequencies of detection, the following chemicals do not have at least 15 samples per subgroup: total and dissolved cadmium, copper, and selenium, total vanadium, and dissolved lead and silver. Based on the formal hypothesis test, the following chemical subgroup combinations do not have at least 15 samples:

- Coffins Ice Pond fall samples - arsenic, chromium, cobalt, nickel, and zinc
- Coffins Ice Pond spring samples - aluminum, iron, and zinc
- Mere Brook fall samples - aluminum, arsenic, chromium, and cobalt
- Mere Brook spring samples - iron

USEPA's Pro UCL version 4.00.05 calculates multiple background values and accounts for non-detected concentration. One of the background threshold values calculated by Pro UCL is a 95 UPL. In addition to hypothesis tests, a comparison of the site maximum concentration to the background UPL can also be conducted. If the site concentration exceeds the UPL, the site concentration is not representative of background conditions.

UPLs were established for each analyte in each subgroup. Each UPL was based on the null hypothesis that individual site concentrations are within the background concentration range. Concentrations of each chemical from each site sample are compared to a UPL for that chemical that represents a statistically derived upper limit on the average background concentration. Before calculating the UPLs, the data were combined for each chemical based on the results of the hypothesis tests presented in Appendix A.3.4. Details of the chemical-specific UPLs for NAS Brunswick are presented in Appendix A.3.5. Table 6-3 presents the 95-percent UPLs for Coffins Ice Pond and Mere Brook.

6.3 SURFACE WATER BACKGROUND VALUES

Several statistical evaluations were performed on background groundwater data to determine if any of the subgroups could be combined and to determine UPLs to be used as background chemical concentrations. UPL background values for surface water at NAS Brunswick were calculated for each chemical for each group of data that was determined to be statistically similar and are summarized in Table 6-3.

6.4 BACKGROUND DATASET USABLILITY – SURFACE WATER

The Navy, U.S. EPA, and MEDEP have not reached consensus agreement regarding the appropriateness of the background surface water datasets for use at the former NASB. Elevated levels of some constituents in surface water samples from Coffins Ice Pond require further assessment to determine appropriate management strategies for surface water bodies at the former NASB with regards to background conditions. Additional data collection and analysis is warranted to determine whether or not constituent concentrations detected in Coffins Ice Pond surface water (and sediment) samples are representative of conditions that would be found in other similar surface water bodies around the former NAS Brunswick. The Navy and regulators will identify at least two additional Brunswick-area ponds that will be targeted for surface water (and sediment) sampling. This additional data collection and evaluation will be used to establish background concentrations for these media in a lentic environment.

TABLE 6-1

COFFINS ICE POND SURFACE WATER
NAVAL AIR STATION, BRUNSWICK, MAINE

Parameter	Frequency of Detection	Minimum Detected Concentration	Maximum Detected Concentraiton	Location of Maximum Detected Concentration	Minimum Nondetect	Maximum Nondetect	Average of Detected Concentrations	Overall Average	Standard Deviation
Polynuclear Aromatic Hydrocarbons (µg/L)									
ANTHRACENE	1/16	0.05 J	0.05 J	NASB-BG-SW-02	0.04	0.04	0.05	0.02	0.01
BENZO(A)ANTHRACENE	2/16	0.05 J	0.3	NASB-BG-SW-02	0.04	0.05	0.18	0.04	0.07
BENZO(A)PYRENE	1/16	0.5 J	0.5 J	NASB-BG-SW-02	0.06	0.07	0.50	0.06	0.12
BENZO(B)FLUORANTHENE	1/16	0.7	0.7	NASB-BG-SW-02	0.08	0.09	0.70	0.08	0.16
BENZO(G,H,I)PERYLENE	1/16	0.3	0.3	NASB-BG-SW-02	0.06	0.1	0.30	0.05	0.07
BENZO(K)FLUORANTHENE	1/16	0.3	0.3	NASB-BG-SW-02	0.05	0.05	0.30	0.04	0.07
CHRYSENE	1/16	0.4 J	0.4 J	NASB-BG-SW-02	0.03	0.08	0.40	0.04	0.10
DIBENZO(A,H)ANTHRACENE	1/16	0.2 J	0.2 J	NASB-BG-SW-02	0.07	0.07	0.20	0.05	0.04
FLUORANTHENE	4/16	0.09 J	0.8	NASB-BG-SW-02	0.07	0.07	0.26	0.09	0.19
INDENO(1,2,3-CD)PYRENE	1/16	0.6 J	0.6 J	NASB-BG-SW-02	0.05	0.09	0.60	0.06	0.14
PHENANTHRENE	1/16	0.4	0.4	NASB-BG-SW-02	0.05	0.05	0.40	0.05	0.09
PYRENE	4/16	0.06 J	0.9	NASB-BG-SW-02	0.06	0.06	0.27	0.09	0.22
Inorganics (µg/L)									
ALUMINUM	15/16	15.8 J	2070	NASB-BG-SW-04	56.2	56.2	247.43	233.73	496.25
ARSENIC	6/16	1.7 J	3.4 J	NASB-BG-SW-04	1.4	5.5	2.25	1.79	0.80
BARIUM	16/16	16.8	72.4	NASB-BG-SW-04	-	-	34.91	34.91	12.70
CALCIUM	16/16	8790	11700	NASB-BG-SW-04	-	-	10268.13	10268.13	885.34
CHROMIUM	8/16	0.7 J	7.8	NASB-BG-SW-04	2	7	2.29	2.29	1.62
COBALT	8/16	0.38 J	1.7	NASB-BG-SW-04	0.23	0.56	0.64	0.41	0.40
COPPER	2/16	2.6	8.9	NASB-BG-SW-04	0.51	2.5	5.75	1.18	2.13
IRON	16/16	141	3060	NASB-BG-SW-04	-	-	595.31	595.31	697.16
LEAD	12/16	0.18 J	11.4 J	NASB-BG-SW-04	0.66	0.98	2.13	1.69	2.94
MAGNESIUM	16/16	1450	3080	NASB-BG-SW-04	-	-	2160.94	2160.94	435.20
MANGANESE	16/16	47.3	209	NASB-BG-SW-04	-	-	115.23	115.23	41.75
NICKEL	16/16	1.1	6.1	NASB-BG-SW-04	-	-	2.47	2.47	1.15
POTASSIUM	16/16	1980	3150	NASB-BG-SW-04	-	-	2500.31	2500.31	302.39
SELENIUM	2/16	0.66 J	0.67 J	NASB-BG-SW-05	0.5	0.8	0.56	0.36	0.11
SODIUM	16/16	23500	41500 J	NASB-BG-SW-02	-	-	33078.13	33078.13	5135.66
VANADIUM	1/16	9.4	9.4	NASB-BG-SW-04	0.7	5.7	9.40	2.18	2.06
ZINC	15/16	4.7 J	34.9	NASB-BG-SW-04	3.55	3.55	10.05	9.54	7.57
Filtered Inorganics (µg/L)									
ALUMINUM	4/16	68.1 J	79.2 J	NASB-BG-SW-02	11.35	60.2	72.05	27.29	28.20
ARSENIC	2/16	1.5 J	1.9 J	NASB-BG-SW-06	1.5	4.5	1.41	1.24	0.49
BARIUM	16/16	15.6	45.2	NASB-BG-SW-04	-	-	30.47	30.47	6.69
CALCIUM	16/16	8970	11100	NASB-BG-SW-06	-	-	10100.94	10100.94	681.23
CHROMIUM	8/16	0.65 J	1.4 J	NASB-BG-SW-05	3	4.6	1.02	1.55	0.60
COBALT	8/16	0.21 J	0.34 J	NASB-BG-SW-03	0.2	0.4	0.29	0.22	0.08

TABLE 6-1

COFFINS ICE POND SURFACE WATER
NAVAL AIR STATION, BRUNSWICK, MAINE

Parameter	Frequency of Detection	Minimum Detected Concentration	Maximum Detected Concentraiton	Location of Maximum Detected Concentration	Minimum Nondetect	Maximum Nondetect	Average of Detected Concentrations	Overall Average	Standard Deviation
COBALT	8/16	0.21 J	0.34 J	NASB-BG-SW-04	0.2	0.4	0.29	0.22	0.08
COPPER	1/16	2	2	NASB-BG-SW-03	0.57	1.6	2.00	0.57	0.41
IRON	8/16	43.9 J	112	NASB-BG-SW-01	35.6	166	81.66	58.56	31.10
LEAD	8/16	0.1 J	0.33 J	NASB-BG-SW-01	0.07	0.54	0.18	0.14	0.08
MAGNESIUM	16/16	1480	2570	NASB-BG-SW-04	-	-	2084.38	2084.38	337.96
MANGANESE	16/16	47.4	157	NASB-BG-SW-04	-	-	101.51	101.51	32.37
NICKEL	15/16	1.4	2.6	NASB-BG-SW-05	1.2	1.2	2.00	1.91	0.59
NICKEL	15/16	1.4	2.6	NASB-BG-SW-08	1.2	1.2	2.00	1.91	0.59
POTASSIUM	16/16	1850	2910	NASB-BG-SW-08	-	-	2451.56	2451.56	242.40
SELENIUM	2/16	0.56 J	0.57 J	NASB-BG-SW-05	0.5	0.8	0.49	0.35	0.09
SILVER	1/16	0.05 J	0.05 J	NASB-BG-SW-04	0.05	0.05	0.04	0.03	0.003
SODIUM	16/16	21600	39900	NASB-BG-SW-04	-	-	32487.50	32487.50	4396.80
ZINC	14/16	3.8 J	12.7	NASB-BG-SW-05	3.55	3.55	7.08	6.42	3.18

J = Estimated concentration.

Only samples that were detected in at least one sample are listed.

TABLE 6-2

MERE BROOK SURFACE WATER
NAVAL AIR STATION, BRUNSWICK, MAINE

Parameter	Frequency of Detection	Minimum Detected Concentration	Maximum Detected Concentration	Location of Maximum Detect	Minimum Nondetect	Maximum Nondetect	Average of Detected Concentrations	Overall Average	Standard Deviation
Polynuclear Aromatic Hydrocarbons (µg/L)									
BENZO(A)ANTHRACENE	1/16	0.05 J	0.05 J	NASB-BG-SW-14	0.04	0.05	0.05	0.02	0.01
DIBENZO(A,H)ANTHRACENE	1/16	0.2 J	0.2 J	NASB-BG-SW-14	0.07	0.07	0.20	0.05	0.04
FLUORANTHENE	1/16	0.08 J	0.08 J	NASB-BG-SW-09	0.07	0.08	0.08	0.04	0.01
Inorganics (ug/L)									
ALUMINUM	16/16	51.3 J	151 J	NASB-BG-SW-15			93.18	93.18	24.42
ARSENIC	6/16	1.9 J	3.3 J	NASB-BG-SW-15	0.8	2.9	2.29	1.45	0.76
BARIUM	16/16	16.2	27.6	NASB-BG-SW-09			24.08	24.08	2.66
CADMIUM	1/16	0.05 J	0.05 J	NASB-BG-SW-16	0.05	0.05	0.05	0.03	0.01
CALCIUM	16/16	8260	9670	NASB-BG-SW-16			9018.13	9018.13	415.55
CHROMIUM	8/16	1 J	2.3 J	NASB-BG-SW-16	2.2	4.2	1.56	1.58	0.33
COBALT	8/16	0.11 J	0.21 J	NASB-BG-SW-15	0.16	0.24	0.14	0.12	0.03
IRON	16/16	192	655	NASB-BG-SW-09			362.00	362.00	164.16
LEAD	10/16	0.34 J	4 J	NASB-BG-SW-15	0.38	0.94	0.70	0.56	0.53
MAGNESIUM	16/16	1630	2110	NASB-BG-SW-16			1875.31	1875.31	174.37
MANGANESE	16/16	40.7	109	NASB-BG-SW-09			65.99	65.99	23.99
NICKEL	10/16	1.3	2.1	NASB-BG-SW-14	0.6	1.2	1.62	1.19	0.62
POTASSIUM	16/16	1410	2490	NASB-BG-SW-16			2133.75	2133.75	233.61
SODIUM	16/16	24000	28200 J	NASB-BG-SW-16			26209.38	26209.38	1133.17
ZINC	2/16	16	67.4	NASB-BG-SW-15	3.55	7.5	25.29	5.44	8.49
Filtered Inorganics (µg/L)									
ALUMINUM	5/16	12.1 J	27.5 J	NASB-BG-SW-16	11.35	60.2	15.08	19.90	9.97
ARSENIC	5/16	1.5 J	2.7 J	NASB-BG-SW-09	0.83	1.9	1.94	1.09	0.65
BARIUM	16/16	21.9	26.5	NASB-BG-SW-11			23.92	23.92	1.36
CADMIUM	1/16	0.07 J	0.07 J	NASB-BG-SW-12	0.05	0.05	0.07	0.03	0.01
CALCIUM	16/16	8400	9820	NASB-BG-SW-13			9083.44	9083.44	398.49
CHROMIUM	8/16	1.2 J	1.5 J	NASB-BG-SW-09	1.4	3.6	1.36	1.34	0.28
COBALT	4/16	0.1 J	0.12 J	NASB-BG-SW-16	0.1	0.22	0.11	0.08	0.03
COBALT	4/16	0.1 J	0.12 J	NASB-BG-SW-15	0.1	0.22	0.11	0.08	0.03
COBALT	4/16	0.1 J	0.12 J	NASB-BG-SW-15	0.1	0.22	0.11	0.08	0.03
IRON	8/16	62.5 J	85.7 J	NASB-BG-SW-12	66.3	93.6	76.01	57.15	20.55
MAGNESIUM	16/16	1650	2120	NASB-BG-SW-13			1878.13	1878.13	170.19
MANGANESE	16/16	35.9	77.2	NASB-BG-SW-13			56.10	56.10	18.81
NICKEL	8/16	1.6	1.9	NASB-BG-SW-12	0.75	1	1.73	1.10	0.66
POTASSIUM	16/16	1990	2360	NASB-BG-SW-15			2194.38	2194.38	107.95
SODIUM	16/16	24300	28200	NASB-BG-SW-13			26368.75	26368.75	1125.89

J = Estimated concentration.

Only samples that were detected in at least one sample are listed.

TABLE 6-3

SURFACE WATER UPPER PREDICTION LIMITS
NAVAL AIR STATION, BRUNSWICK, MAINE

Parameter	Upper Prediction Limits							
	Coffins Ice Pond Fall		Coffins Ice Pond Spring		Mere Brook Fall		Mere Brook Spring	
	UPL	UPL Type	UPL	UPL Type	UPL	UPL Type	UPL	UPL Type
Inorganics (µg/L)								
ALUMINUM	762	Nonparametric	762	Nonparametric	762	Nonparametric	762	Nonparametric
ARSENIC	6.1	Gamma WH	ND	ND	6.1	Gamma WH	ND	ND
BARIUM	58.7	Gamma WH	58.7	Gamma WH	29.5	Gamma WH	29.5	Gamma WH
CADMIUM	ND	ND	ND	ND	ND	ND	NA	NA
CALCIUM	11900	Normal	11900	Normal	9770	Normal	9770	Normal
CHROMIUM	7.8	Nonparametric	ND	ND	7.8	Nonparametric	ND	ND
COBALT	1.7	Nonparametric	ND	ND	0.2	Normal	ND	ND
COPPER	NA	NA	NA	NA	ND	ND	ND	ND
IRON	3060	Nonparametric	362	Nonparametric	3060	Nonparametric	362	Nonparametric
LEAD	4.8	Nonparametric	4.8	Nonparametric	4.8	Nonparametric	4.8	Nonparametric
MAGNESIUM	2770	Gamma WH	2670	Nonparametric	2770	Gamma WH	2670	Nonparametric
MANGANESE	191	Gamma WH	105	Nonparametric	191	Gamma WH	105	Nonparametric
NICKEL	4.6	Gamma WH	4.6	GammaWH	2	Normal	2	Normal
POTASSIUM	3050	Normal	3050	Normal	2490	Nonparametric	2490	Nonparametric
SELENIUM	ND	ND	NA	NA	ND	ND	ND	ND
SODIUM	42400	Normal	42400	Normal	28300	Normal	28300	Normal
VANADIUM	NA	NA	ND	ND	ND	ND	ND	ND
ZINC	24.2	Nonparametric	24.2	Nonparametric	24.2	Nonparametric	ND	ND
Dissolved Inorganics (µg/L)								
ALUMINUM	ND	ND	85.6	Normal	24.2	Nonparametric	ND	ND
ARSENIC	NA	NA	ND	ND	2.7	Normal	ND	ND
BARIUM	42.6	Normal	42.6	Normal	26.4	Normal	26.4	Normal
CADMIUM	ND	ND	ND	ND	ND	ND	NA	NA
CALCIUM	11300	Normal	11300	Normal	9770(1)	Normal	9770(1)	Normal
CHROMIUM	1.5	Normal	ND	ND	1.6	Normal	ND	ND
COBALT	0.39	Normal	ND	ND	0.12	Nonparametric	ND	ND
COPPER	ND	ND	NA	NA	ND	ND	ND	ND
IRON	ND	ND	122	Normal	ND	ND	93.3	Normal
LEAD	ND	ND	0.33	Normal	ND	ND	ND	ND
MAGNESIUM	2520	Gamma WH	2510	Nonparametric	2520	Gamma WH	2510	Nonparametric
MANGANESE	160	Normal	160	Normal	77.2	Nonparametric	77.2	Nonparametric
NICKEL	3.1	Gamma WH	2.7	Normal	ND	ND	2.7	Normal
POTASSIUM	2890	Normal	2890	Normal	2390	Normal	2390	Normal
SELENIUM	ND	ND	NA	NA	ND	ND	ND	ND
SILVER	ND	ND	NA	NA	ND	ND	ND	ND
SODIUM	40400	Normal	40400	Normal	28400	Normal	28400	Normal
ZINC	6.6	Normal	12.7	Normal	ND	ND	ND	ND

UPLs were calculated using Pro UCL version 4.1.00.
Chemicals are listed only if there are enough detected samples in one group to calculate a UPL.
(1) Dissolved Calcium UPL calculated by ProUCL was greater than the Total Calcium UPL, the Total Calcium UPL will be used for both Total and Dissolved Calcium.
ND = Non-Detect
NA = Not enough detected samples to calculate a meaningful UPL.
UPL = 95% Upper Prediction
WH = Wilson Hilferty

7.0 EVALUATION OF SEDIMENT BACKGROUND CONCENTRATIONS

This section presents the data analysis and results of statistical evaluations performed to establish the background data sets f./or sediment for NAS Brunswick. Sediment samples were collected from two areas, Coffins Ice Pond and Mere Brook. Sediment locations were sampled once in the fall and once in the spring. Figure 2-3 presents the locations of the sediment samples along with the co-located surface water samples.

7.1 CHEMICALS DETECTED IN SEDIMENT

Tables 7-1 and 7-2 present the results of sediment samples collected from Coffins Ice Pond and Mere Brook, respectively. One-half the method detection limit was used for graphical displays while the full method detection limit was used in ProUCL and denoted as a non-detect for the hypothesis test and UPLs. Duplicate results (original and duplicate) were not averaged for the purpose of representing the range of concentrations; however, the average of original and duplicate results was used to represent the concentration at the sample location for statistical evaluation.

7.2 STATISTICAL EVALUATION SUMMARY

Several statistical evaluations were performed on the data described in Section 7.1 to determine if any of the subgroups could be combined and to determine background chemical concentrations to be used in future comparisons of site data. The statistical methods used to determine if any of the subgroups could be combined are discussed in detail in Appendix A.4.1 through A.4.4 and are summarized in Section 7.2.1. The statistical methods for comparing future site data to background concentrations are discussed in detail in Appendix A.4.5 and are summarized in Section 7.2.2.

7.2.1 Statistical Differences

The first step in determining if any of the four chemical subgroups (two areas sampled during two events) could be combined was to determine if the three maximum concentrations of each subgroup were candidate outliers. Candidate outliers were located on a site map to check for any pattern of localized anthropogenic contamination not representative of the background area as a whole. Outliers were identified at both Coffins Ice Pond and Mere Brook. For Coffins Ice Pond, candidate outliers were identified at all sampling locations. For Mere Brook, candidate outliers were identified at all locations except SD11, SD12, and SDS13. Candidate outliers at both Coffins Ice Pond and Mere Brook were not isolated at one location. For both areas at least 50 percent of the samples were identified as containing at least one outlier. Because candidate outliers were identified at more than 50 percent of the samples it does not appear that there is an isolated spot at either Mere Brook or Coffins Ice Pond that is not

reflective of background. Therefore, the candidate outliers were investigated and were retained in the analysis. The distributional shapes for each combination of substance and subgroup were examined to determine which statistical tests were appropriate to compare concentrations among groups. Formal statistical tests and graphical techniques were used to assess the distributional shapes of each chemical substance and subgroup. The results of these formal statistical tests are presented in Appendix A.4.2, and the graphical presentations appear in Appendix A.4.3.

After the shapes of the data sets were determined, statistical tests were used to determine which subgroups were similar and could be combined into single data sets. The detailed statistical results are presented in Appendix A.4.4. Based on the statistical evaluation, the chemicals detected in all four subgroups can be combined in the following ways (seasonal variation was found to be insignificant in all cases):

- One group (Coffins Ice Pond and Mere Brook)
  - Napthalene

- Two groups (Coffins Ice Pond as one group and Mere Brook as another group)
  - 2-Methylnaphthalene, acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, phenanthrene, pyrene, 4,4'-DDD, 4,4'-DDE, 4,4'DDT, aluminum, arsenic, barium, beryllium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, nickel, potassium, sodium, vanadium, zinc, and TOC

7.2.2 Comparison of Site to Background Data

For future comparison of site data to background data, either site-wide tests or individual comparison tests will be used. Site-wide comparison tests require that the site and background media data sets being compared meet certain general assumptions. General requirements are that a specific minimum number of samples be included in the site and background data sets so that there is sufficient confidence in the test conclusions. The SAP (Tt, 2009) stated that at least 15 samples were needed for each background data set to compute a hypothesis test comparing means/medians. If enough site data to meet the criteria for site-wide comparisons cannot be obtained, the alternative is to perform a separate comparison of each site sample to background using individual comparison tests.

The SAP stated that at least 15 samples were needed for each background data set. For most of the chemicals, two subgroups could be combined to provide 16 samples per background data set. However, based on low frequencies of detection, the following chemicals do not have at least 15 samples per

subgroup: alpha-BHC, endosulfan II, endosulfan sulfate, gamma chlordane, 2-4-5TP(silvex), dinoseb, 2-(4-chloro-2 methyl phenoxyl) propionic acid (MCPP), and antimony. Based on the formal hypothesis test, the following chemical subgroup combinations do not have at least 15 samples:

- Coffins Ice Pond fall samples - silver and thallium
- Coffins Ice Pond spring samples - silver and thallium
- Mere Brook spring samples - selenium

7.2.2.1 Upper Prediction Limits

USEPA's Pro UCL version 4.00.05 calculates multiple background values and accounts for non-detected concentration. One of the background threshold values calculated by Pro UCL is a 95 percent UPL. UPLs were established for each analyte in each subgroup based on the null hypothesis that individual site concentrations are within the background concentration range. Concentrations of each chemical from each site sample are compared to a UPL for that chemical that represents a statistically derived upper limit on the average background concentration. Before calculating the UPLs, the data were combined for each chemical based on the results of the hypothesis tests presented in Appendix A.4.4. Details of the chemical-specific UPLs for NAS Brunswick are presented in Appendix A.4.5. Table 7-3 presents the 95-percent UPLs for Coffins Ice Pond and Mere Brook.

7.3 SEDIMENT BACKGROUND VALUES

Several statistical evaluations were performed on the sediment data to determine if any of the subgroups could be combined and to determine UPLs to be used as background chemical concentrations. UPL background values for sediment at NAS Brunswick were calculated for each chemical by each group of data that was determined to be statistically similar and are summarized in Table 7-3.

7.4 BACKGROUND DATASET USABLITY – SEDIMENT

The Navy, U.S. EPA, and MEDEP have not reached consensus agreement regarding the appropriateness of the background sediment datasets for use at the former NASB. Elevated levels of some constituents in sediment samples from Coffins Ice Pond require further assessment to determine appropriate management strategies for surface water bodies at the former NASB with regards to background conditions. Additional data collection and analysis is warranted to determine whether or not constituent concentrations detected in Coffins Ice Pond sediment (and surface water) samples are representative of conditions that would be found in other similar surface water bodies around the former NAS Brunswick. The Navy and regulators will identify at least two additional Brunswick-area ponds that

will be targeted for sediment (and surface water) sampling. This additional data collection and evaluation will be used to establish background concentrations for these media in a lentic environment.

TABLE 7-1

SEDIMENT COFFINS ICE POND
NAVAL AIR STATION, BRUNSWICK, MAINE

PARAMETER	Frequency of Detection	Minimum Detected Concentration	Maximum Detected Concentraiton	Location of Maximum Detection	Minimum Nondetect	Maximum Nondetect	Average of Detected Concentrations	Overall Average	Standard Deviation
Polynuclear Aromatic Hydrocarbons (µg/kg)									
2-METHYLNAPHTHALENE	16/16	11 J	56 J	NASB-BG-SD-06	-	-	32.09	32.09	13.82
ACENAPHTHENE	16/16	12 J	170	NASB-BG-SD-01	-	-	50.59	50.59	35.57
ACENAPHTHYLENE	16/16	120 J	470 J	NASB-BG-SD-06	-	-	247.19	247.19	102.86
ACENAPHTHYLENE	16/16	120 J	470	NASB-BG-SD-01	-	-	247.19	247.19	102.86
ANTHRACENE	16/16	79	450	NASB-BG-SD-01	-	-	187.38	187.38	89.64
BENZO(A)ANTHRACENE	16/16	620	5100	NASB-BG-SD-01	-	-	1741.25	1741.25	1052.99
BENZO(A)PYRENE	16/16	1000	7400	NASB-BG-SD-01	-	-	2681.25	2681.25	1476.13
BENZO(B)FLUORANTHENE	16/16	1100	8900	NASB-BG-SD-01	-	-	3671.88	3671.88	1832.48
BENZO(G,H,I)PERYLENE	16/16	1000	5700	NASB-BG-SD-01	-	-	2371.88	2371.88	1096.66
BENZO(K)FLUORANTHENE	16/16	790	9500	NASB-BG-SD-01	-	-	2255.63	2255.63	2050.83
CHRYSENE	16/16	980	10000	NASB-BG-SD-01	-	-	3186.25	3186.25	2016.36
DIBENZO(A,H)ANTHRACENE	16/16	120	1400 J	NASB-BG-SD-01	-	-	600.00	600.00	326.98
FLUORANTHENE	16/16	1700 J	15000 J	NASB-BG-SD-01	-	-	4734.38	4734.38	3108.20
FLUORENE	16/16	35	360	NASB-BG-SD-01	-	-	119.06	119.06	79.17
INDENO(1,2,3-CD)PYRENE	16/16	1000	5300 J	NASB-BG-SD-01	-	-	2478.13	2478.13	1040.99
NAPHTHALENE	16/16	15 J	100 J	NASB-BG-SD-01	-	-	36.13	36.13	20.18
PHENANTHRENE	16/16	520	7000	NASB-BG-SD-01	-	-	2060.63	2060.63	1472.37
PYRENE	16/16	1500	15000	NASB-BG-SD-01	-	-	5656.25	5656.25	3151.71
Pesticides/PCBs (µg/kg)									
4,4'-DDD	16/16	34 J	190 J	NASB-BG-SD-06	-	-	83.25	83.25	39.47
4,4'-DDE	16/16	13 J	53	NASB-BG-SD-06	-	-	28.97	28.97	10.49
4,4'-DDT	15/16	10 J	64 J	NASB-BG-SD-03	0.36	0.36	25.33	23.76	15.23
ALPHA-BHC	1/16	0.83 J	0.83 J	NASB-BG-SD-05	0.34	0.53	0.83	0.25	0.16
ALPHA-CHLORDANE	15/16	3 J	18 J	NASB-BG-SD-02	0.24	0.24	10.34	9.70	4.98
DELTA-BHC	10/16	1.5 J	4.9 J	NASB-BG-SD-06	0.32	2.8	2.55	1.74	1.41
ENDOSULFAN II	1/16	9.8 J	9.8 J	NASB-BG-SD-01	0.34	19	9.80	3.60	3.71
ENDOSULFAN SULFATE	1/16	8.1 J	8.1 J	NASB-BG-SD-08	0.58	0.91	8.10	0.85	1.93
GAMMA-CHLORDANE	2/16	3.3 J	63 J	NASB-BG-SD-01	0.23	110	32.35	20.13	22.86
Herbicides (µg/kg)									
2,4,5-TP (SILVEX)	2/16	62 J	70 J	NASB-BG-SD-07	13	26	66.00	16.00	19.67
DINOSEB	1/16	36 J	36 J	NASB-BG-SD-05	2.6	5.3	19.00	2.89	4.31
MCPP	3/16	5900	32000 J	NASB-BG-SD-06	2200	4600	20300.00	5081.25	8975.55
Inorganics (mg/kg)									
ALUMINUM	16/16	10600	22800	NASB-BG-SD-04	-	-	18084.38	18084.38	3014.62
ANTIMONY	5/16	0.26 J	0.76 J	NASB-BG-SD-04	0.09	0.39	0.50	0.22	0.23
ARSENIC	16/16	8.3	23.5	NASB-BG-SD-07	-	-	16.13	16.13	4.41
BARIUM	16/16	58.1	290	NASB-BG-SD-04	-	-	171.67	171.67	64.36
BERYLLIUM	16/16	0.92	2.3	NASB-BG-SD-04	-	-	1.67	1.67	0.32
CADMIUM	16/16	1.4	3.9	NASB-BG-SD-07	-	-	2.56	2.56	0.55
CALCIUM	16/16	3540	8000 J	NASB-BG-SD-07	-	-	5856.56	5856.56	1278.68
CHROMIUM	16/16	30.4 J	76.7	NASB-BG-SD-04	-	-	52.28	52.28	13.13
COBALT	16/16	5.5	24.2	NASB-BG-SD-07	-	-	12.47	12.47	5.17
COPPER	16/16	29.1	66.5	NASB-BG-SD-04	-	-	49.67	49.67	8.70
IRON	16/16	11100	31400	NASB-BG-SD-04	-	-	19715.63	19715.63	5801.20
LEAD	16/16	62.7 J	232 J	NASB-BG-SD-07	-	-	146.29	146.29	41.73
MAGNESIUM	16/16	3710	8490	NASB-BG-SD-04	-	-	5914.69	5914.69	1397.66
MANGANESE	16/16	156	849	NASB-BG-SD-05	-	-	373.91	373.91	183.36
MERCURY	16/16	0.13	0.25	NASB-BG-SD-07	-	-	0.19	0.19	0.03
NICKEL	16/16	25	55.5	NASB-BG-SD-04	-	-	38.25	38.25	9.32
POTASSIUM	16/16	1750	3950 J	NASB-BG-SD-04	-	-	2968.13	2968.13	655.56
SELENIUM	16/16	1.3	3.5	NASB-BG-SD-07	-	-	2.40	2.40	0.50
SILVER	16/16	0.1	0.54	NASB-BG-SD-04	-	-	0.22	0.22	0.10
SODIUM	16/16	260	949	NASB-BG-SD-07	-	-	461.19	461.19	174.26
THALLIUM	9/16	0.28 J	1.6 J	NASB-BG-SD-04	0.09	0.77	0.73	0.49	0.46
VANADIUM	16/16	34.6	78.8	NASB-BG-SD-04	-	-	56.58	56.58	11.93
ZINC	16/16	188	442	NASB-BG-SD-07	-	-	290.63	290.63	62.68
Miscellaneous Parameters (%)									
PERCENT COARSE SAND	16/16	0.1	6.7	NASB-BG-SD-07	-	-	1.77	1.77	1.92
PERCENT FINE SAND	16/16	5.8	56	NASB-BG-SD-05	-	-	15.74	15.74	12.02
PERCENT FINES	16/16	25.8	92.3	NASB-BG-SD-01	-	-	76.30	76.30	16.27
PERCENT GRAVEL	8/16	0	3.5	NASB-BG-SD-08	0	0	0.93	0.46	0.96
PERCENT MEDIUM SAND	16/16	0.9	16.5	NASB-BG-SD-05	-	-	5.74	5.74	4.03
PERCENT SAND	8/8	7.7	30.9	NASB-BG-SD-07	-	-	19.94	19.94	7.66
Miscellaneous Parameters (mg/kg)									
TOTAL ORGANIC CARBON	16/16	140000 J	300000 J	NASB-BG-SD-07	-	-	187500.00	187500.00	39454.62

J - Estimated concentration.

Only samples that were detected in at least one sample are listed.

TABLE 7-2

SEDIMENT MERE BROOK
NAVAL AIR STATION, BRUNSWICK, MAINE

Parameter	Frequency of Detection	Minimum Detected Concentration	Maximum Detected Concentration	Location of Maximum Detection	Minimum Nondetect	Maximum Nondetect	Average of Detected Concentrations	Overall Average	Standard Deviation
Polynuclear Aromatic Hydrocarbons (µg/kg)									
2-METHYLNAPHTHALENE	7/16	3 J	90 J	NASB-BG-SD-14	3	4	29.00	13.56	27.68
ACENAPHTHENE	10/16	3 J	520 J	NASB-BG-SD-09	2	3	95.90	60.34	136.34
ACENAPHTHYLENE	12/16	3 J	28 J	NASB-BG-SD-14	1	2	14.35	11.02	9.72
ANTHRACENE	13/16	3 J	220 J	NASB-BG-SD-09	2	2	37.92	31.00	52.99
BENZO(A)ANTHRACENE	14/16	4 J	350	NASB-BG-SD-09	3	4	140.50	123.16	101.70
BENZO(A)PYRENE	14/16	5 J	290	NASB-BG-SD-09	5	6	144.32	126.63	96.37
BENZO(B)FLUORANTHENE	15/16	4 J	420 J	NASB-BG-SD-16	4	4	175.50	164.66	129.00
BENZO(G,H,I)PERYLENE	14/16	4 J	210	NASB-BG-SD-16	4	4	104.86	92.00	68.63
BENZO(K)FLUORANTHENE	13/16	11 J	220	NASB-BG-SD-09	4	6	107.15	87.53	66.85
CHRYSENE	15/16	4 J	350	NASB-BG-SD-09	3	3	162.77	152.69	117.31
DIBENZO(A,H)ANTHRACENE	13/16	4 J	62	NASB-BG-SD-09	2	3	35.58	29.16	20.73
FLUORANTHENE	15/16	9 J	1400 J	NASB-BG-SD-09	3	3	358.50	336.19	350.48
FLUORENE	11/16	7 J	590 J	NASB-BG-SD-09	4	6	92.82	64.53	147.40
INDENO(1,2,3-CD)PYRENE	14/16	4 J	250	NASB-BG-SD-16	3	3	120.04	105.22	80.38
NAPHTHALENE	8/16	3 J	300 J	NASB-BG-SD-14	3	5	72.88	37.41	78.92
PHENANTHRENE	15/16	4 J	2200	NASB-BG-SD-09	3	3	306.63	287.56	525.01
PYRENE	15/16	4 J	1000	NASB-BG-SD-09	6	6	339.57	318.53	287.93
Pesticides/PCBs (µg/kg)									
4,4'-DDD	13/16	0.71 J	5.7 J	NASB-BG-SD-16	0.13	0.3	2.82	2.31	1.61
4,4'-DDE	13/16	0.39 J	2.4	NASB-BG-SD-16	0.13	0.28	1.36	1.12	0.71
4,4'-DDT	6/16	1.2 J	2.6 J	NASB-BG-SD-16	0.21	1.5	1.88	0.98	0.81
ENDOSULFAN II	1/16	1.3 J	1.3 J	NASB-BG-SD-14	0.22	0.53	1.30	0.24	0.29
ENDOSULFAN SULFATE	1/16	0.92 J	1.3 J	NASB-BG-SD-09	0.39	0.9	1.11	0.36	0.22
GAMMA-CHLORDANE	5/16	0.7 J	0.93 J	NASB-BG-SD-16	0.15	0.92	0.82	0.35	0.33
Inorganics (mg/kg)									
ALUMINUM	16/16	2150	6400	NASB-BG-SD-10			3895.63	3895.63	936.17
ANTIMONY	2/16	0.11 J	2.2 J	NASB-BG-SD-14	0.09	0.16	1.16	0.20	0.53
ARSENIC	14/16	1	3.2	NASB-BG-SD-16	1.2	1.3	2.12	1.93	0.86
BARIUM	16/16	9.9	27.8	NASB-BG-SD-16	-	-	17.52	17.52	5.04
BERYLLIUM	13/16	0.16 J	0.34 J	NASB-BG-SD-16	0.08	0.17	0.24	0.20	0.09
CADMIUM	16/16	0.01 J	0.17	NASB-BG-SD-16	0.03	0.03	0.08	0.08	0.05
CALCIUM	16/16	536	1500 J	NASB-BG-SD-10	-	-	854.22	854.22	232.82
CHROMIUM	16/16	3.8 J	46.7 J	NASB-BG-SD-14	-	-	9.80	9.80	10.06
COBALT	16/16	1.3 J	3 J	NASB-BG-SD-16	-	-	2.07	2.07	0.61
COBALT	16/16	1.3 J	3 J	NASB-BG-SD-16	-	-	2.07	2.07	0.61
COPPER	13/16	2.7 J	5.6	NASB-BG-SD-16	1.8	2.3	3.60	3.10	1.34
COPPER	13/16	2.7	5.6	NASB-BG-SD-16	1.8	2.3	3.60	3.10	1.34
IRON	16/16	2770	5310	NASB-BG-SD-14	-	-	4113.75	4113.75	835.70
LEAD	16/16	1.7 J	201 J	NASB-BG-SD-14	-	-	18.03	18.03	48.92
MAGNESIUM	16/16	701	1460	NASB-BG-SD-13	-	-	1202.66	1202.66	179.34
MANGANESE	16/16	67.5 J	213	NASB-BG-SD-14	-	-	122.13	122.13	45.91
NICKEL	16/16	3.2 J	6.2	NASB-BG-SD-16	-	-	4.80	4.80	0.92
NICKEL	16/16	3.2 J	6.2	NASB-BG-SD-16	-	-	4.80	4.80	0.92
POTASSIUM	16/16	240	488 J	NASB-BG-SD-16	-	-	380.66	380.66	71.87
SELENIUM	8/16	0.15 J	0.94	NASB-BG-SD-10	0.11	0.3	0.30	0.20	0.21
SILVER	1/16	0.01 J	0.01 J	NASB-BG-SD-10	0.01	0.01	0.01	0.01	0.001
SODIUM	16/16	43.2 J	80.8 J	NASB-BG-SD-16	-	-	61.70	61.70	10.02
THALLIUM	1/16	0.17 J	0.17 J	NASB-BG-SD-14	0.11	0.29	0.17	0.10	0.03
VANADIUM	16/16	5.6	11.5	NASB-BG-SD-10	-	-	8.71	8.71	1.36
ZINC	16/16	8.3	34.8	NASB-BG-SD-16	-	-	20.16	20.16	8.48
Miscellaneous Parameters (%)									
PERCENT COARSE SAND	16/16	0	1.6	NASB-BG-SD-10	-	-	0.33	0.33	0.36
PERCENT FINE SAND	16/16	65.8	94.6	NASB-BG-SD-15	-	-	82.08	82.08	8.18
PERCENT FINES	16/16	0.1	19.4	NASB-BG-SD-10	-	-	9.02	9.02	6.01
PERCENT GRAVEL	8/16	0	0.7	NASB-BG-SD-10	0	0	0.18	0.09	0.19
PERCENT MEDIUM SAND	16/16	2	20.9	NASB-BG-SD-09	-	-	8.47	8.47	4.99
PERCENT SAND	8/8	79.9	96.5	NASB-BG-SD-12	-	-	91.41	91.41	5.52
Miscellaneous Parameters (mg/kg)									
TOTAL ORGANIC CARBON	16/16	2600 J	42000 J	NASB-BG-SD-10	-	-	11509.38	11509.38	9922.00

J = Estimated concentration.

Only samples that were detected in at least one sample are listed.

TABLE 7-3

SEDIMENT UPPER PREDICTION LIMITS
NAVAL AIR STATION, BRUNSWICK, MAINE

Parameter	UPPER PREDICTION LIMITS							
	Coffins Ice Pond Fall		Coffins Ice Pond Spring		Mere Brook Fall		Mere Brook Spring	
	UPL	UPL TYPE	UPL	UPL TYPE	UPL	UPL TYPE	UPL	UPL TYPE
PAHs (ug/kg)								
2-METHYLNAPHTHALENE	57.1	Normal	57.1	Normal	60	Gamma WH	60	Gamma WH
ACENAPHTHENE	113	Gamma WH	113	Gamma WH	279	Gamma WH	292	Gamma WH
ACENAPHTHYLENE	442	Gamma WH	442	Gamma WH	30.4	Normal	30.4	Normal
ANTHRACENE	358	Gamma WH	358	Gamma WH	186	Lognormal	186	Lognormal
BENZO(A)ANTHRACENE	3660	Gamma WH	3660	Gamma WH	314	Normal	314	Normal
BENZO(A)PYRENE	5400	Gamma WH	5400	Gamma WH	316	Normal	316	Normal
BENZO(B)FLUORANTHENE	7480	Gamma WH	7480	Gamma WH	398	Normal	398	Normal
BENZO(G,H,I)PERYLENE	4480	Gamma WH	4480	Gamma WH	221	Normal	221	Normal
BENZO(K)FLUORANTHENE	5400	Gamma WH	5400	Gamma WH	218	Normal	218	Normal
CHRYSENE	6770	Gamma WH	6770	Gamma WH	365	Normal	365	Normal
DIBENZO(A,H)ANTHRACENE	1190	Normal	1190	Normal	69.5	Normal	69.5	Normal
FLUORANTHENE	10060	Gamma WH	10060	Gamma WH	1380	Gamma WH	1380	Gamma WH
FLUORENE	263	Gamma WH	263	Gamma WH	396	Lognormal	396	Lognormal
INDENO(1,2,3-CD)PYRENE	4360	Normal	4360	Normal	257	Normal	257	Normal
NAPHTHALENE	72.9	Gamma WH	72.9	Gamma WH	174	Gamma WH	174	Gamma WH
PHENANTHRENE	4650	Gamma WH	4650	Gamma WH	1210	Gamma WH	1210	Gamma WH
PYRENE	12030	Gamma WH	12030	Gamma WH	858	Normal	858	Normal
Pesticides/PCBs (ug/kg)								
4,4'-DDD	155	Normal	155	Normal	5.4	Normal	5.4	Normal
4,4'-DDE	47.9	Normal	47.9	Normal	2.5	Normal	2.5	Normal
4,4'-DDT	76.3	Gamma WH	76.3	Gamma WH	2.6	Normal	2.6	Normal
ALPHA-CHLORDANE	18.8	Normal	18.8	Normal	ND	ND	ND	ND
DELTA-BHC	4.5	Normal	4.5	Normal	ND	ND	ND	ND

TABLE 7-3

SEDIMENT UPPER PREDICTION LIMITS
NAVAL AIR STATION, BRUNSWICK, MAINE

Parameter	UPPER PREDICTION LIMITS							
	Coffins Ice Pond Fall		Coffins Ice Pond Spring		Mere Brook Fall		Mere Brook Spring	
	UPL	UPL TYPE	UPL	UPL TYPE	UPL	UPL TYPE	UPL	UPL TYPE
GAMMA-CHLORDANE	NA	NA	NA	NA	ND	ND	1.4	Normal
Herbicides (ug/kg)								
MCPP	41471	Normal	ND	ND	ND	ND	ND	ND
Inorganics (mg/kg)								
ALUMINUM	23500	Normal	23500	Normal	5590	Normal	5590	Normal
ANTIMONY	0.94	Normal	ND	ND	NA	NA	NA	NA
ARSENIC	24.1	Normal	24.1	Normal	3.5	Normal	3.5	Normal
BARIUM	288	Normal	288	Normal	26.6	Normal	26.6	Normal
BERYLLIUM	2.2	Normal	2.2	Normal	0.36	Normal	0.36	Normal
CADMIUM	3.6	Normal	3.6	Normal	0.16	Normal	0.16	Normal
CALCIUM	8170	Normal	8170	Normal	1270	Gamma WH	1270	Gamma WH
CHROMIUM	76	Normal	76	Normal	46.7	Nonparametric	46.7	Nonparametric
COBALT	21.8	Normal	21.8	Normal	3.3	Gamma WH	3.3	Gamma WH
COPPER	65.4	Normal	65.4	Normal	5.4	Normal	5.4	Normal
IRON	30200	Normal	30200	Normal	5620	Normal	5620	Normal
LEAD	222	Normal	222	Normal	201	Nonparametric	201	Nonparametric
MAGNESIUM	8440	Normal	8440	Normal	1530	Normal	1530	Normal
MANGANESE	705	Normal	705	Normal	205	Normal	205	Normal
MERCURY	0.24	Normal	0.24	Normal	ND	ND	ND	ND
NICKEL	55.1	Normal	55.1	Normal	6.5	Normal	6.5	Normal
POTASSIUM	4150	Normal	4150	Normal	511	Normal	511	Normal
SELENIUM	3.3	Normal	3.3	Normal	ND	ND	0.86	Gamma WH
SILVER	0.54	Nonparametric	0.54	Nonparametric	ND	ND	NA	NA
SODIUM	787	Gamma WH	787	Gamma WH	79.8	Normal	79.8	Normal
THALLIUM	2.3	Gamma WH	2.3	Gamma WH	ND	ND	NA	NA

TABLE 7-3

SEDIMENT UPPER PREDICTION LIMITS
NAVAL AIR STATION, BRUNSWICK, MAINE

Parameter	UPPER PREDICTION LIMITS							
	Coffins Ice Pond Fall		Coffins Ice Pond Spring		Mere Brook Fall		Mere Brook Spring	
	UPL	UPL TYPE	UPL	UPL TYPE	UPL	UPL TYPE	UPL	UPL TYPE
VANADIUM	78.1	Normal	78.1	Normal	11.2	Normal	11.2	Normal
ZINC	404	Normal	404	Normal	35.5	Normal	35.5	Normal
Miscellaneous (mg/kg)								
TOTAL ORGANIC CARBON	259000	Gamma WH	259000	Gamma WH	31020	Gamma WH	31020	Gamma WH

UPLs were calculated using Pro UCL version 4.1.00.
Chemicals are listed only if there are enough detected samples in one sediment group to calculate a UPL.

ND = Non-Detect
NA = Not enough detected samples to calculate a meaningful UPL.
UPL = 95% Upper Prediction
WH = Wilson Hilferty

8.0 CONCLUSIONS

The goals of this Background Study can be summarized by the following excerpts from the Final Sampling and Analysis Plan for NAS Brunswick dated July 2009:

- "The data collected for this project will be used in other projects to help identify site-related contamination, identify contaminants of concern (COCs), and develop cleanup goals that are not below background levels."

- "The Navy has considered three classes of chemicals that are typically found in soils because they are naturally occurring or from anthropogenic sources: metals, PAHs, and pesticides/herbicides. These chemical constituents may be present as background conditions or they also may be contaminants of concern at sites where release or disposal of hazardous substances containing these chemicals has occurred. <u>The data from the background study will support efforts to distinguish between the two.</u> "

Navy policy on background was also summarized by the following excerpts from the Final Sampling and Analysis Plan for NAS Brunswick dated July 2009:

- "It is Navy policy that remedial activities will not be based on non-site-related chemicals (whether naturally occurring or anthropogenic) and therefore, this investigation is needed to determine basewide background concentrations of chemicals. In keeping with CNO (2004), anthropogenic background for this study is defined as all anthropogenic chemical concentrations, regardless of their origin. Included in the category would be chemicals such as pesticides and herbicides that are used in a legal manner during application to control pests and vegetation."

- "The Navy policy requires basewide background levels in non-site areas to be established to ensure that cleanup levels for sites (spills, releases, disposal areas) are not less than background concentrations (both naturally occurring and anthropogenic)."

The information collected from this study provides a valuable dataset for groundwater, surface soils, subsurface soils, surface water, and sediment as they relate to defined geologic units and environments typically found at NAS Brunswick. In considering the entire NAS Brunswick Facility, however, it is likely that developed areas of the base may require additional data collection and evaluation to more fully understand background conditions as they to relate future decision-making. The following are the conclusions regarding the background study at the former NASB.

Soils and Groundwater

There is consensus agreement among the Navy, U.S. EPA, and MEDEP that the data sets and statistical evaluations for the various soil and groundwater units are valid and appropriate for use at the former NASB. The site conceptual model established for the background study design was based on the hypothesis that all areas of the facility could be characterized by discrete contributions from defined geologic units. This is a sound model to derive background datasets from areas that are relatively undisturbed, which is why most background samples were located in “natural areas” with minimal disturbance by base construction and operational activities. In further consideration, however, soils in reworked areas of the NAS Brunswick Facility are described by a different conceptual model which involved soil “cut and fill” activities used in the facility’s construction, importation of fill from unknown sources outside the NAS Brunswick Facility , as well as contributions from land improvements and other routine urban setting activities such as road/parking lot construction, stormwater runoff, legally applied herbicide and pesticide application, and exhaust from sources such as aircraft, automobiles, trucks, and construction machinery operating on the base. These activities do not constitute releases according to Navy policy but would likely result in a background dataset that is distinctly different from one which is based on the geologic unit model. As a result, the Navy recommends that any data collected as part of the BRAC environmental program to support cleanup and property transfer should be carefully examined to determine if additional background data collection activities should be conducted. This will be completed on a case by case basis based on technical discussions between the Navy, USEPA, and Maine DEP.

Surface Water and Sediment

While the surface water and sediment data collected during the background study, and the subsequent statistical evaluations, were in accordance with the project work plan, there is at this time no consensus regarding the use of this data for background comparisons at the former NASB. Elevated levels of some constituents in both surface water and sediment samples from Coffins Ice Pond require further assessment to determine appropriate management strategies for surface water bodies at the former NASB with regards to background conditions. Additional data collection and analysis is warranted to determine whether or not constituent concentrations detected in Coffins Ice Pond surface water and sediment samples are representative of conditions that would be found in other similar surface water bodies around the former NAS Brunswick. The Navy and regulators will identify at least two additional Brunswick-area ponds that will be targeted for surface water and sediment sampling. This additional data collection and evaluation will be used to establish background concentrations for these media in a lentic environment. Any further investigation/evaluation of background surface water and sediment conditions will be presented as an addendum to this report.

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APPENDIX A

STATISTICAL ANALYSIS

A.1 SOIL STATISTICAL EVALUATION
A.2 GROUNDWATER STATISTICAL EVALUATION
A.3 SURFACE WATER STATISTICAL EVAULATION
A.4 SEDIMENT STATISTICAL EVALUATION

APPENDIX A.1

SOIL STATISTICAL EVALUATION

APPENDIX A.1 SOIL STATISTICAL EVALUATION

Appendix A.1 presents the results of the statistical analyses for the soil background data sets. Soil samples were collected once from the Upper Sand and Transition geological units. Statistical analyses were conducted for two purposes. The first was to determine if any of the geochemical subgroups could be combined, the second was to determine background concentrations to be used to compare future site data. The statistical methods used to determine if the soil subgroups could be combined are presented in Appendices A.1.1 through A.1.4. Appendices A.1.5 and A.1.6 present the background values for future site comparisons.

A.1.1 SOIL OUTLIER ASSESSMENT

APPENDIX A.1.1 OUTLIER ASSESSMENT

All background data subsets were evaluated for potential outliers before conducting any statistical comparisons between data groups.

To evaluate the data for potential outliers Dixon's parametric outlier test or Tukey's nonparametric outlier test was used. Dixon's parametric outlier test was applied only when the data without the suspected outlier can be shown to follow a normal distribution, otherwise Tukey's nonparametric outlier test was applied. To determine if the data follow a normal distribution, the Shapiro Wilk Normality Test was used. The Shapiro Wilk Normality Test was used because it has more robust statistical properties than alternative normality tests and is preferred.

Tables A.1.1.1 through A.1.1.4 present the results of the normality and outlier assessments for Upper Sand surface soil, Upper Sand subsurface soil, Transition surface soil, and Transition subsurface soil, respectively. Formal outlier tests were only computed if there were at least four detected concentrations. First, the Shapiro Wilk Normality Test was computed on the data set without the suspected outlier. The Shapiro Wilk Normality Test tests the null hypothesis that the data follow a normal distribution against the alternative hypothesis that the data do not follow a normal distribution. The test has an associated p-value as a measure of the credibility of the null hypothesis, with lower probabilities providing lower credibility for the null hypothesis. If the p-value for the Shapiro Wilk Test is less than 0.05 it was concluded that the data do not follow a normal distribution. For cases where the analytical data for a substance fit a normal distribution the suspected outlier was screened by successively deleting the largest, second largest, and third largest data points from the data set and performing Dixon's outlier test on the remaining data points versus the excluded data point. When the Dixon C statistic was greater than the Dixon D critical value the data point was considered a candidate outlier. For cases where the analytical data for a substance did not fit a normal distribution, Tukey's nonparametric outlier test was conducted on the three largest data points. Tukey's outlier test compares each sample concentration to a critical value represented by the 75th percentile plus 3 times the interquartile range (IQR). The IQR is the difference between the 75th percentile (Q3) and the 25th percentile (Q1). When the data point exceeded the critical value the point was considered to be a candidate outlier.

Univarite box plots, probability (Q-Q) plots, and the Shapiro Wilk W-test were used to further evaluate the candidate outliers. All candidate outliers were labeled with sample ID and highlighted on univariate box plots (see Appendix A.3). A point of departure at the upper end of the probability plot may indicate that the candidate outlier does not belong to the same population

as the rest of the data. Based on the plots it can be seen that the maximum candidate outliers for benzo(a)anthracene, benzo(g,h,i)pyrene, chrysene, indeno(1,2,3-cd)pyrene, phenanthrene, and pyrene in the Transition surface soil were greater than four and a half times the largest non-outlier.

Candidate outliers were located on a site map to check for any pattern of localized, anthropogenic contamination that is not representative of the background area as a whole. Candidate outliers for metals were found at SB03, SB08, SB16, SB17, SB18, SB19, SB 21, SB25, SB30, and SB31. The candidate outliers for metals are found in both soil types and six of the background areas. Candidate outliers for PAHs were found at SB1, SB3, SB5, SB10, SB17, SB30, SB31, and SB32. Only one PAH, anthracene, had candidate outliers at SB1, SB3, and SB5. The majority of the candidate outliers in the Upper Sand were found in the Bowdoin Pines Area while the candidate outliers in the Transition soil were found at SB10 and SB17 which are in Areas 4 and 5, respectively. Based on the outlier evaluation, no candidate outliers were removed from the data sets. Sample locations SB10, SB17, SB18, SB19, SB21, SB30, SB31, and SB32 each have multiple candidate outliers. These sample locations are in Area 4 (golf course), Area 5 (forested area), Area 6N (undeveloped forested land), and Bowdoin Pines (undeveloped forested area). Based on the site uses for these areas, there is no indication that the concentrations from these areas are related to site contamination. Additionally, the areas where multiple candidate outliers were found are not located in one geographic portion of the base. Therefore, no candidate outliers were removed from the data sets.

Table A.1.1.1
Outlier Tests
Upper Sand Surface Soil
Naval Air Station, Brunswick, Maine

Parameter	Dixon's Outlier Test Results									Tukey's Outlier Test						
	Largest Concentration			Second Largest Concentration			Third Largest Concentration									
	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	IQR	Q1	Q3	Tukey Critical Value	Largest Concentration	Second Largest Concentration	Third Largest Concentration (mg/kg)
Inorganics (mg/kg)																
ALUMINUM	Not Normal	Not Normal	0.013	0.632	0.507	0.999	0.452	0.525	0.998	2530	7050	9580	17170	19800	Normal	Normal
ARSENIC	Not Normal	Not Normal	0.005	0.581	0.507	0.519	0.5	0.525	0.811	0.6	1.5	2.1	3.9	8.8	Normal	Normal
BARIUM	0.56	0.49	0.274	0.593	0.507	0.133	0.303	0.525	0.025	1.7	9.2	10.9	16	Normal	Normal	Normal
BERYLLIUM	Not Normal	Not Normal	0.014	Not Normal	Not Normal	0.011	Not Normal	Not Normal	0.011	0.15	0.29	0.44	0.89	0.84	0.51	0.46
CADMIUM	Not Normal	Not Normal	0.036	Not Normal	Not Normal	0.027	Not Normal	Not Normal	0.004	0.01	0.03	0.04	0.07	0.07	0.05	0.05
CALCIUM	0.198	0.49	0.373	0.133	0.507	0.341	0.248	0.525	0.188	83	256	339	588	Normal	Normal	Normal
CHROMIUM	Not Normal	Not Normal	0.03	0.622	0.507	0.421	0.286	0.525	0.4	1.9	6.9	8.8	14.5	18.7	Normal	Normal
COBALT	0.074	0.49	0.324	0.06	0.507	0.531	0.16	0.525	0.552	1.5	1.9	3.4	7.9	Normal	Normal	Normal
COPPER	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0	1	4.1	5.1	8.1	5.5	5.5	5.35
IRON	0.606	0.49	0.078	0.63	0.507	0.13	Not Normal	Not Normal	0.029	2430	6770	9200	16490	Normal	Normal	10600
LEAD	Not Normal	Not Normal	0.005	Not Normal	Not Normal	0.005	Not Normal	Not Normal	0.004	6.3	4.7	11	29.9	19	17.5	11.9
MAGNESIUM	Not Normal	Not Normal	0.049	Not Normal	Not Normal	0.041	Not Normal	Not Normal	0.044	406	834	1240	2458	1470	1340	1290
MANGANESE	0.102	0.49	0.131	0.059	0.507	0.208	0.095	0.525	0.264	126.3	75.7	202	580.9	Normal	Normal	Normal
MERCURY	0.235	0.49	0.077	0.267	0.507	0.083	0.308	0.525	0.075	0.04	0.01	0.05	0.17	Normal	Normal	Normal
NICKEL	0.204	0.49	0.47	0.279	0.507	0.479	0.326	0.525	0.096	1.8	4.6	6.4	11.8	Normal	Normal	Normal
POTASSIUM	0.228	0.49	0.644	0.192	0.507	0.623	0.21	0.525	0.619	158	277	435	909	Normal	Normal	Normal
SILVER	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0	0.16	0.03	0.19	0.67	0.29	0.21	0.2
SODIUM	0.179	0.49	0.899	0.271	0.507	0.897	0.225	0.525	0.683	8.9	26.3	35.2	61.9	Normal	Normal	Normal
VANADIUM	Not Normal	Not Normal	0.03	0.619	0.507	0.743	0.326	0.525	0.701	5.1	11.5	16.6	31.9	32.6	Normal	Normal
ZINC	Not Normal	Not Normal	0.007	Not Normal	Not Normal	0.01	Not Normal	Not Normal	0.017	2.95	11.65	14.6	23.45	16.1	15.2	15
Pesticides/PCBs (ug/kg)																
4,4'-DDE	Not Normal	Not Normal	0.013	Not Normal	Not Normal	0.012	Not Normal	Not Normal	0.008	0.765	0.235	1	3.295	3.6	1.3	1.2
4,4'-DDT	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0	0.97	0.23	1.2	4.11	3.4	1.6	1.3
PAHs (ug/kg)																
ANTHRACENE	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0	1.5	0.5	2	6.5	8	7	5
BENZO(A)ANTHRACENE	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0.001	5	1	6	21	24	23	18
BENZO(A)PYRENE	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0	5	2	7	22	30	28	20
BENZO(B)FLUORANTHENE	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0	11	1	12	45	53	51	34
BENZO(G,H,I)PERYLENE	Not Normal	Not Normal	0.001	Not Normal	Not Normal	0	Not Normal	Not Normal	0	5	1	6	21	12	10	8
BENZO(K)FLUORANTHENE	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0	3.5	1.5	5	15.5	13	12	11
CHRYSENE	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0.001	8	1	9	33	39	35	26
FLUORANTHENE	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0.004	15	2	17	62	65	62	45
INDENO(1,2,3-CD)PYRENE	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0.001	6	1	7	25	42	39	30
PHENANTHRENE	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0.007	7	1	8	29	34	32	25
PYRENE	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0.001	15	2	17	62	64	64	52
Miscellaneous (mg/kg)																
TOTAL ORGANIC CARBON	0.226	0.49	0.136	0.047	0.507	0.188	0.244	0.525	0.328	13600	9400	23000	63800	Normal	Normal	Normal

Shaded cells indicate value is an outlier.

[1] In accordance with Dixon's Test, Shapiro Wilk test was computed on the data set without the suspected outlier.

IQR = Interquartile Range
Q1 = 1st Quartile, 25th Percentile
Q3 = 3rd Quartile, 75th Percentile
Normal = Normally Distributed; Tukey's Outlier Test was not appropriate.
Not Normal = Not Normally Distributed; Dixon's Test was not appropriate.

Table A.1.1.2
Outlier Tests
Upper Sand Subsurface
Naval Air Station, Brunswick, Maine

Parameter	Dixon's Outlier Test Results									Tukey's Outlier Test						
	Largest Concentration			Second Largest Concentration			Third Largest Concentration									
	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	IQR (mg/kg)	Q1 (mg/kg)	Q3 (mg/kg)	Tukey Critical Value	Largest Concentration (mg/kg)	Second Largest Concentration (mg/kg)	Third Largest Concentration (mg/kg)
Inorganics (mg/kg)																
ALUMINUM	0.597	0.49	0.52	0.432	0.507	0.527	0.306	0.525	0.208	1130	4170	5300	8690	Normal	Normal	Normal
ARSENIC	0.364	0.49	0.738	0.4	0.507	0.518	0.286	0.525	0.272	0.3	1.2	1.5	2.4	Normal	Normal	Normal
BARIUM	0.343	0.49	0.158	0.303	0.507	0.331	0.5	0.525	0.686	1.6	9.8	11.4	16.2	Normal	Normal	Normal
BERYLLIUM	Not Normal	Not Normal	0.036	Not Normal	Not Normal	0.032	Not Normal	Not Normal	0.035	0.14	0.21	0.35	0.77	0.69	0.5	0.37
CADMIUM	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0	0.025	0.005	0.03	0.105	0.04	0.03	0.03
CALCIUM	Not Normal	Not Normal	0.026	0.604	0.507	0.499	0.42	0.525	0.883	151	618	769	1222	1110	Normal	Normal
CHROMIUM	0.4	0.49	0.711	0.207	0.507	0.486	0.167	0.525	0.627	1.7	5.9	7.6	12.7	Normal	Normal	Normal
COBALT	Not Normal	Not Normal	0.024	Not Normal	Not Normal	0.039	Not Normal	Not Normal	0.039	1.2	2.6	3.8	7.4	4.1	4	4
COPPER	Not Normal	Not Normal	0.006	Not Normal	Not Normal	0.004	Not Normal	Not Normal	0.001	0.8	5.4	6.2	8.6	6.8	6.7	6.6
IRON	0.394	0.49	0.832	0.181	0.507	0.726	0.141	0.525	0.662	1305	6060	7365	11280	Normal	Normal	Normal
LEAD	0.5	0.49	0.873	0.333	0.507	0.346	0.143	0.525	0.179	0.4	2.5	2.9	4.1	Normal	Normal	Normal
MAGNESIUM	0.255	0.49	0.519	0.407	0.507	0.147	Not Normal	Not Normal	0.026	150	1480	1630	2080	Normal	Normal	1770
MANGANESE	0.079	0.49	0.174	0.286	0.507	0.152	Not Normal	Not Normal	0.044	117	91	208	559	Normal	Normal	251
NICKEL	0.118	0.49	0.916	0.312	0.507	0.883	0.4	0.525	0.288	1.2	6.8	8	11.6	Normal	Normal	Normal
POTASSIUM	0.582	0.49	0.127	0.052	0.507	0.199	0.076	0.525	0.317	234	588	822	1524	Normal	Normal	Normal
SILVER	Not Normal	Not Normal	0.001	Not Normal	Not Normal	0.001	Not Normal	Not Normal	0.001	0.1	0.03	0.13	0.43	0.19	0.16	0.15
SODIUM	0.491	0.49	0.227	0.18	0.507	0.14	0.06	0.525	0.167	16.7	32.1	48.8	98.9	Normal	Normal	Normal
VANADIUM	0.506	0.49	0.304	0.119	0.507	0.488	0.143	0.525	0.425	3.1	9.7	12.8	22.1	Normal	Normal	Normal
ZINC	0.154	0.49	0.693	0.282	0.507	0.405	0.152	0.525	0.25	1.9	12.3	14.2	19.9	Normal	Normal	Normal
Miscellaneous (mg/kg)																
TOTAL ORGANIC CARBON	Not Normal	Not Normal	0	Not Normal	Not Normal	0.001	Not Normal	Not Normal	0.001	1420	380	1800	6060	6700	5400	2700

Shaded cells indicate value is an outlier.

[1] In accordance with Dixon's Test, Shapiro Wilk test was computed on the data set without the suspected outlier.

IQR = Interquartile Range
Q1 = 1st Quartile, 25th Percentile
Q3 = 3rd Quartile, 75th Percentile
Normal = Normally Distributed; Tukey's Outlier Test was not appropriate.
Not Normal = Not Normally Distributed; Dixon's Test was not appropriate.

Table A.1.1.3
Outlier Tests
Transition Surface
Naval Air Station, Brunswick, Maine

Parameter	Dixon's Outlier Test Results									Tukey's Outlier Test						
	Largest Concentration			Second Largest Concentration			Third Largest Concentration									
	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	IQR (mg/kg)	Q1 (mg/kg)	Q3 (mg/kg)	Tukey Critical Value	Largest Concentration (mg/kg)	Second Largest Concentration (mg/kg)	Third Largest Concentration (mg/kg)
Inorganics (mg/kg)																
ALUMINUM	0.291	0.525	0.745	0.227	0.546	0.557	0.145	0.521	0.556	8850	18700	27550	54100	Normal	Normal	Normal
ANTIMONY	0.125	0.525	0.18	0.286	0.546	0.274	0.286	0.521	0.113	0.025	0.015	0.04	0.115	Normal	Normal	Normal
ARSENIC	0.254	0.525	0.503	0.192	0.546	0.593	0.28	0.521	0.341	2.4	5.4	7.8	15	Normal	Normal	Normal
BARIUM	0.314	0.525	0.822	0.14	0.546	0.851	0.183	0.521	0.939	27.6	52.9	80.6	163.4	Normal	Normal	Normal
BERYLLIUM	0.396	0.525	0.554	0.328	0.546	0.642	0.328	0.521	0.147	0.37	0.74	1.1	2.21	Normal	Normal	Normal
CADMIUM	0.429	0.525	0.241	0.333	0.546	0.043	0	0.521	0.055	0.02	0.03	0.05	0.11	Normal	0.06	Normal
CALCIUM	0.655	0.525	0.211	0.664	0.546	0.598	0.408	0.521	0.099	142	731	873	1299	Normal	Normal	Normal
CHROMIUM	0.288	0.525	0.269	0.004	0.546	0.493	0.147	0.521	0.72	13.2	31.1	44.3	83.9	Normal	Normal	Normal
COBALT	0.636	0.525	0.543	0.156	0.546	0.47	0.134	0.521	0.591	5.5	9.3	14.9	31.4	Normal	Normal	Normal
COPPER	0.281	0.525	0.827	0.448	0.546	0.997	0.506	0.521	0.931	5.5	14.5	19.9	36.4	Normal	Normal	Normal
IRON	0.425	0.525	0.831	0.419	0.546	0.189	0.185	0.521	0.152	7250	25800	33050	54800	Normal	Normal	Normal
LEAD	0.259	0.525	0.355	0.223	0.546	0.134	0.081	0.521	0.109	4.2	10.9	15.1	27.7	Normal	Normal	Normal
MAGNESIUM	0.348	0.525	0.977	0.307	0.546	0.622	0.079	0.521	0.683	2678	4698	7375	15409	Normal	Normal	Normal
MANGANESE	0.664	0.525	0.902	0.272	0.546	0.942	0.439	0.521	0.952	216	292	508	1156	Normal	Normal	Normal
MERCURY	0.2	0.525	0.054	0.125	0.546	0.087	0.25	0.521	0.089	0.028	0.015	0.043	0.127	Normal	Normal	Normal
NICKEL	0.431	0.525	0.799	0.406	0.546	0.407	0.097	0.521	0.455	8.6	23	31.6	57.4	Normal	Normal	Normal
POTASSIUM	0.196	0.525	0.528	0.06	0.546	0.722	0.169	0.521	0.938	1825	1975	3800	9275	Normal	Normal	Normal
SELENIUM	0.489	0.525	0.046	0.552	0.546	0.124	0.394	0.521	0.137	0.31	0.28	0.59	1.52	Normal	Normal	Normal
SILVER	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0	0.21	0.04	0.25	0.88	1.6	0.58	0.41
VANADIUM	0.169	0.525	0.328	0.221	0.546	0.13	0.092	0.521	0.153	13.1	42.4	55.6	94.9	Normal	Normal	Normal
ZINC	0.396	0.525	0.731	0.284	0.546	0.289	0.176	0.521	0.212	21.6	48.5	70.05	134.85	Normal	Normal	Normal
Pesticides (ug/kg)																
4,4'-DDE	Not Normal	Not Normal	0.028	Not Normal	Not Normal	0.014	Not Normal	Not Normal	0.007	0.44	0.25	0.685	2.005	1	0.84	0.77
PAHs (ug/kg)																
BENZO(A)ANTHRACENE	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0	1.1	1	2.1	5.4	12	5	4
BENZO(A)PYRENE	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0	0.25	2	2.3	3.05	14	10	2.5
BENZO(B)FLUORANTHENE	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0	1.13	1.5	2.6	5.99	17	10	4
BENZO(G,H,I)PERYLENE	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0.003	1.6	1	2.6	7.4	26	10	8
CHRYSENE	Not Normal	Not Normal	0	Not Normal	Not Normal	0.001	Not Normal	Not Normal	0.001	2	1	3	9	17	9	3
FLUORANTHENE	Not Normal	Not Normal	0.022	Not Normal	Not Normal	0.035	Not Normal	Not Normal	0.043	4.5	1	5.5	19	28	6	6
INDENO(1,2,3-CD)PYRENE	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0.001	2	1	3	9	26	10	8
PHENANTHRENE	Not Normal	Not Normal	0.001	Not Normal	Not Normal	0.001	Not Normal	Not Normal	0	1.8	1	2.8	8.2	15	3	3
PYRENE	Not Normal	Not Normal	0.025	Not Normal	Not Normal	0.012	Not Normal	Not Normal	0.015	3.1	1.5	4.6	13.9	26	6	5
Miscellaneous (mg/kg)																
TOTAL ORGANIC CARBON	0.15	0.525	0.659	0.324	0.546	0.933	0.529	0.521	0.756	8250	11500	19750	44500	Normal	Normal	Normal

Shaded cells indicate value is an outlier.

[1] In accordance with Dixon's Test, Shapiro Wilk test was computed on the data set without the suspected outlier.

IQR = Interquartile Range
Q1 = 1st Quartile, 25th Percentile
Q3 = 3rd Quartile, 75th Percentile
Normal = Normally Distributed; Tukey's Outlier Test was not appropriate.
Not Normal = Not Normally Distributed; Dixon's Test was not appropriate.

Table A.1.1.4
Outlier Tests
Transition Subsurface
Naval Air Station, Brunswick, Maine

Parameter	Dixon's Outlier Test Results									Tukey's Outlier Test						
	Largest Concentration			Second Largest Concentration			Third Largest Concentration									
	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value	IQR (mg/kg)	Q1 (mg/kg)	Q3 (mg/kg)	Tukey Critical Value	Largest Concentration (mg/kg)	Second Largest Concentration (mg/kg)	Third Largest Concentration (mg/kg)
Inorganics (mg/kg)																
ALUMINUM	0.16	0.525	0.303	0.128	0.546	0.237	0.064	0.521	0.417	8250	18250	26500	51250	Normal	Normal	Normal
ANTIMONY	0	0.525	0.116	0	0.546	0.18	0.5	0.521	0.219	0.015	0.03	0.045	0.09	Normal	Normal	Normal
ARSENIC	0.283	0.525	0.483	0.253	0.546	0.657	0.297	0.521	0.516	5.3	7.25	12.55	28.45	Normal	Normal	Normal
BARIUM	0.115	0.525	0.19	0.091	0.546	0.29	0.097	0.521	0.375	25.55	60.8	86.35	163	Normal	Normal	Normal
BERYLLIUM	0	0.525	0.183	0.235	0.546	0.425	0.471	0.521	0.867	0.45	0.75	1.2	2.55	Normal	Normal	Normal
CADMIUM	Not Normal	Not Normal	0.045	Not Normal	Not Normal	0.012	Not Normal	Not Normal	0.012	0.01	0.04	0.05	0.08	0.06	0.06	0.05
CALCIUM	0.354	0.525	0.32	0.169	0.546	0.146	0.016	0.521	0.226	367.5	2545	2912.5	4015	Normal	Normal	Normal
CHROMIUM	0.148	0.525	0.299	0.198	0.546	0.172	0.142	0.521	0.185	17.5	33.75	51.25	103.75	Normal	Normal	Normal
COBALT	0.281	0.525	0.393	0.207	0.546	0.638	0.315	0.521	0.446	5.65	12.75	18.4	35.35	Normal	Normal	Normal
COPPER	0.168	0.525	0.157	0.038	0.546	0.278	0.155	0.521	0.447	10.25	24.5	34.75	65.5	Normal	Normal	Normal
IRON	0.166	0.525	0.359	0.117	0.546	0.308	0.179	0.521	0.461	12975	26750	39725	78650	Normal	Normal	Normal
LEAD	0.075	0.525	0.241	0.187	0.546	0.332	0.243	0.521	0.173	4.85	9.1	13.95	28.5	Normal	Normal	Normal
MAGNESIUM	0.23	0.525	0.314	0.242	0.546	0.12	0.119	0.521	0.151	3200	6870	10070	19670	Normal	Normal	Normal
MANGANESE	0.232	0.525	0.21	0.07	0.546	0.358	0.156	0.521	0.413	308.5	451.5	760	1685.5	Normal	Normal	Normal
NICKEL	0.116	0.525	0.19	0.124	0.546	0.161	0.14	0.521	0.228	16.9	29	45.9	96.6	Normal	Normal	Normal
POTASSIUM	0.154	0.525	0.217	0.137	0.546	0.249	0.082	0.521	0.298	1727.5	4050	5777.5	10960	Normal	Normal	Normal
VANADIUM	0.195	0.525	0.333	0.217	0.546	0.172	0.089	0.521	0.188	15.9	45.05	60.95	108.65	Normal	Normal	Normal
ZINC	0.224	0.525	0.117	0.13	0.546	0.084	0.061	0.521	0.177	25.25	56.2	81.45	157.2	Normal	Normal	Normal
Miscellaneous Parameters (mg/kg)																
TOTAL ORGANIC CARBON	0.56	0.525	0.197	0.167	0.546	0.202	0.182	0.521	0.21	885	765	1650	4305	Normal	Normal	Normal

Shaded cells indicate value is an outlier.

(1) In accordance with Dixon's Test, Shapiro Wilk test was computed on the data set without the suspected outlier.

IQR = Interquartile Range
Q1 = 1st Quartile, 25th Percentile
Q3 = 3rd Quartile, 75th Percentile
Normal = Normally Distributed; Tukey's Outlier Test was not appropriate.
Not Normal = Not Normally Distributed; Dixon's Test was not appropriate.

A.1.2 SOIL ASSESSMENT OF DISTRIBUTIONAL SHAPE

APPENDIX A.1.2 ASSESSMENT OF DISTRIBUTIONAL SHAPE

For each data subset, probability (Q-Q) plots and the Shapiro Wilk Normality Test were used to evaluate how well the data distribution matches either a normal or lognormal shape. Normally distributed data exhibit a characteristic "bell-shape" curve that is symmetrical, whereas lognormal data have a skewed shape with a longer tail at the high-concentration end.

A probability (Q-Q) plot graphs the quantiles of a data set against the quantiles of the hypothesized data distribution. A non-linear bend in the Q-Q probability plot or a point of departure from linearity at one end of the probability plot suggest that the data do not follow the hypothesized data distribution. Q-Q plots were constructed twice first using the original data and then using the logarithms of the data. The Shapiro Wilk Normality test was performed twice – first using the original data, and then using the logarithms of the data. A 5 percent level of significance was used to determine whether or not the data deviate from either hypothesized distribution. The Shapiro Wilk W-test was not computed if 50 percent or more of the data were non-detect. In this case, it was assumed that the data followed a nonparametric distribution.

Tables A.1.2.1 through A.1.2.4 present the Shapiro Wilk Normality-test and the conclusion for the distribution shape assessment for Upper Sand surface soil, Upper Sand subsurface soil, Transition surface soil, and Transition subsurface soil respectively. The Shapiro Wilk Normality Test tests the null hypothesis that the data follow a normal distribution against the alternative hypothesis that the data do not follow a normal distribution. If the W-Test statistics is below the W critical value then it can be concluded that the data do not follow a normal distribution. A 5 percent level of significance was used to determine whether or not the data deviate from the normal or lognormal distribution. The Q-Q probability plots for both the normal and lognormal distribution are displayed below.

Data sets that were shown to conform to a normal distribution were subsequently evaluated with parametric statistical tests whenever possible. As stated in the Background Study SAP, comparison tests will not be performed using the log-transformed data sets because of the potential for misinterpretation of the true underlying distribution that tends to occur with lognormal fitting (Tt, 2009). Data sets that were shown not to conform to a normal distribution were subsequently evaluated with non-parametric tests.

Table A.1.2.1
Distributional Shape Assessment
Upper Sand Surface Soil
Naval Air Station, Brunswick, Maine

Parameter	W Statistic		W Critical Value	Data Distribution
	Normal	LogNormal		
Inorganics				
ALUMINUM	0.823	0.954	0.892	Lognormal
ANTIMONY	>50% ND	>50% ND	0.892	Assumed Nonparametric
ARSENIC	0.615	0.881	0.892	Nonparametric
BARIUM	0.908	0.923	0.892	Lognormal
BERYLLIUM	0.722	0.853	0.892	Nonparametric
CADMIUM	0.916	0.807	0.892	Normal
CALCIUM	0.966	0.922	0.892	Normal
CHROMIUM	0.811	0.929	0.892	Lognormal
COBALT	0.941	0.842	0.892	Normal
COPPER	0.73	0.576	0.892	Nonparametric
IRON	0.864	0.871	0.892	Nonparametric
LEAD	0.815	0.913	0.892	Lognormal
MAGNESIUM	0.92	0.808	0.892	Normal
MANGANESE	0.921	0.865	0.892	Normal
MERCURY	0.899	0.894	0.892	Normal
NICKEL	0.975	0.855	0.892	Normal
POTASSIUM	0.965	0.958	0.892	Normal
SILVER	>50% ND	>50% ND	0.892	Assumed Nonparametric
SODIUM	0.968	0.97	0.892	Lognormal
VANADIUM	0.806	0.929	0.892	Lognormal
ZINC	0.855	0.692	0.892	Nonparametric
Pesticides/PCBs				
4,4'-DDD	>50% ND	>50% ND	0.892	Assumed Nonparametric
4,4'-DDE	0.655	0.89	0.892	Nonparametric
4,4'-DDT	>50% ND	>50% ND	0.892	Assumed Nonparametric
ENDOSULFAN I	>50% ND	>50% ND	0.892	Assumed Nonparametric
GAMMA-BHL (LINDANE)	>50% ND	>50% ND	0.892	Assumed Nonparametric
PAHS				
ACENAPHTHYLENE	>50% ND	>50% ND	0.892	Assumed Nonparametric
ANTHRACENE	>50% ND	>50% ND	0.892	Assumed Nonparametric
BENZO(A)ANTHRACENE	0.656	0.823	0.892	Nonparametric
BENZO(A)PYRENE	>50% ND	>50% ND	0.892	Assumed Nonparametric
BENZO(B)FLUORANTHENE	>50% ND	>50% ND	0.892	Assumed Nonparametric
BENZO(G,H,I)PERYLENE	>50% ND	>50% ND	0.892	Assumed Nonparametric
BENZO(K)FLUORANTHENE	>50% ND	>50% ND	0.892	Assumed Nonparametric
CHRYSENE	0.658	0.852	0.892	Nonparametric
DIBENOZ(A,H)ANTHRACENE	>50% ND	>50% ND	0.892	Assumed Nonparametric
FLUORANTHENE	0.674	0.928	0.892	Lognormal
INDENO(1,2,3-CD)PYRENE	0.63	0.816	0.892	Nonparametric
PHENANTHRENE	0.691	0.893	0.892	Lognormal
PYRENE	0.666	0.907	0.892	Lognormal
Miscellaneous				
TOTAL ORGANIC CARBON	0.93	0.94	0.892	Lognormal

> 50% ND = More than 50 percent of the data values are non-detect.

Assumed Nonparametric: More than 50 percent of the data is non-detect, data are assumed to be nonparametric.

Lognormal: W statistic for the Log tranformed data is greater than W critical value and the W statistic for the raw data.

Nonparametric: W statistics for the Log transformed data and the raw data are less than the W critical value.

Normal: W statistic for raw data is greater than W critical value and greater than the W statistic for the log transformed data.

Chemicals only appear if detected once.

Table A.1.2.2
Distributional Shape Assessment
Upper Sand Subsurface Soil
Naval Air Station, Brunswick, Maine

Parameter	W Statistic		W Critical Value	Data Distribution
	Normal	LogNormal		
Inorganics				
ALUMINUM	0.836	0.93	0.892	Lognormal
ARSENIC	0.953	0.926	0.892	Normal
BARIUM	0.901	0.942	0.892	Lognormal
BERYLLIUM	0.799	0.899	0.892	Lognormal
CADMIUM	0.751	0.734	0.892	Nonparametric
CALCIUM	0.845	0.911	0.892	Lognormal
CHROMIUM	0.97	0.98	0.892	Lognormal
COBALT	0.87	0.849	0.892	Nonparametric
COPPER	0.844	0.773	0.892	Nonparametric
IRON	0.99	0.988	0.892	Normal
LEAD	0.952	0.973	0.892	Lognormal
MAGNESIUM	0.951	0.945	0.892	Normal
MANGANESE	0.917	0.889	0.892	Normal
NICKEL	0.973	0.949	0.892	Normal
POTASSIUM	0.879	0.943	0.892	Lognormal
SILVER	>50% ND	>50% ND	0.892	Assumed Nonparametric
SODIUM	0.933	0.957	0.892	Lognormal
VANADIUM	0.92	0.963	0.892	Lognormal
ZINC	0.954	0.949	0.892	Normal
PAHs				
FLUORANTHENE	>50% ND	>50% ND	0.892	Assumed Nonparametric
Miscellaneous				
TOTAL ORGANIC CARBON	0.694	0.87	0.892	Lognormal

> 50% ND = More than 50 percent of the data values are non-detect.

Assumed Nonparametric: More than 50 percent of the data is non-detect, data are assumed to be nonparametric.

Lognormal: W statistic for the Log tranformed data is greater than W critical value and the W statistic for the raw data.

Nonparametric: W statistics for the Log transformed data and the raw data are less than the W critical value.

Normal: W statistic for raw data is greater than W critical value and greater than the W statistic for the log transformed data.

Chemicals only appear if detected once.

Table A.1.2.3
Distributional Shape Assessment
Transition Surface Soil
Naval Air Station, Brunswick, Maine

Parameter	W Statistic		W Critical Value	Data Distribution
	Normal	LogNormal		
Inorganics				
ALUMINUM	0.981	0.91	0.881	Normal
ANTIMONY	>50% ND	>50% ND	0.881	Assumed Nonparametric
ARSENIC	0.963	0.944	0.881	Normal
BARIUM	0.989	0.928	0.881	Normal
BERYLLIUM	0.974	0.907	0.881	Normal
CADMIUM	0.942	0.806	0.881	Normal
CALCIUM	0.832	0.922	0.881	Lognormal
CHROMIUM	0.971	0.912	0.881	Normal
COBALT	0.884	0.944	0.881	Lognormal
COPPER	0.956	0.982	0.881	Lognormal
IRON	0.968	0.91	0.881	Normal
LEAD	0.952	0.899	0.881	Normal
MAGNESIUM	0.98	0.935	0.881	Normal
MANGANESE	0.823	0.967	0.881	Lognormal
MERCURY	0.899	0.923	0.881	Lognormal
NICKEL	0.953	0.933	0.881	Normal
POTASSIUM	0.962	0.941	0.881	Normal
SELENIUM	>50% ND	>50% ND	0.881	Assumed Nonparametric
SILVER	>50% ND	>50% ND	0.881	Assumed Nonparametric
VANADIUM	0.93	0.851	0.881	Normal
ZINC	0.982	0.916	0.881	Normal
Pesticides/PCBs				
4,4'-DDE	0.898	0.833	0.881	Normal
4,4'-DDT	>50% ND	>50% ND	0.881	Assumed Nonparametric
PAHs				
ACENAPHTHYLENE	>50% ND	>50% ND	0.881	Assumed Nonparametric
ANTHRACENE	>50% ND	>50% ND	0.881	Assumed Nonparametric
BENZO(A)ANTHRACENE	>50% ND	>50% ND	0.874	Assumed Nonparametric
BENZO(A)PYRENE	>50% ND	>50% ND	0.881	Assumed Nonparametric
BENZO(B)FLUORANTHENE	>50% ND	>50% ND	0.881	Assumed Nonparametric
BENZO(G,H,I)PERYLENE	>50% ND	>50% ND	0.874	Assumed Nonparametric
BENZO(K)FLUORANTHENE	>50% ND	>50% ND	0.881	Assumed Nonparametric
CHRYSENE	0.516	0.793	0.874	Nonparametric
DIBENZO(A,H)ANTHRACENE	>50% ND	>50% ND	0.881	Assumed Nonparametric
FLUORANTHENE	0.544	0.864	0.881	Nonparametric
INDENO(1,2,3-CD)PYRENE	>50% ND	>50% ND	0.874	Assumed Nonparametric
PHENANTHRENE	>50% ND	>50% ND	0.874	Assumed Nonparametric
PYRENE	0.514	0.86	0.874	Nonparametric
Herbicides				
2,4-D	>50% ND	>50% ND	0.881	Assumed Nonparametric
Miscellaneous				
TOTAL ORGANIC CARBON	0.957	0.809	0.881	Normal

> 50% ND = More than 50 percent of the data values are non-detect.

Assumed Nonparametric: More than 50 percent of the data is non-detect, data are assumed to be nonparametric.

Lognormal: W statistic for the Log tranformed data is greater than W critical value and the W statistic for the raw data.

Nonparametric: W statistics for the Log transformed data and the raw data are less than the W critical value.

Normal: W statistic for raw data is greater than W critical value and greater than the W statistic for the log transformed data.

Chemicals only appear if detected once.

Table A.1.2.4
Distributional Shape Assessment
Transition Subsurface Soil
Naval Air Station, Brunswick, Maine

	W Statistic		W Critical Value	Data Distribution
Parameter	Normal	LogNormal		
Inorganics				
ALUMINUM	0.929	0.917	0.881	Normal
ANTIMONY	0.89	0.885	0.881	Normal
ARSENIC	0.953	0.967	0.881	Lognormal
BARIUM	0.921	0.917	0.881	Normal
BERYLLIUM	0.899	0.941	0.881	Lognormal
CADMIUM	0.872	0.88	0.881	Nonparametric
CALCIUM	0.969	0.947	0.881	Normal
CHROMIUM	0.923	0.908	0.881	Normal
COBALT	0.954	0.963	0.881	Lognormal
COPPER	0.928	0.926	0.881	Normal
IRON	0.937	0.924	0.881	Normal
LEAD	0.924	0.91	0.881	Normal
MAGNESIUM	0.934	0.921	0.881	Normal
MANGANESE	0.95	0.935	0.881	Normal
NICKEL	0.91	0.898	0.881	Normal
POTASSIUM	0.93	0.911	0.881	Normal
SILVER	>50% ND	>50% ND	0.881	Assumed Nonparametric
SODIUM	>50% ND	>50% ND	0.881	Assumed Nonparametric
VANADIUM	0.94	0.914	0.881	Normal
ZINC	0.918	0.908	0.881	Normal
PAHs				
BENZO(A)ANTHRACENE	>50% ND	>50% ND	0.881	Assumed Nonparametric
Miscellaneous				
TOTAL ORGANIC CARBON	0.872	0.961	0.881	Lognormal

> 50% ND = More than 50 percent of the data values are non-detect.

Assumed Nonparametric: More than 50 percent of the data is non-detect, data are assumed to be nonparametric.

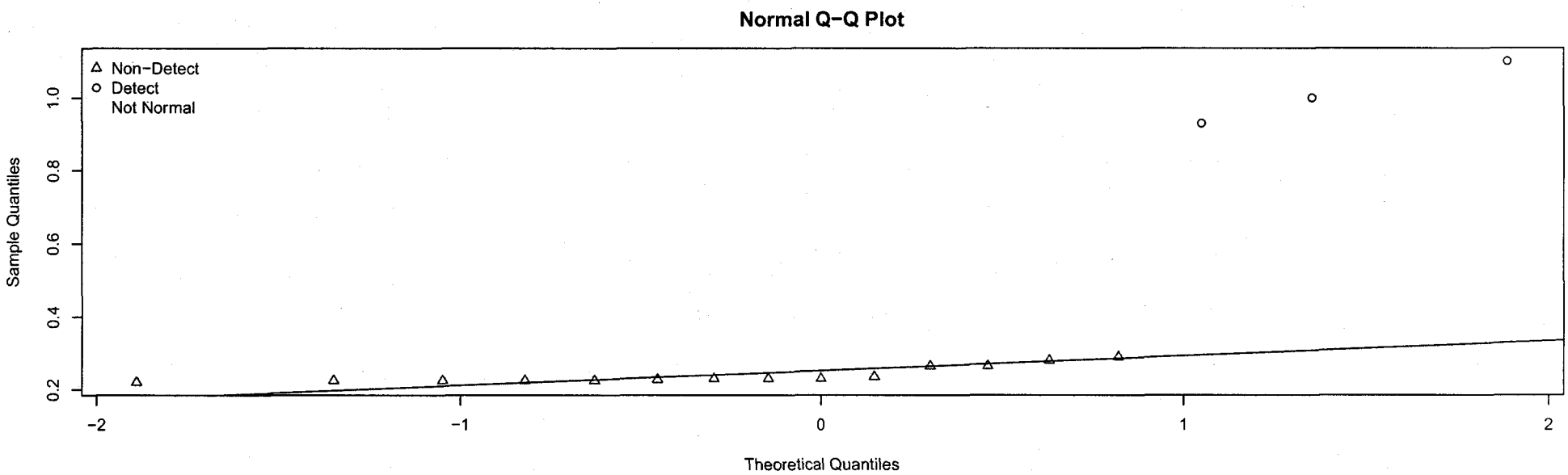
Lognormal: W statistic for the Log tranformed data is greater than W critical value and the W statistic for the raw data.

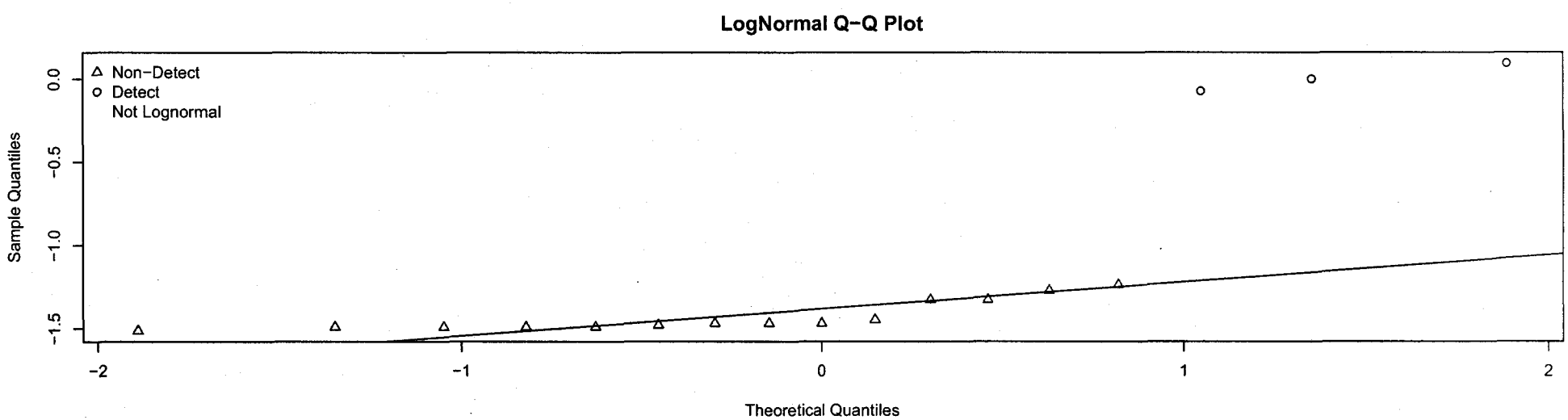
Nonparametric: W statistics for the Log transformed data and the raw data are less than the W critical value.

Normal: W statistic for raw data is greater than W critical value and greater than the W statistic for the log transformed data.

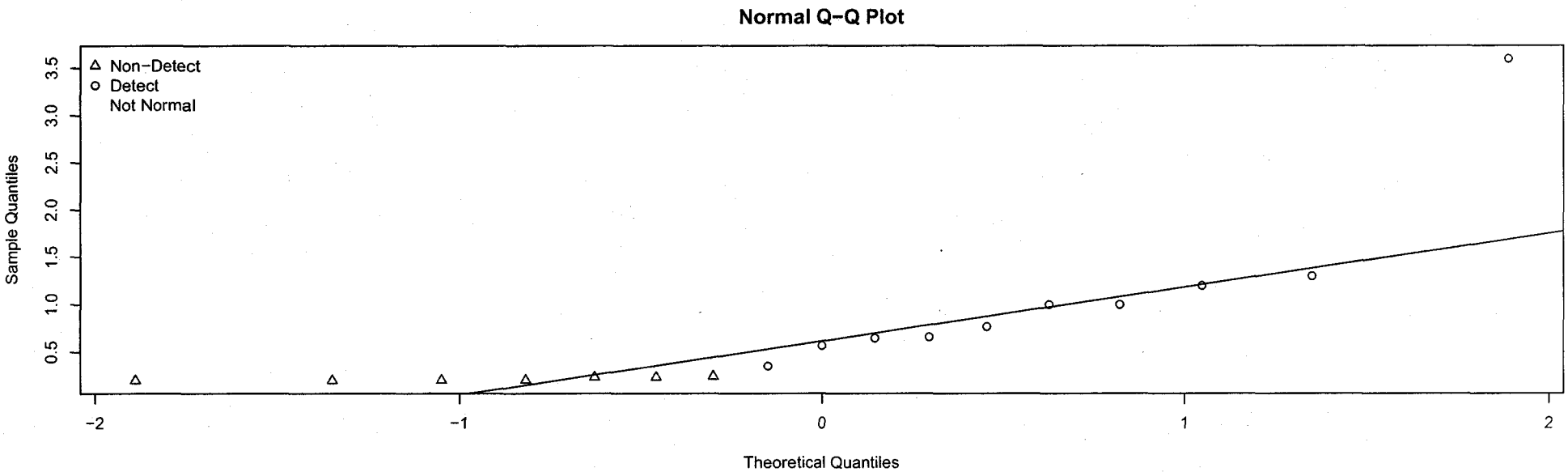
Chemicals only appear if detected once.

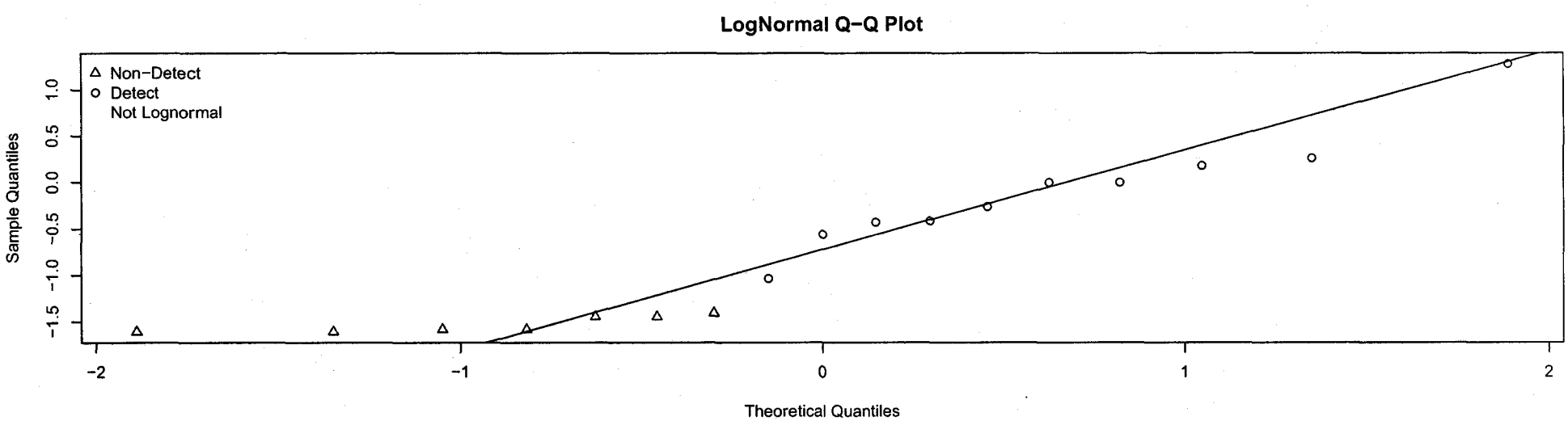
Upper Sand
Surface Soil
4,4'-DDD



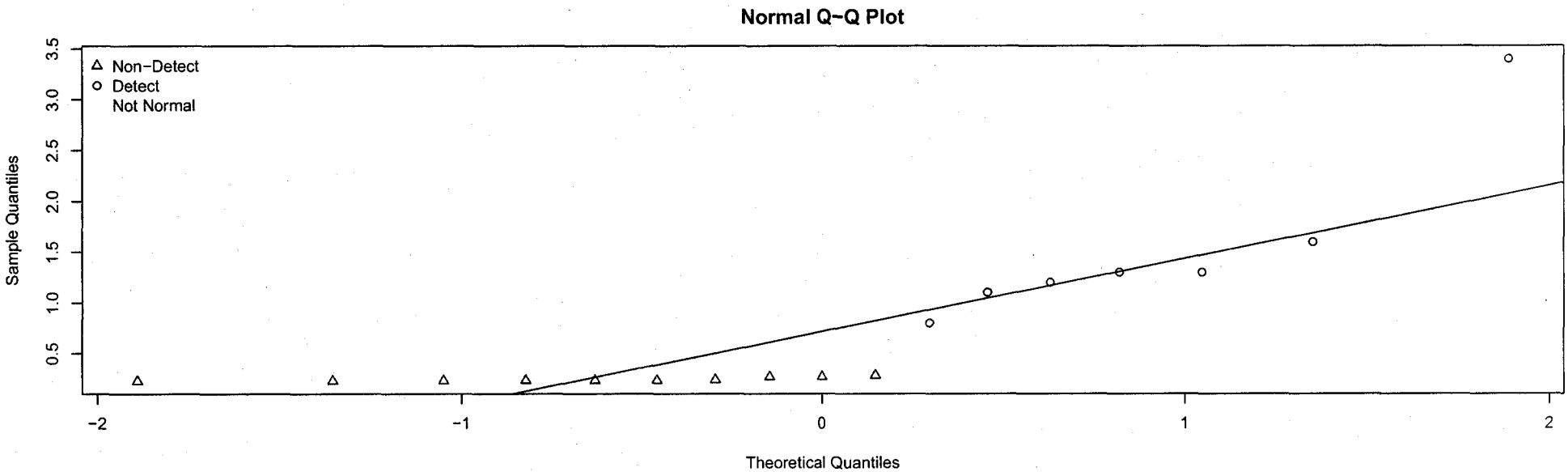


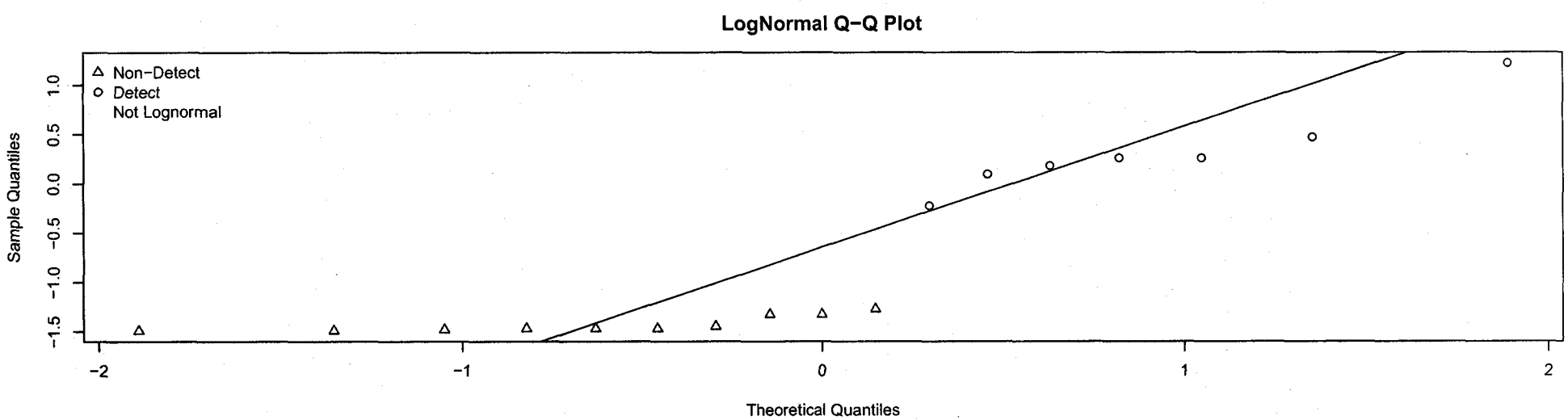
Upper Sand
Surface Soil
4,4'-DDE





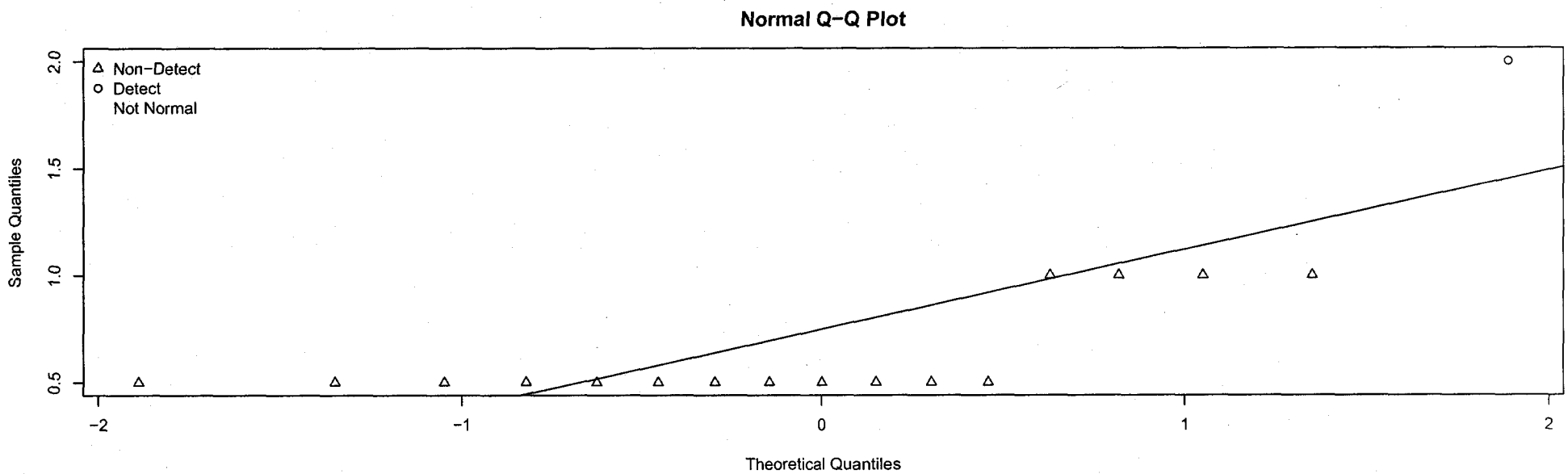
Upper Sand
Surface Soil
4,4'-DDT

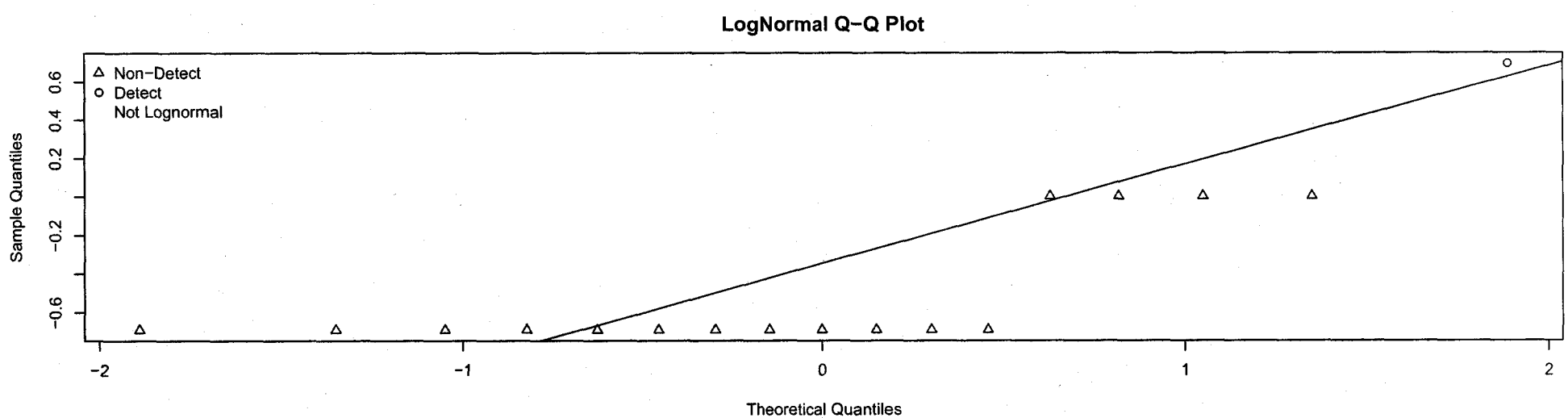




Upper Sand
Surface Soil

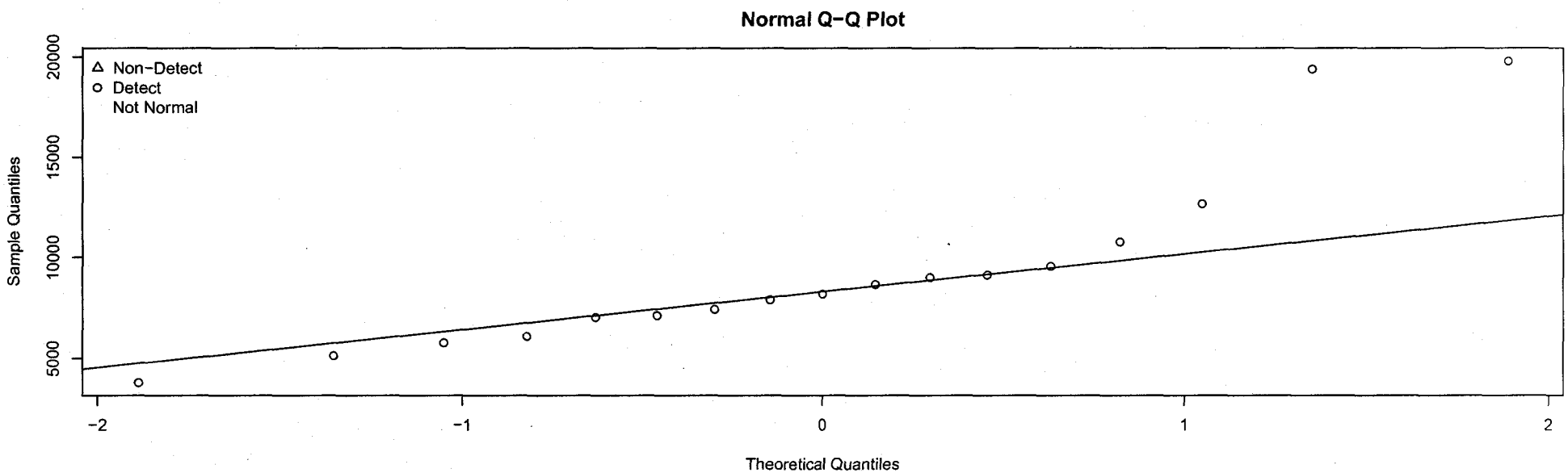
ACENAPHTHYLENE

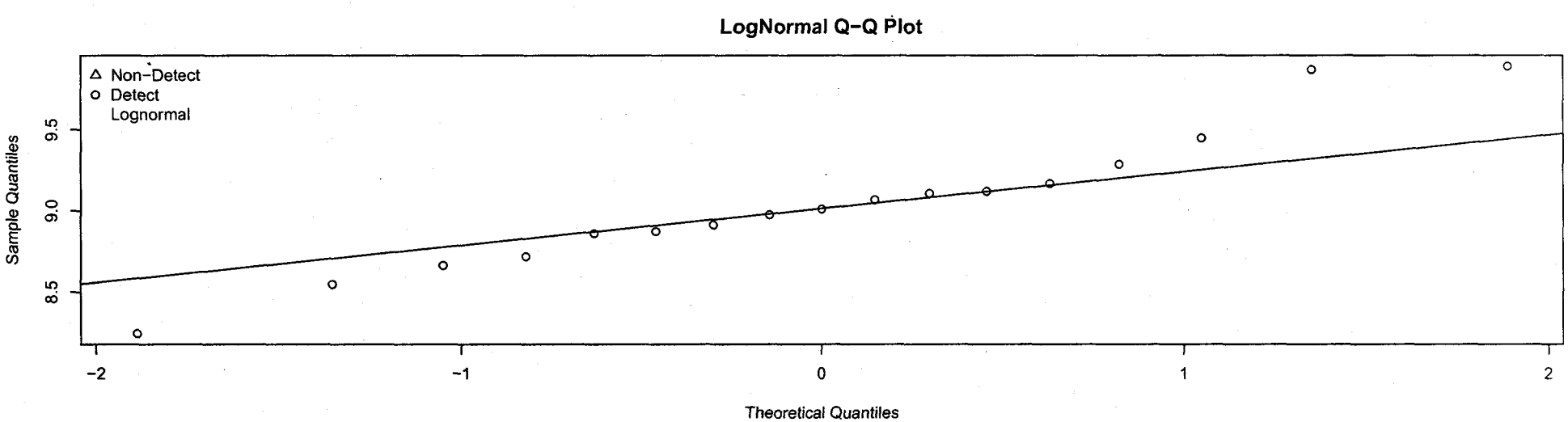




Upper Sand
Surface Soil

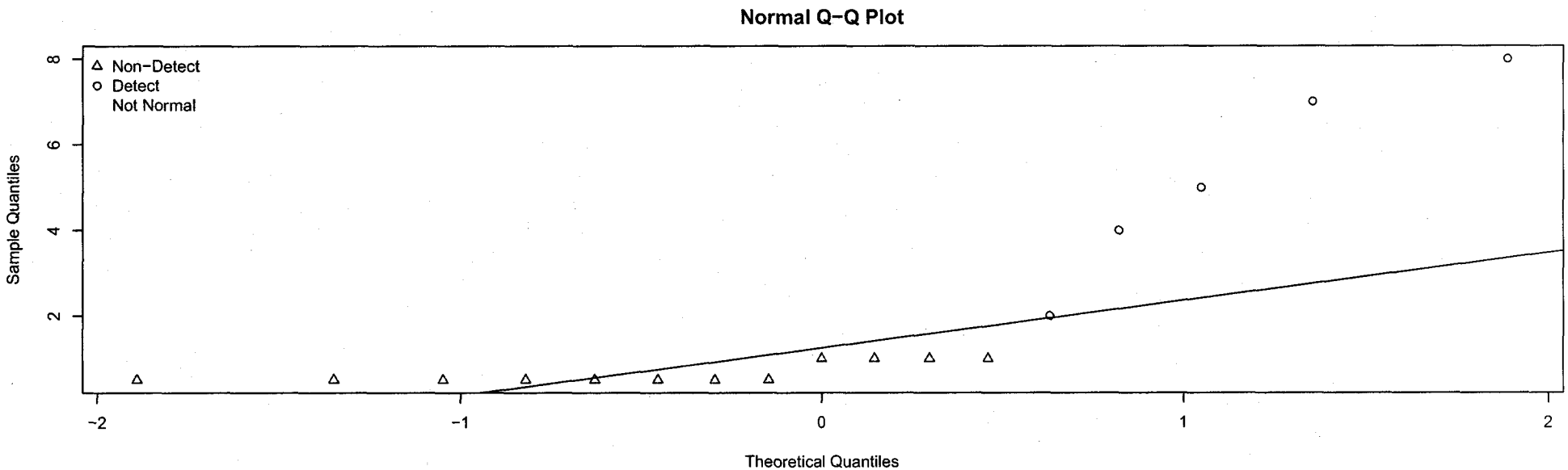
ALUMINUM

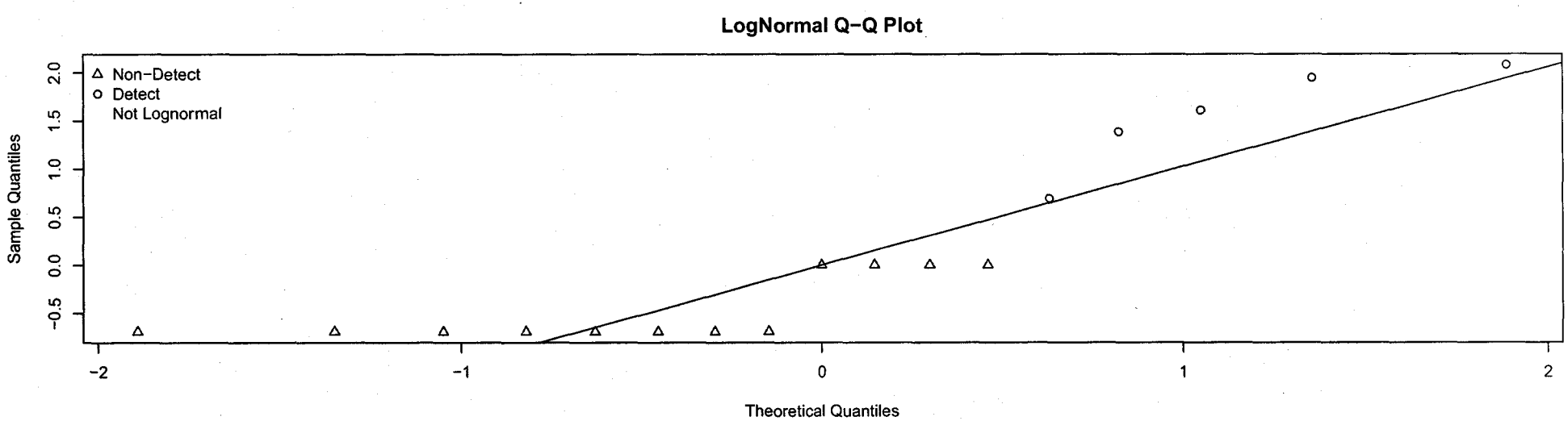




Upper Sand
Surface Soil

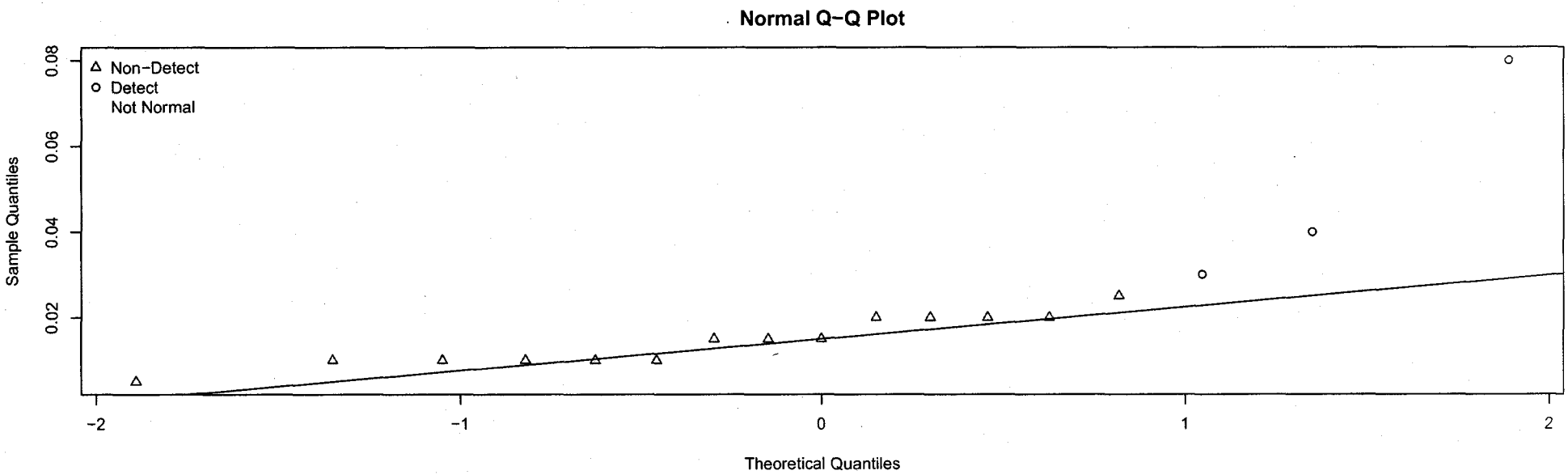
ANTHRACENE

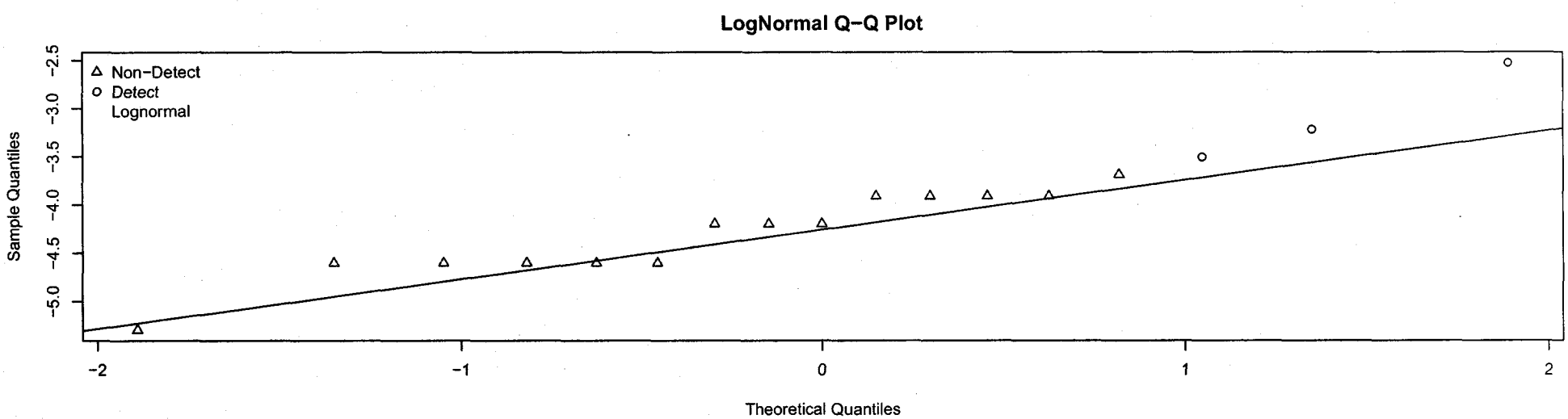




Upper Sand
Surface Soil

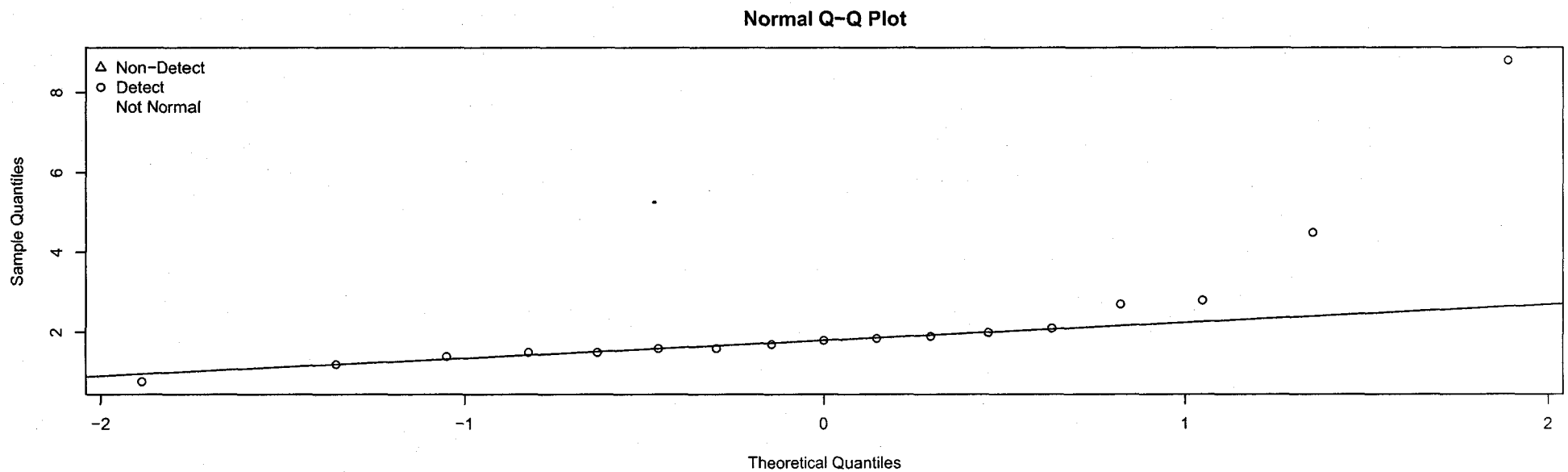
ANTIMONY

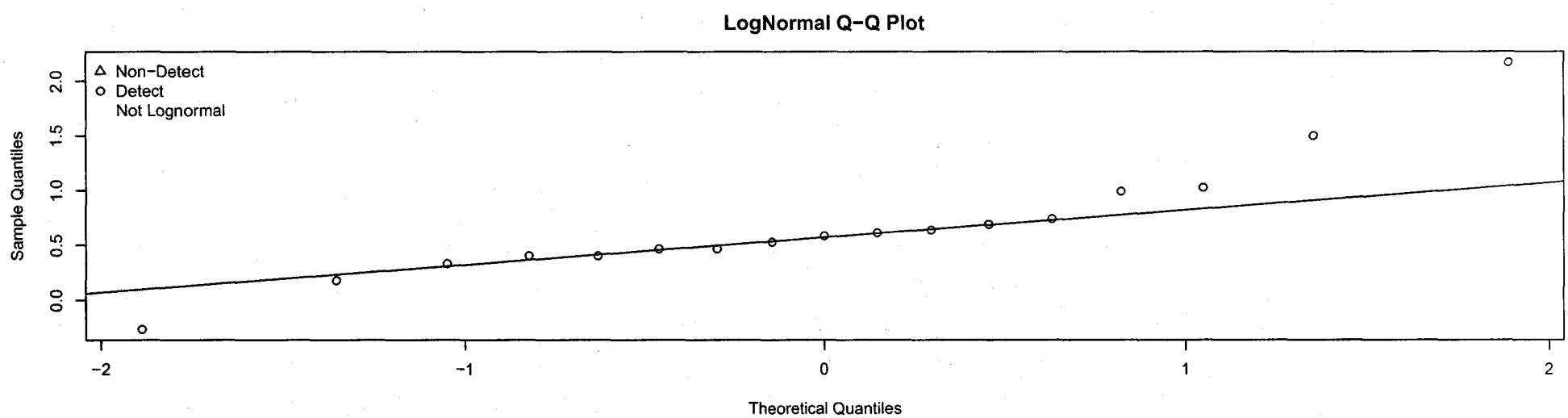




Upper Sand
Surface Soil

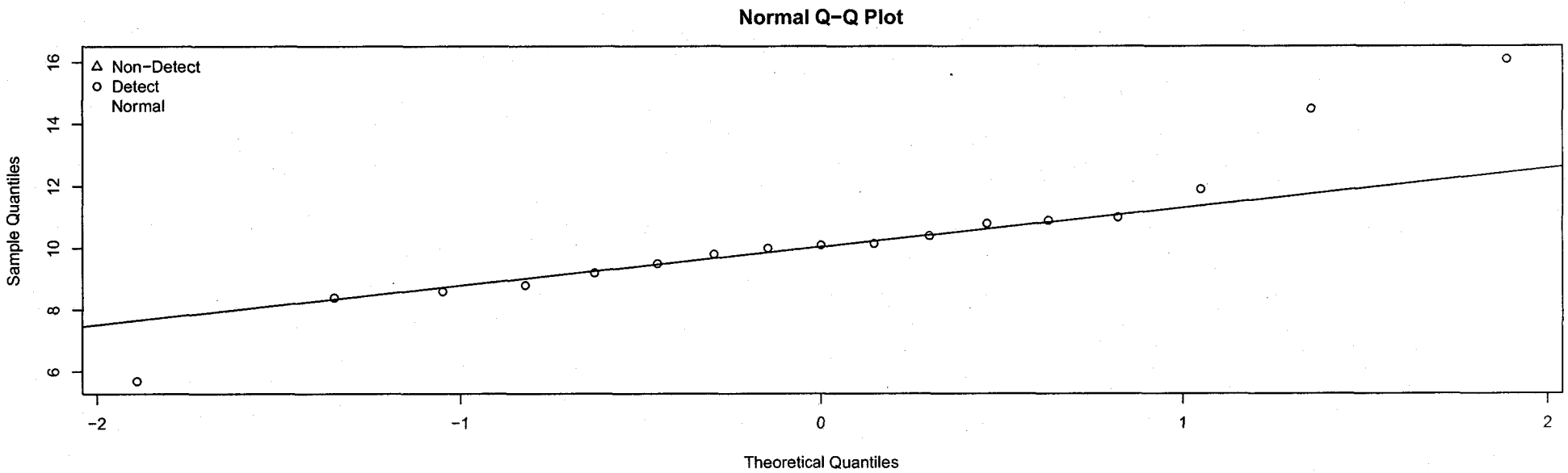
ARSENIC

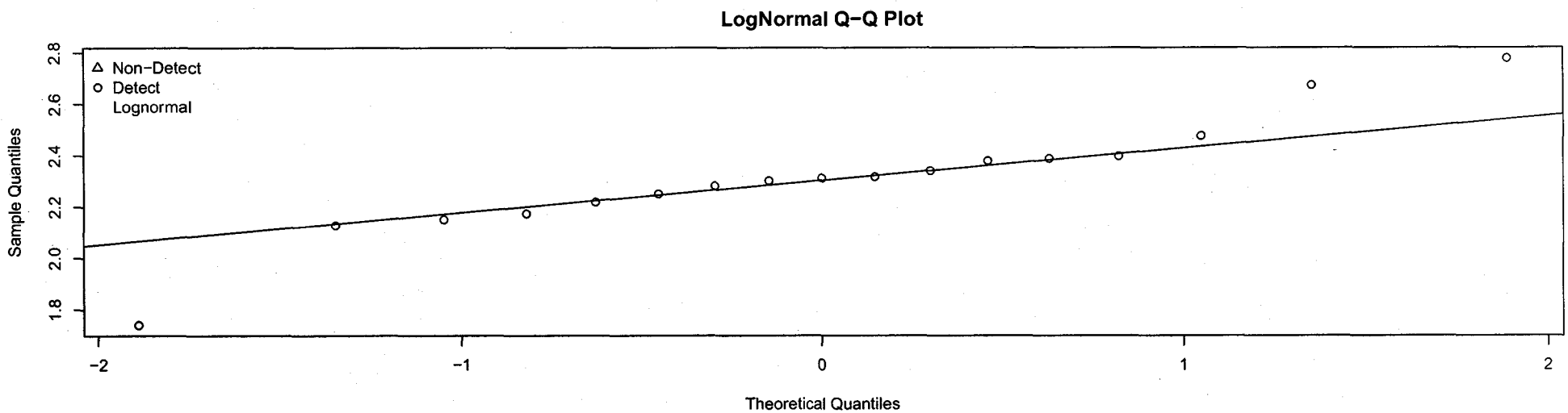




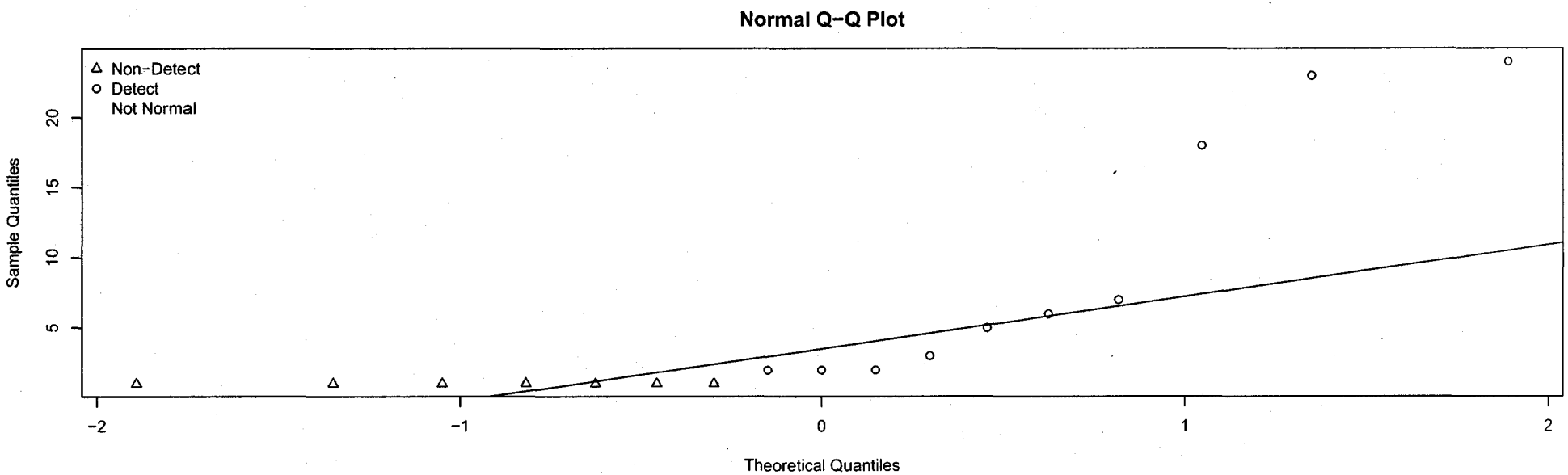
Upper Sand
Surface Soil

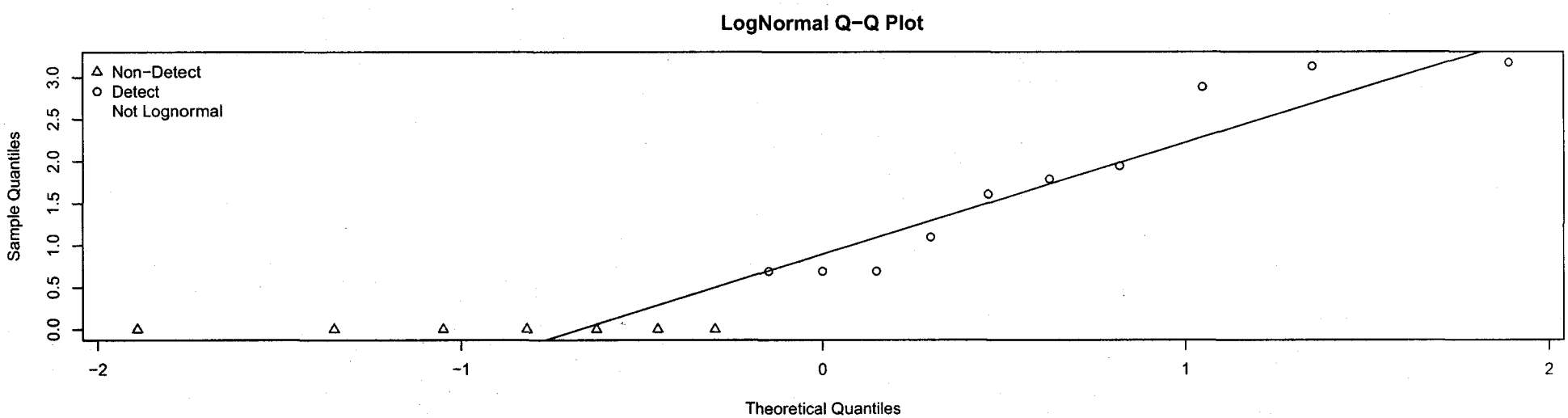
BARIUM





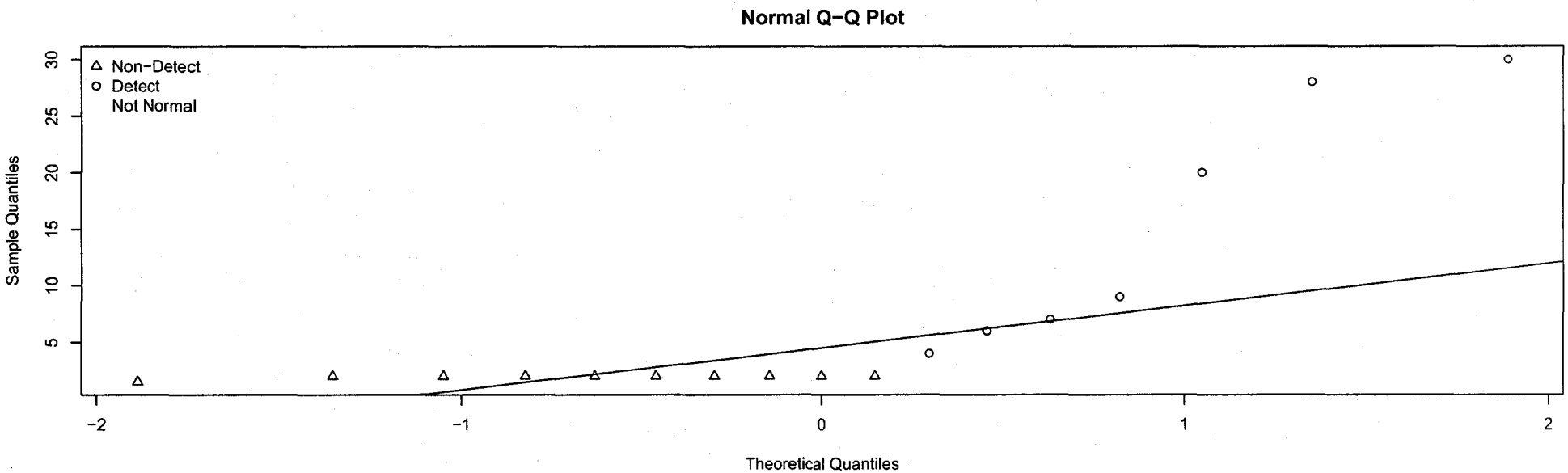
Upper Sand
Surface Soil
BENZO(A)ANTHRACENE

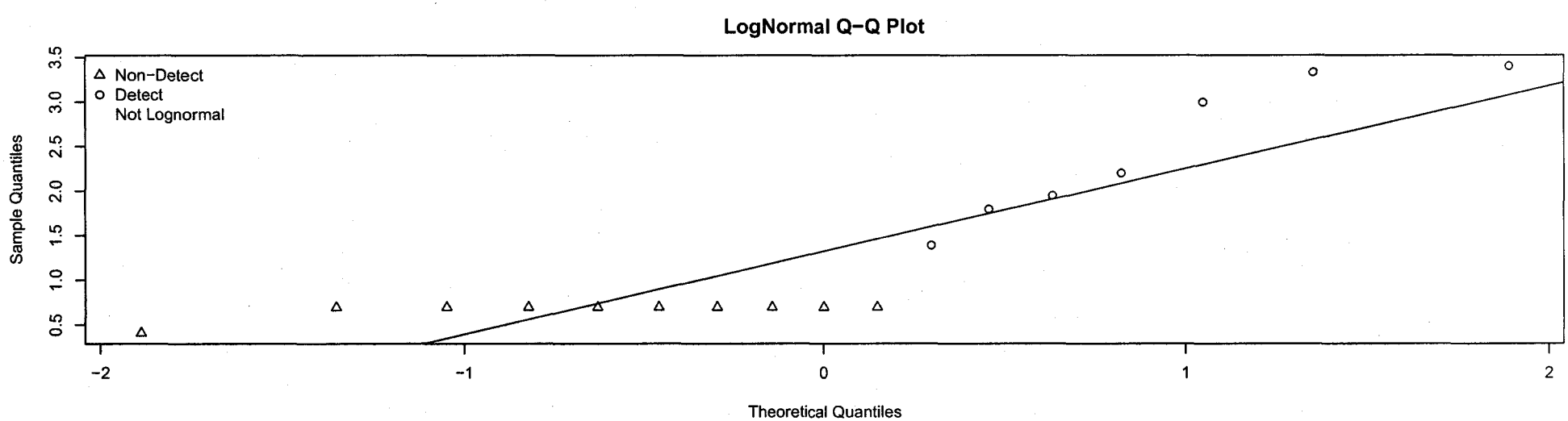




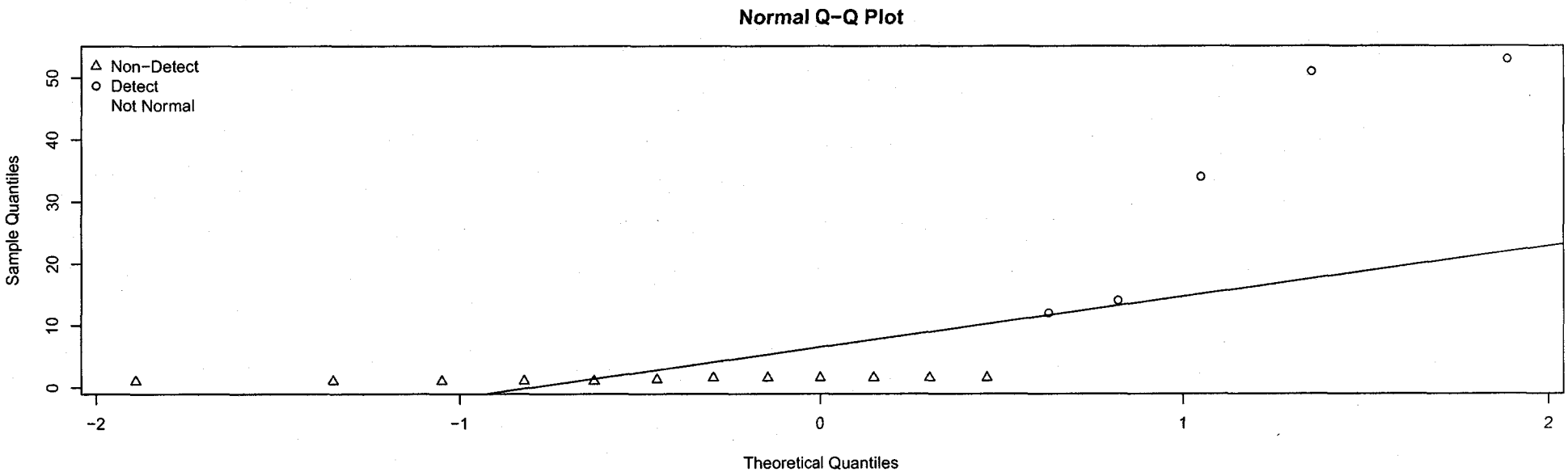
Upper Sand
Surface Soil

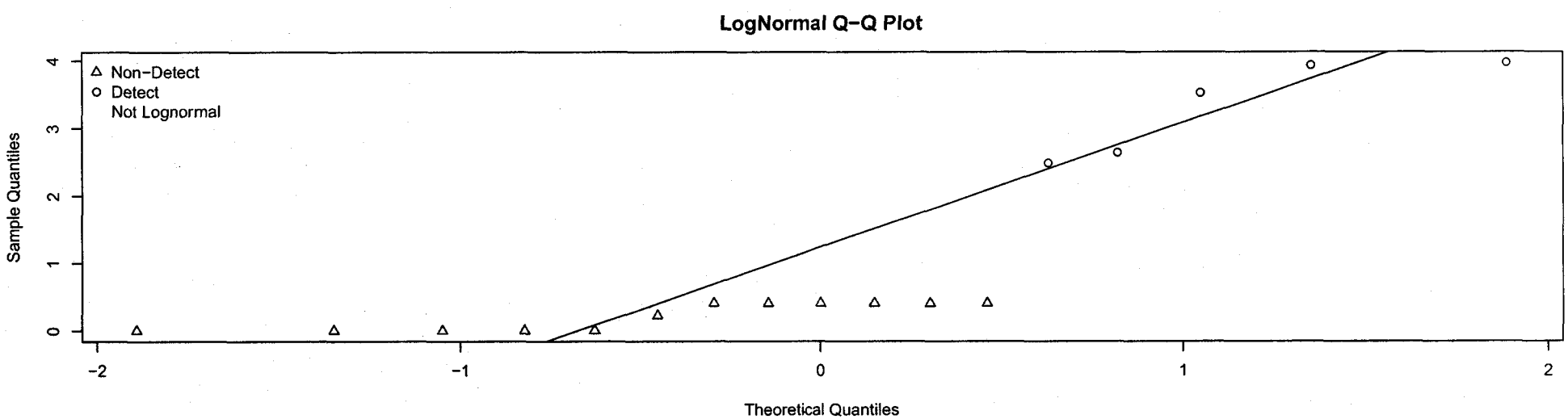
BENZO(A)PYRENE





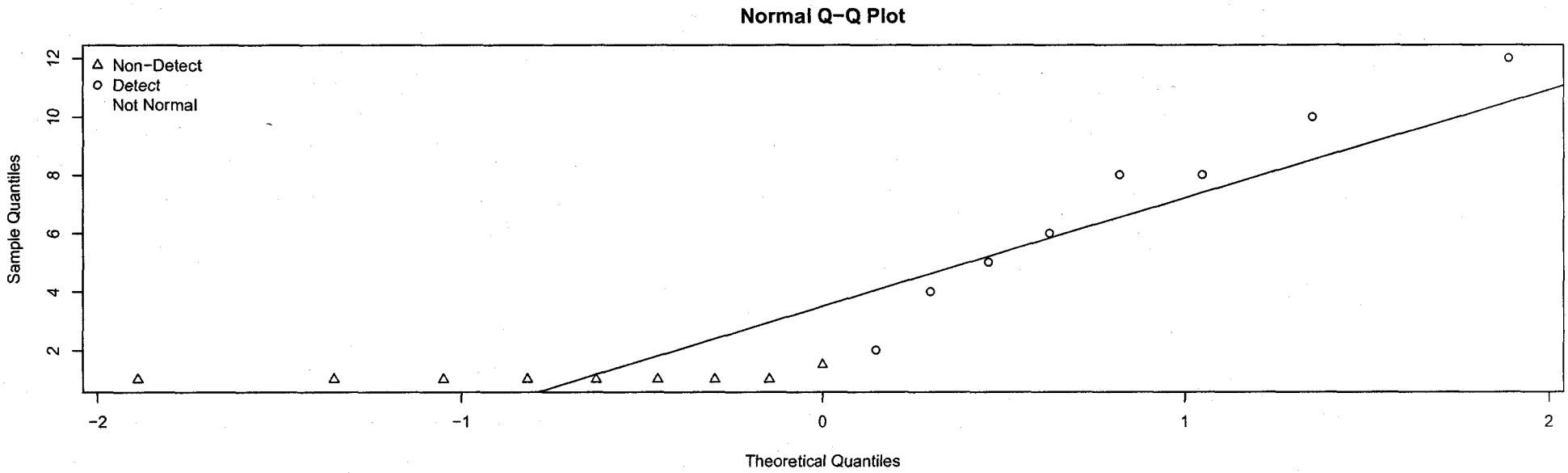
Upper Sand
Surface Soil
BENZO(B)FLUORANTHENE

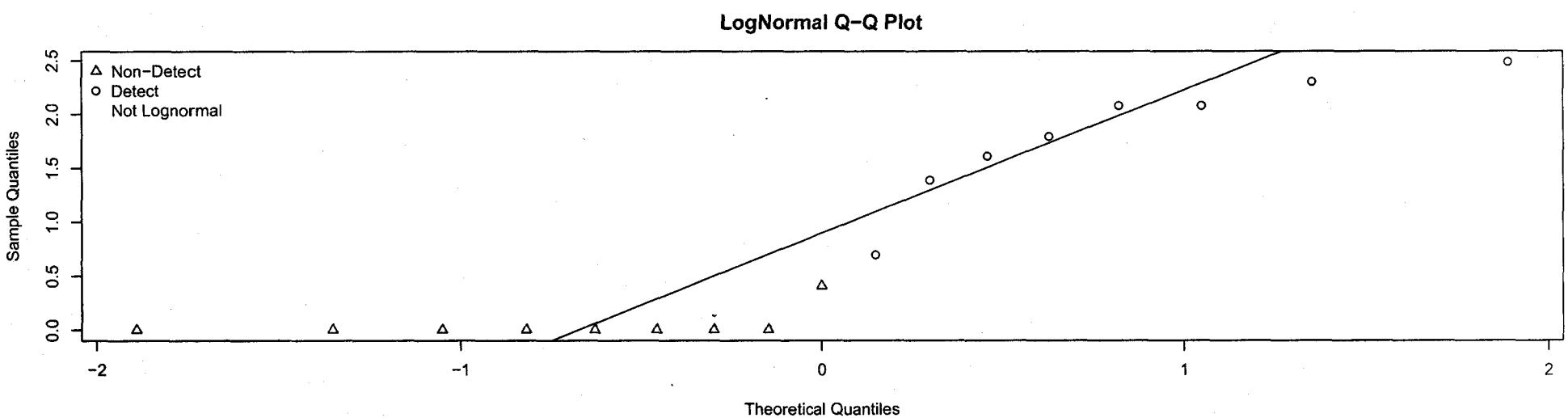




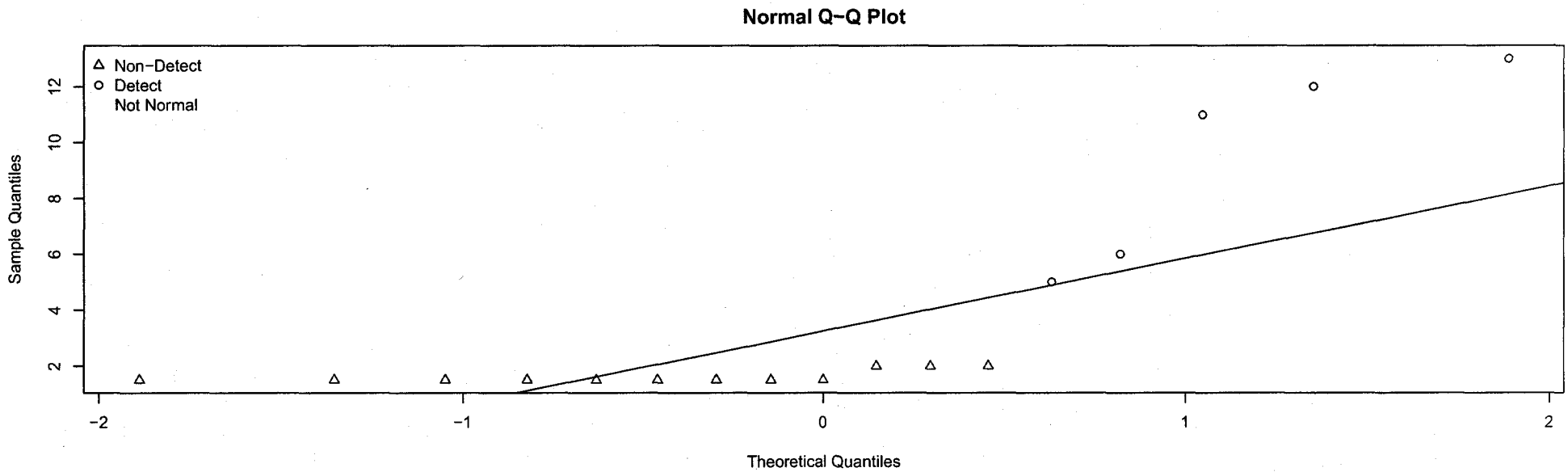
Upper Sand
Surface Soil

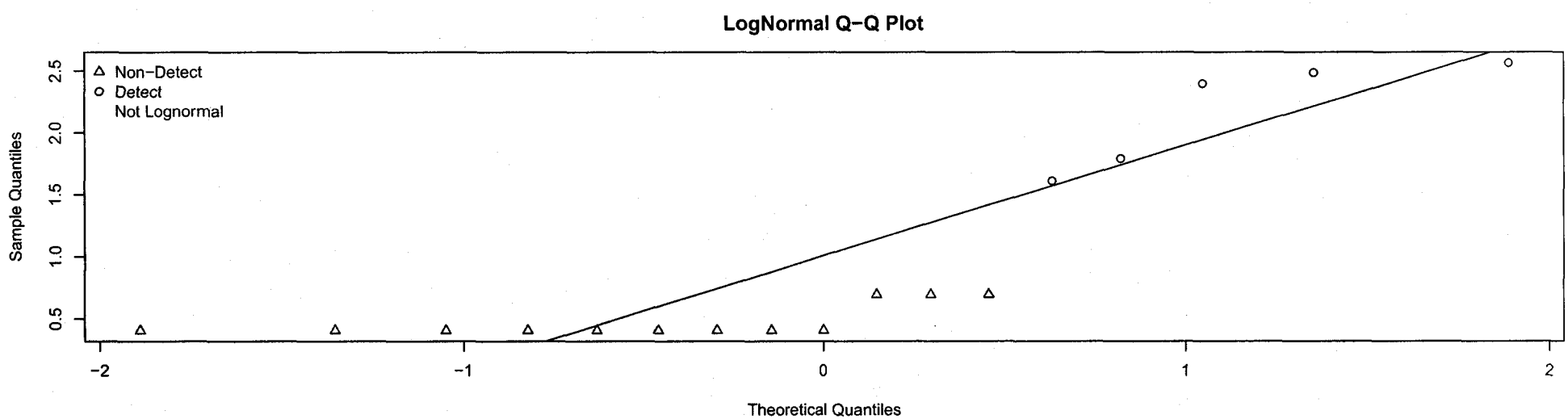
BENZO(G,H,I)PERYLENE





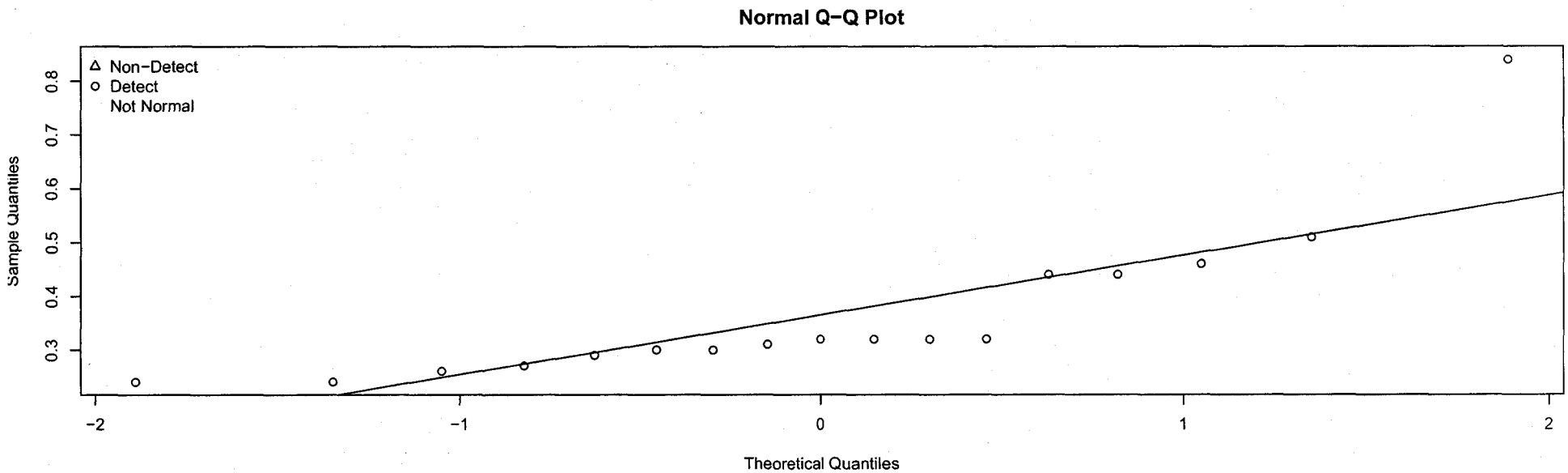
Upper Sand
Surface Soil
BENZO(K)FLUORANTHENE

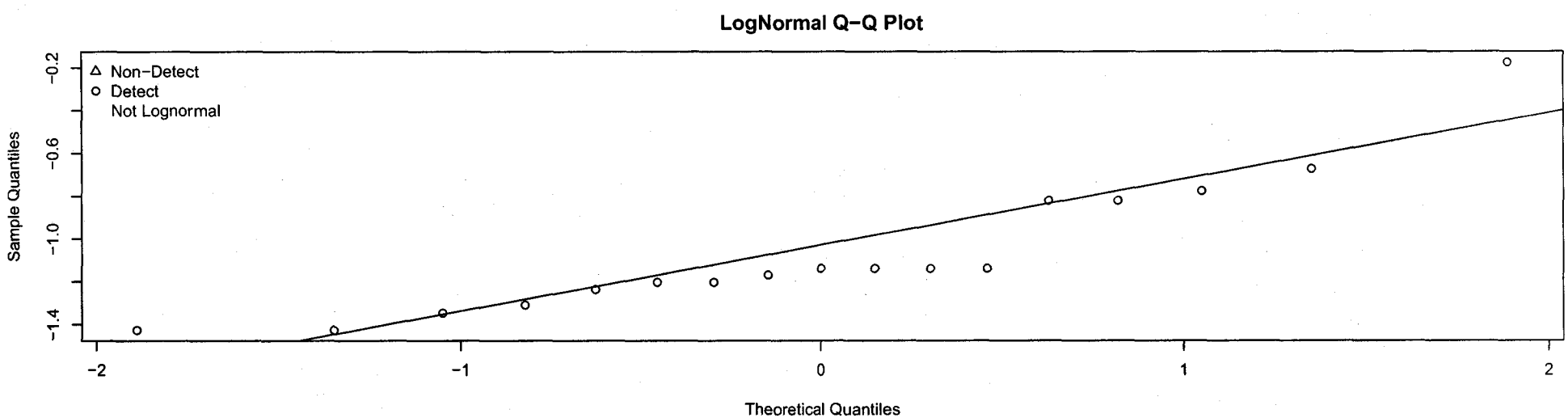




Upper Sand
Surface Soil

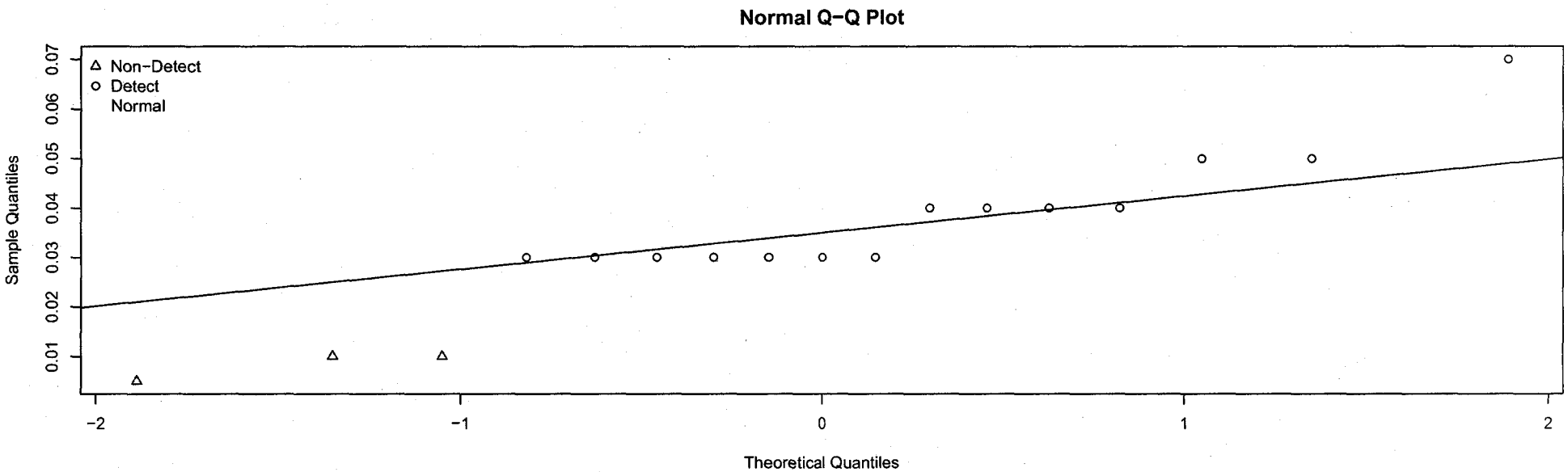
BERYLLIUM

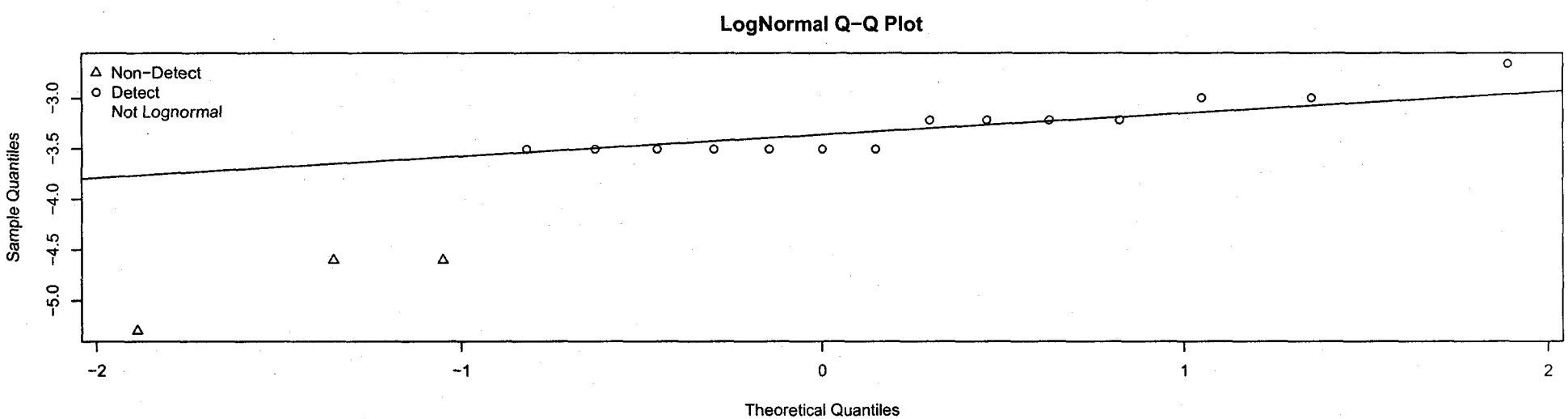




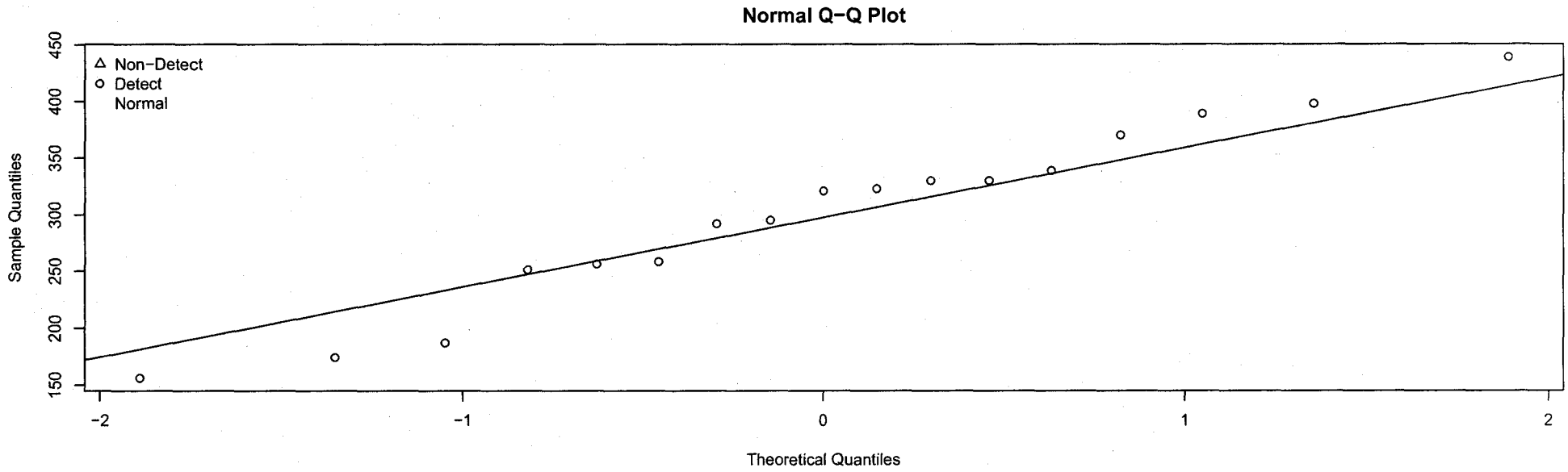
Upper Sand
Surface Soil

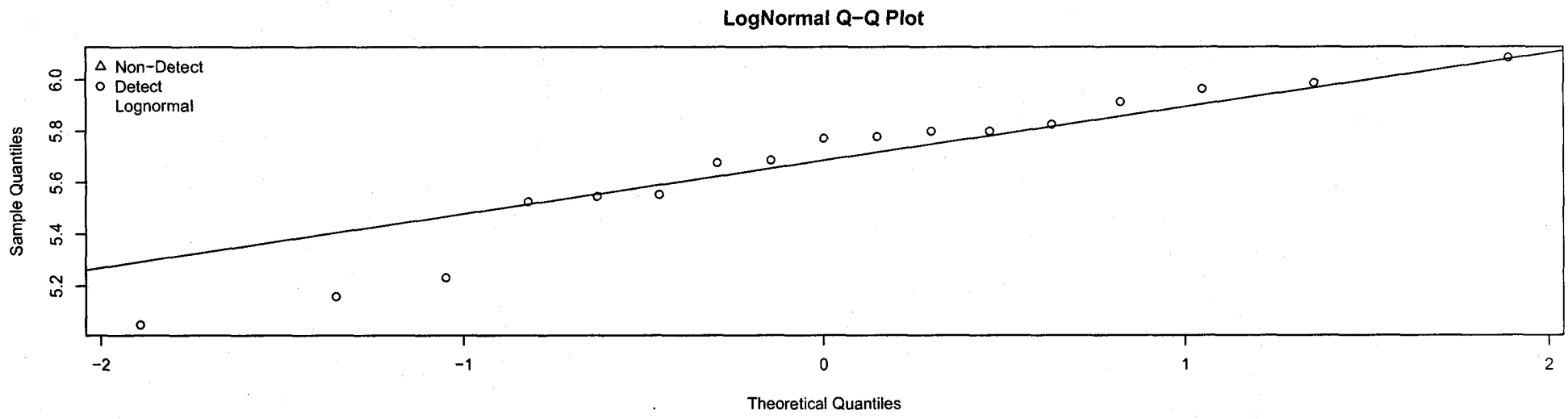
CADMIUM





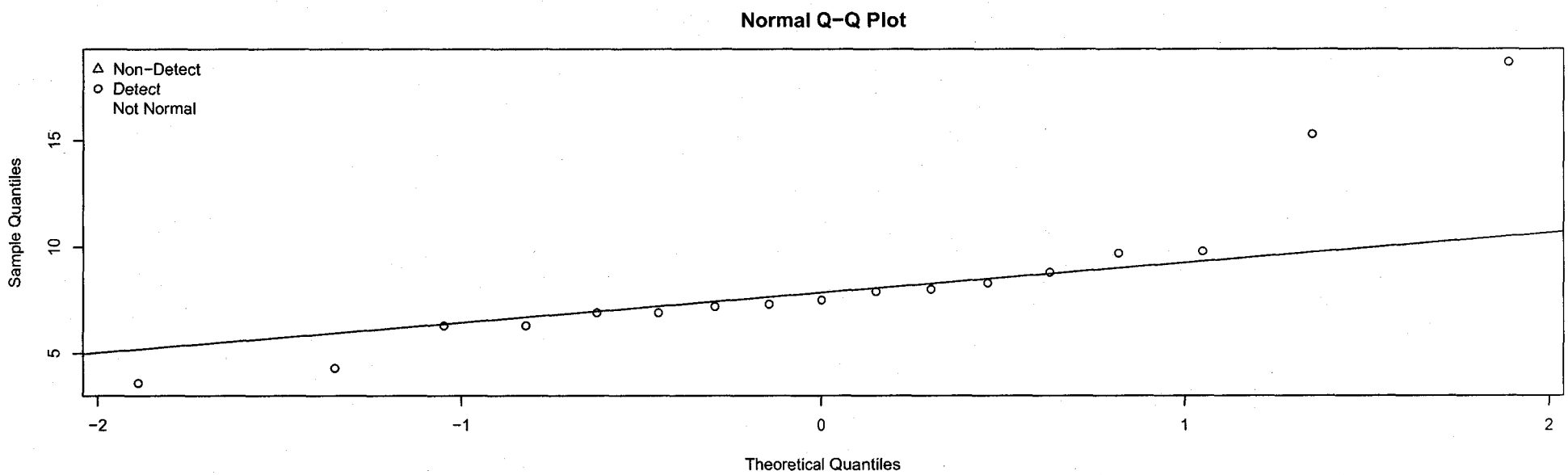
Upper Sand
Surface Soil
CALCIUM

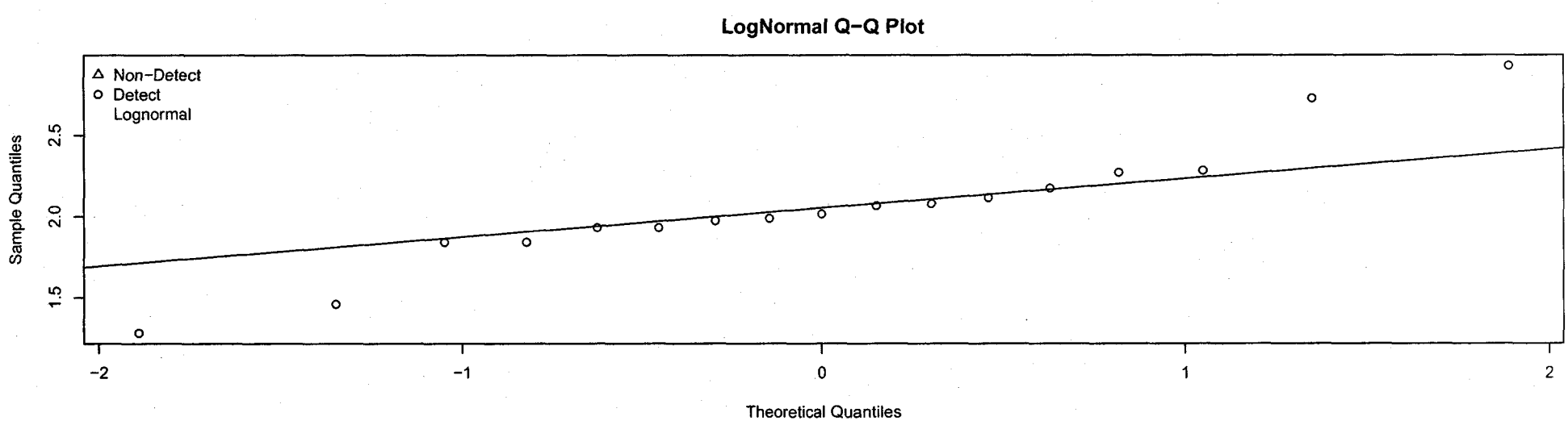




Upper Sand
Surface Soil

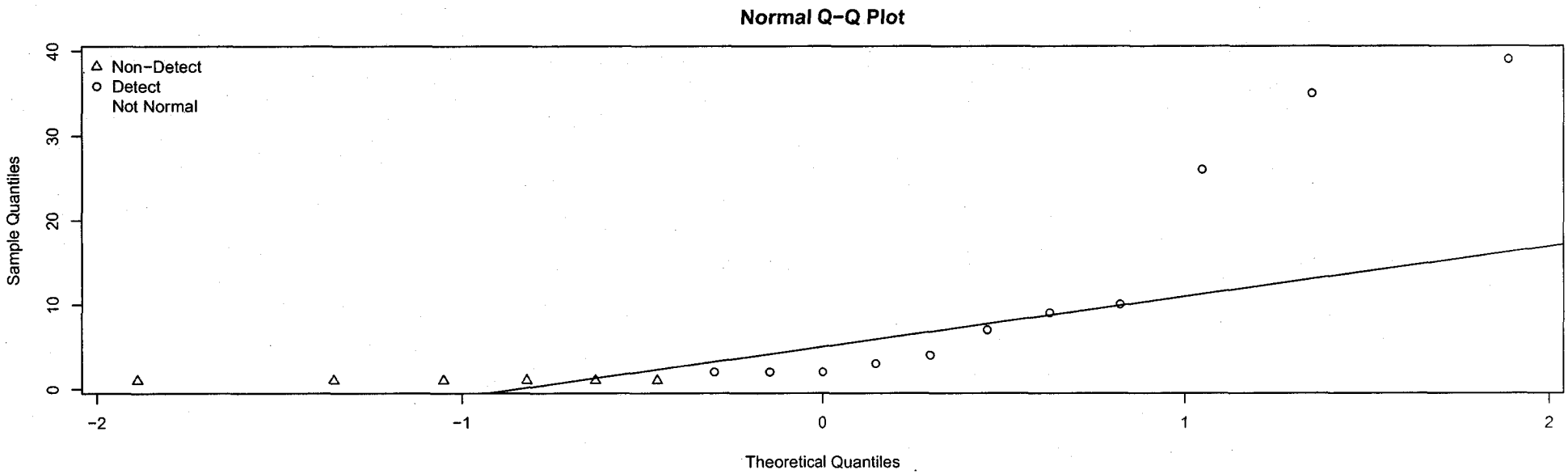
CHROMIUM

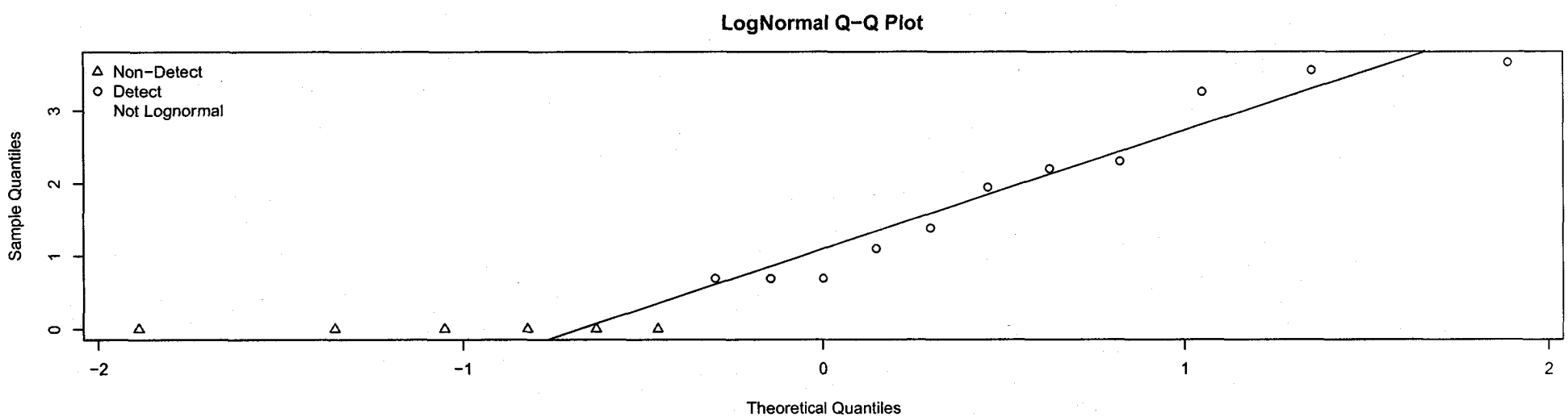




Upper Sand
Surface Soil

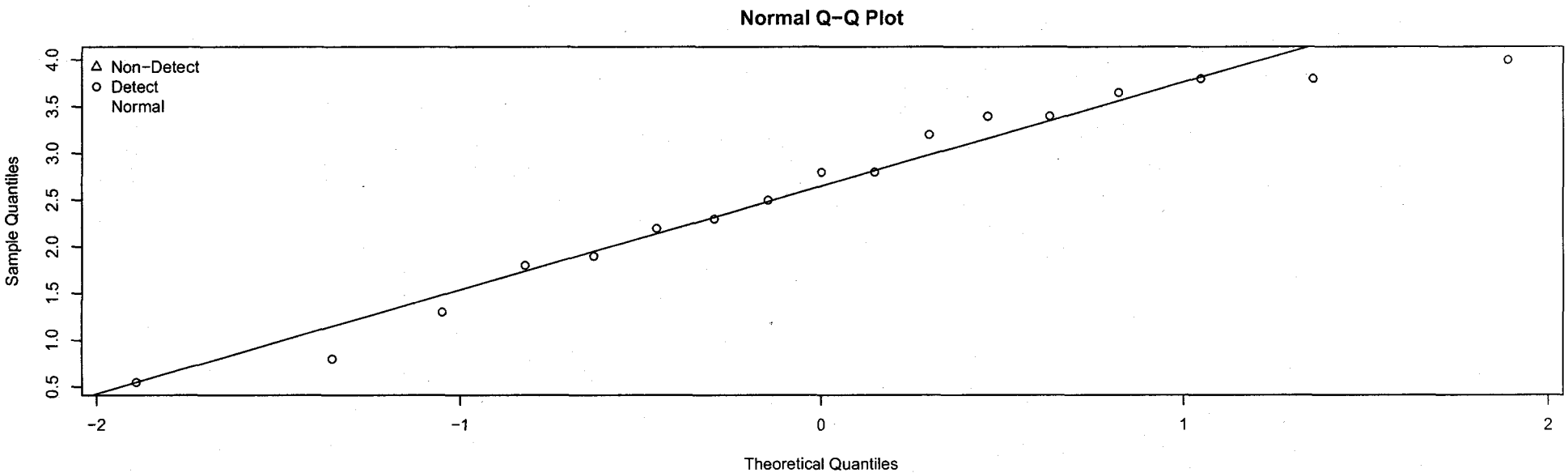
CHRYSENE

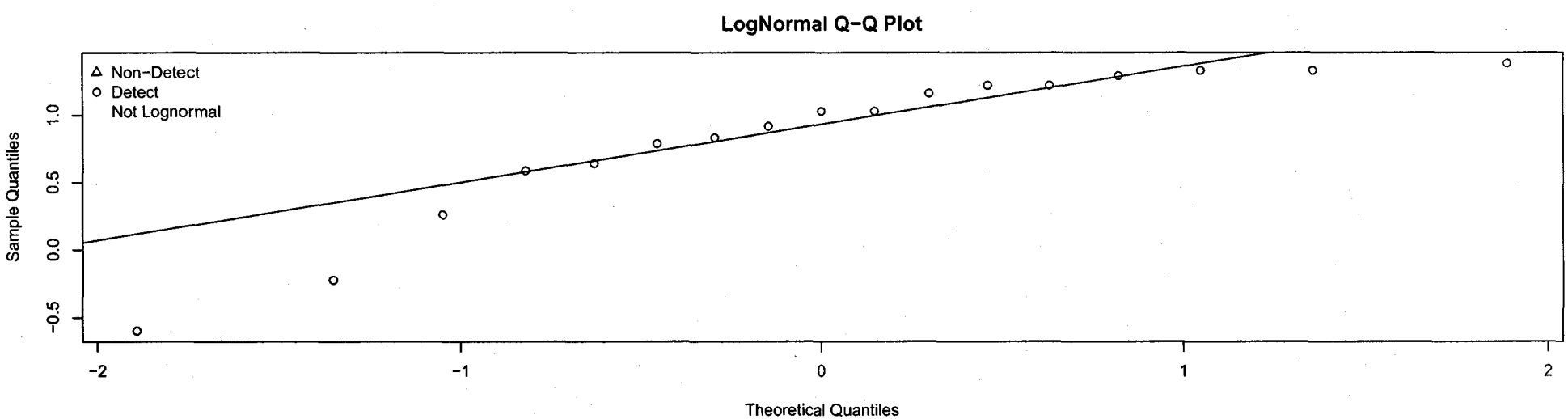




Upper Sand
Surface Soil

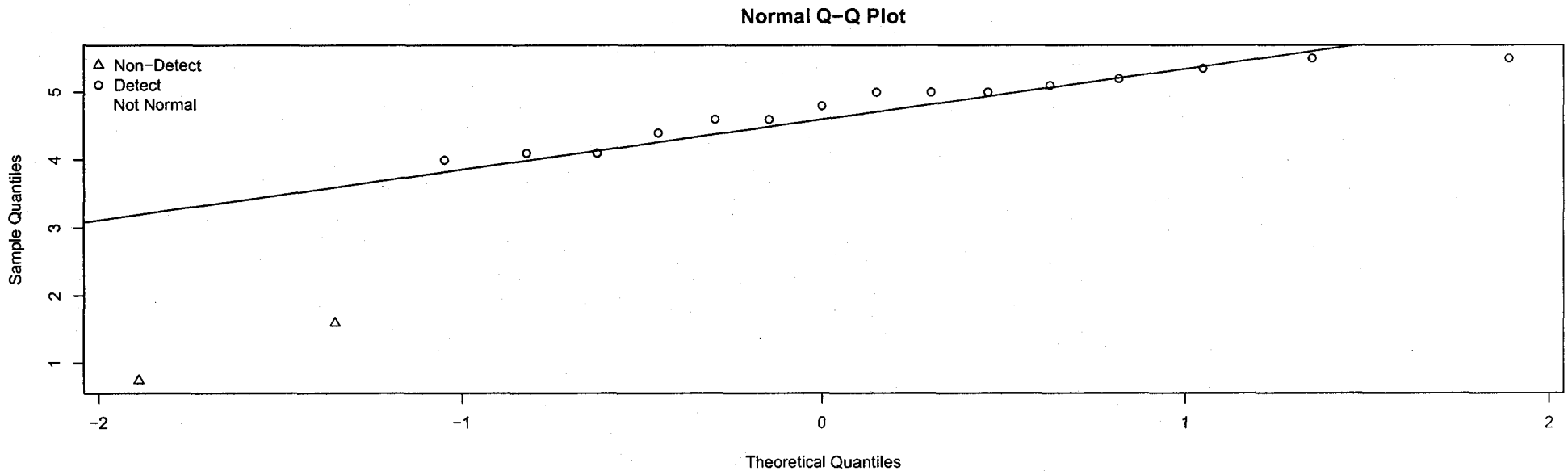
COBALT

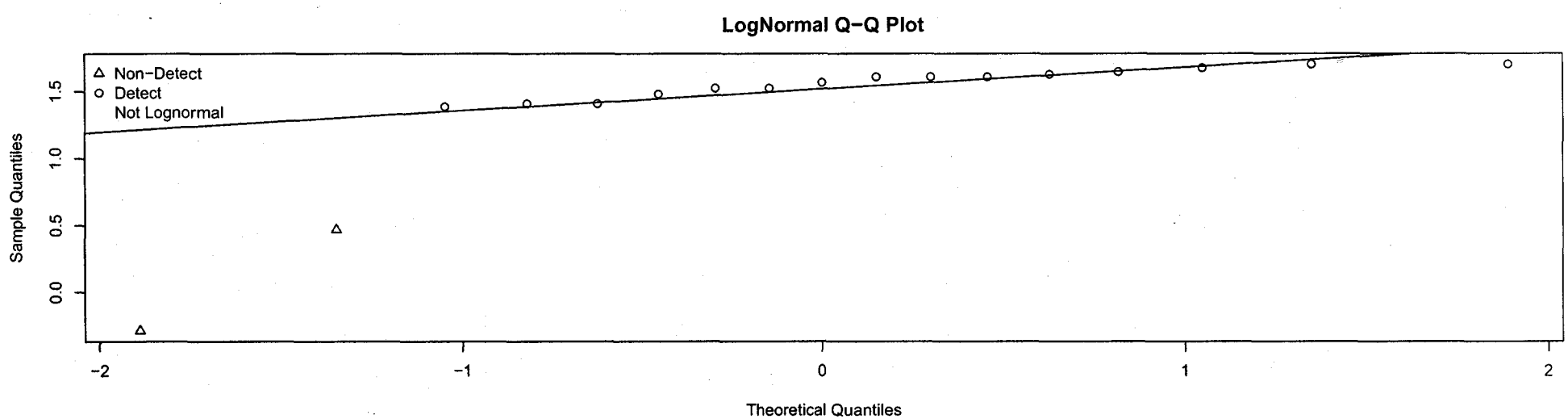




Upper Sand
Surface Soil

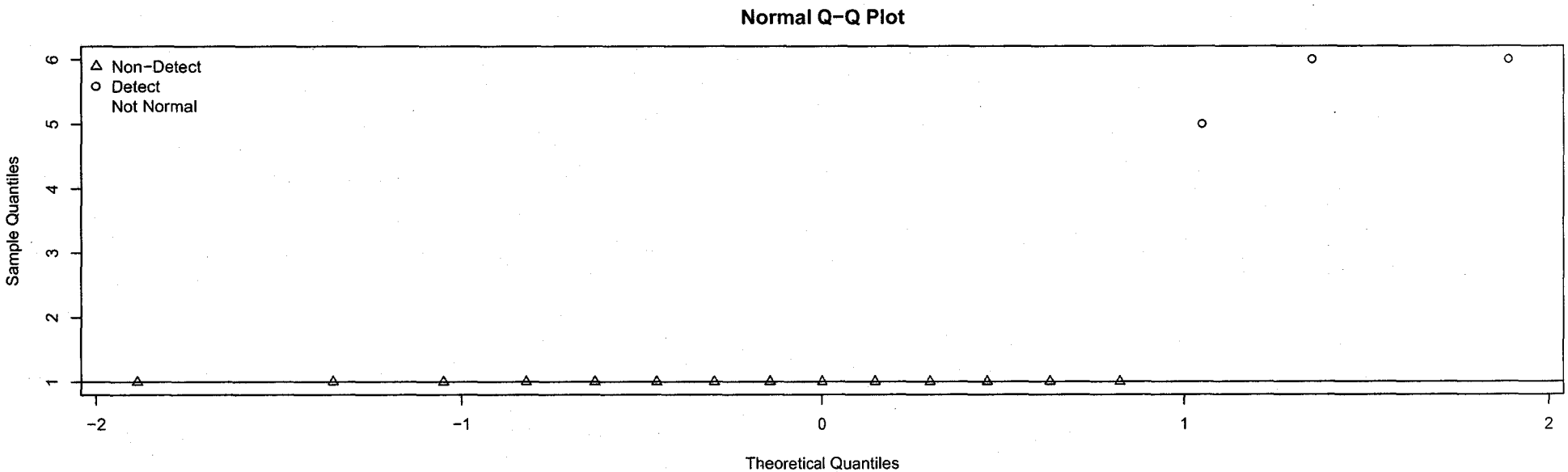
COPPER

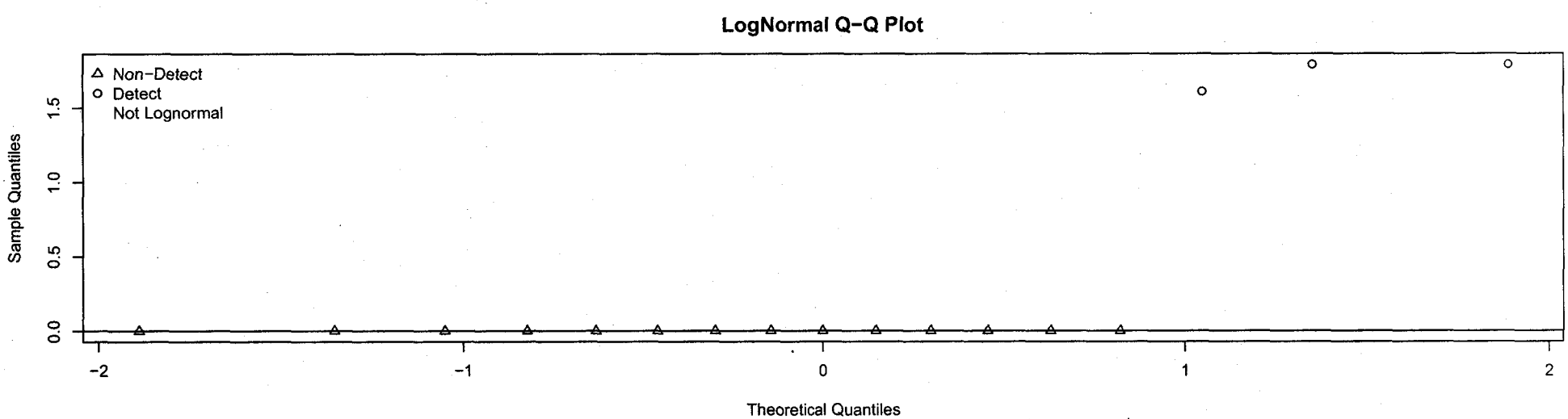




Upper Sand
Surface Soil

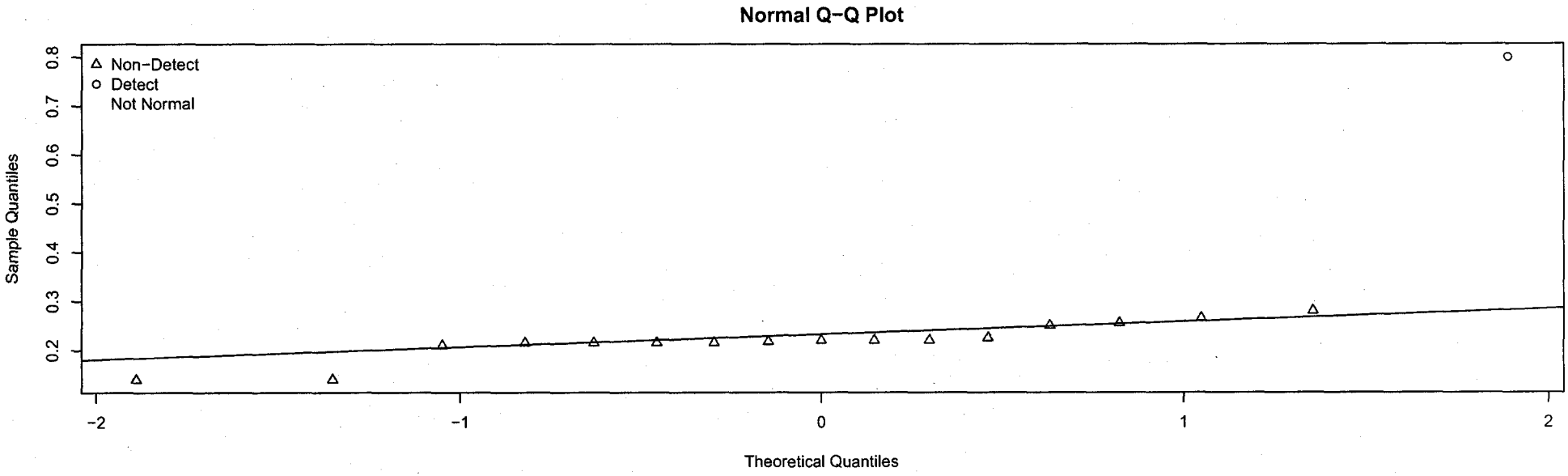
DIBENZO(A,H)ANTHRACENE

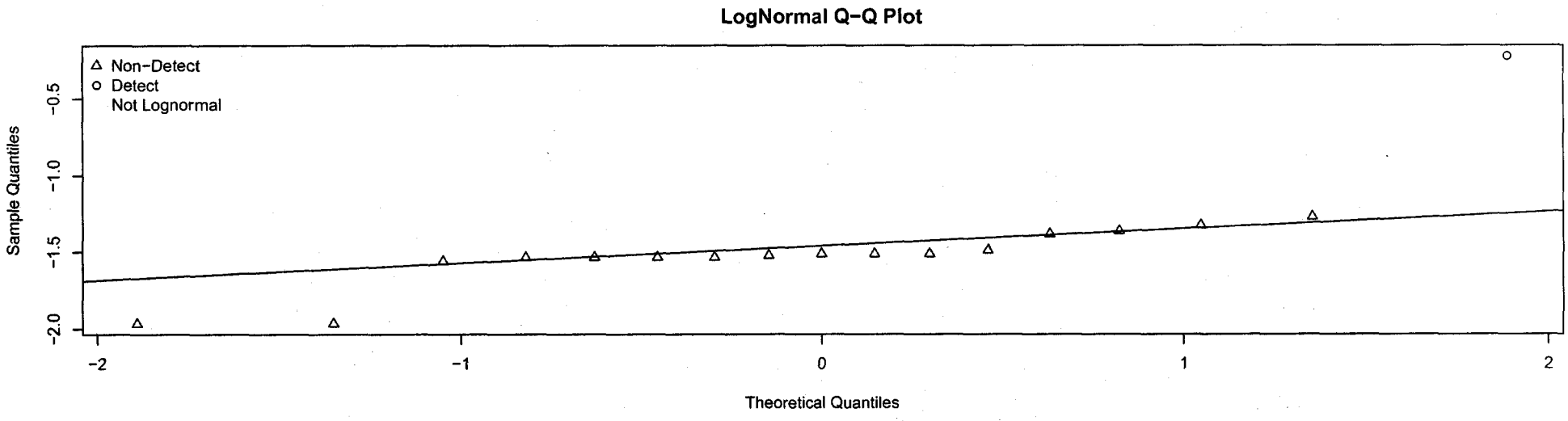




Upper Sand
Surface Soil

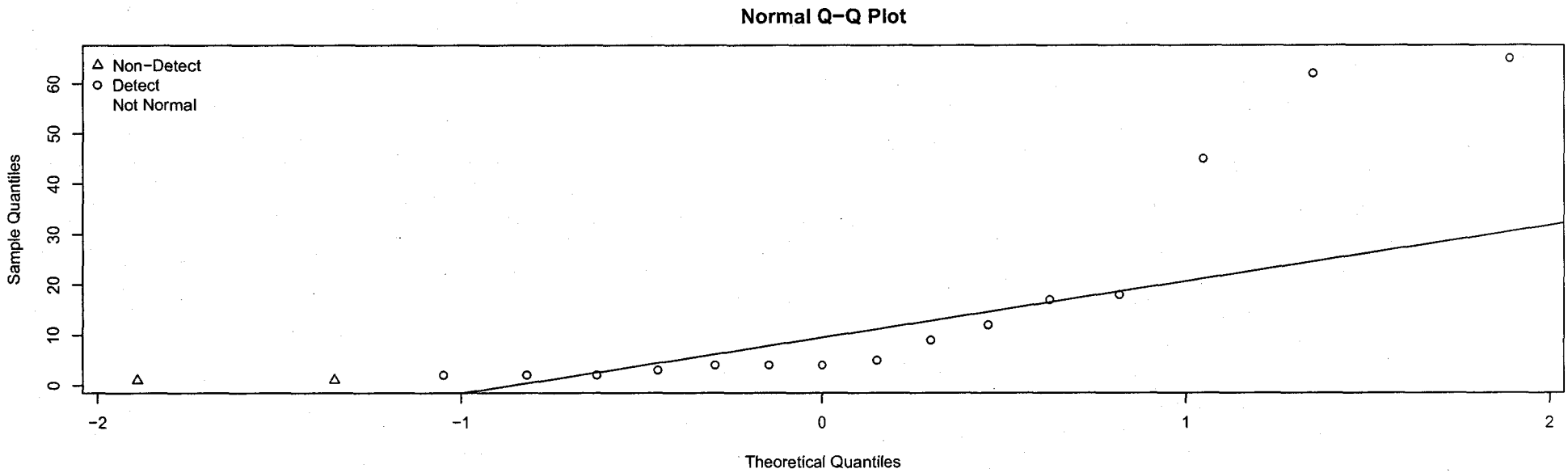
ENDOSULFAN I

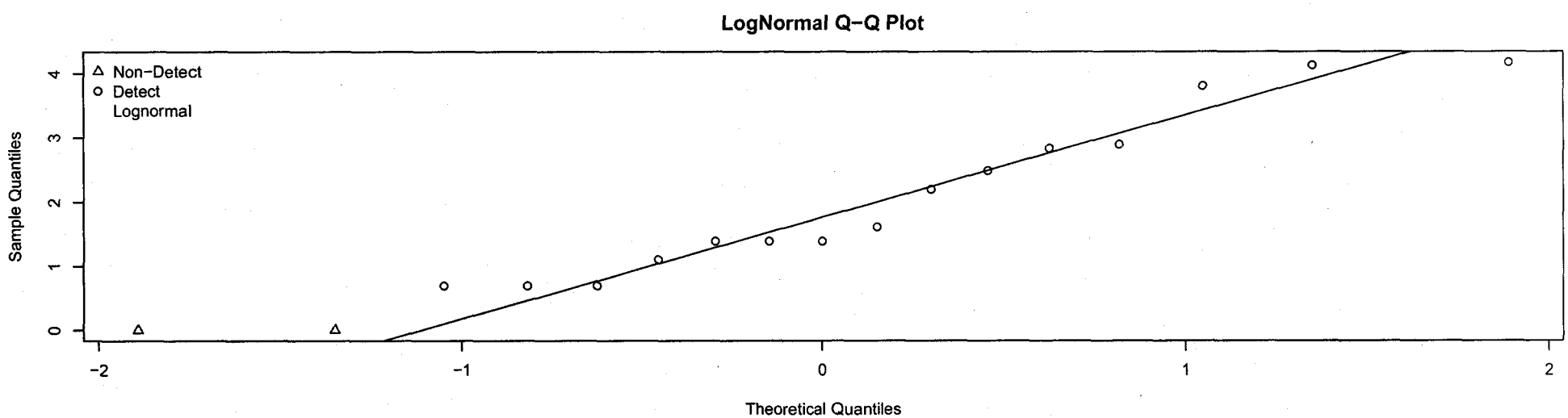




Upper Sand
Surface Soil

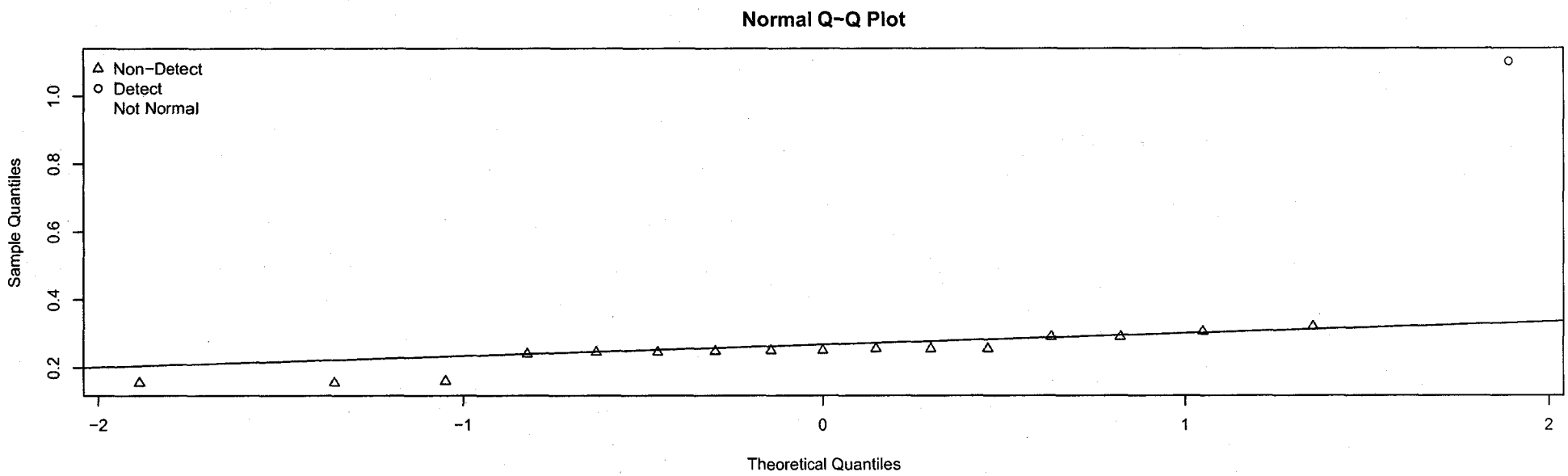
FLUORANTHENE

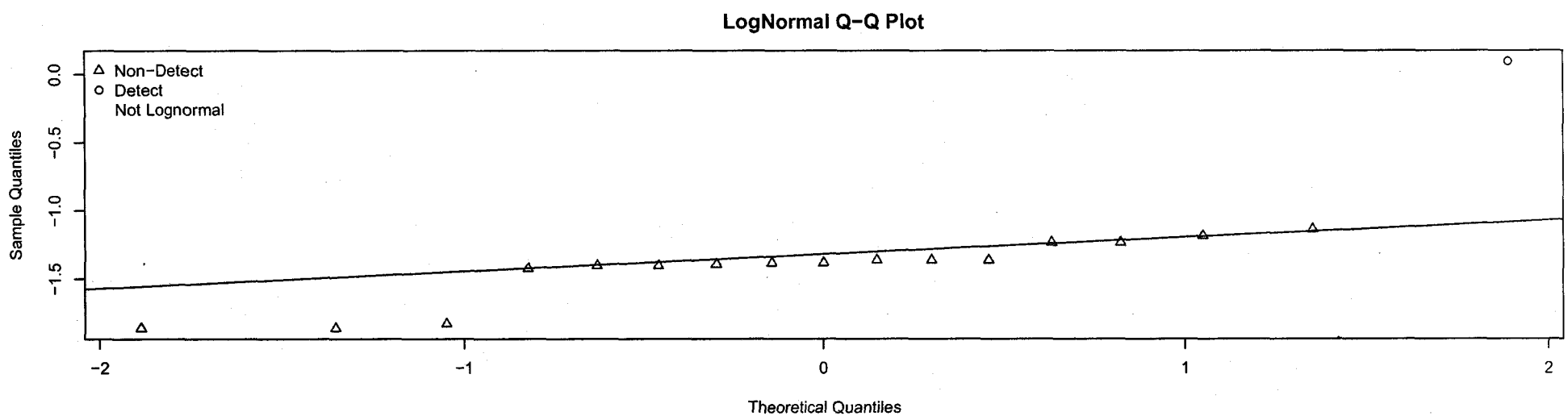




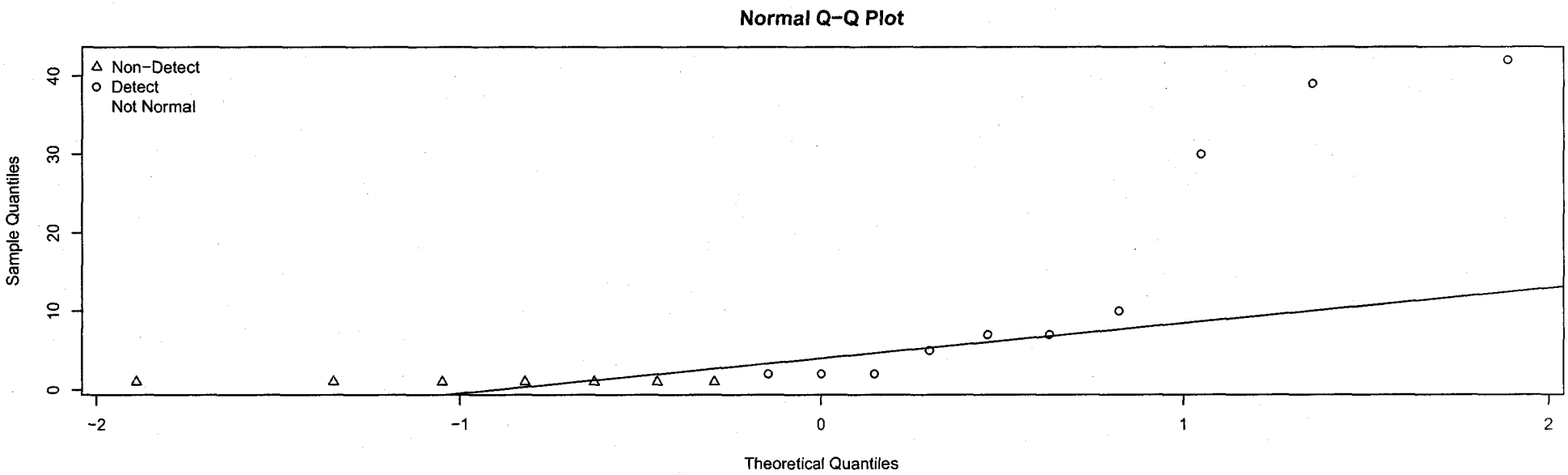
Upper Sand
Surface Soil

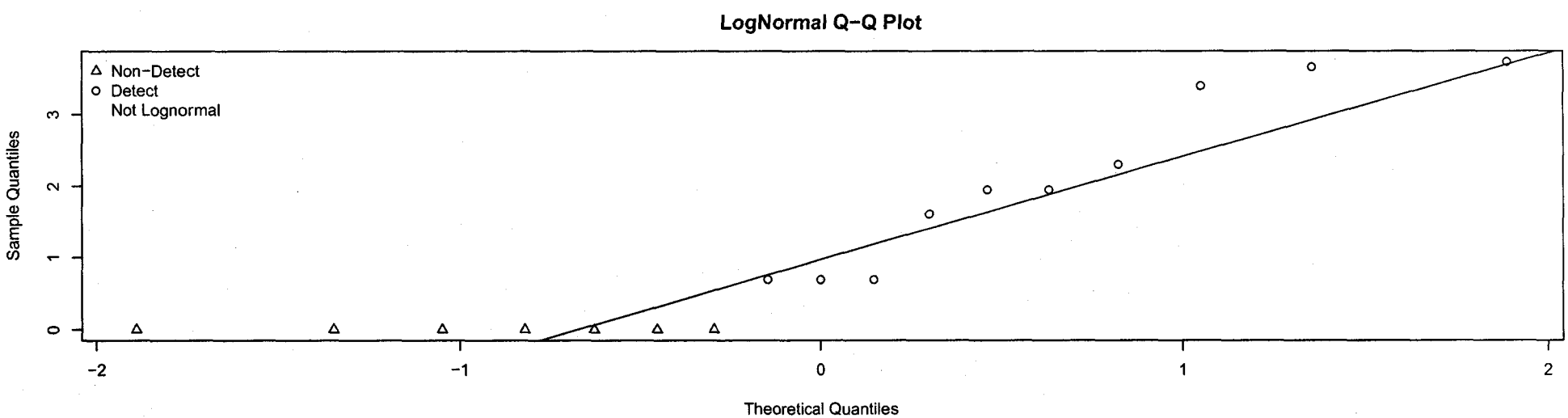
GAMMA-BHC (LINDANE)





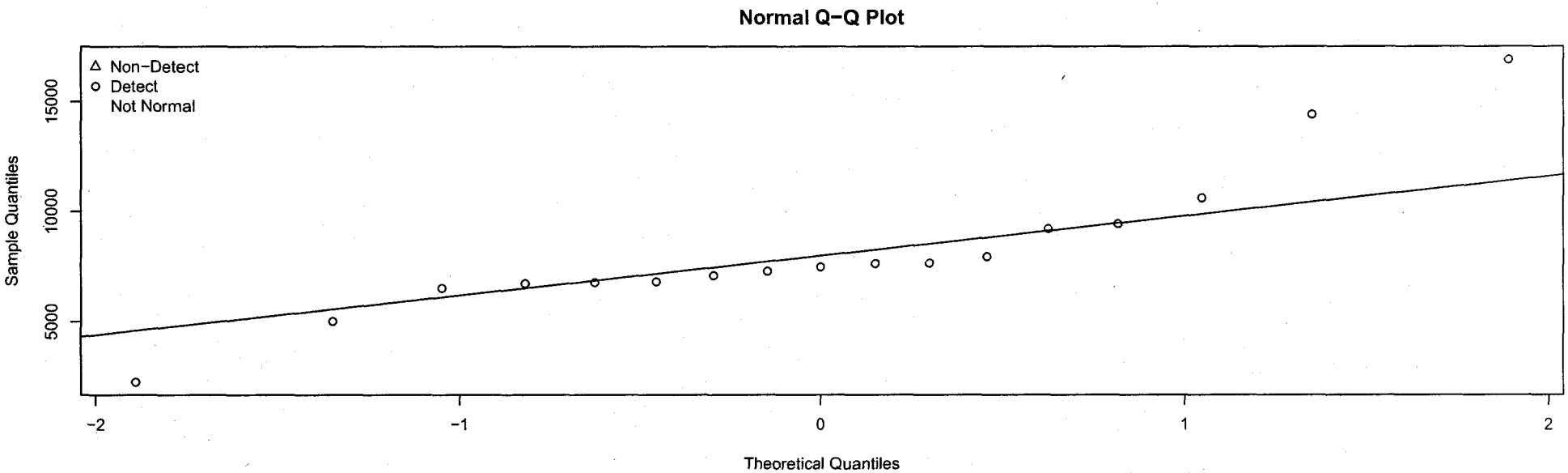
Upper Sand
Surface Soil
INDENO(1,2,3-CD)PYRENE

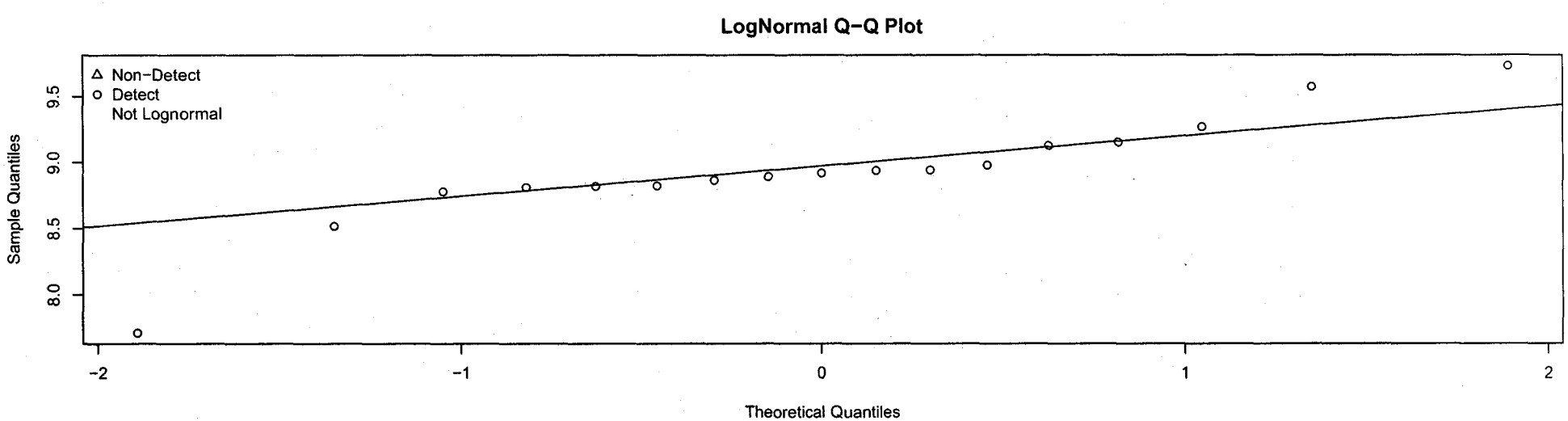




Upper Sand
Surface Soil

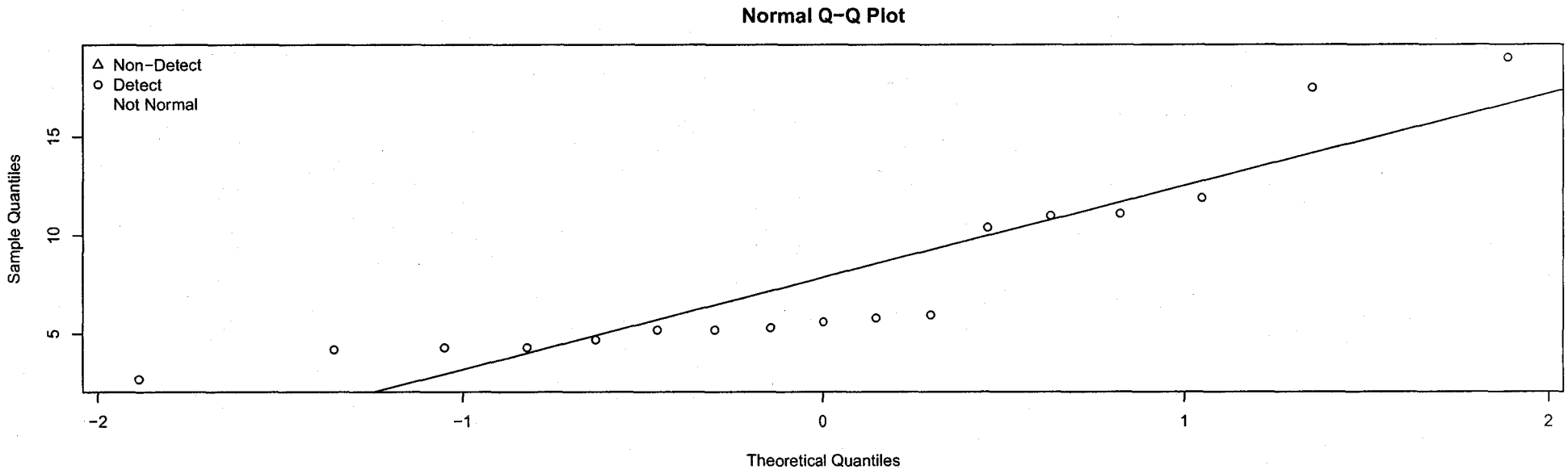
IRON

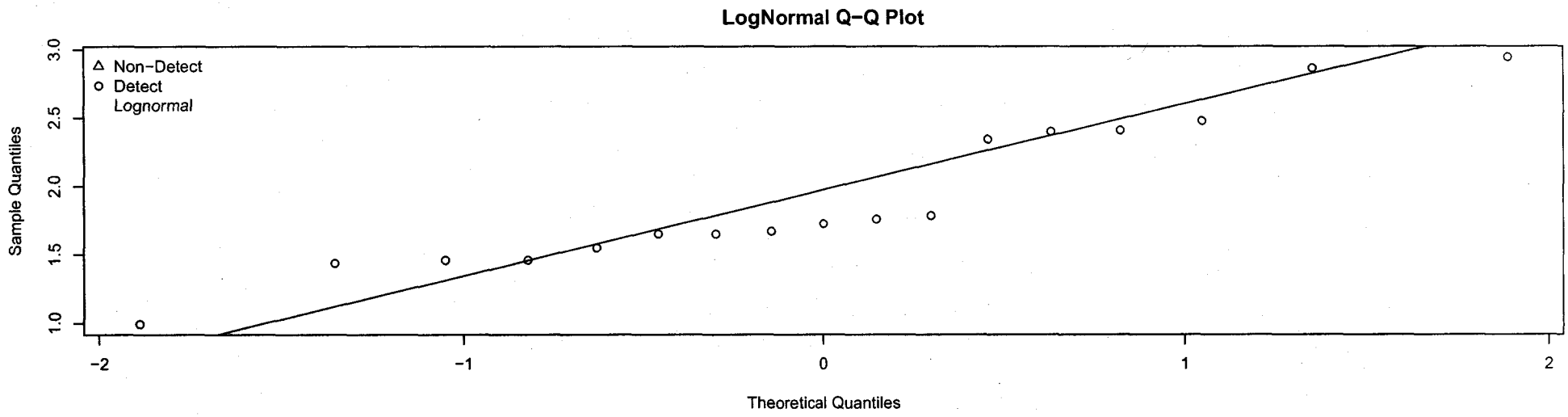




Upper Sand
Surface Soil

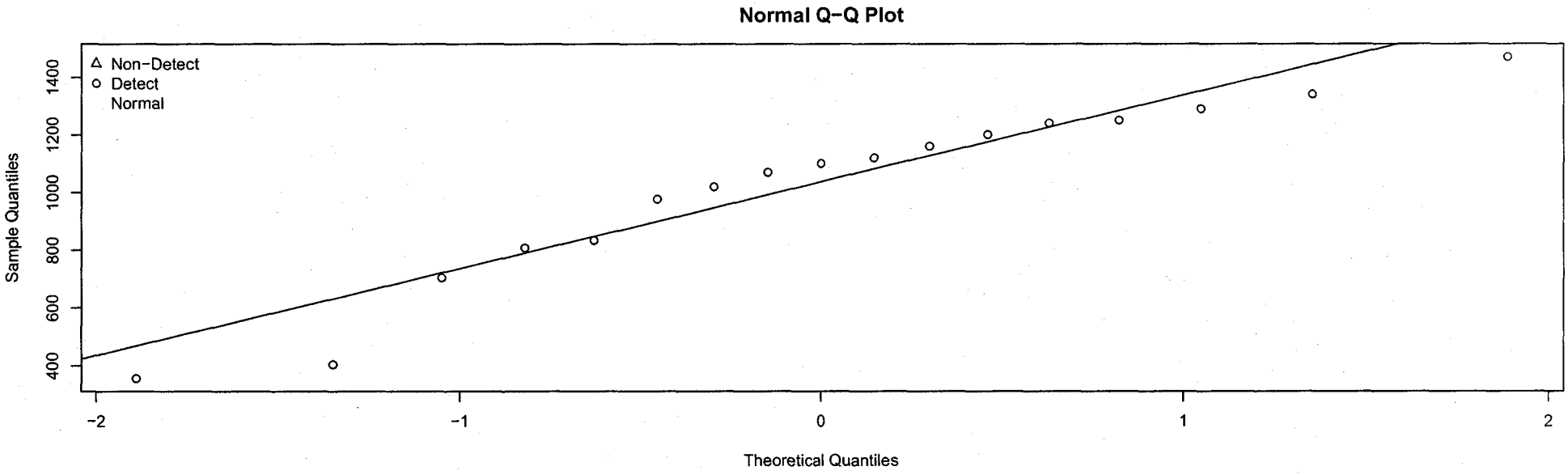
LEAD

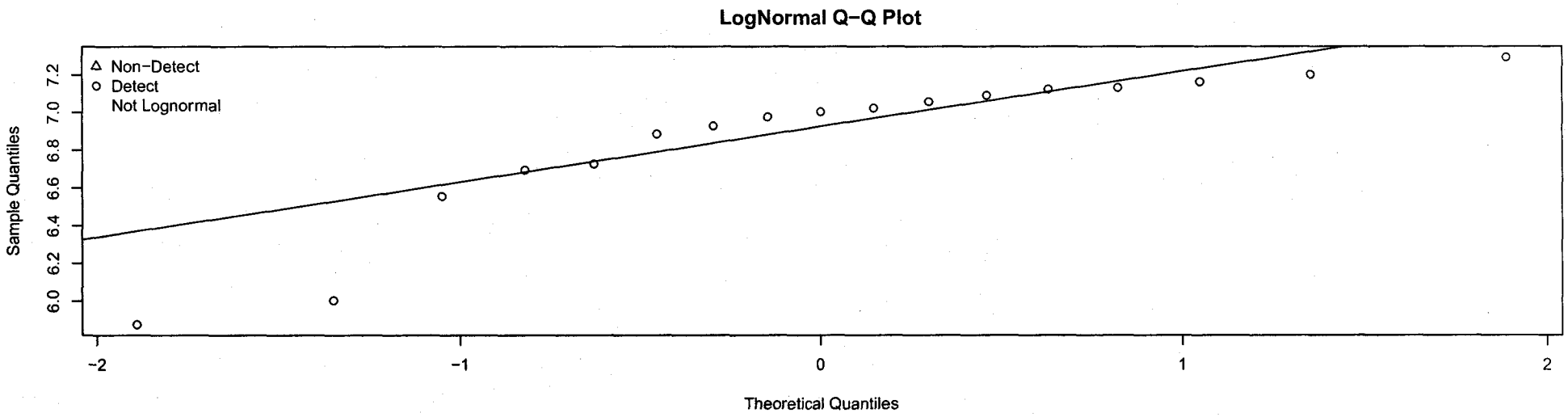




Upper Sand
Surface Soil

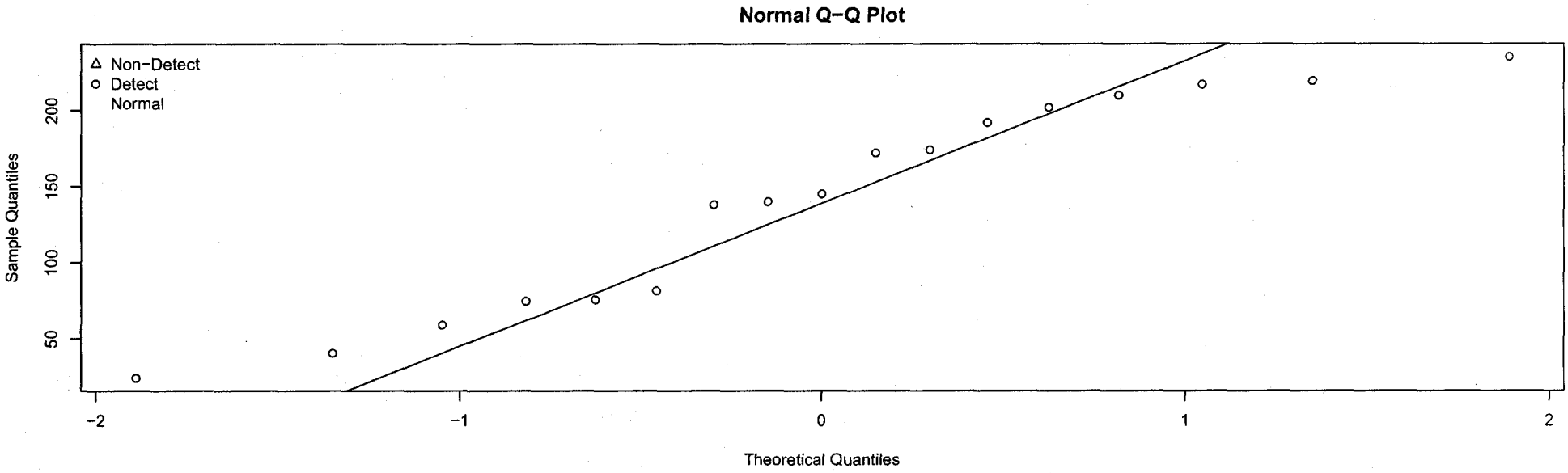
MAGNESIUM

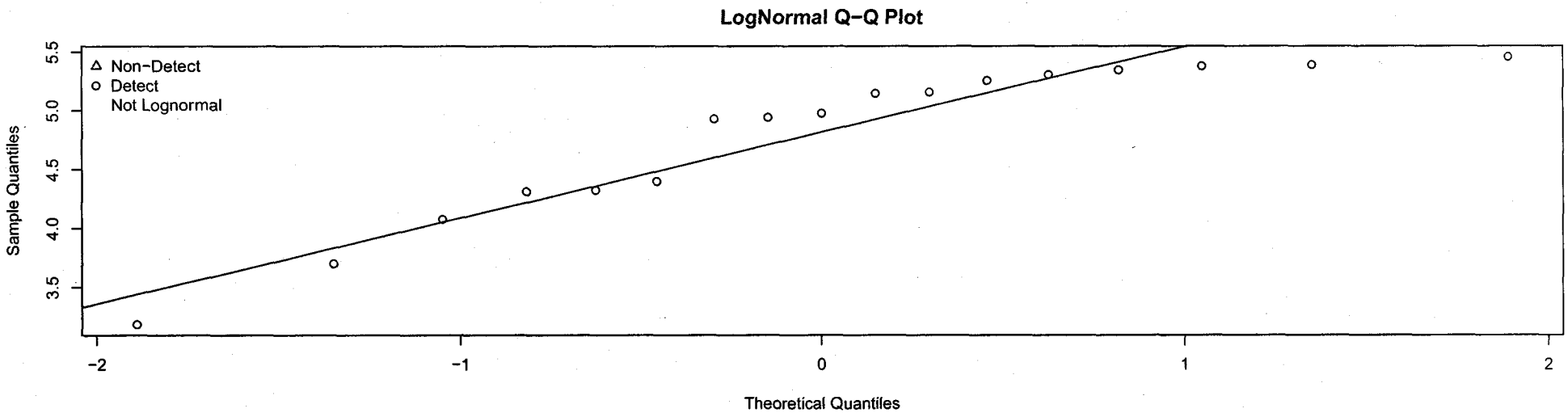




Upper Sand
Surface Soil

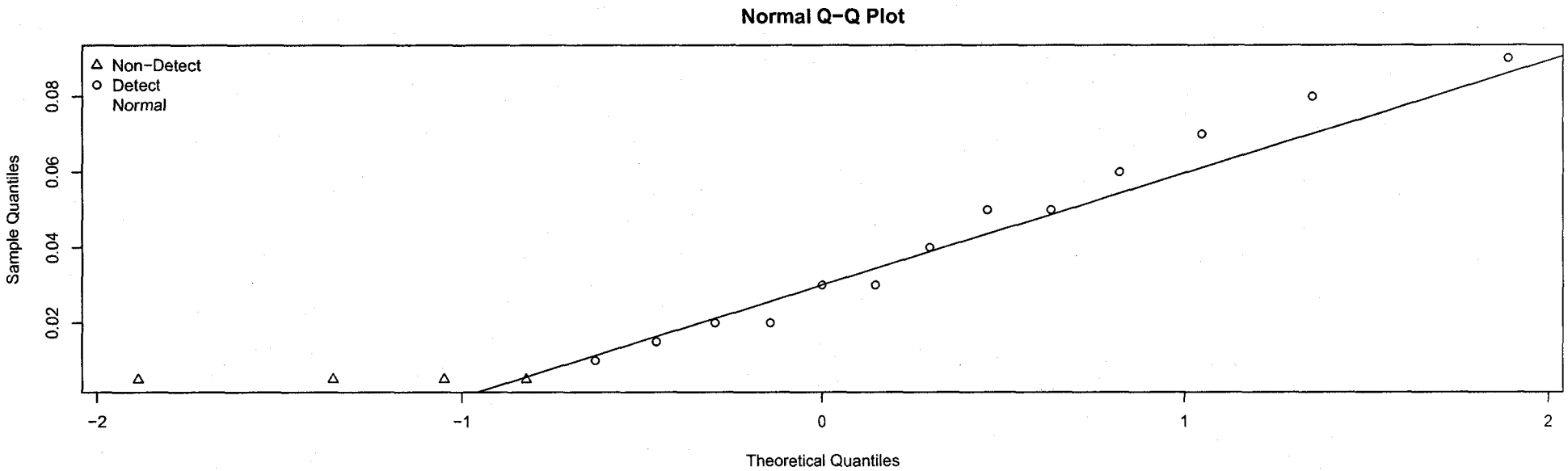
MANGANESE

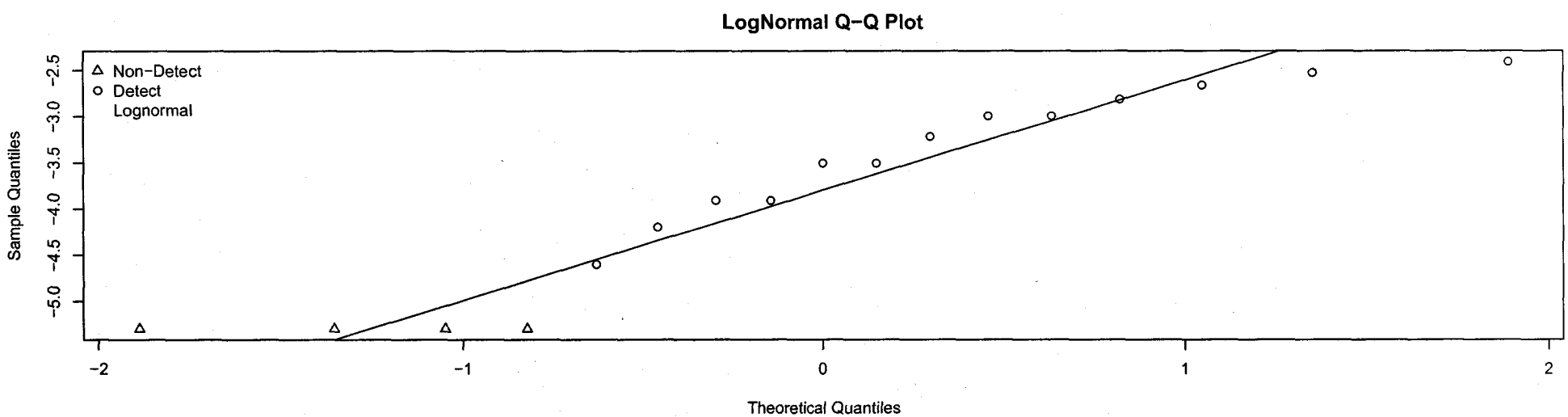




Upper Sand
Surface Soil

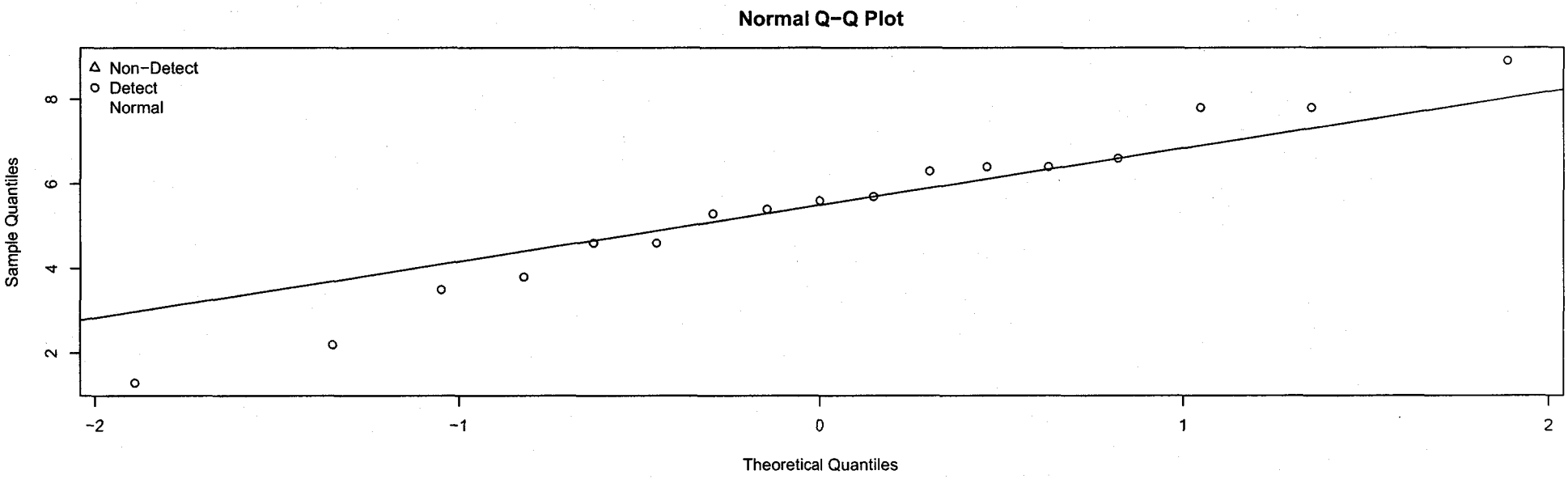
MERCURY

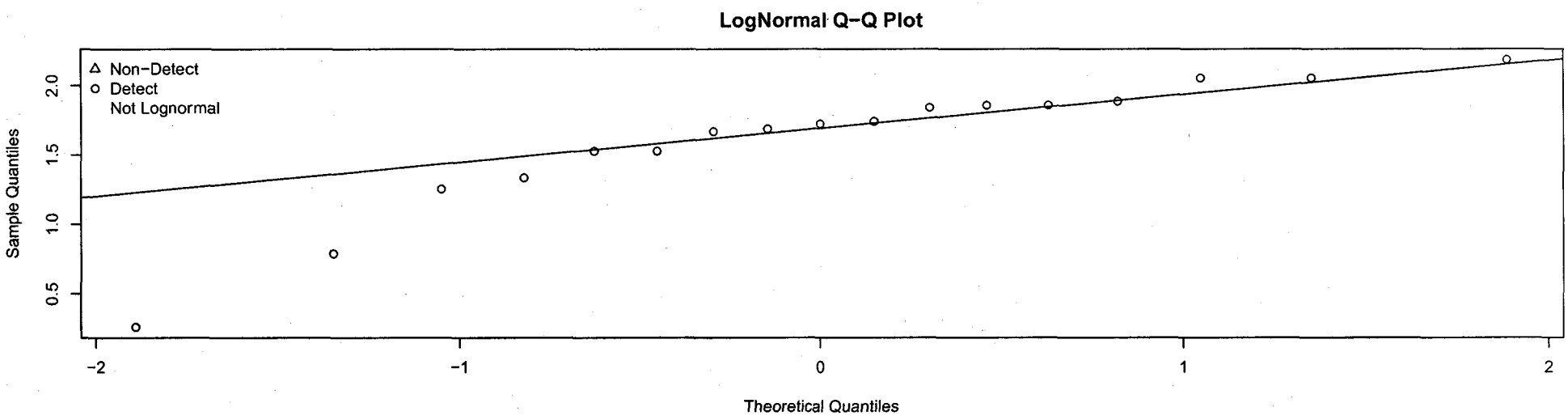




Upper Sand
Surface Soil

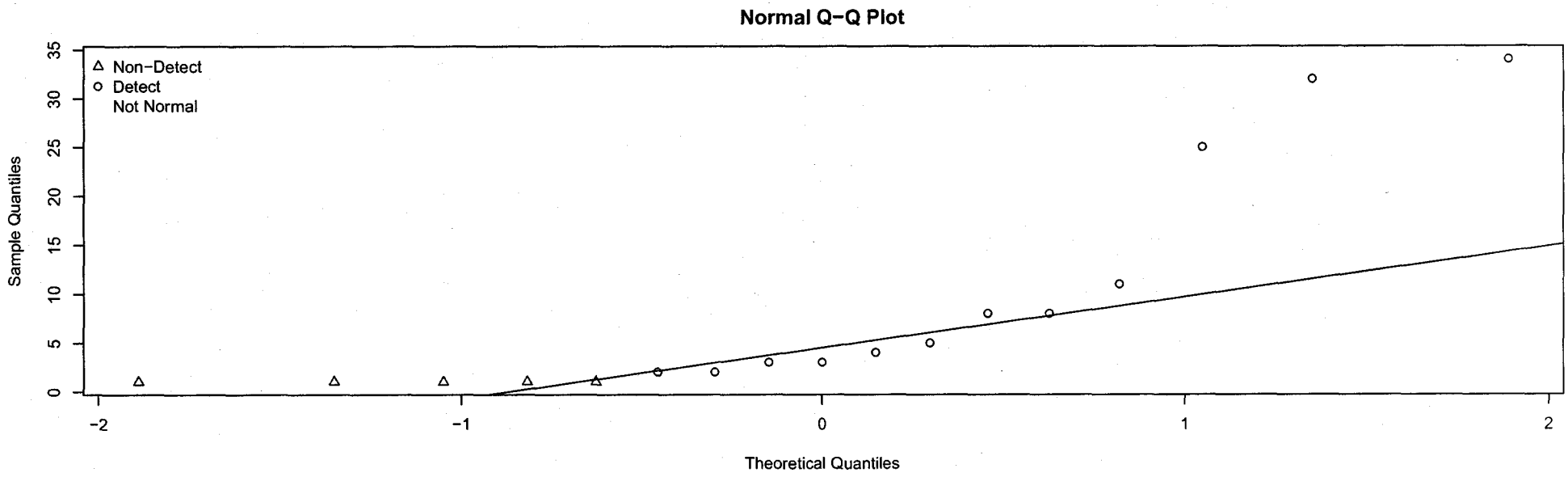
NICKEL

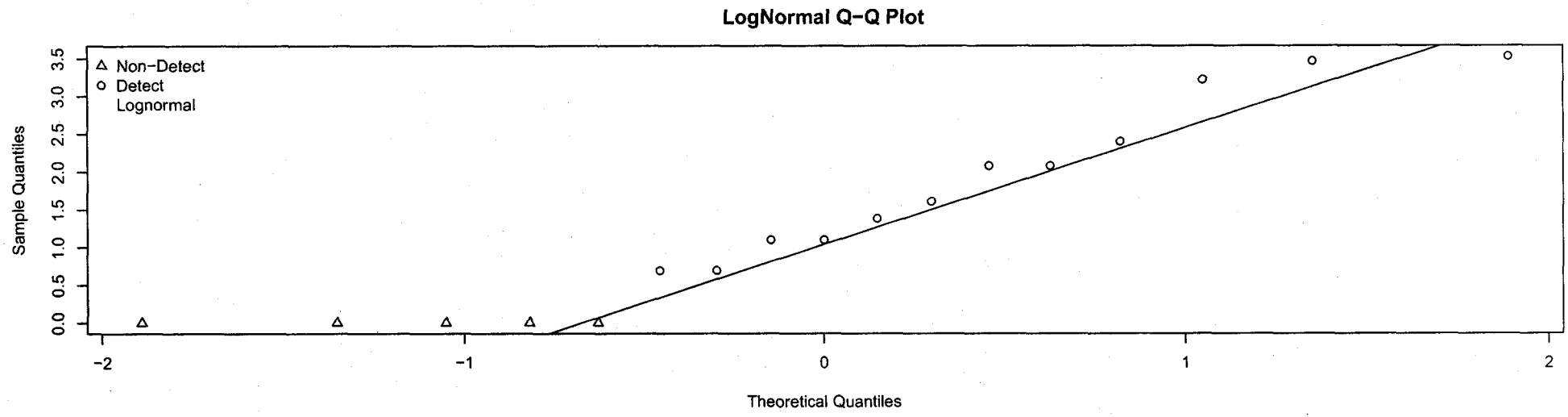




Upper Sand
Surface Soil

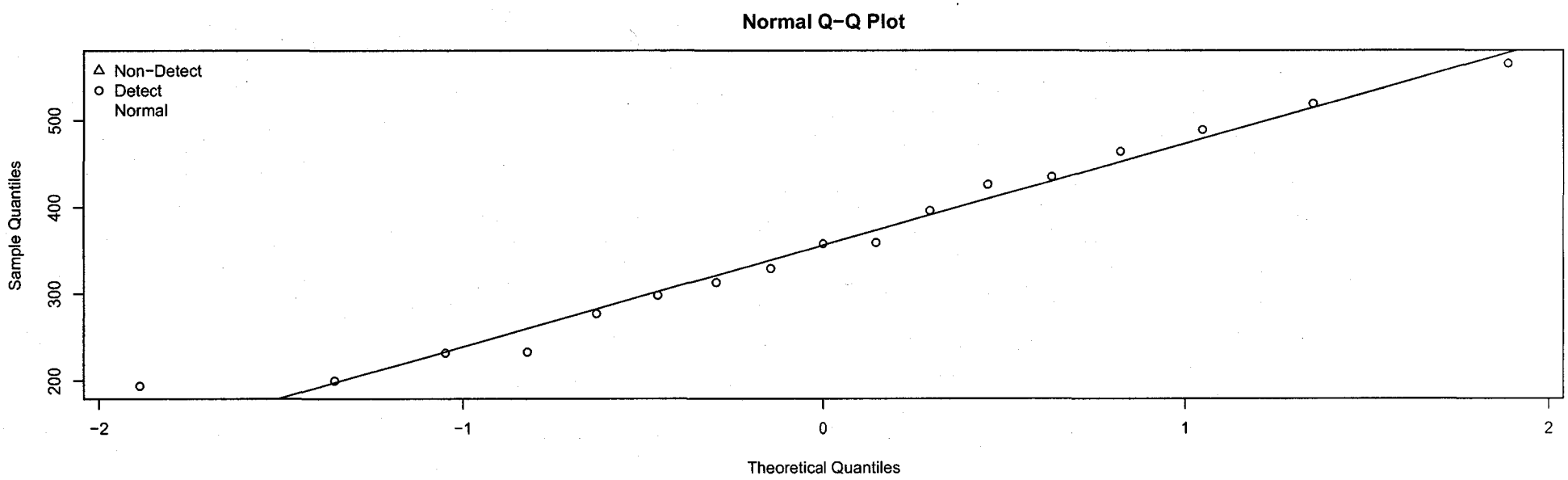
PHENANTHRENE

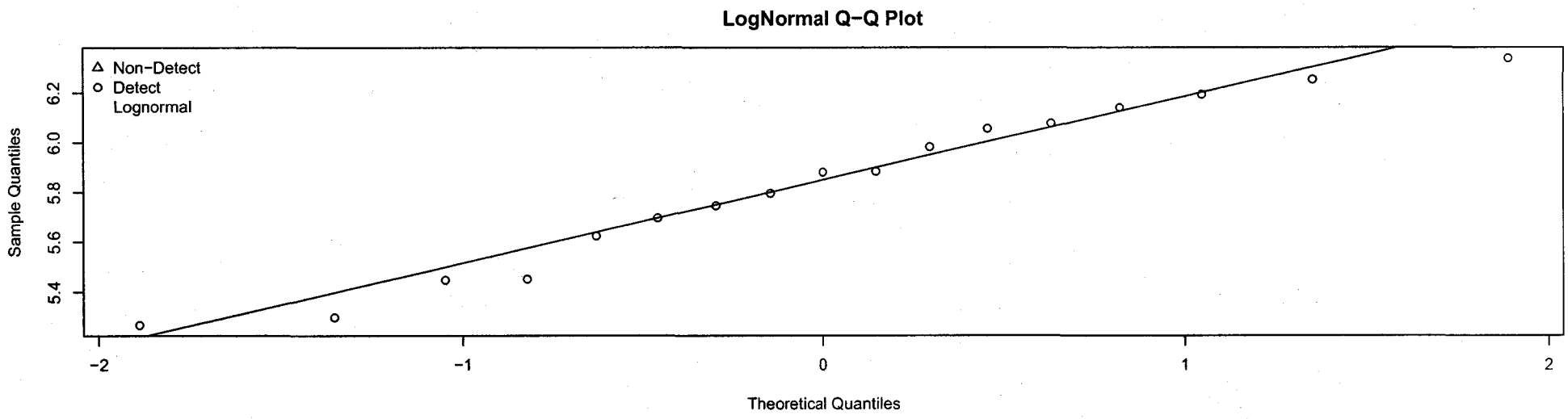




Upper Sand
Surface Soil

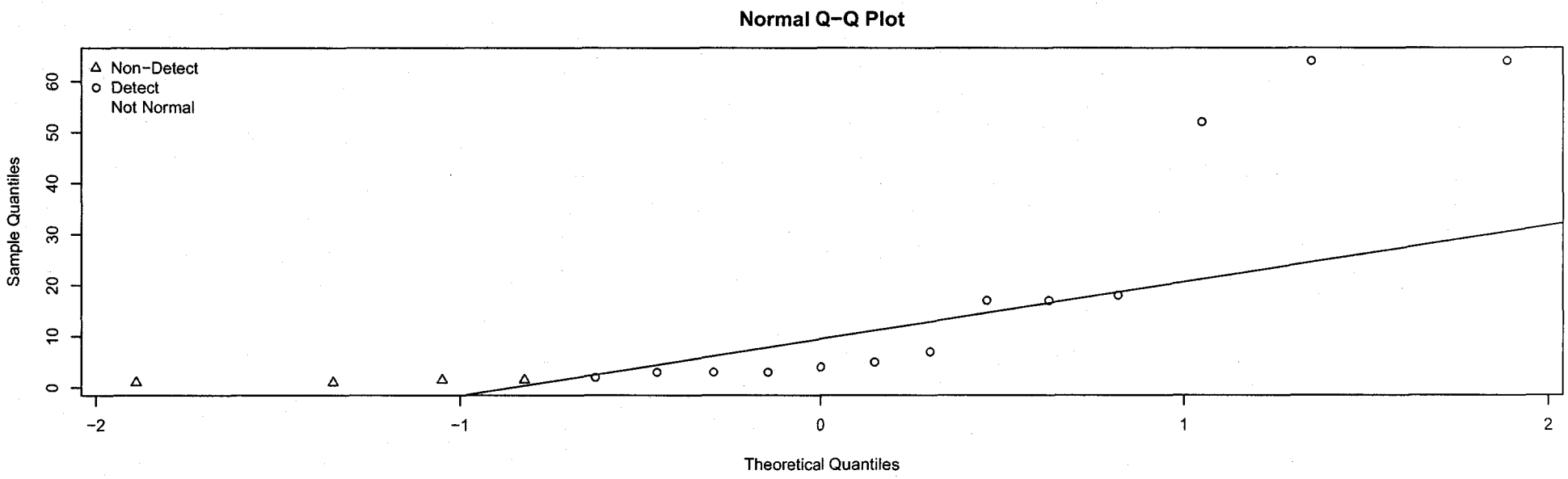
POTASSIUM

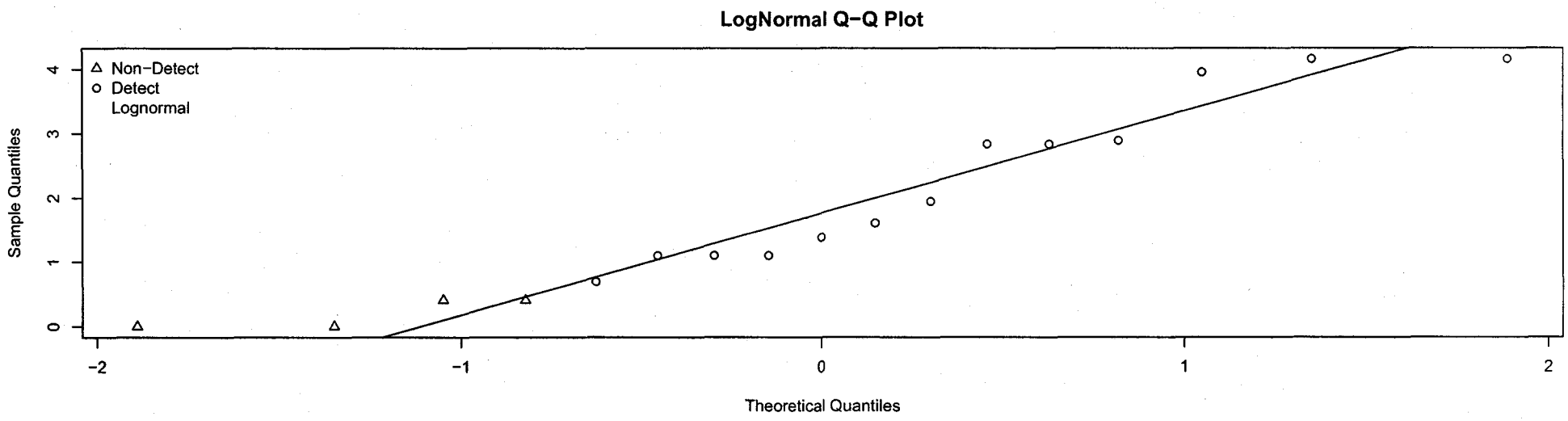




Upper Sand
Surface Soil

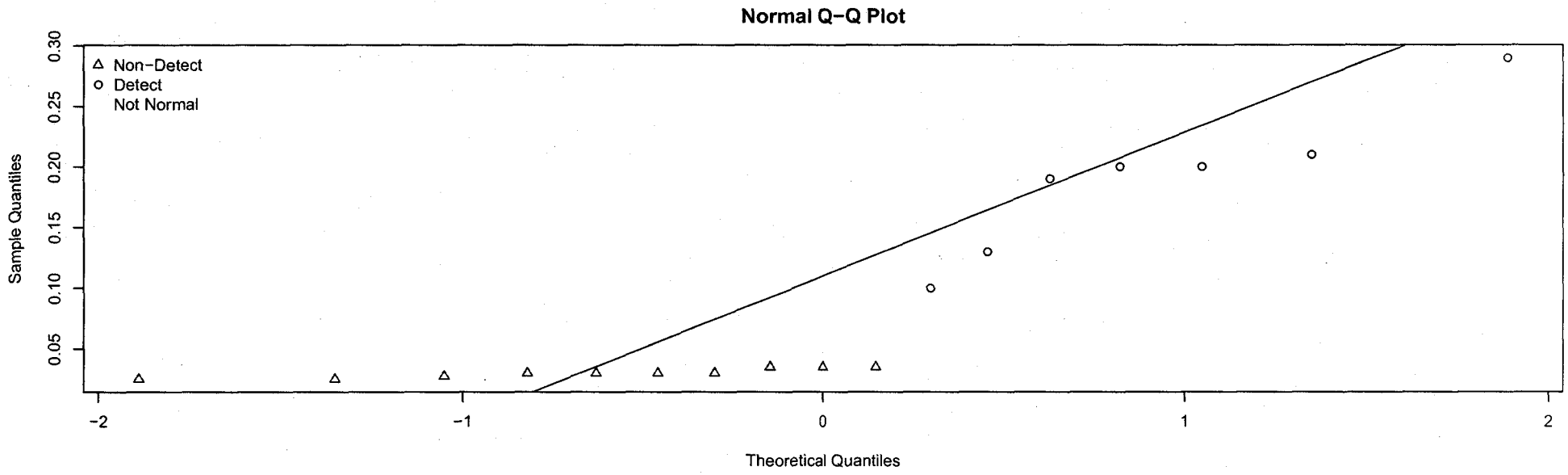
PYRENE

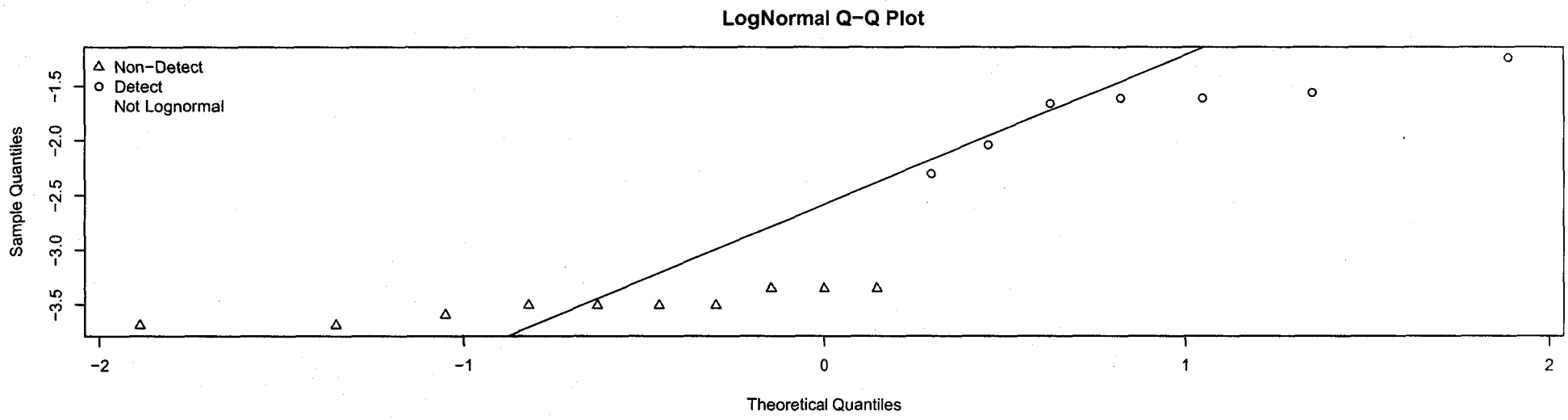




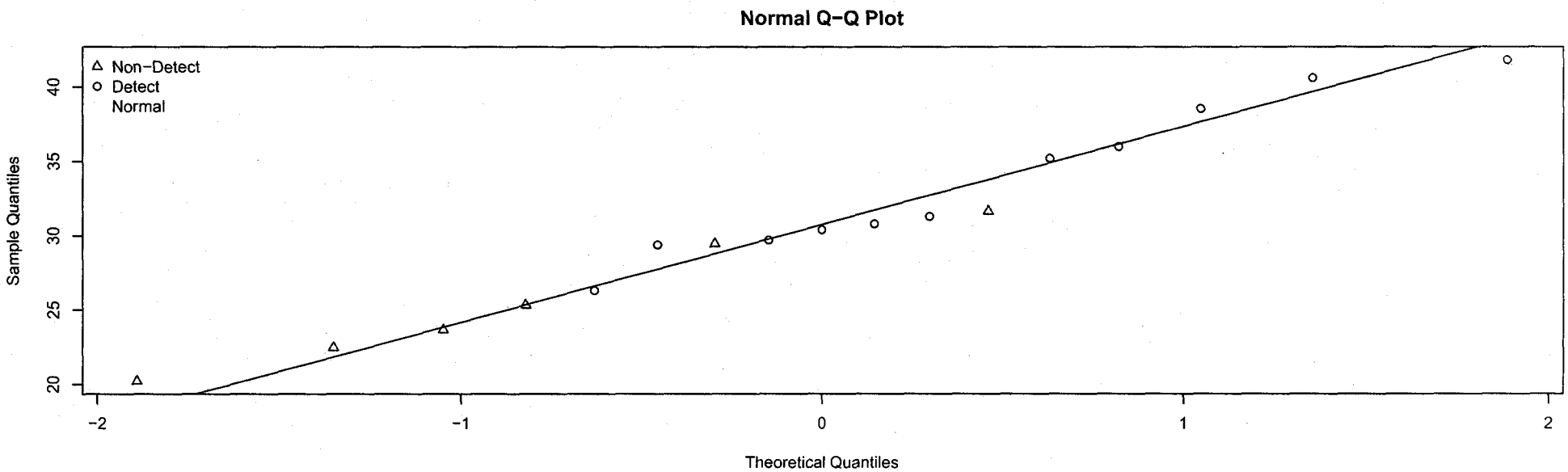
Upper Sand
Surface Soil

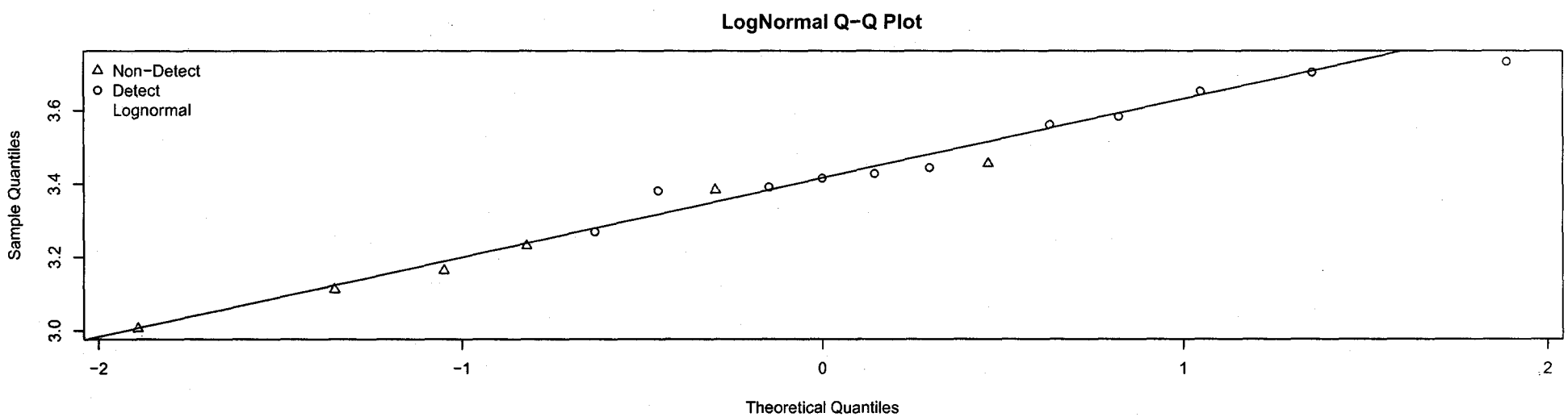
SILVER





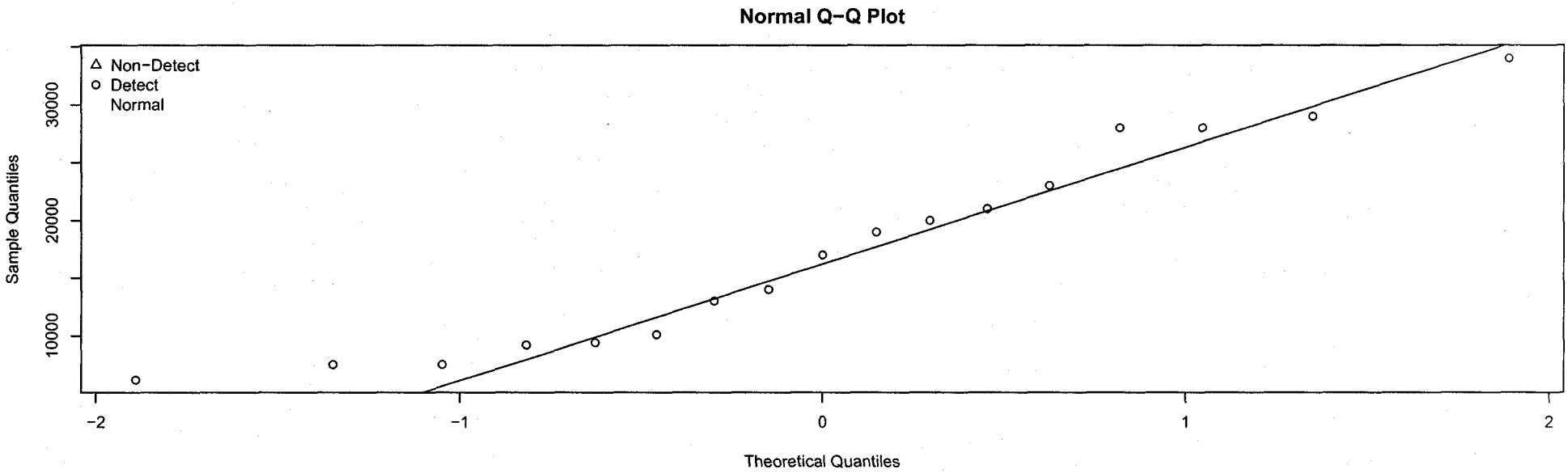
Upper Sand
Surface Soil
SODIUM

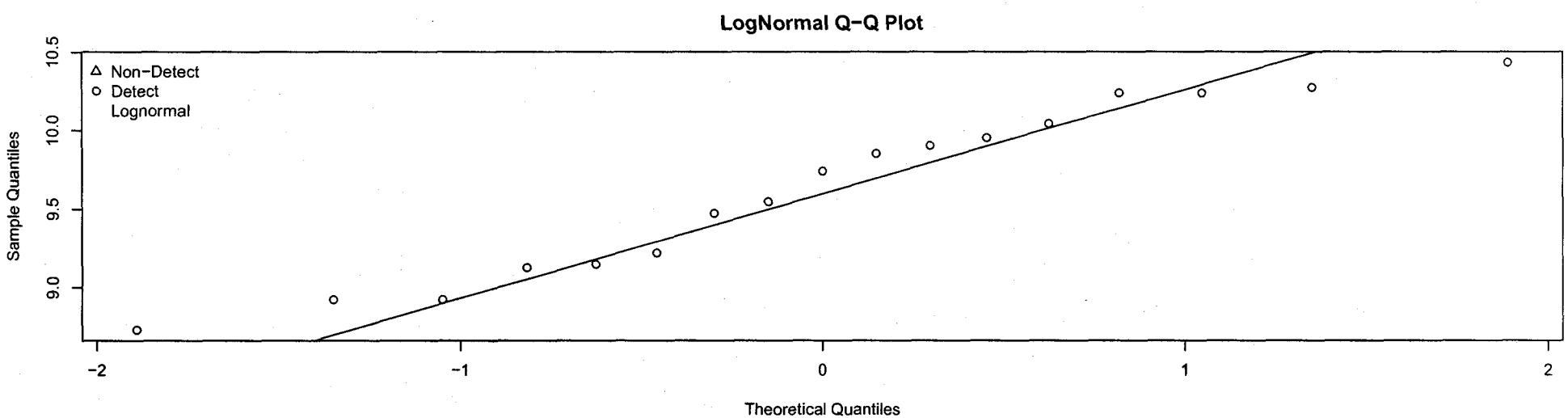




Upper Sand
Surface Soil

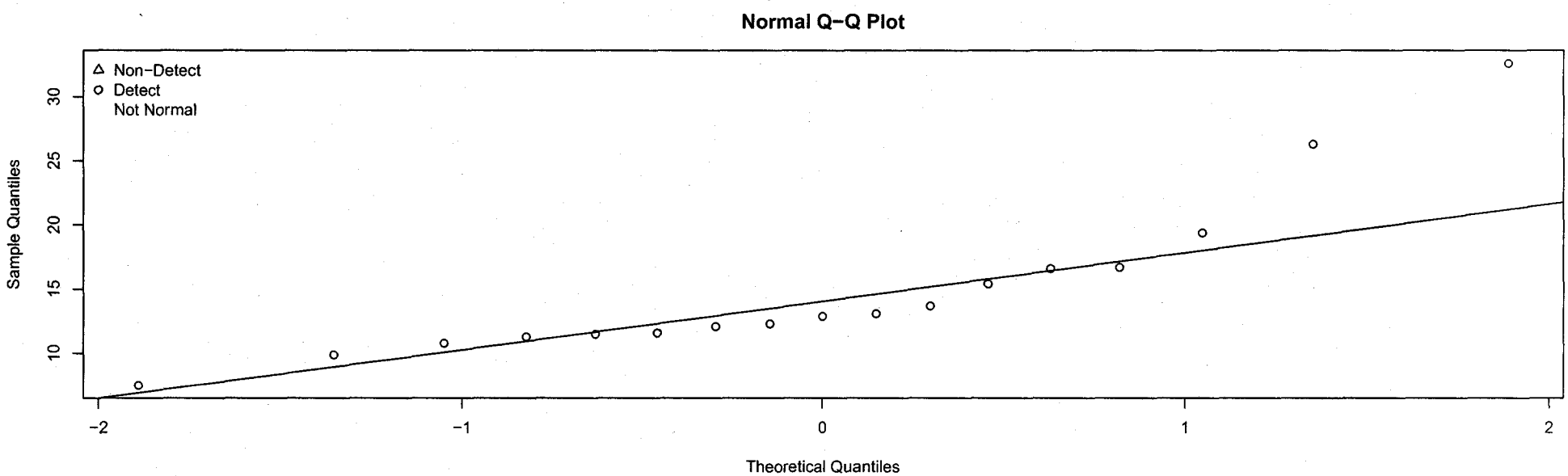
TOTAL ORGANIC CARBON

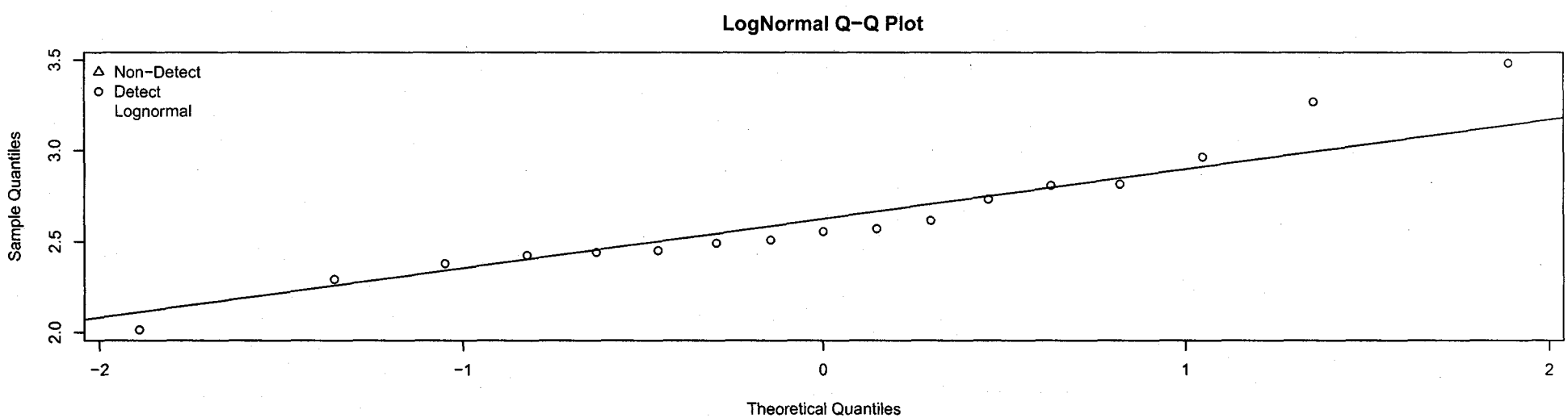




Upper Sand
Surface Soil

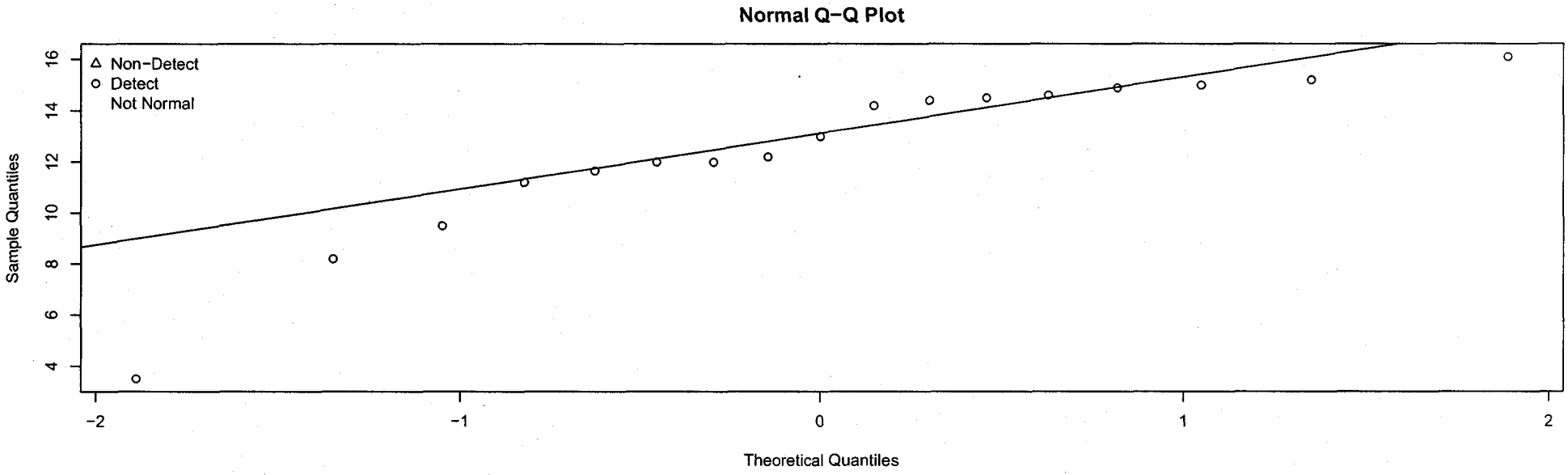
VANADIUM

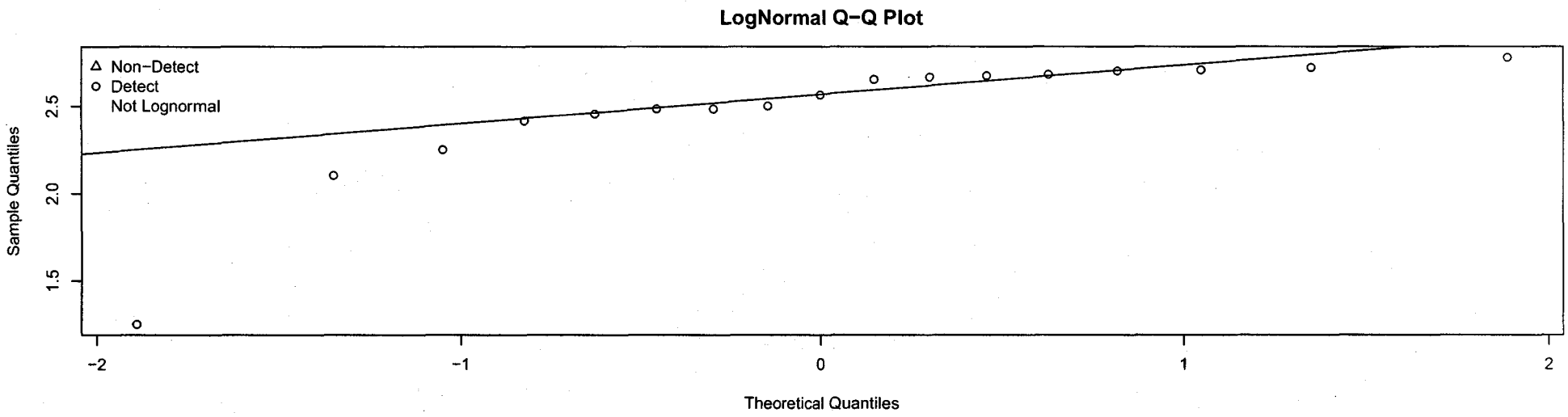




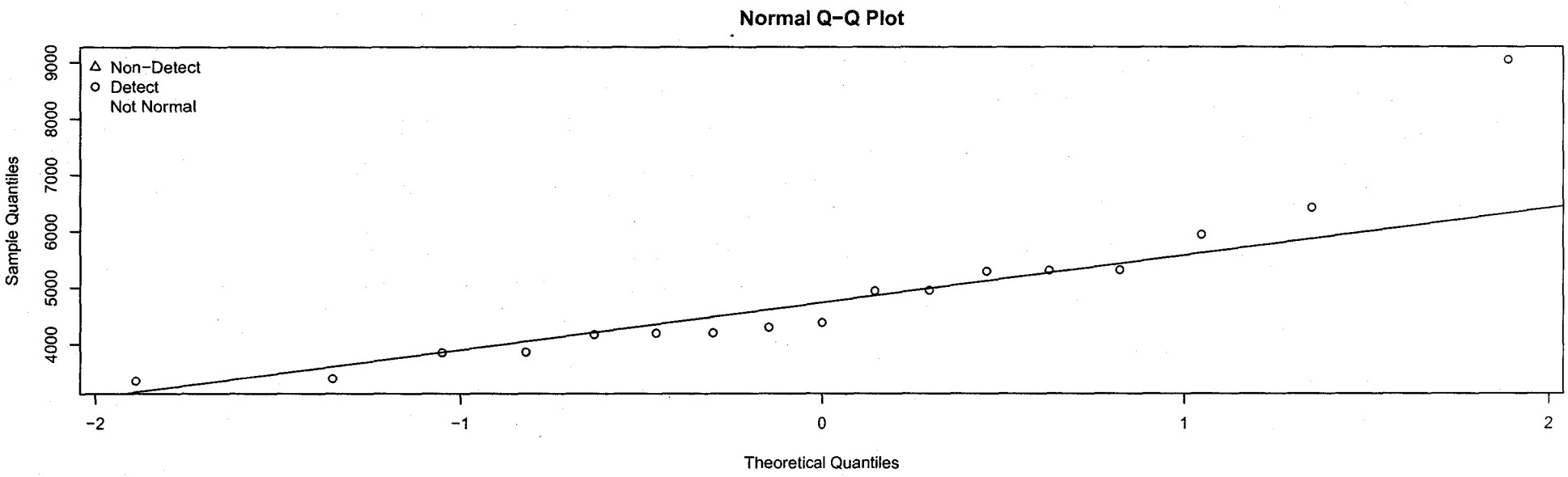
Upper Sand
Surface Soil

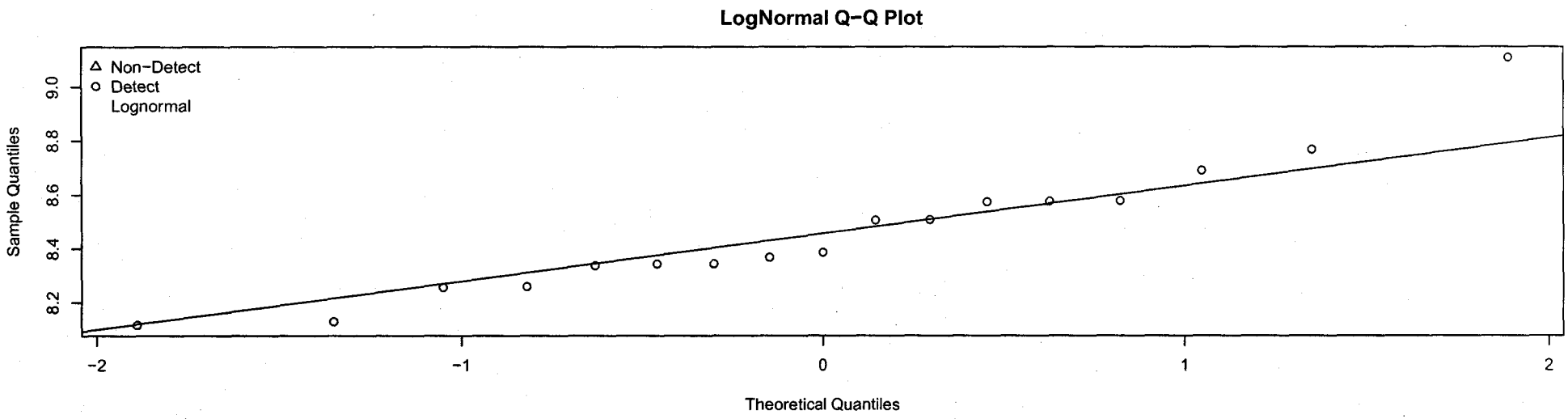
ZINC





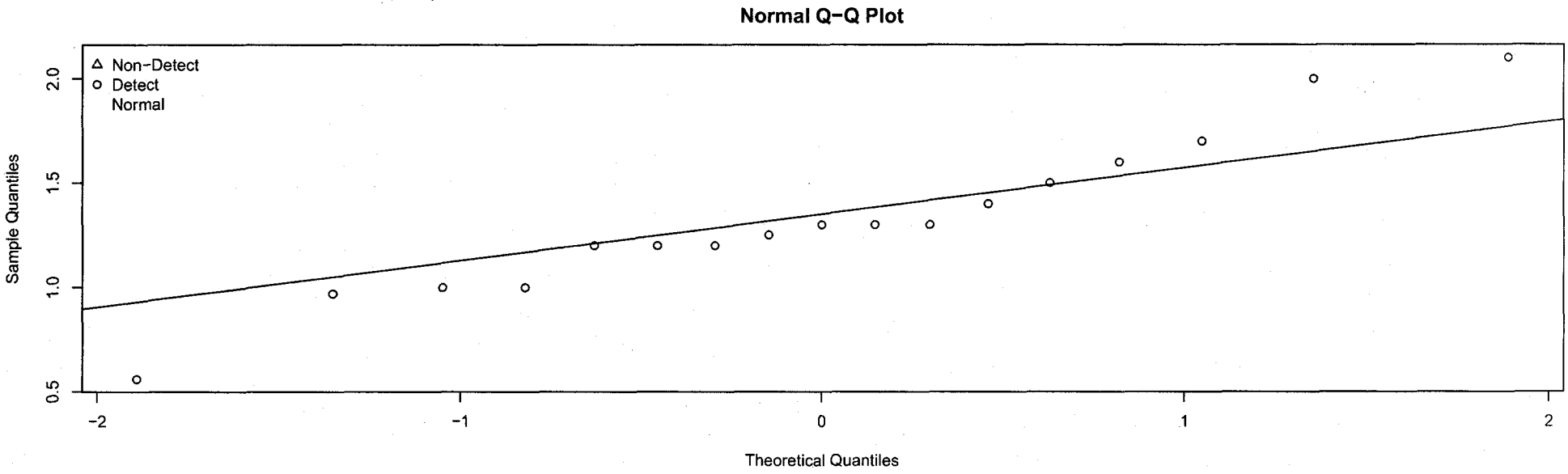
Upper Sand
Subsurface Soil
ALUMINUM

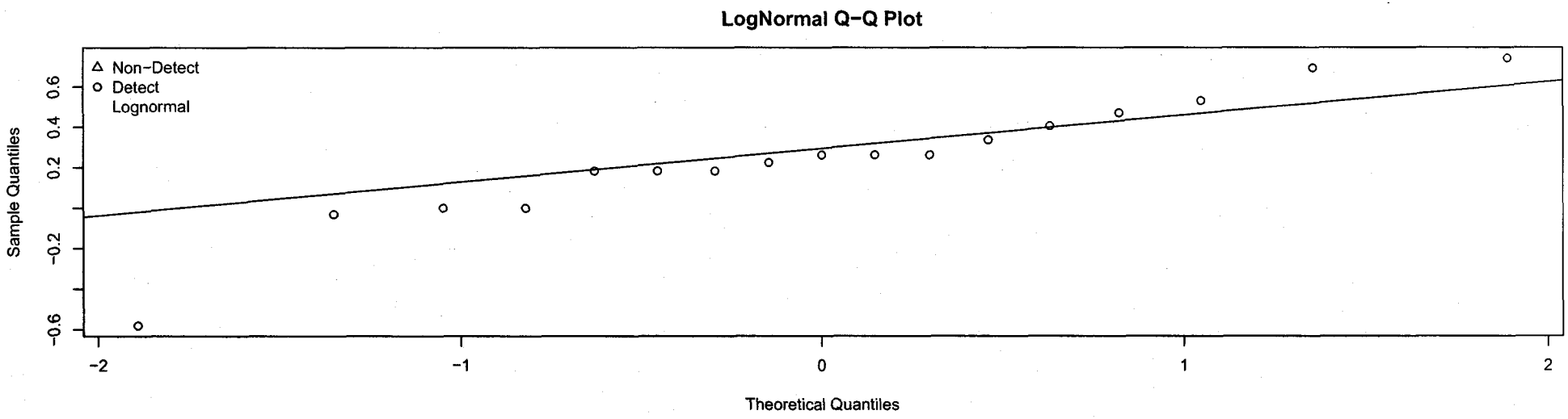




Upper Sand
Subsurface Soil

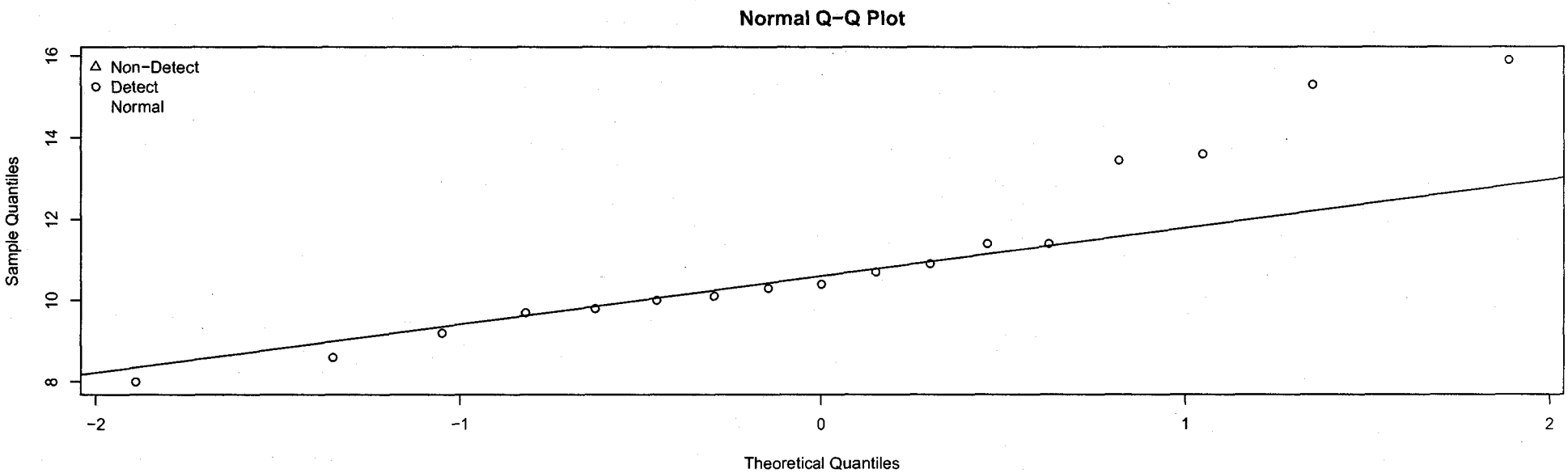
ARSENIC

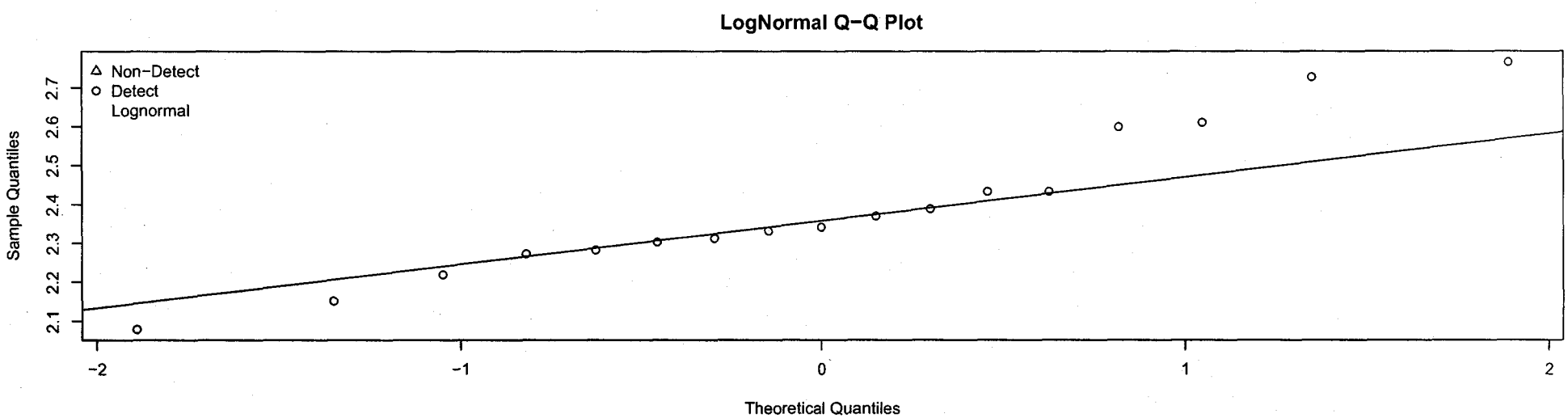




Upper Sand
Subsurface Soil

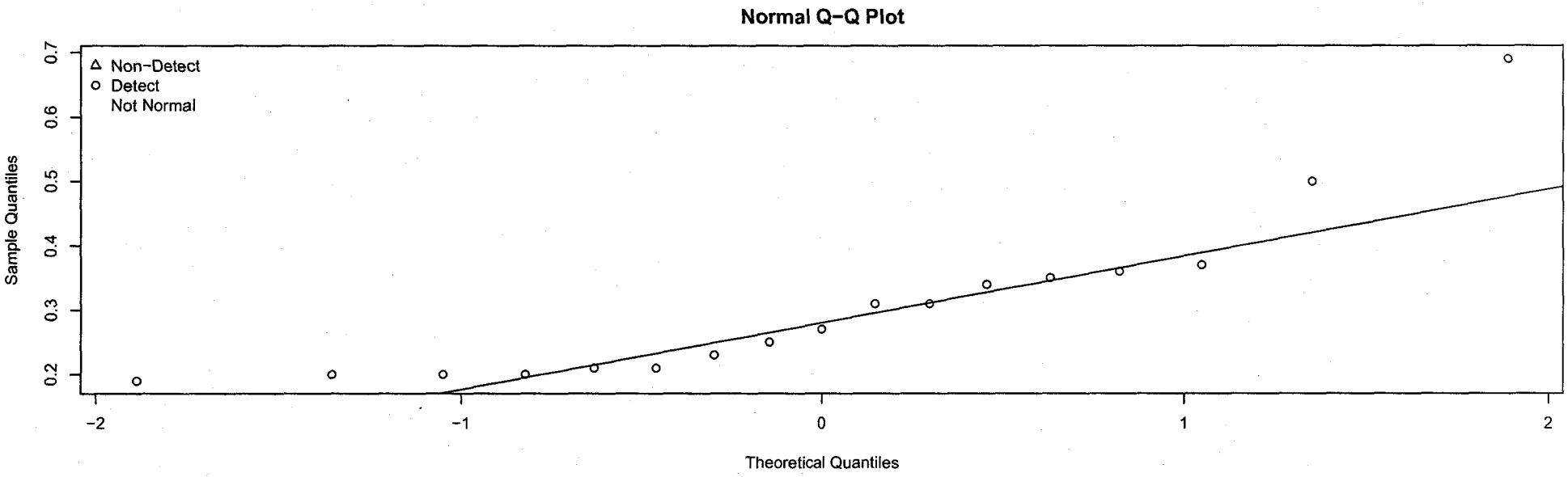
BARIUM

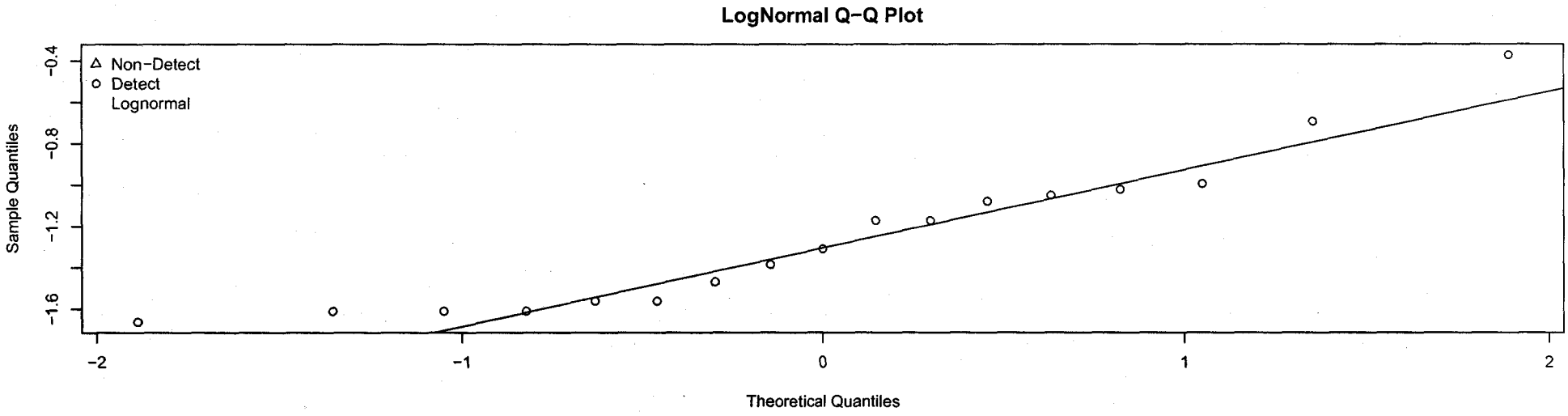




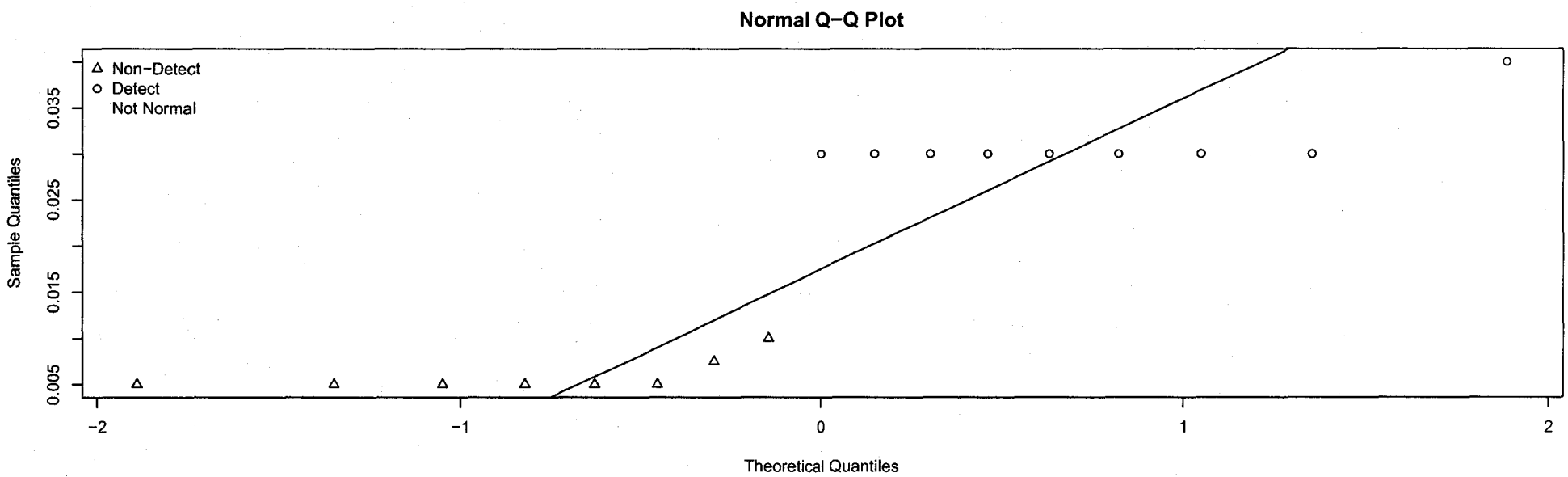
Upper Sand
Subsurface Soil

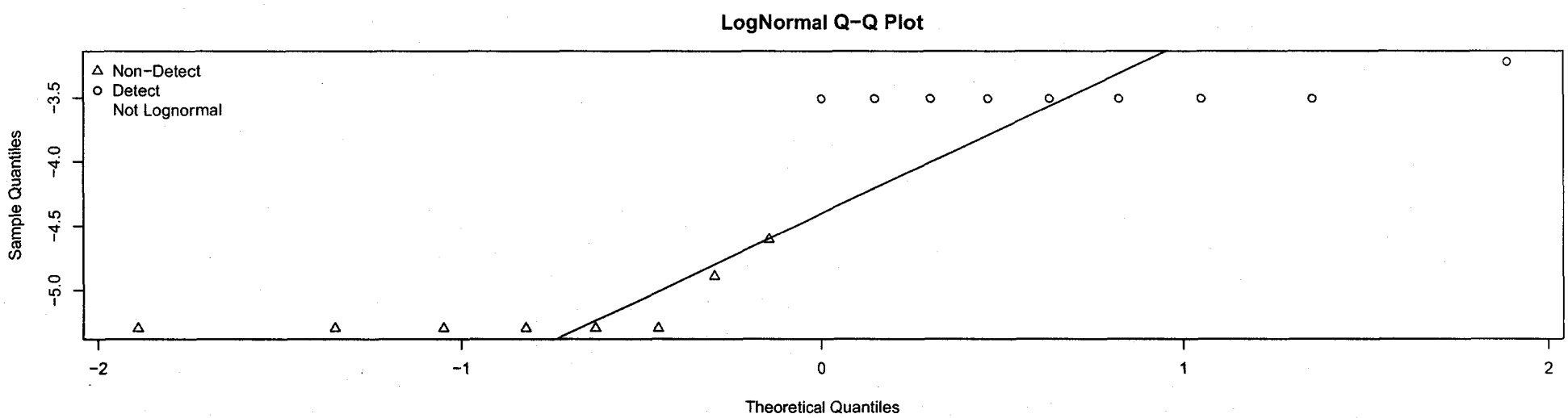
BERYLLIUM





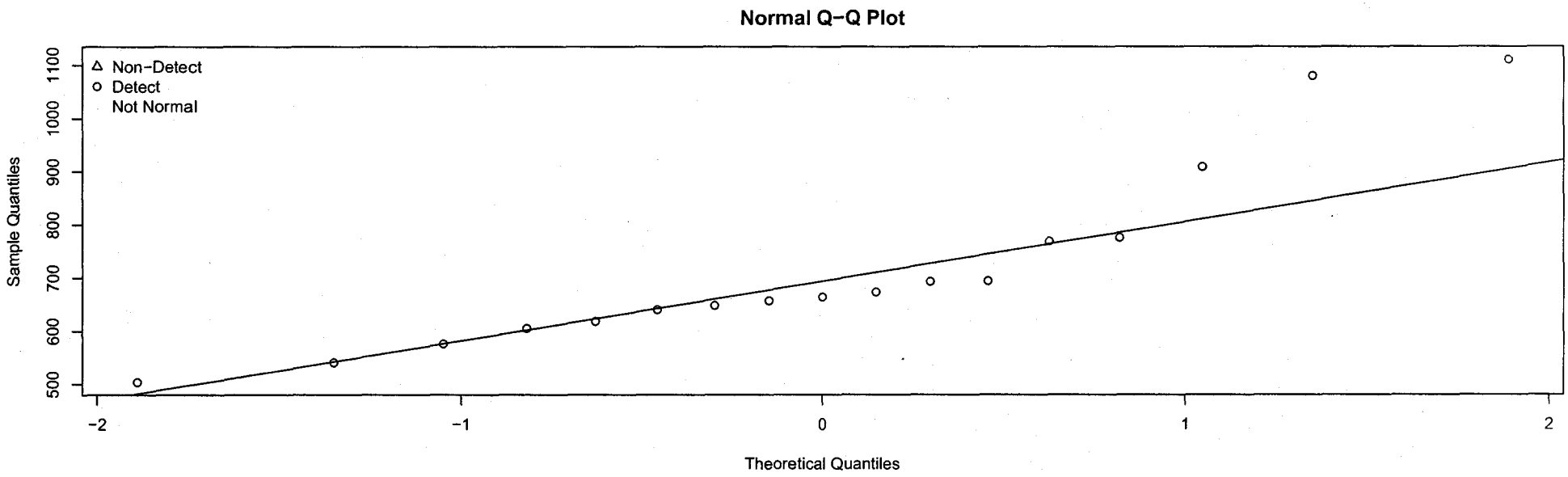
Upper Sand
Subsurface Soil
CADMIUM

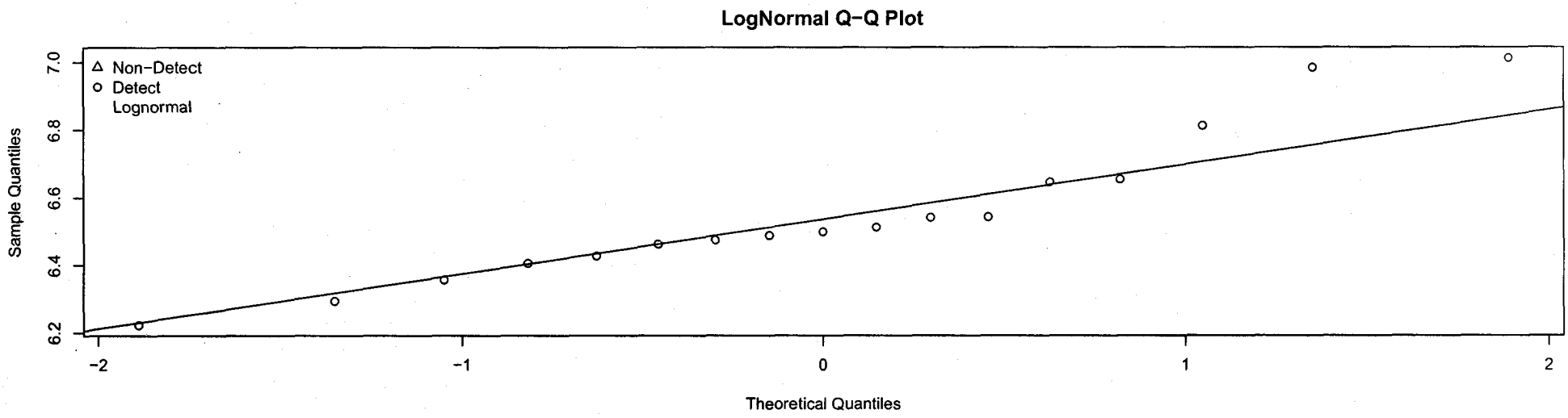




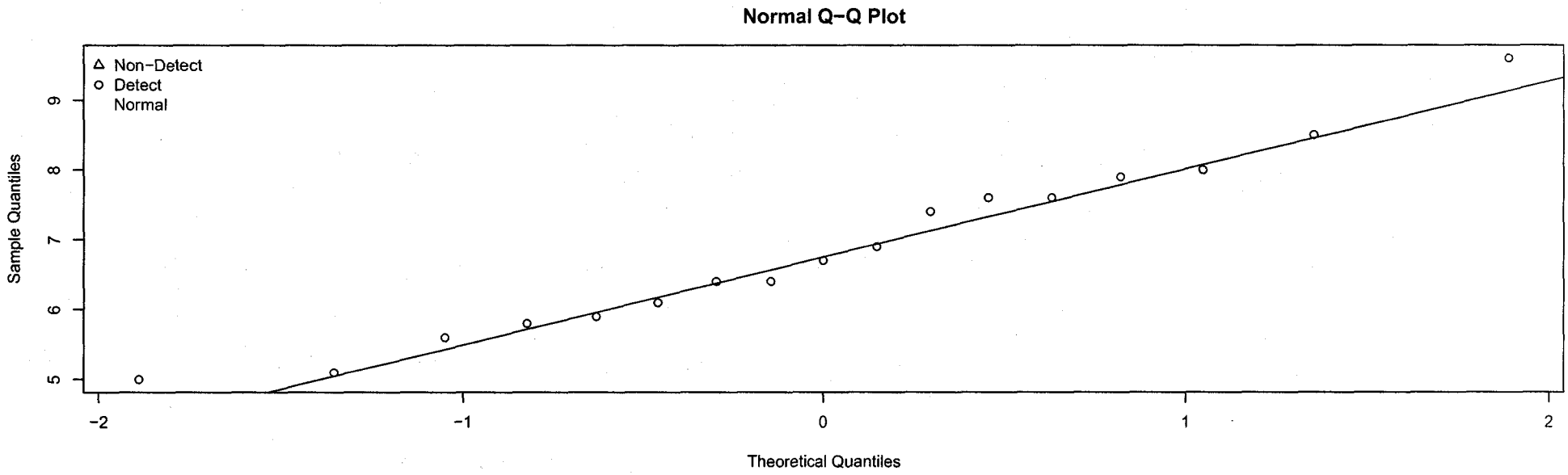
Upper Sand
Subsurface Soil

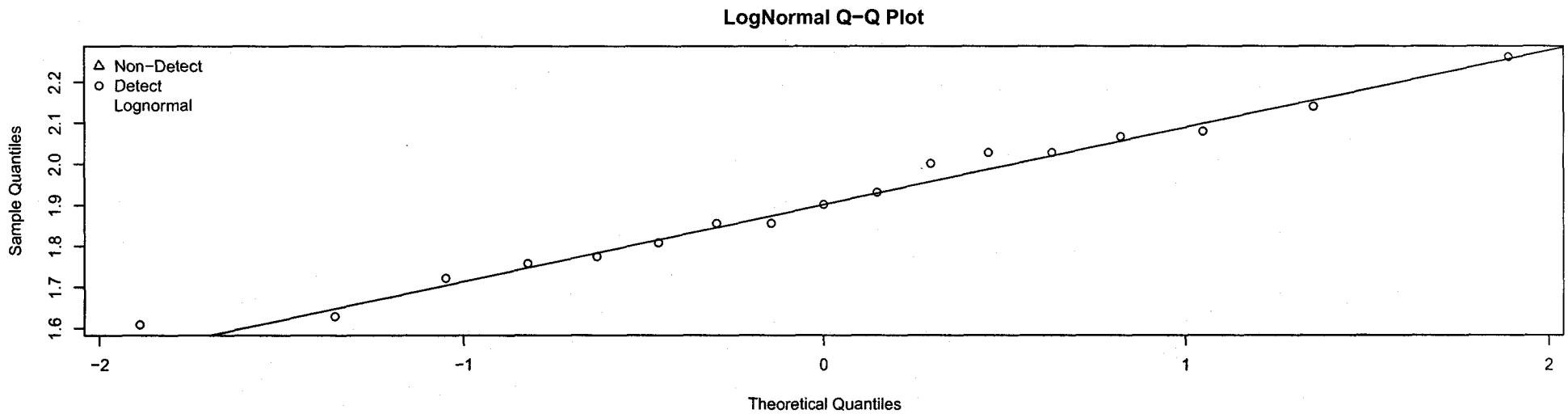
CALCIUM





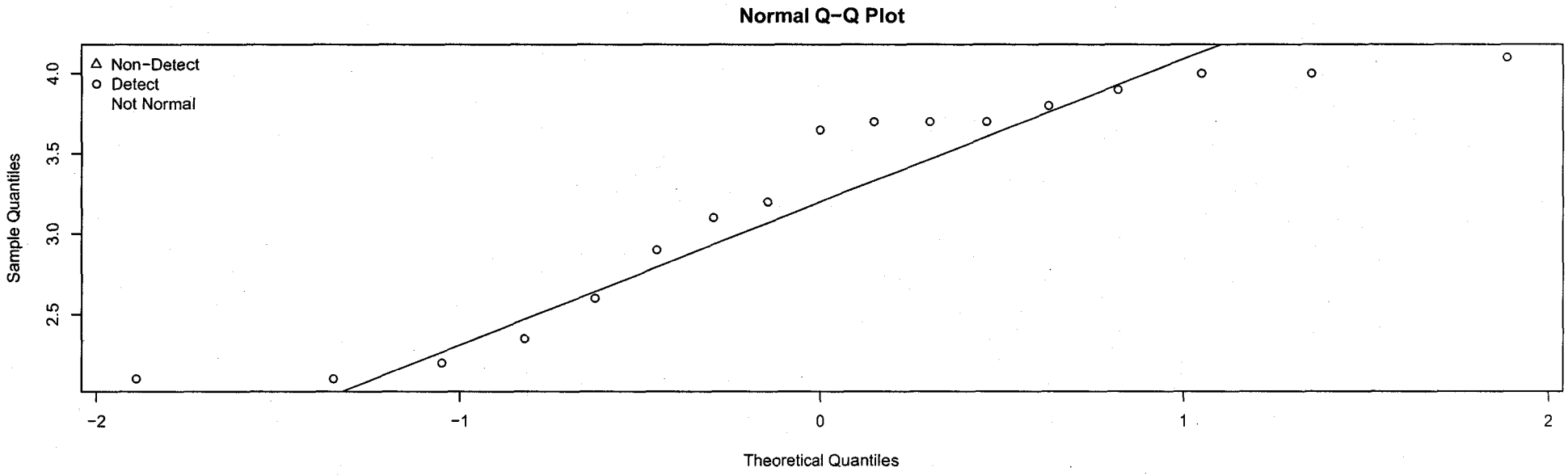
Upper Sand
Subsurface Soil
CHROMIUM

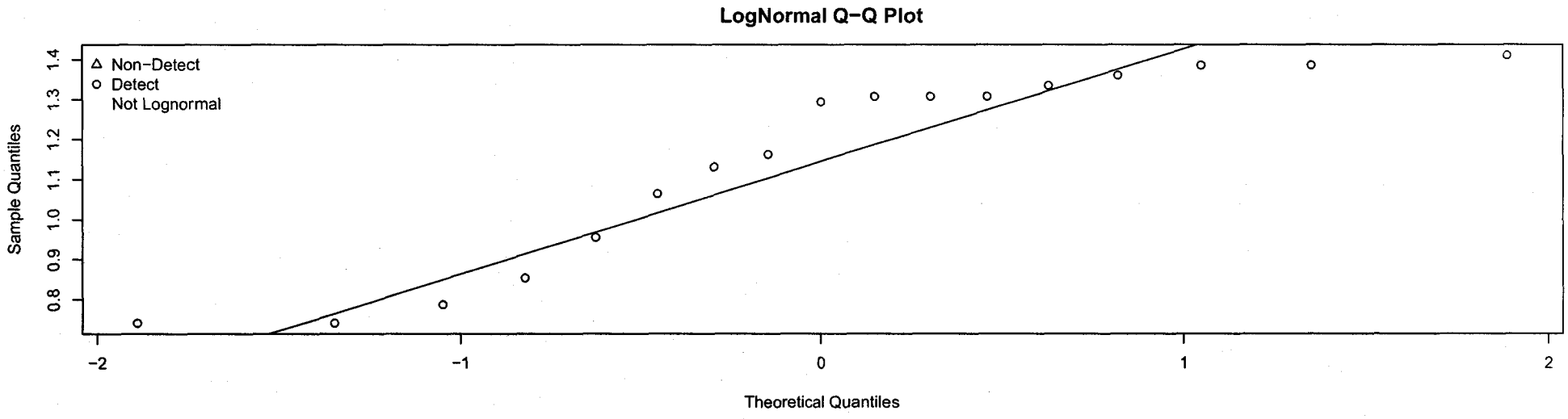




Upper Sand
Subsurface Soil

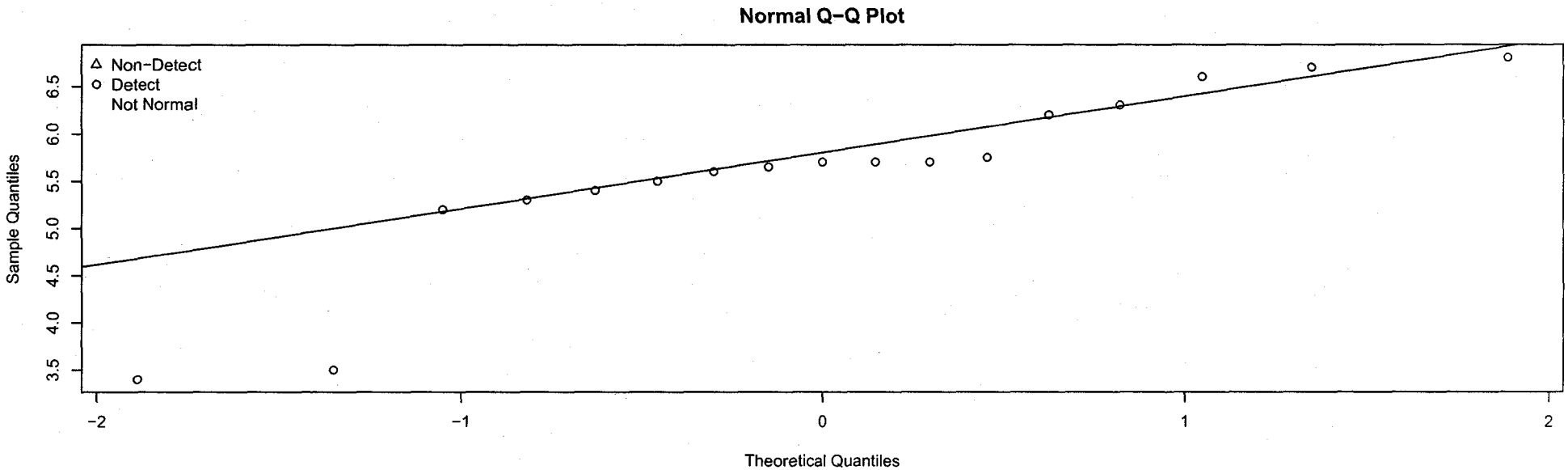
COBALT

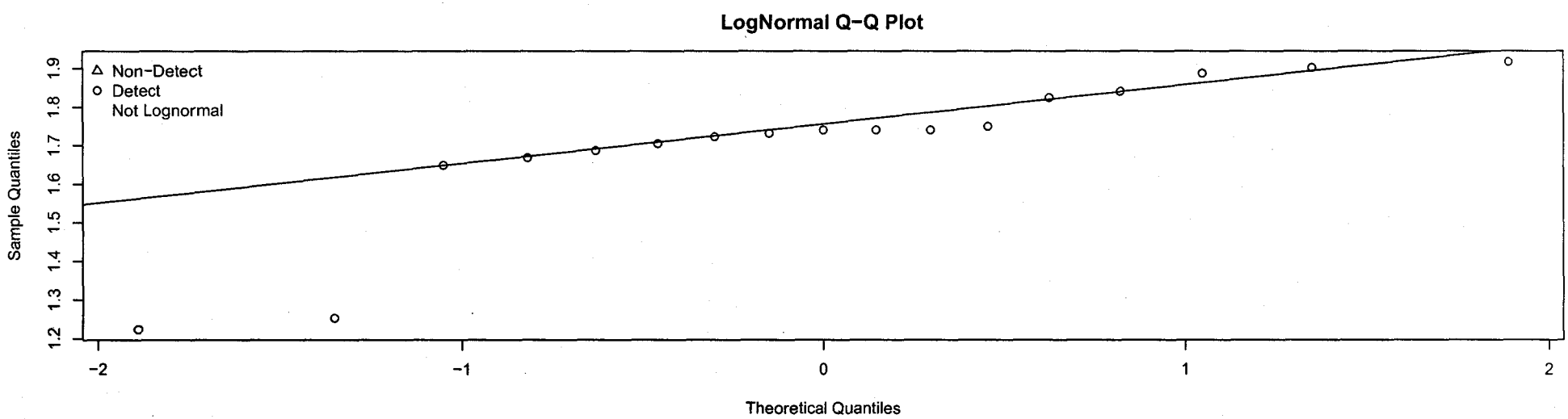




Upper Sand
Subsurface Soil

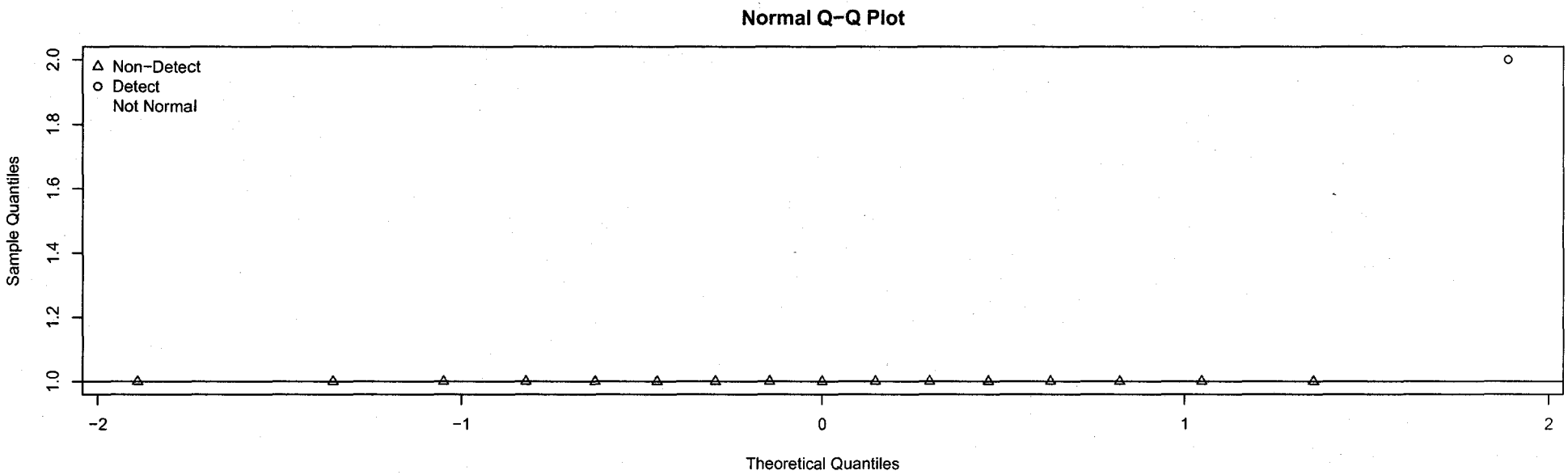
COPPER

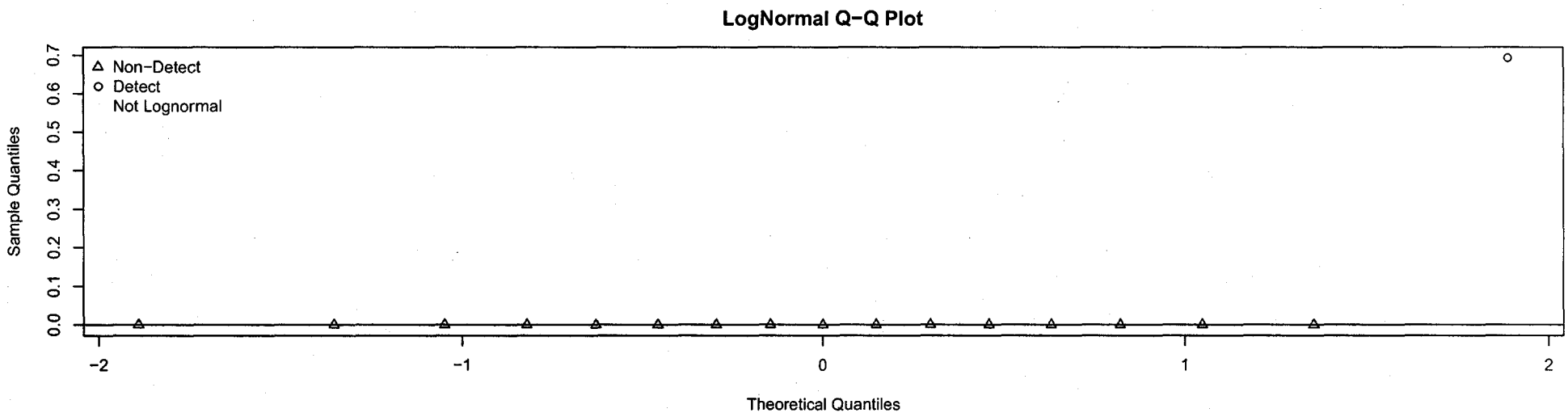




Upper Sand
Subsurface Soil

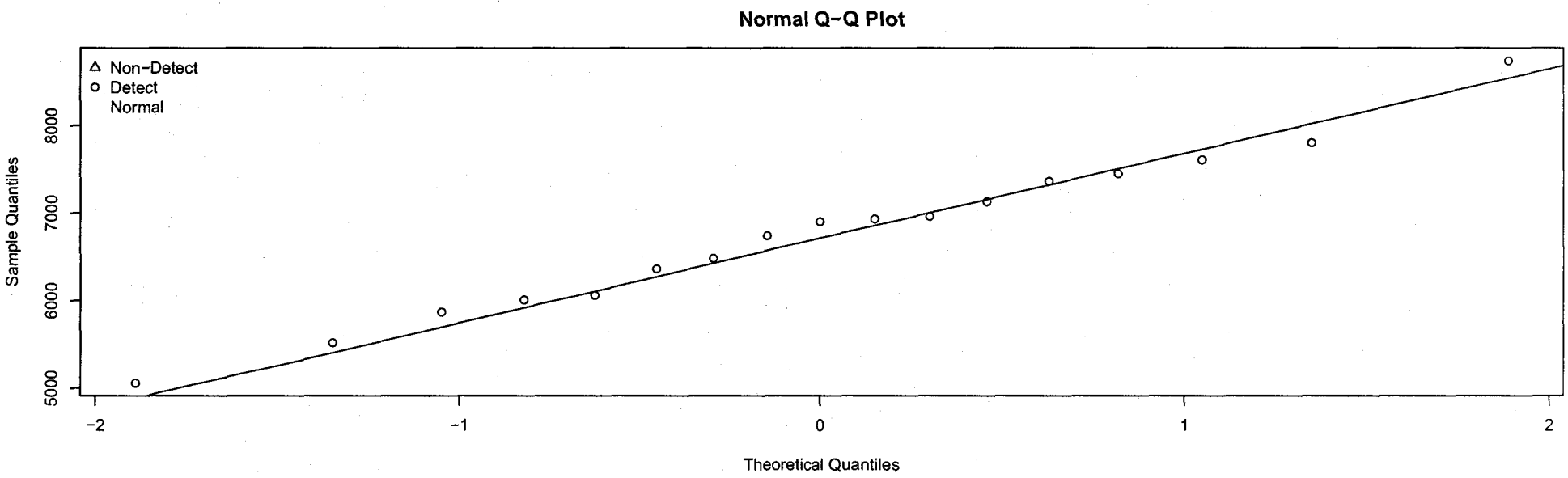
FLUORANTHENE

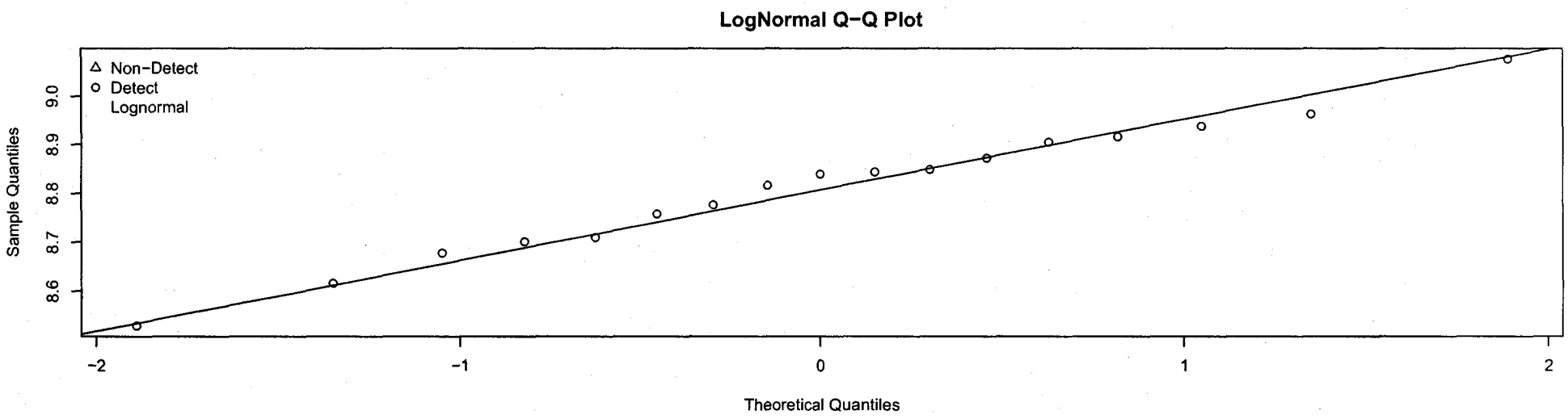




Upper Sand
Subsurface Soil

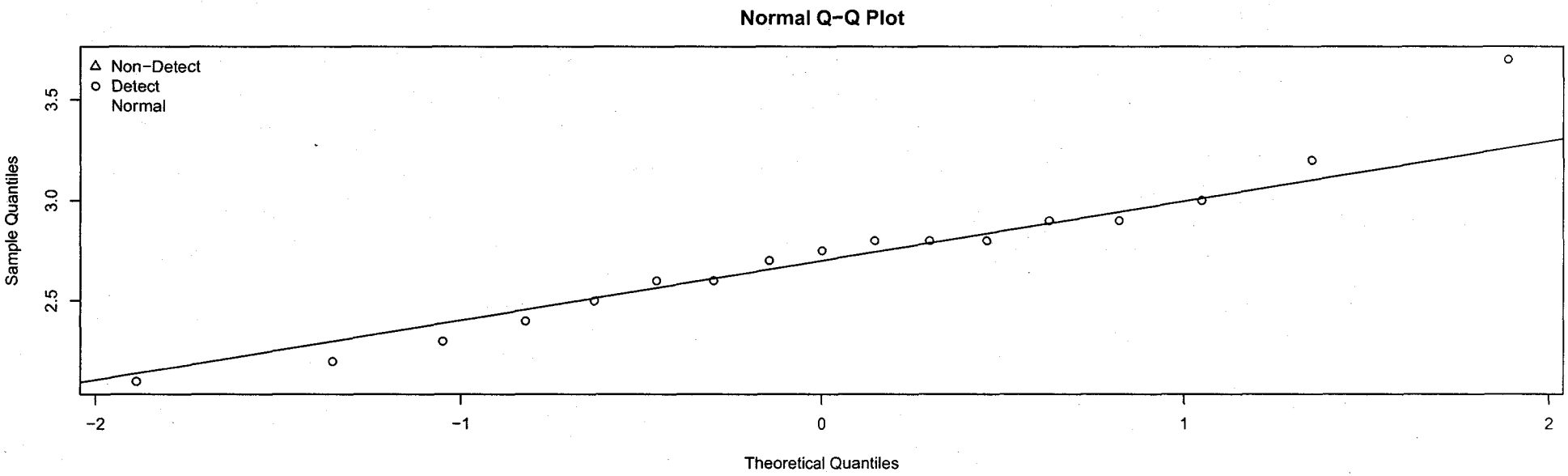
IRON

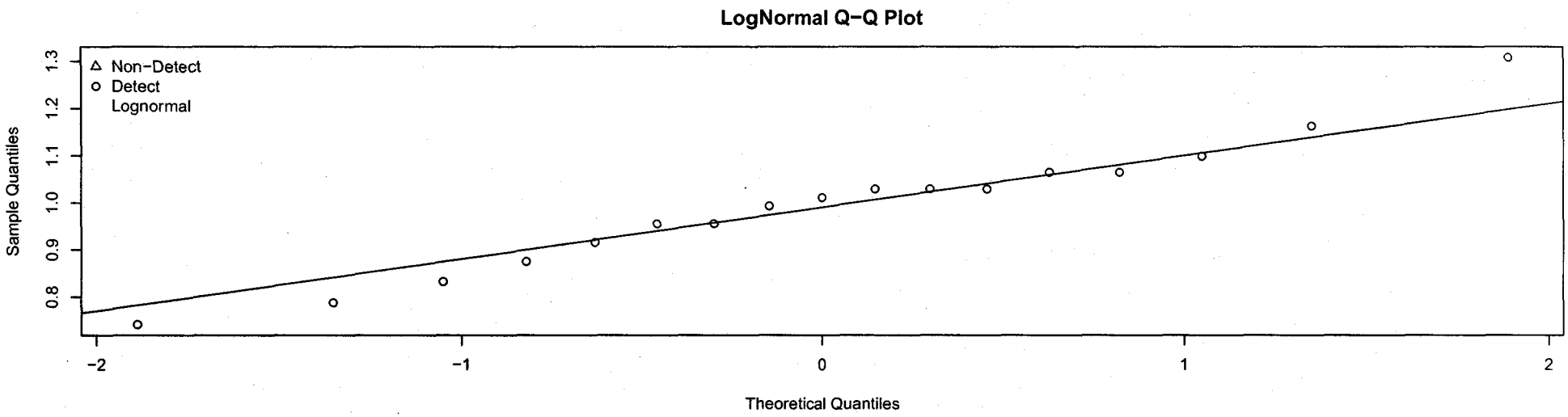




Upper Sand
Subsurface Soil

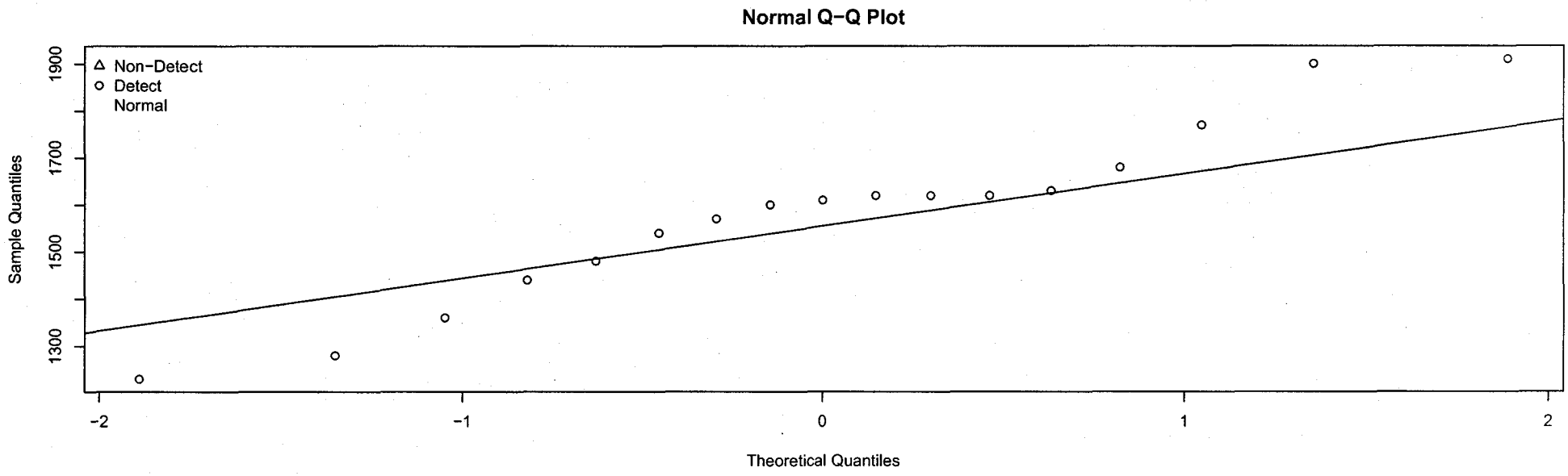
LEAD

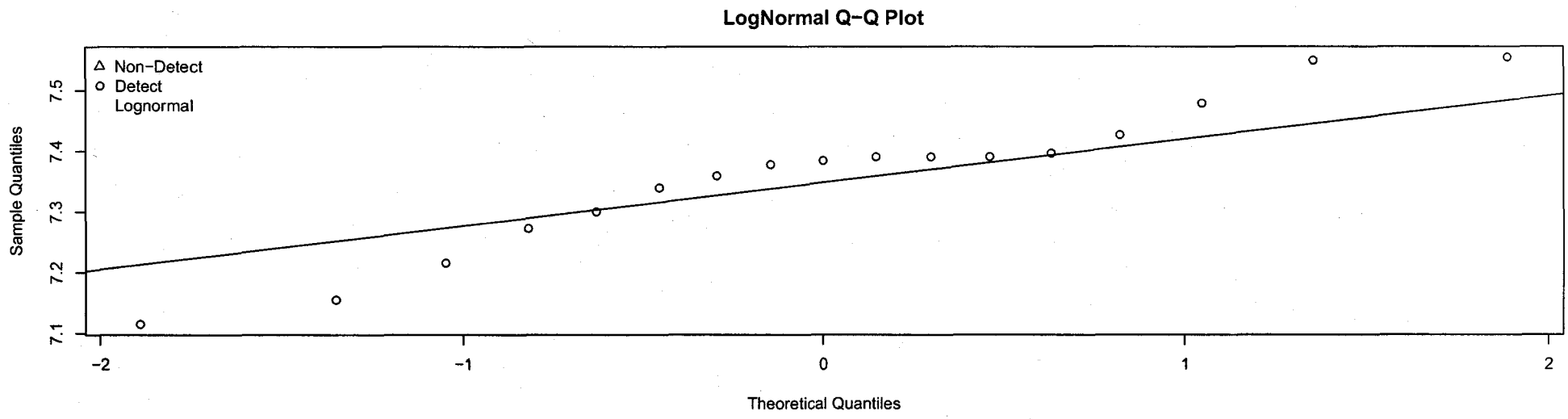




Upper Sand
Subsurface Soil

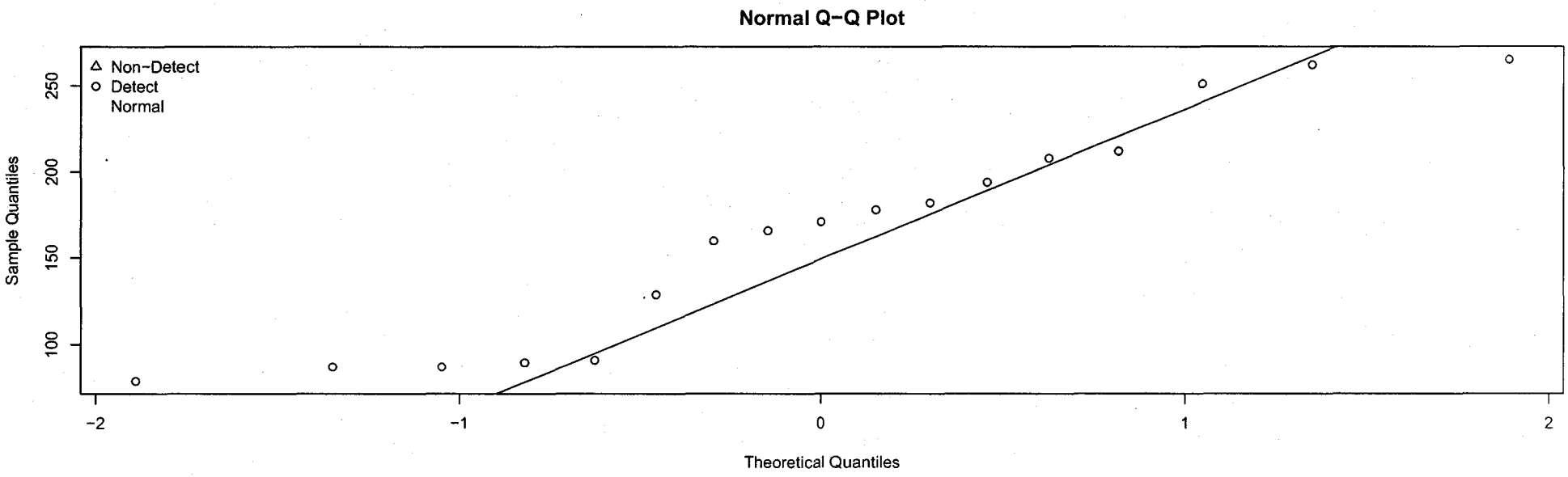
MAGNESIUM

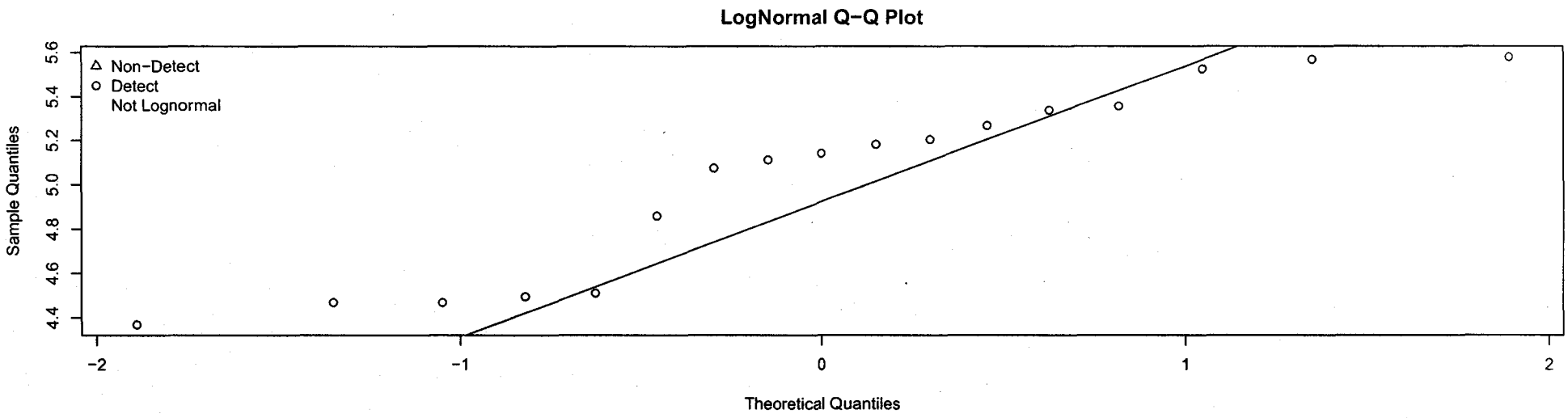




Upper Sand
Subsurface Soil

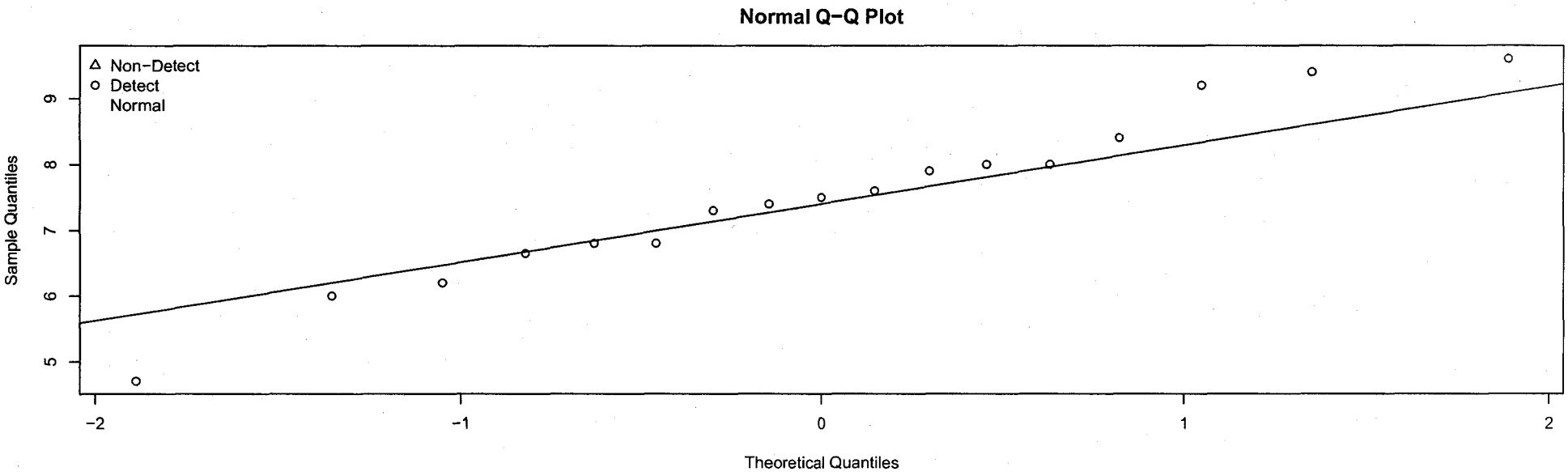
MANGANESE

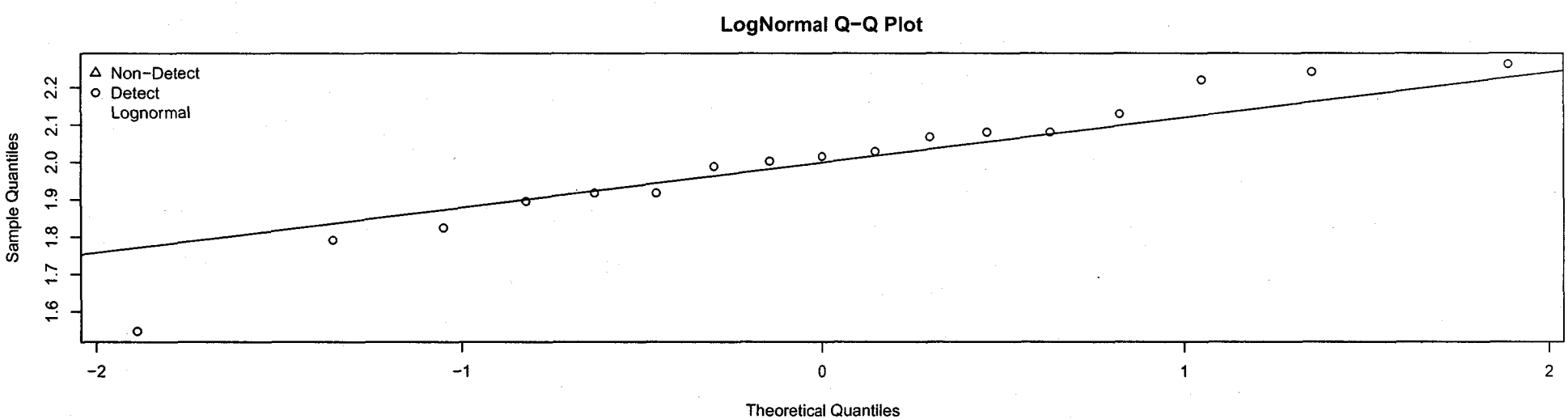




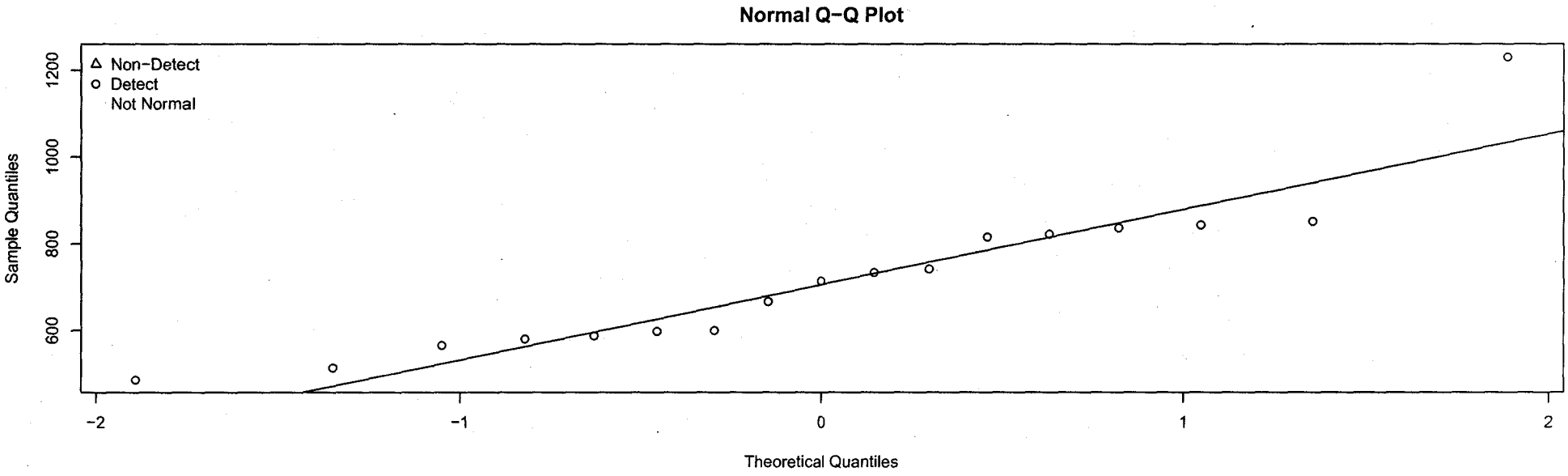
Upper Sand
Subsurface Soil

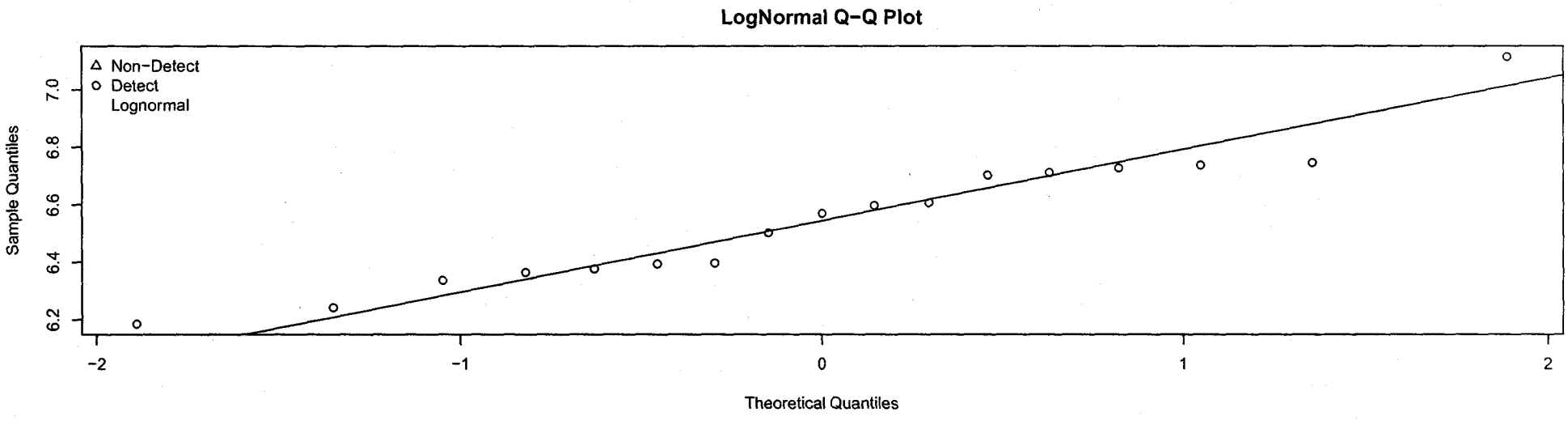
NICKEL





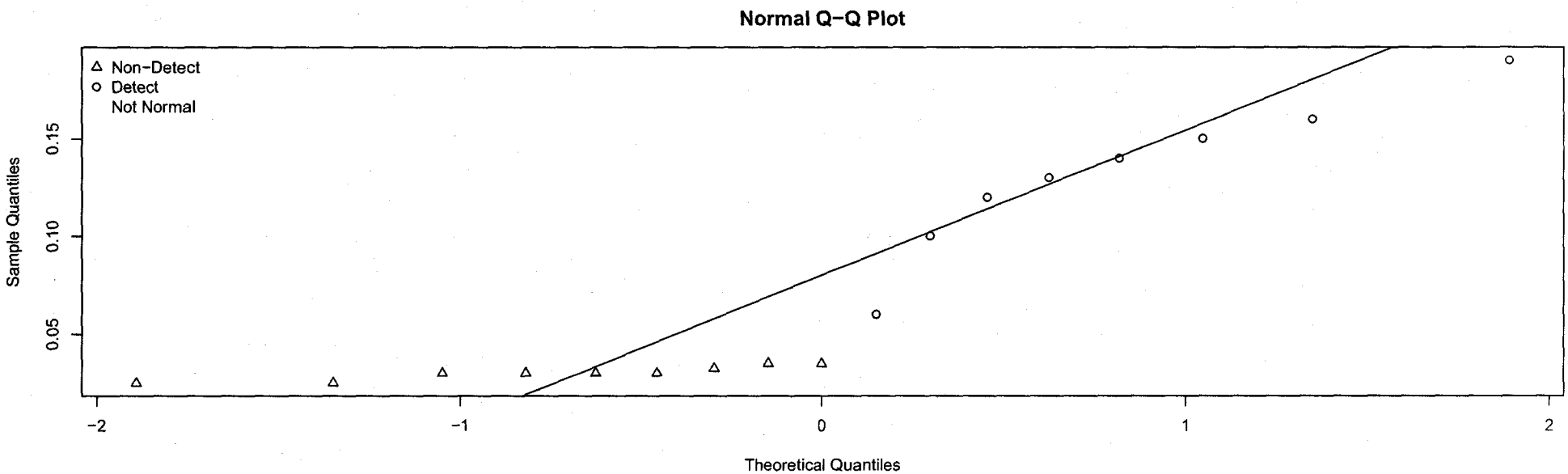
Upper Sand
Subsurface Soil
POTASSIUM

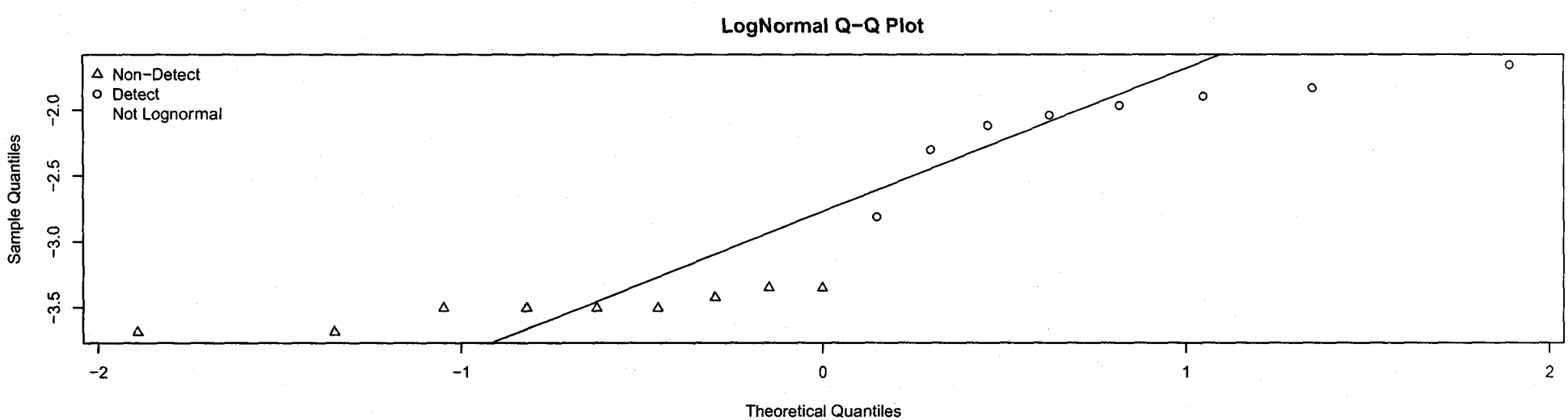




Upper Sand
Subsurface Soil

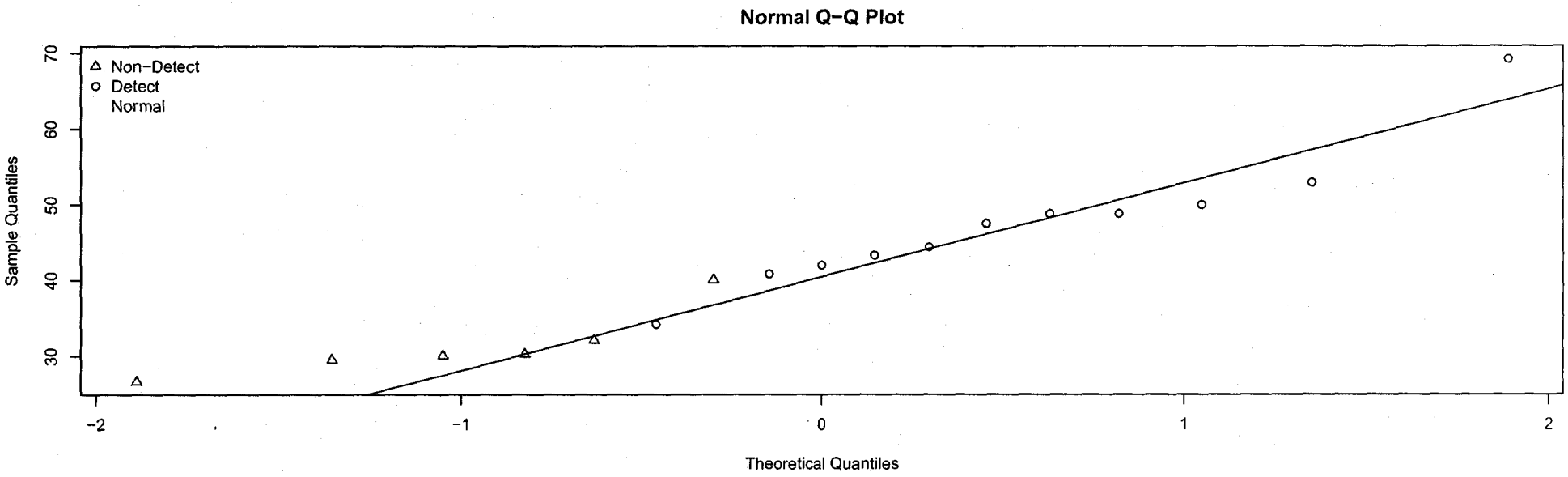
SILVER

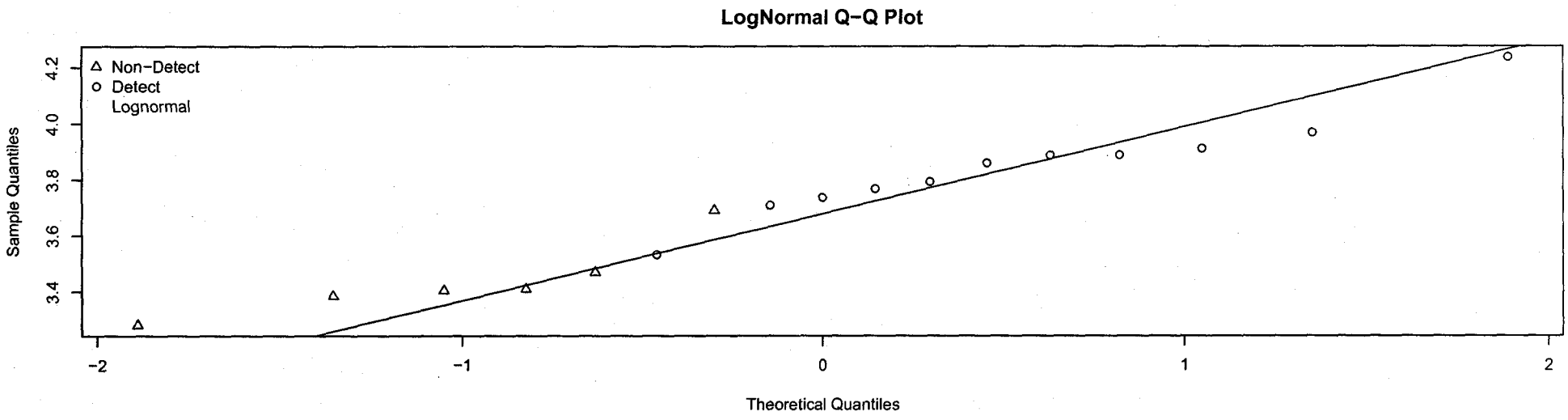




Upper Sand
Subsurface Soil

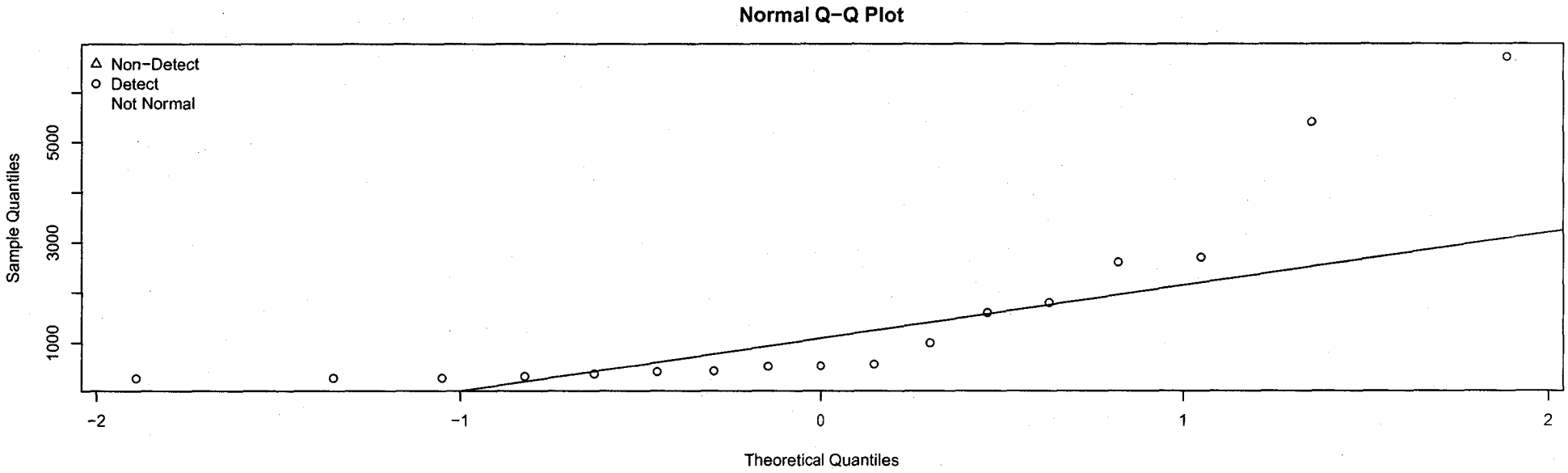
SODIUM

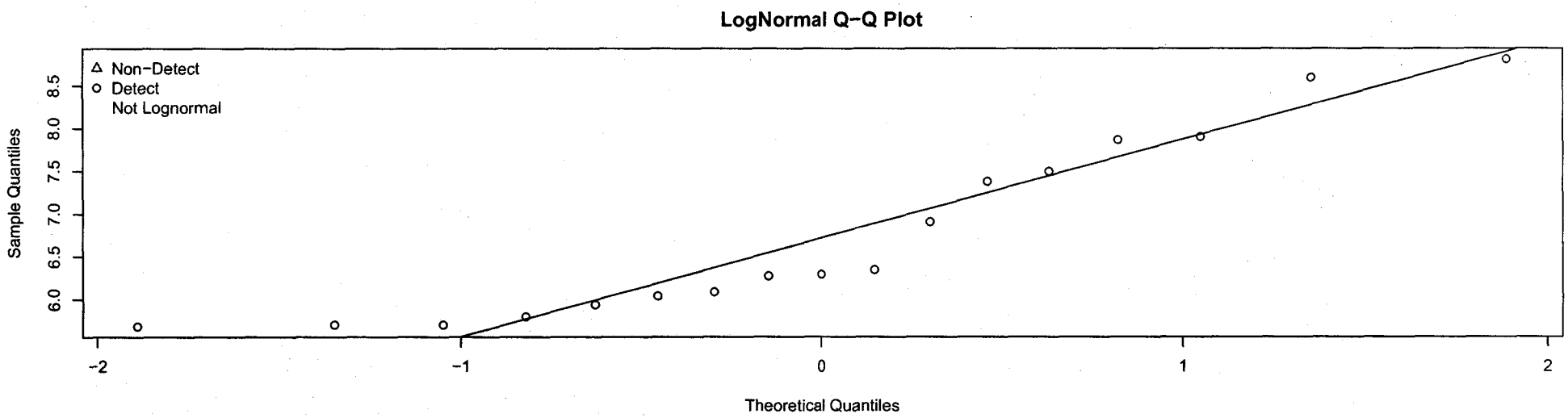




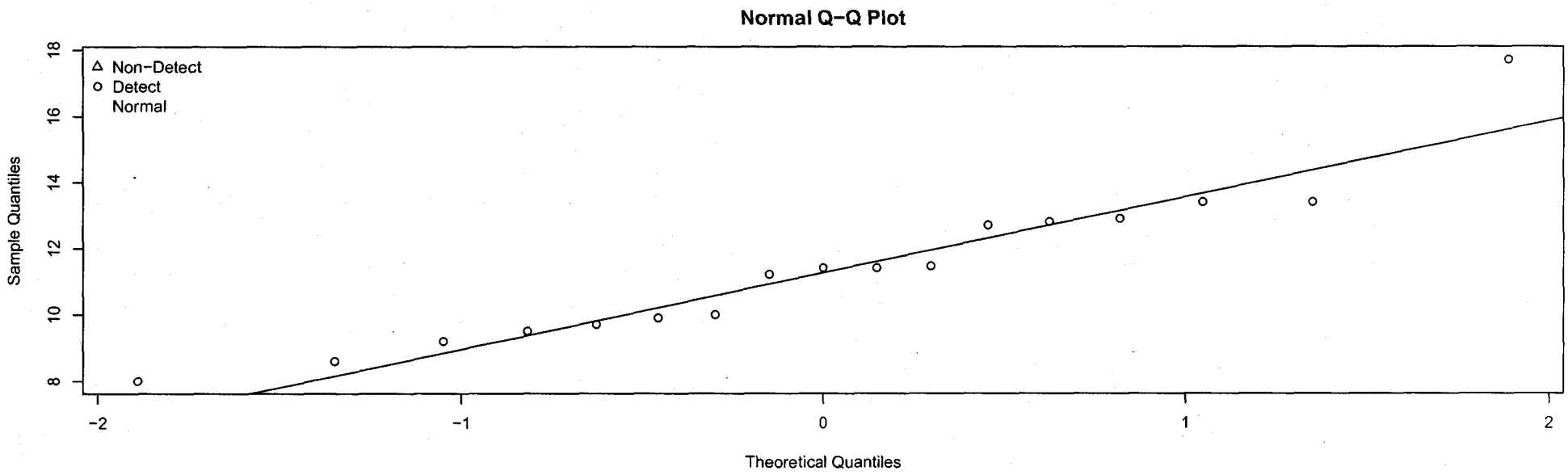
Upper Sand
Subsurface Soil

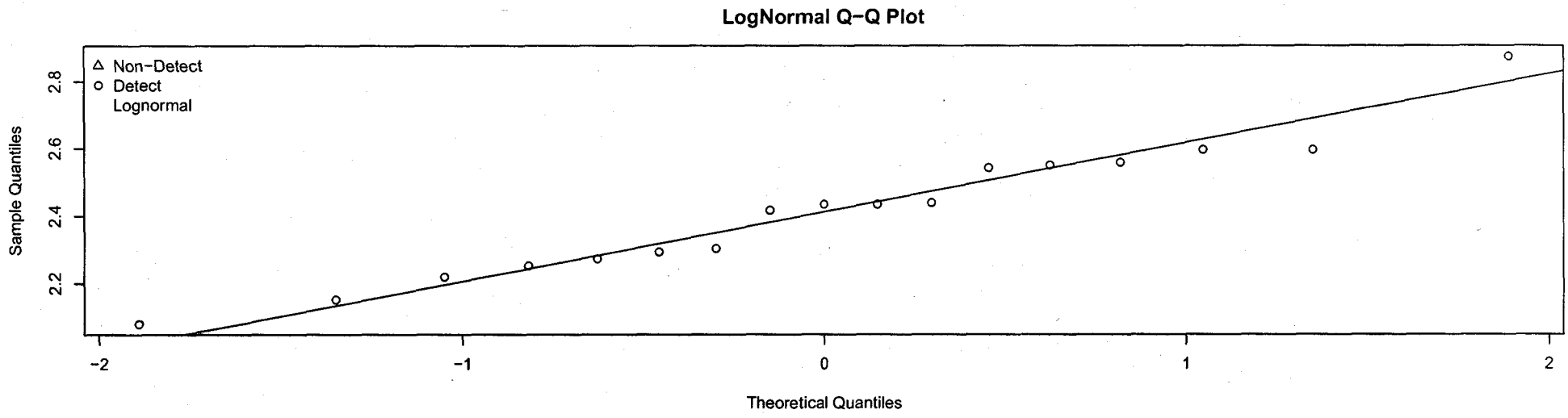
TOTAL ORGANIC CARBON





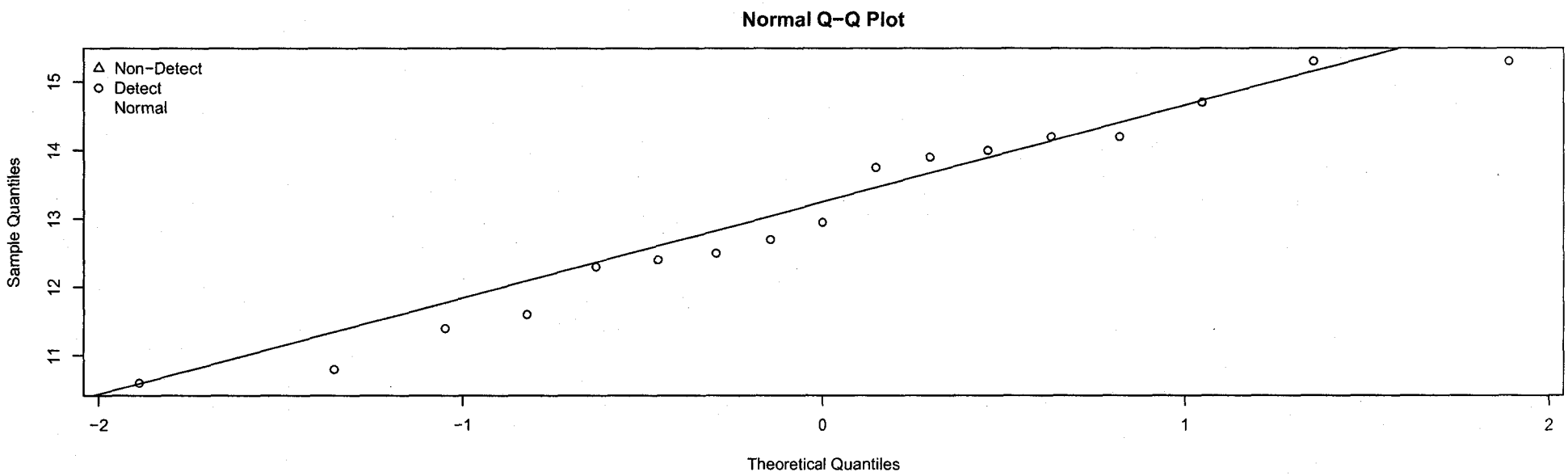
Upper Sand
Subsurface Soil
VANADIUM

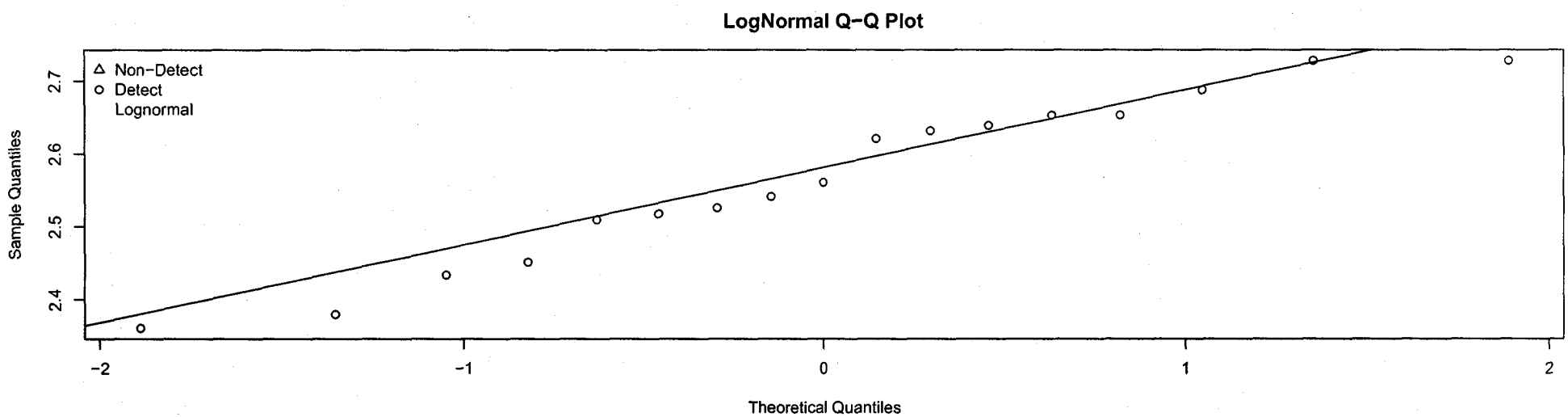




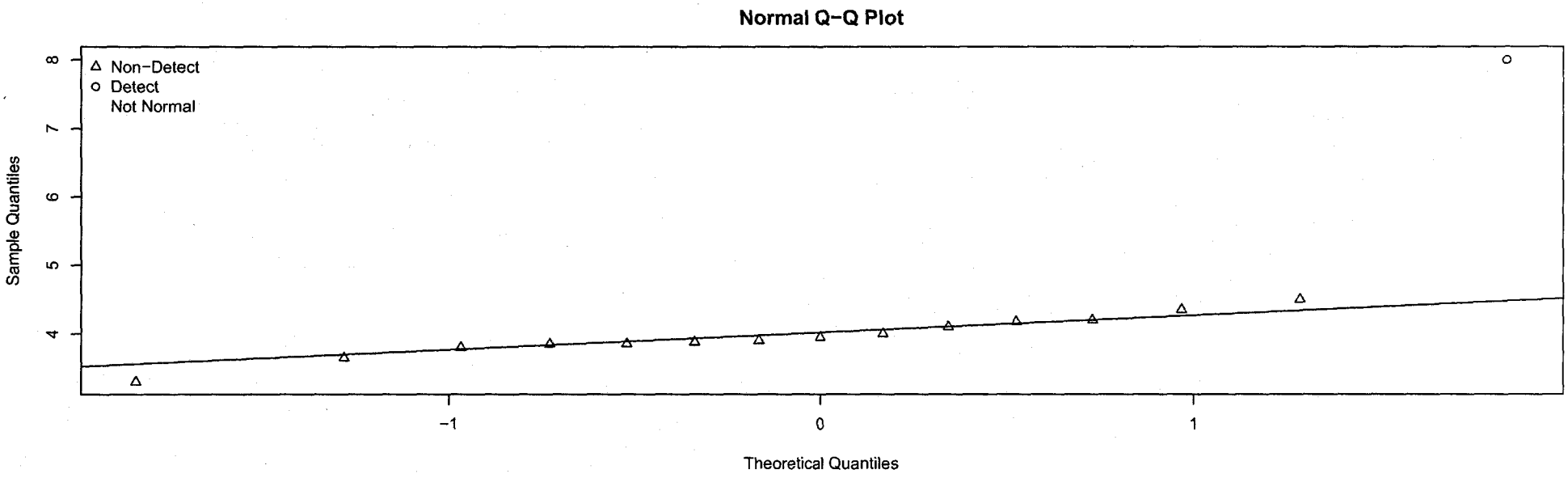
Upper Sand
Subsurface Soil

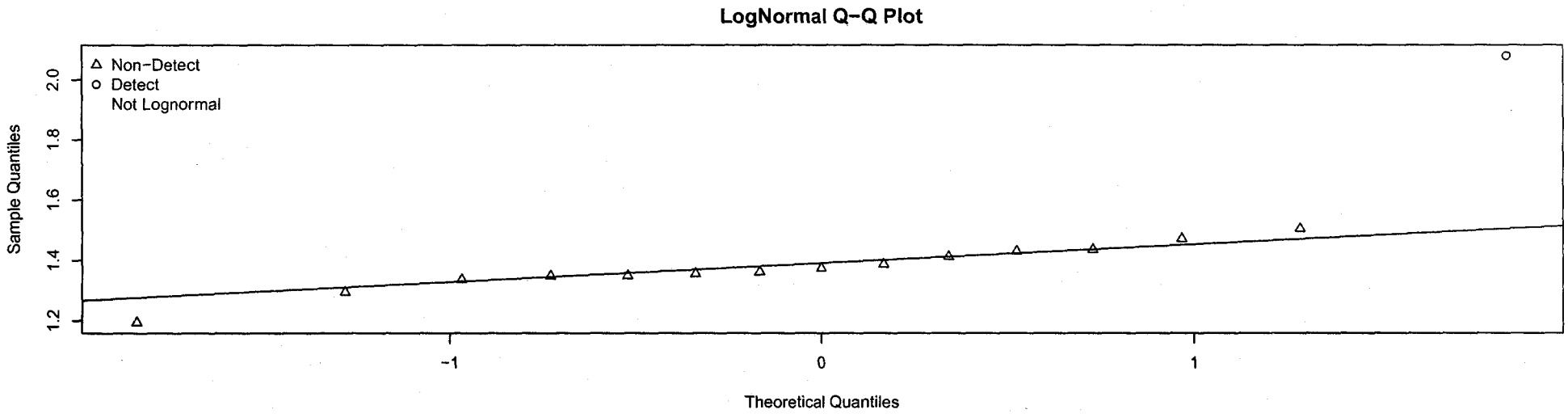
ZINC



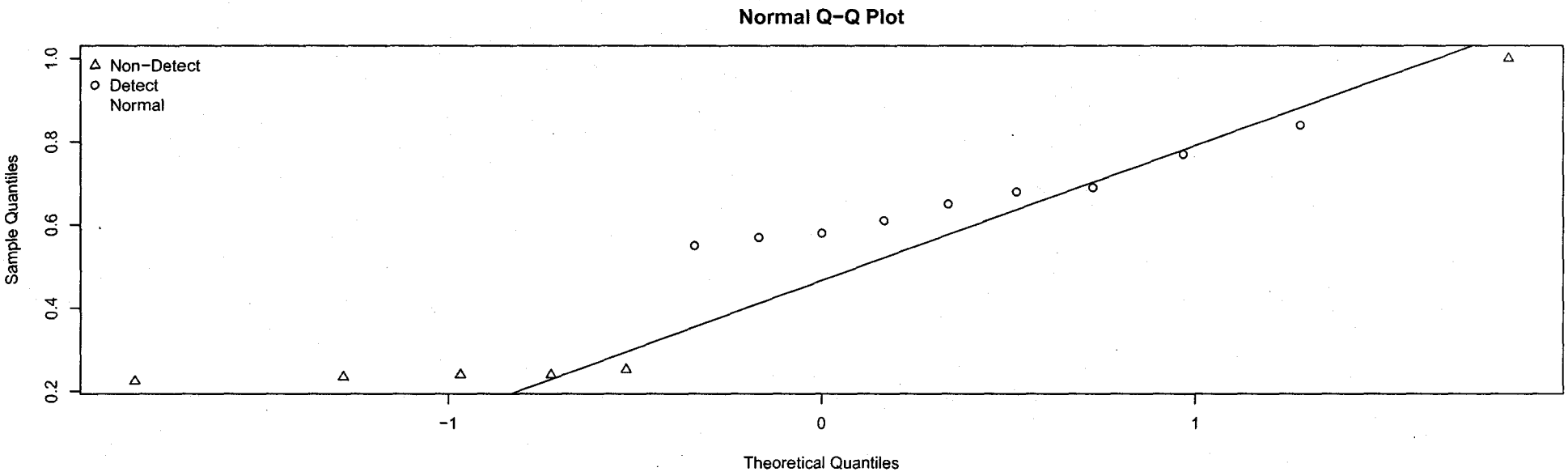


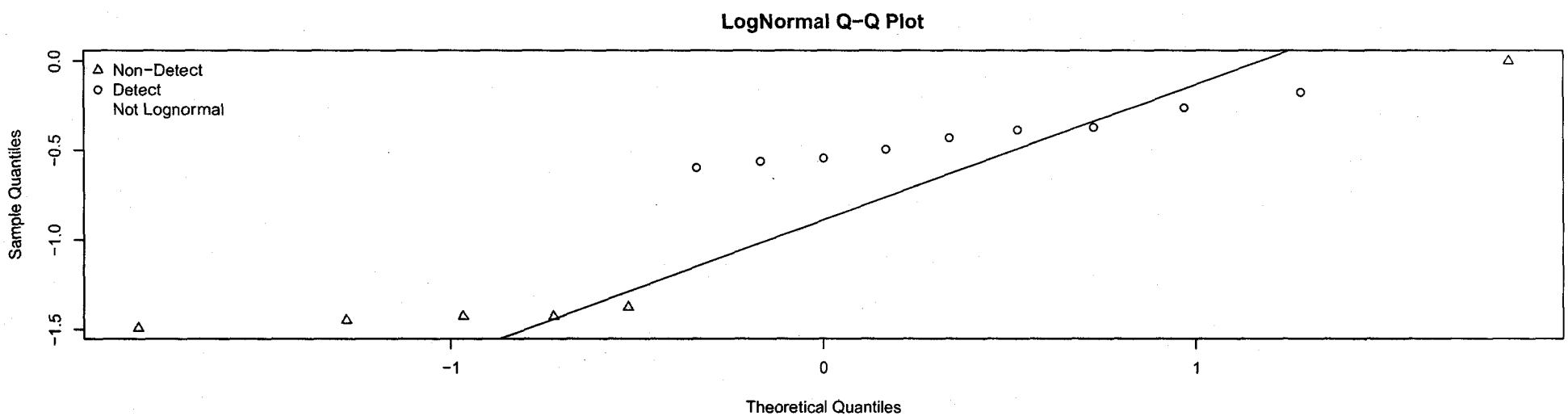
Transition
Surface Soil
2,4-D



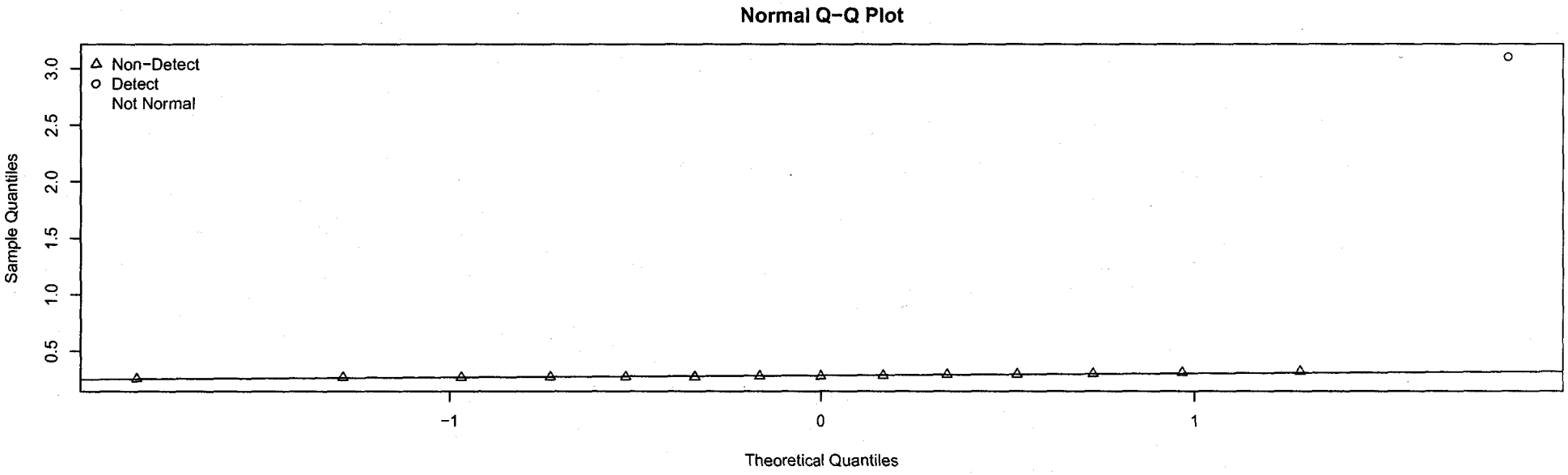


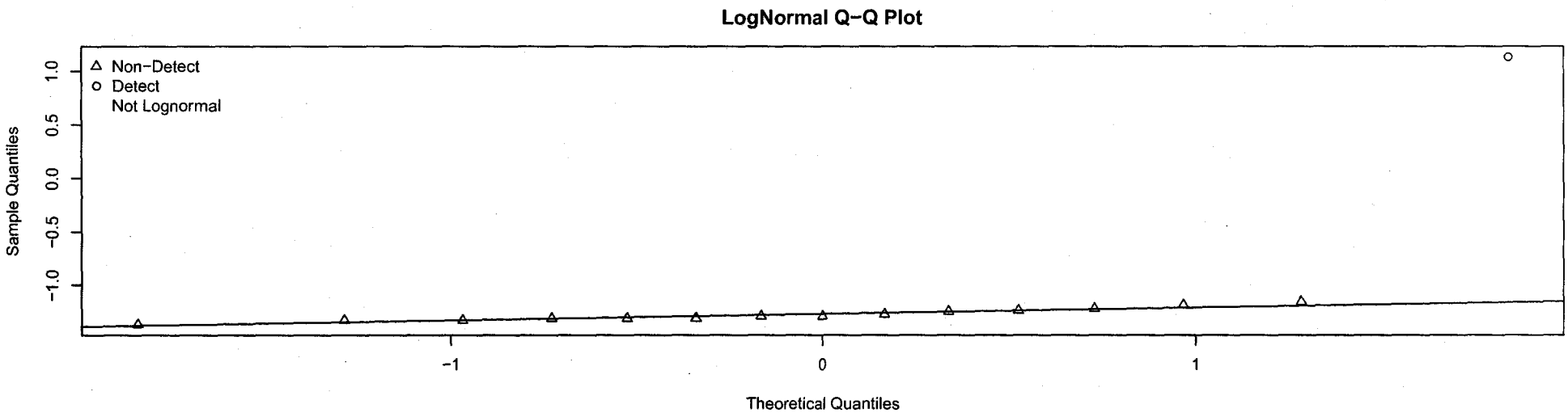
Transition
Surface Soil
4,4'-DDE





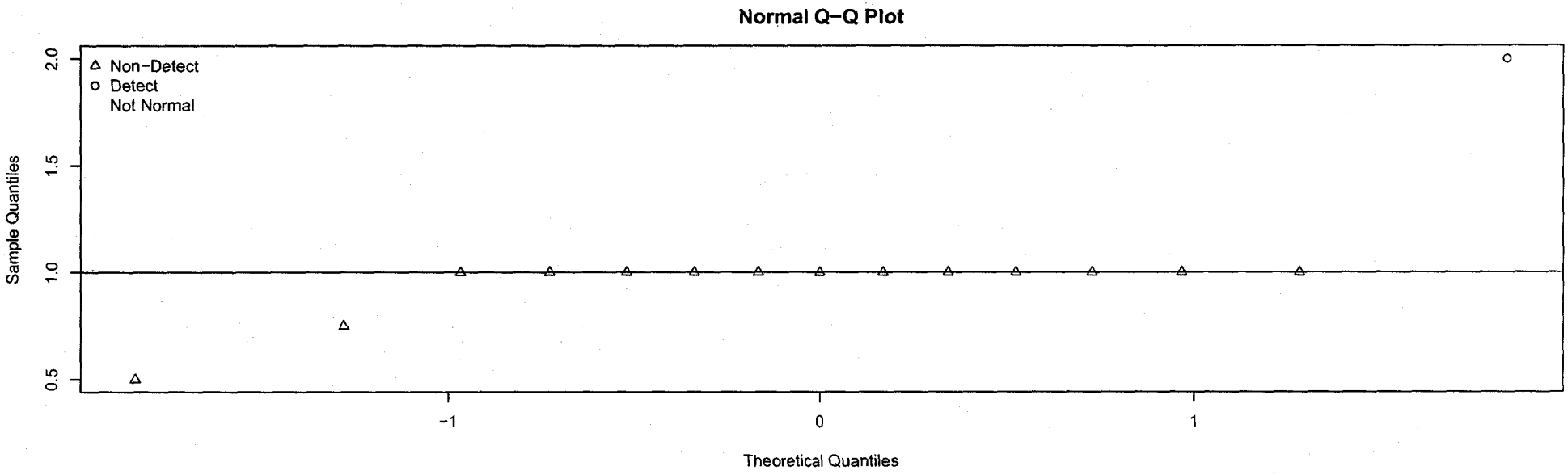
Transition
Surface Soil
4,4'-DDT

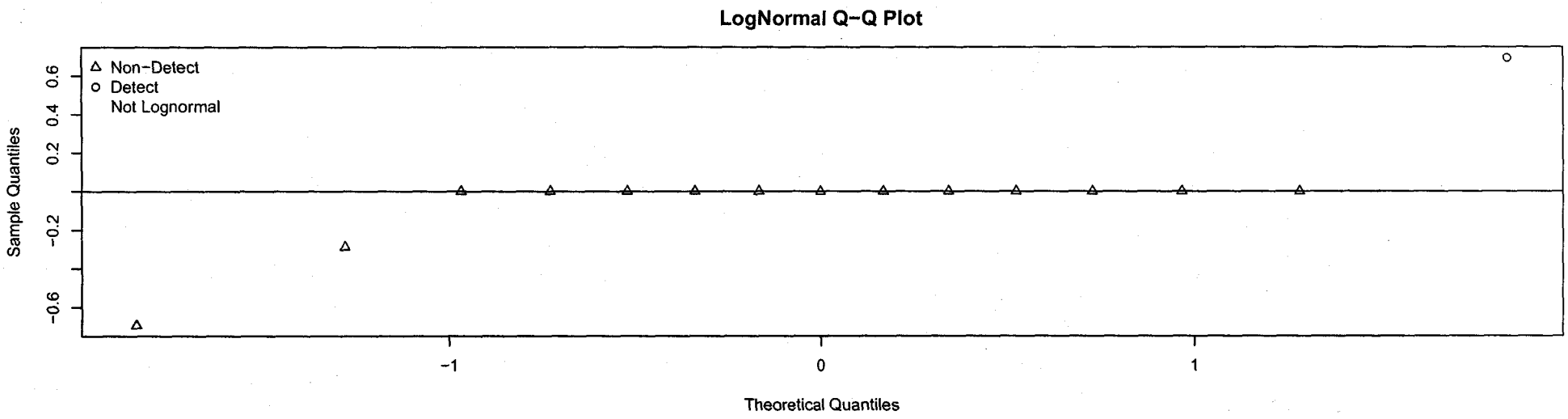




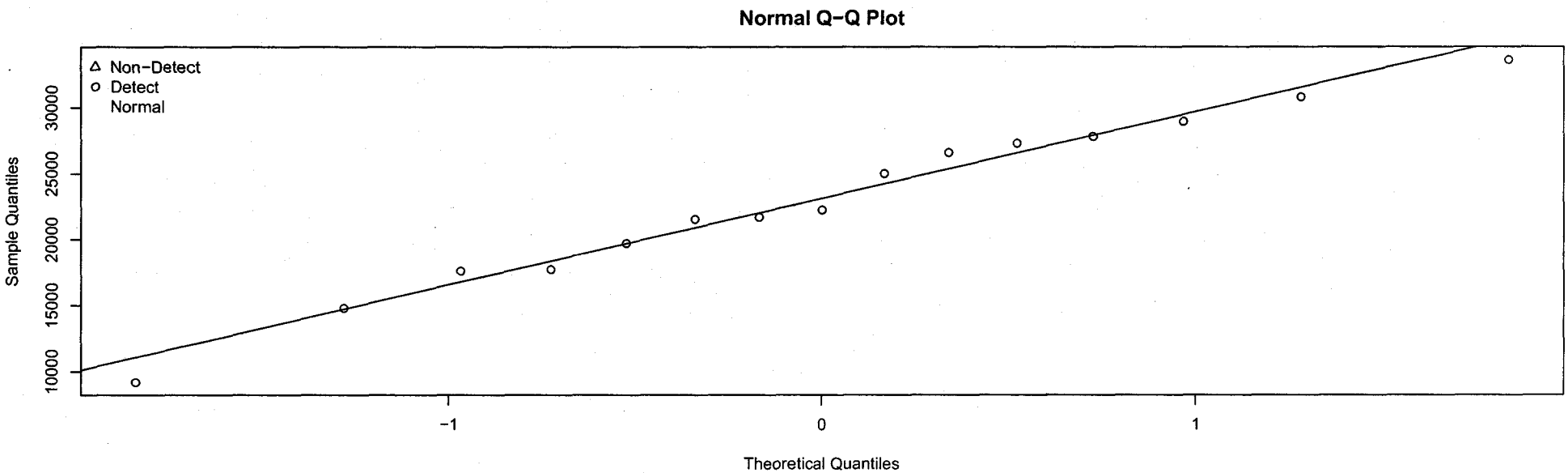
Transition
Surface Soil

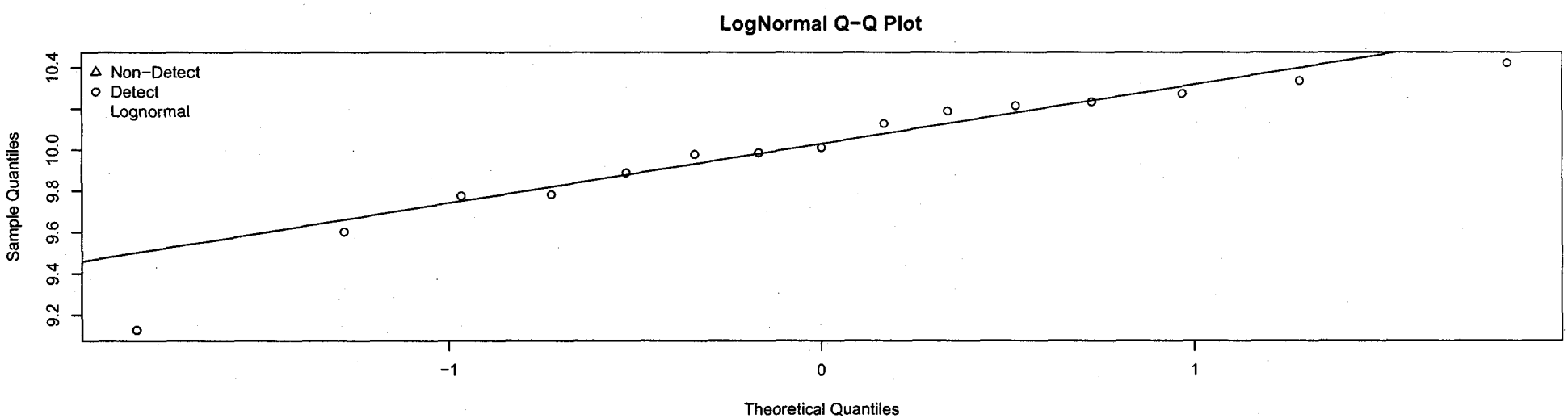
ACENAPHTHYLENE



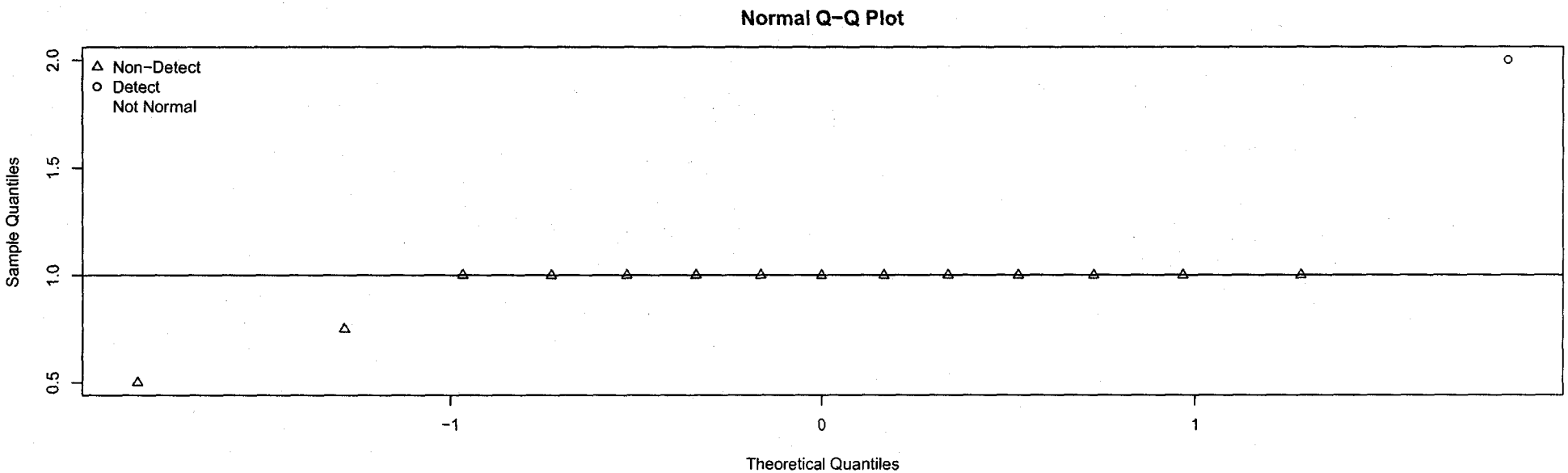


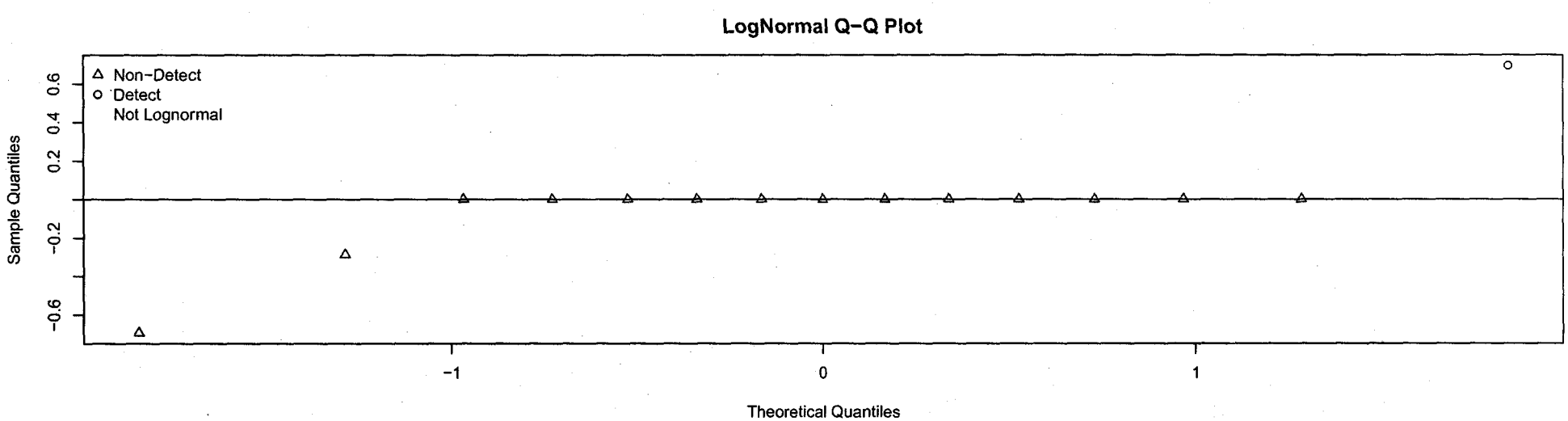
Transition
Surface Soil
ALUMINUM





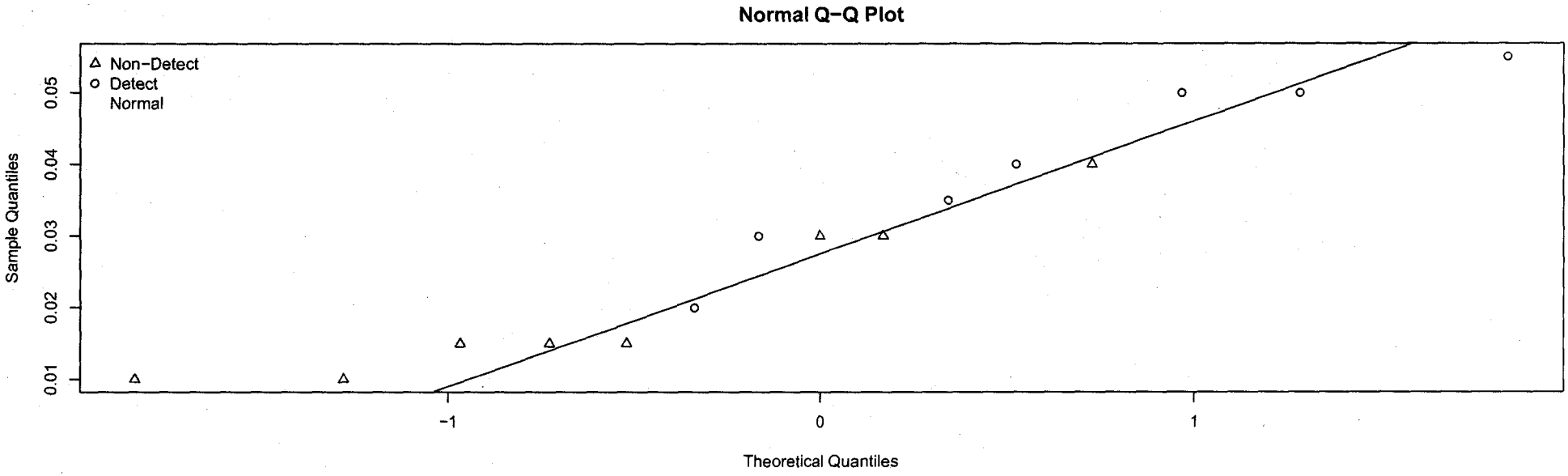
Transition
Surface Soil
ANTHRACENE

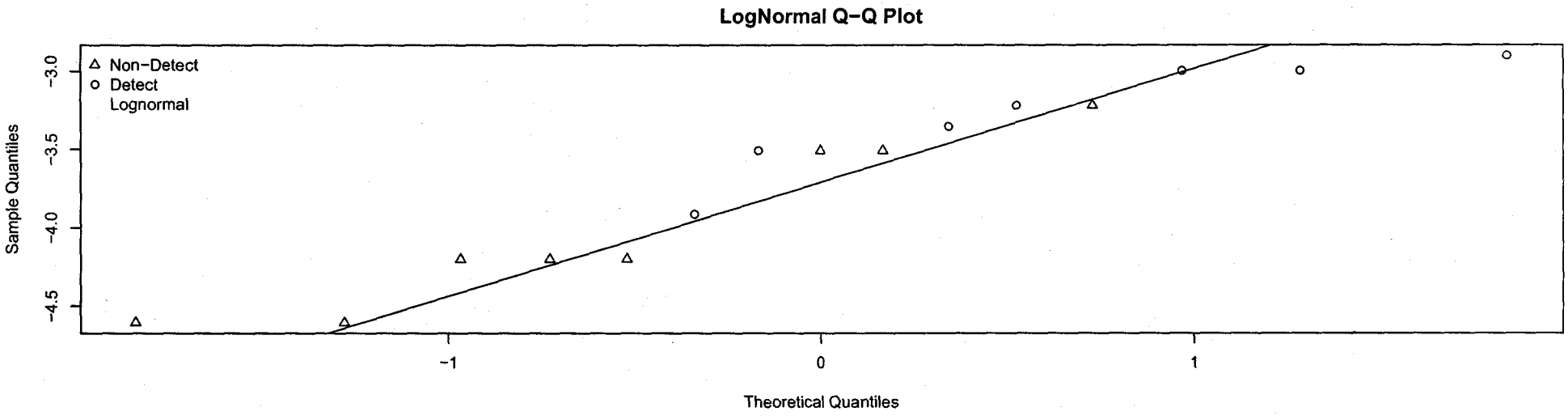




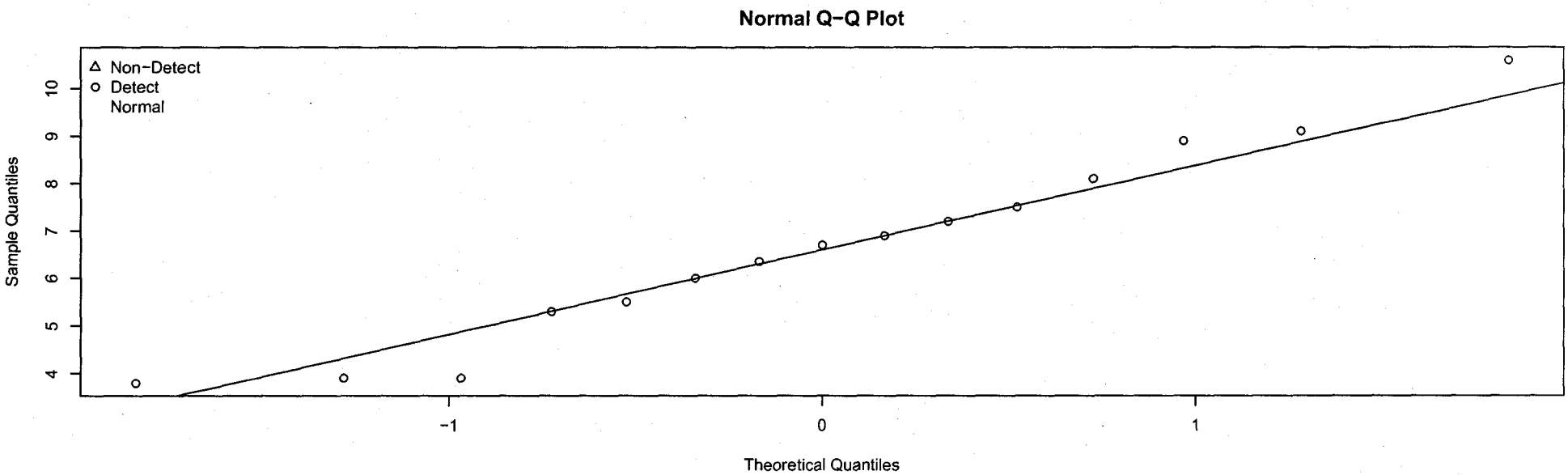
Transition
Surface Soil

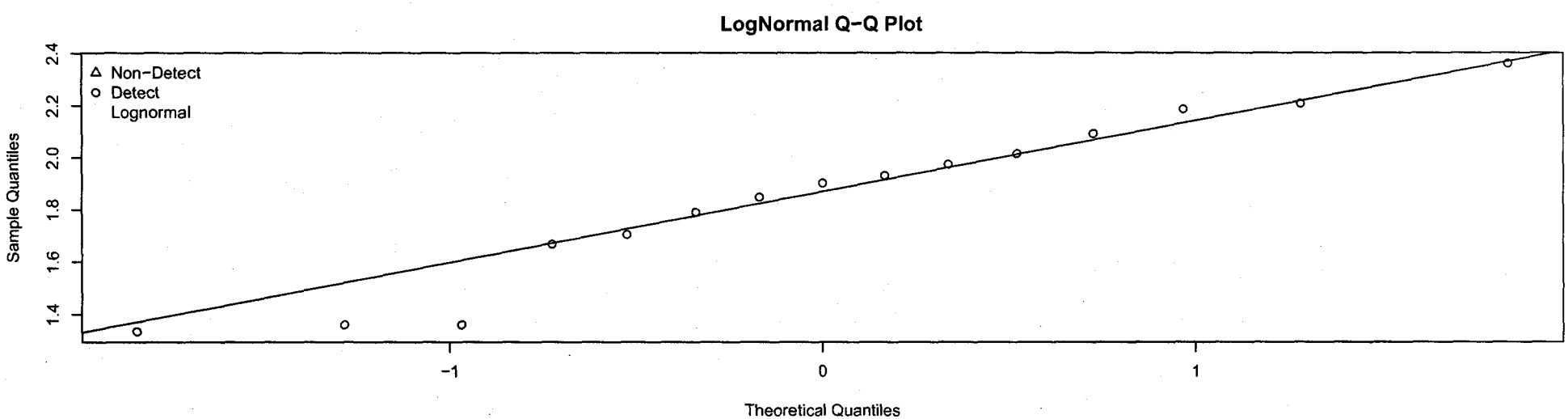
ANTIMONY





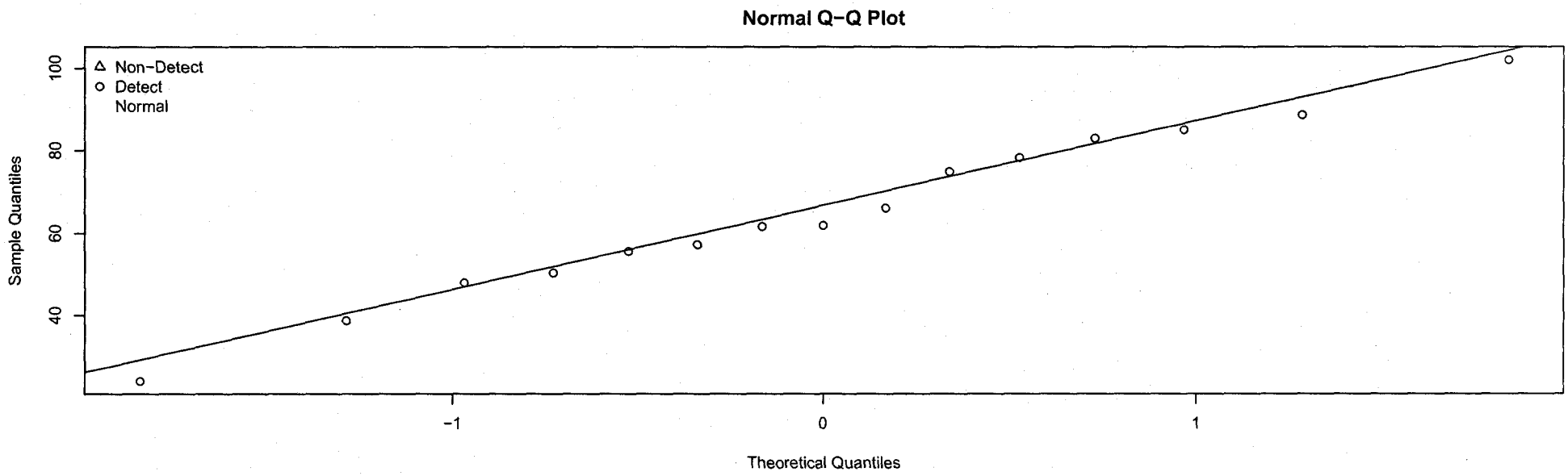
Transition
Surface Soil
ARSENIC

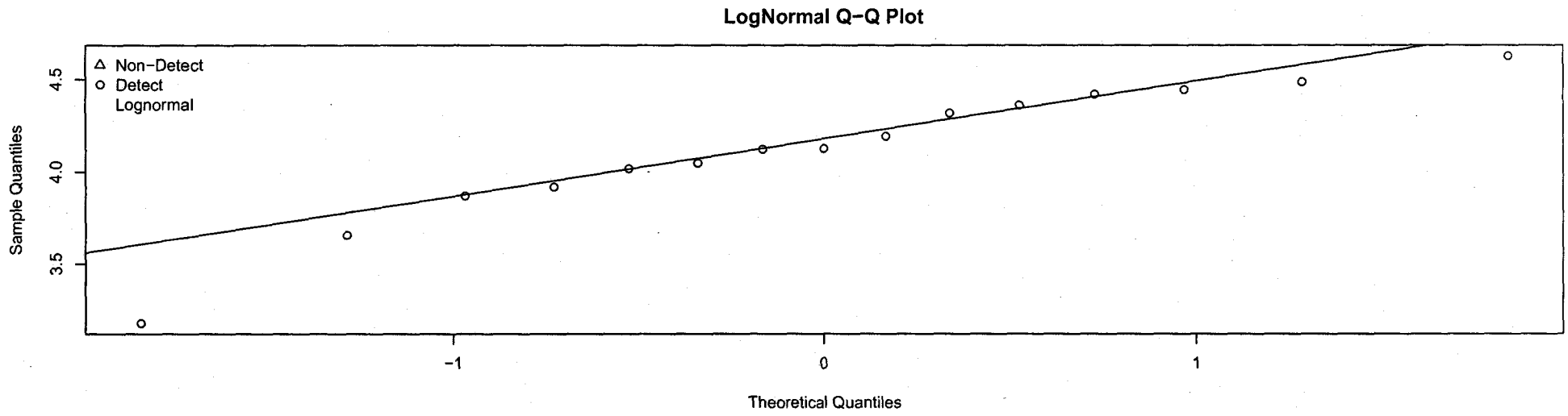




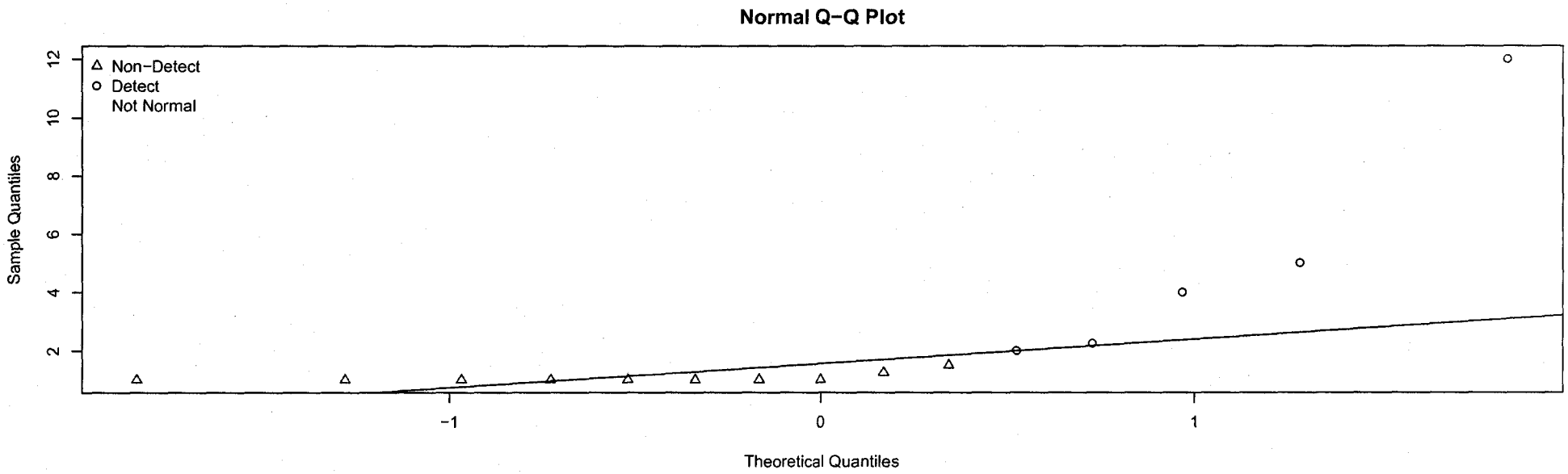
Transition
Surface Soil

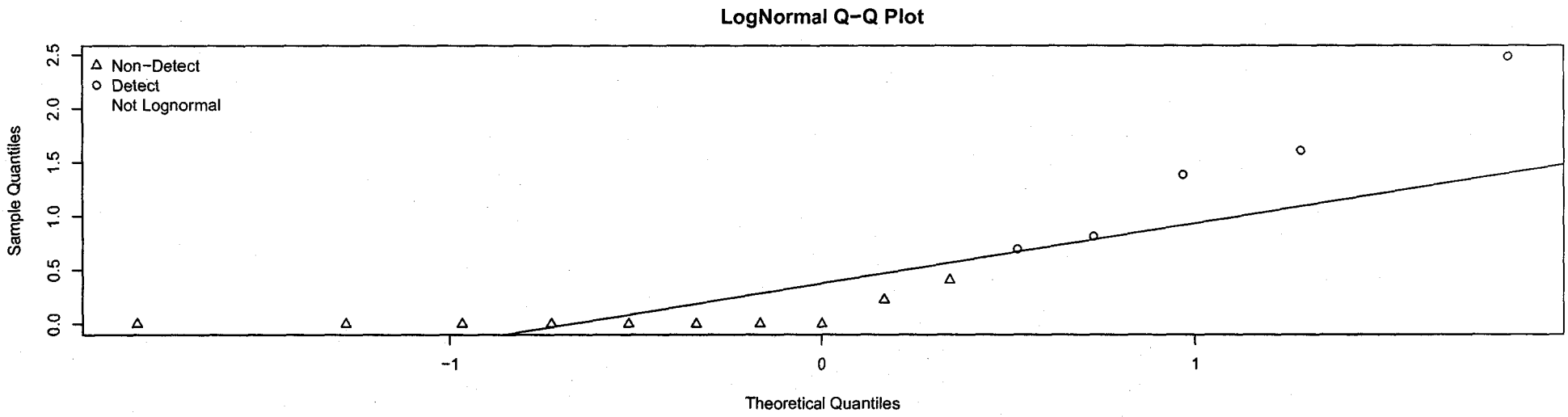
BARIUM



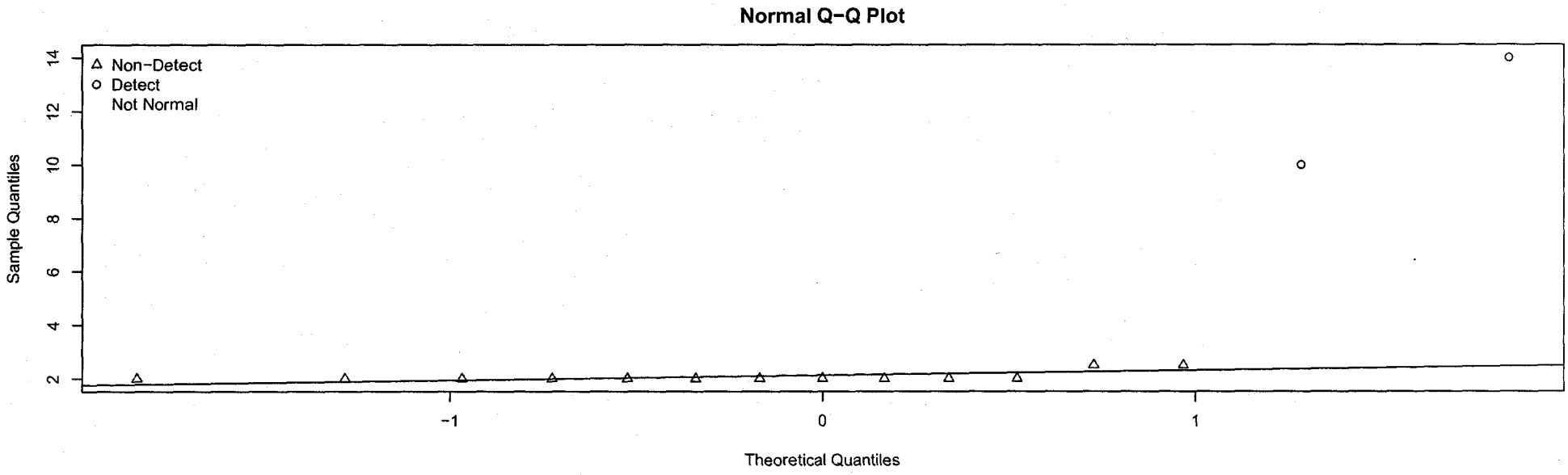


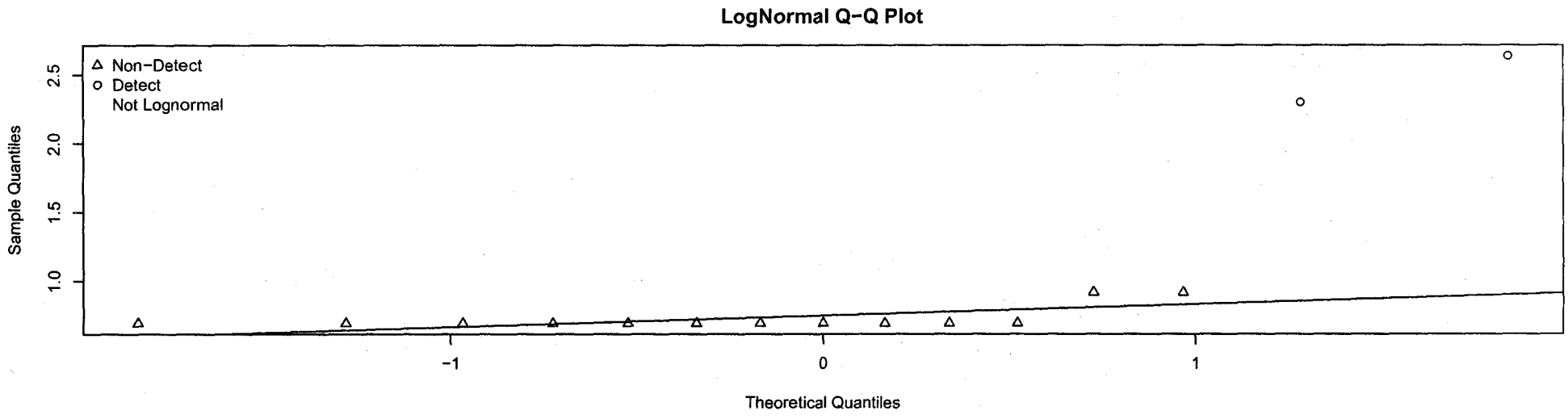
Transition
Surface Soil
BENZO(A)ANTHRACENE



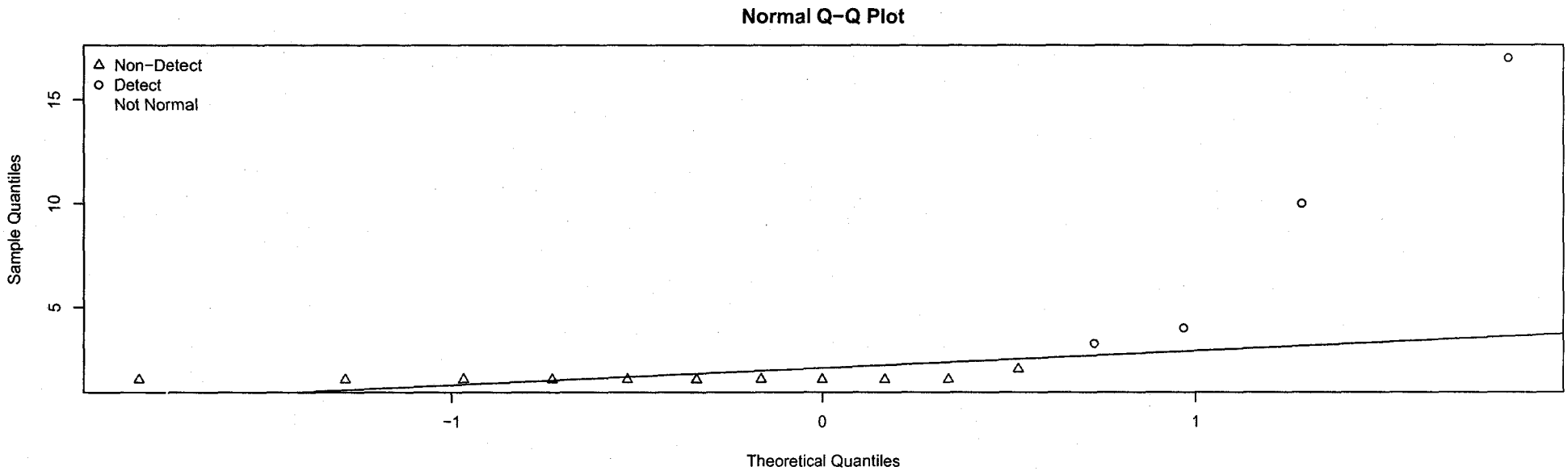


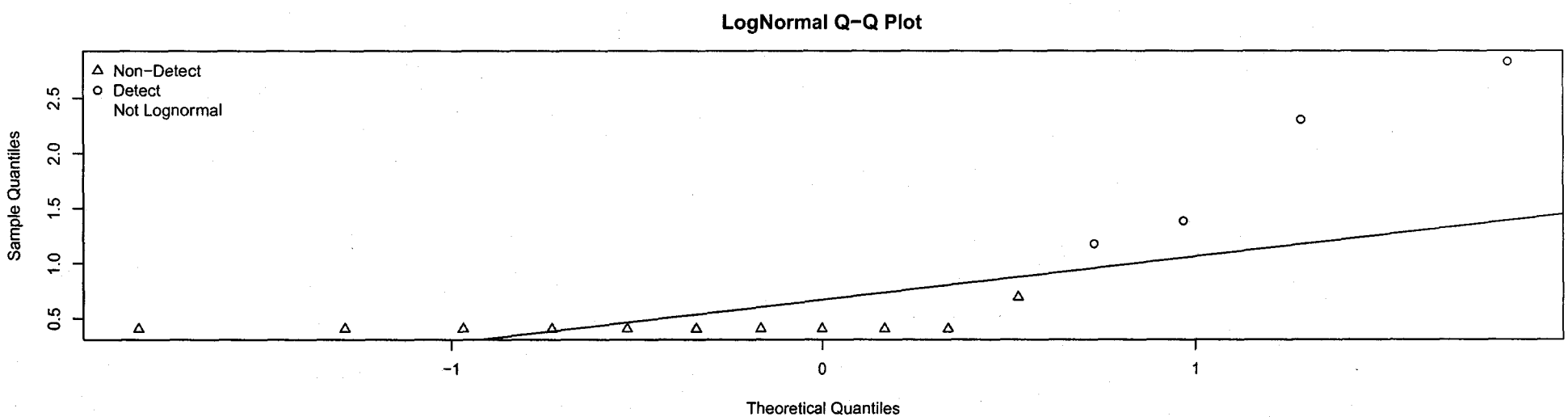
Transition
Surface Soil
BENZO(A)PYRENE



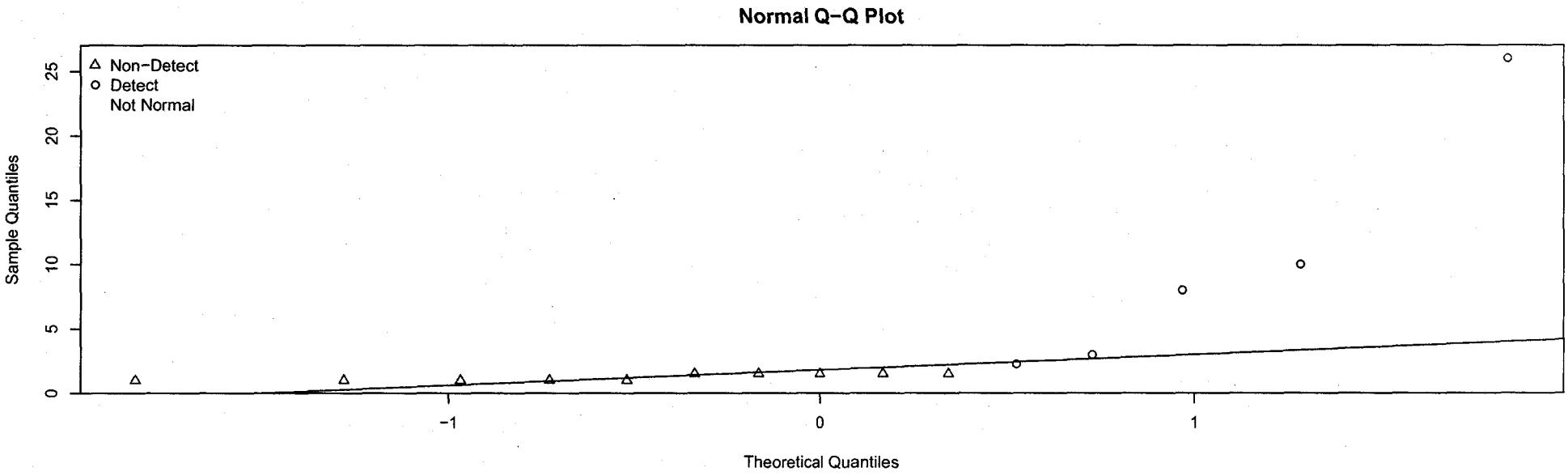


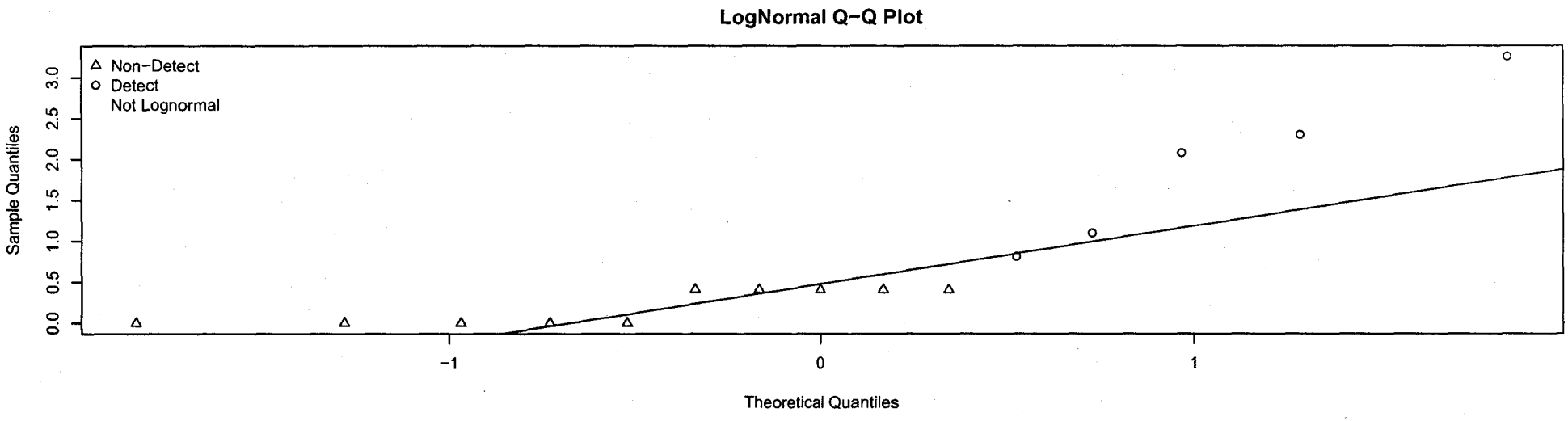
Transition
Surface Soil
BENZO(B)FLUORANTHENE





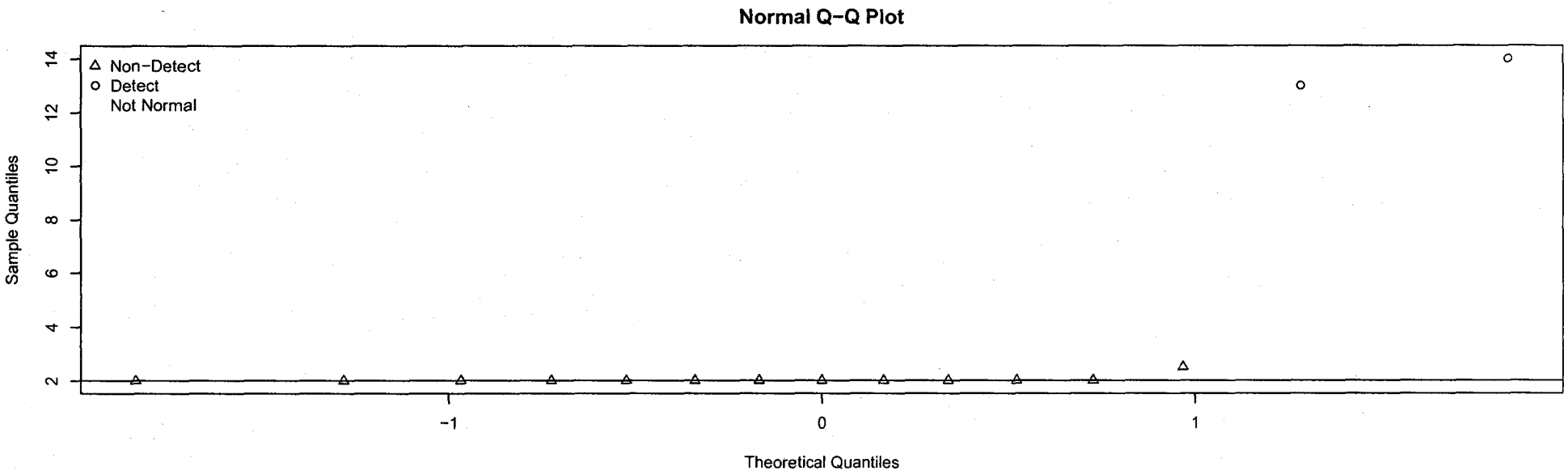
Transition
Surface Soil
BENZO(G,H,I)PERYLENE

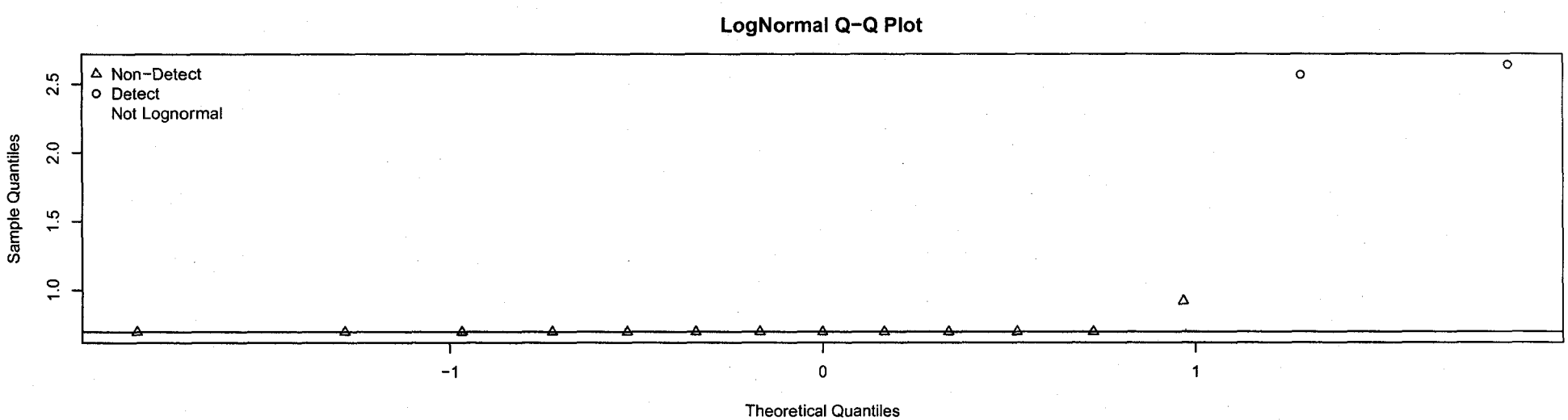




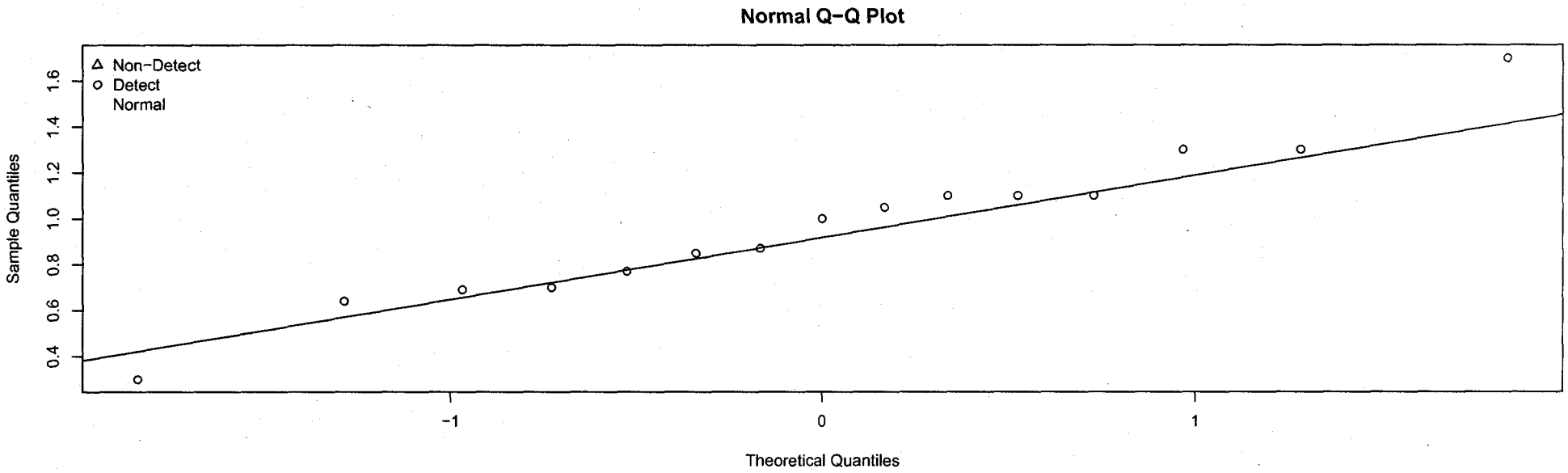
Transition
Surface Soil

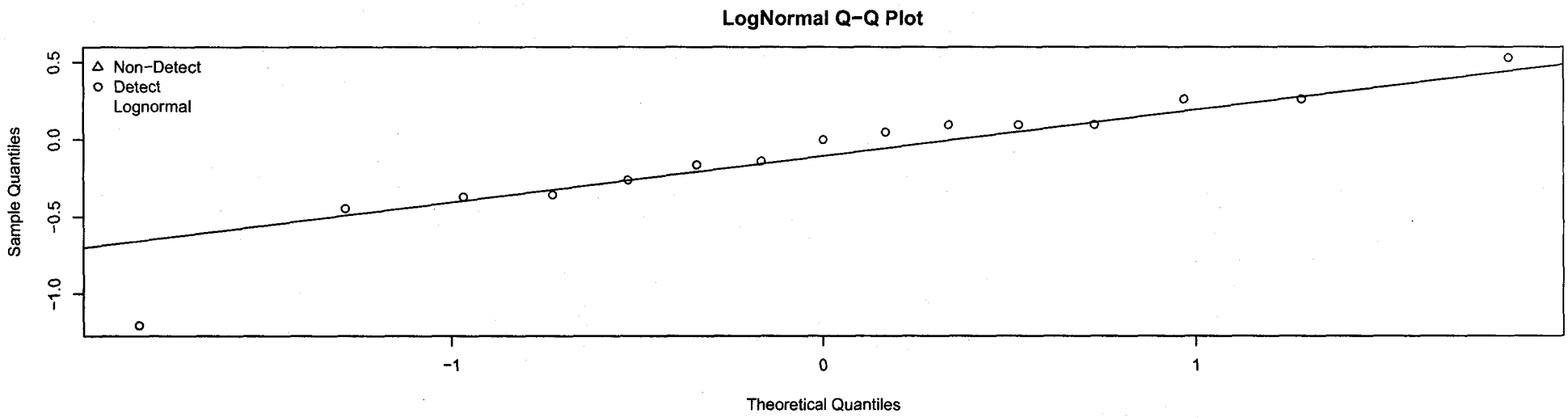
BENZO(K)FLUORANTHENE





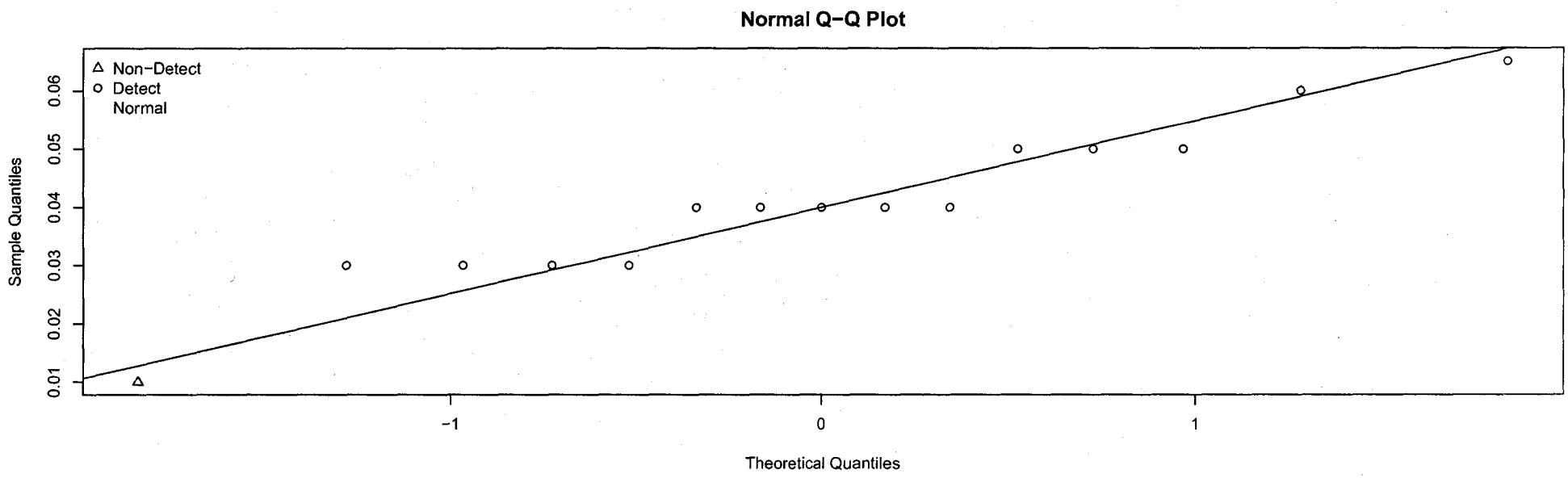
Transition
Surface Soil
BERYLLIUM

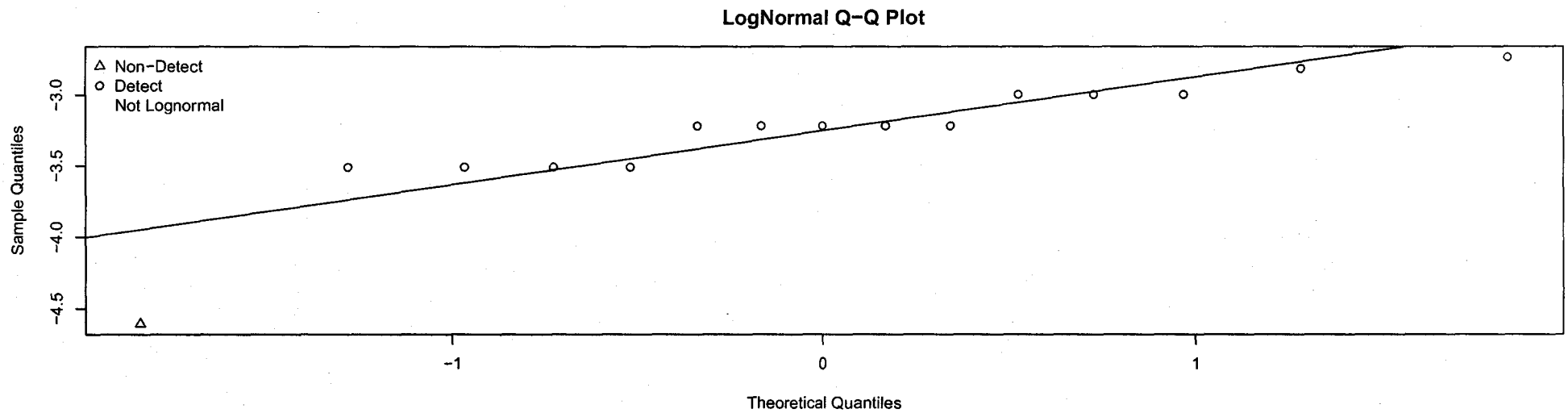




Transition
Surface Soil

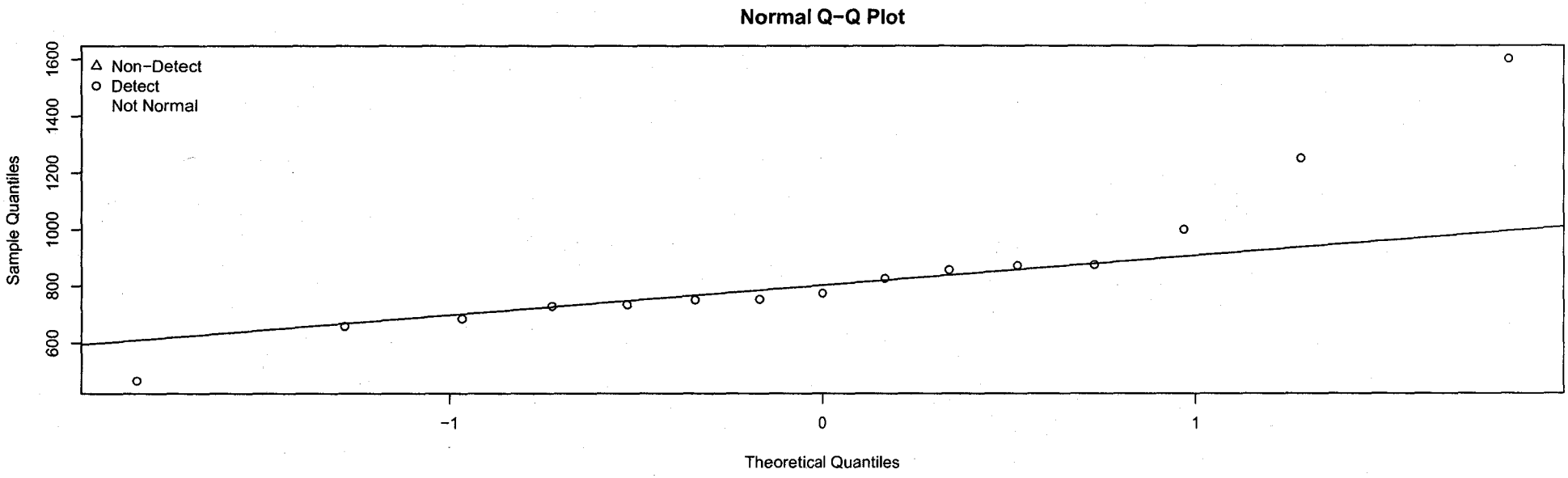
CADMIUM

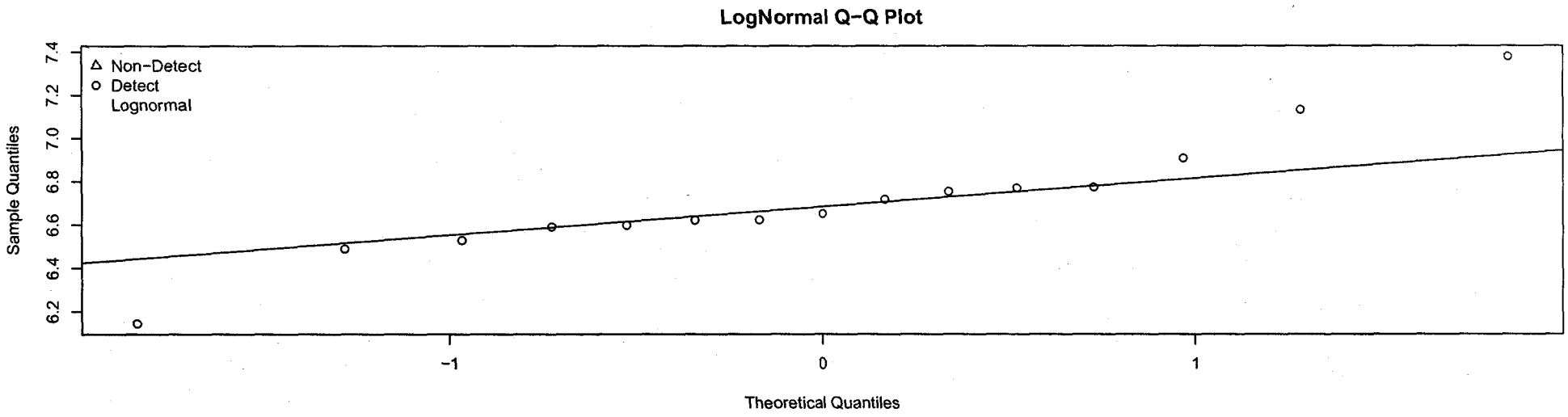




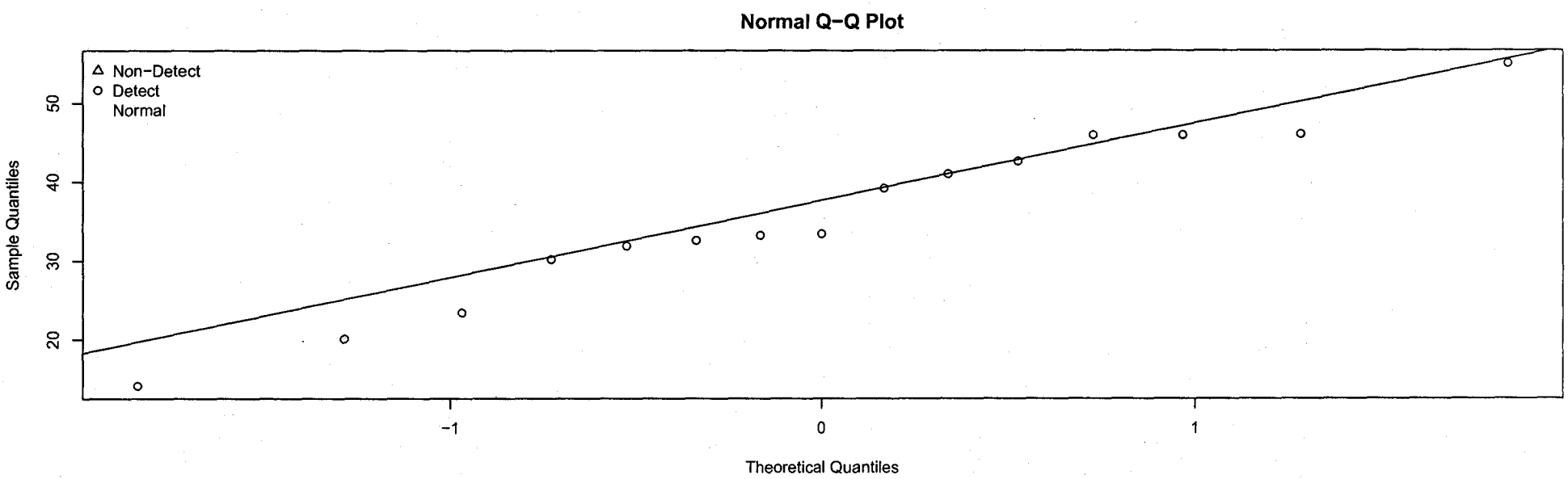
Transition
Surface Soil

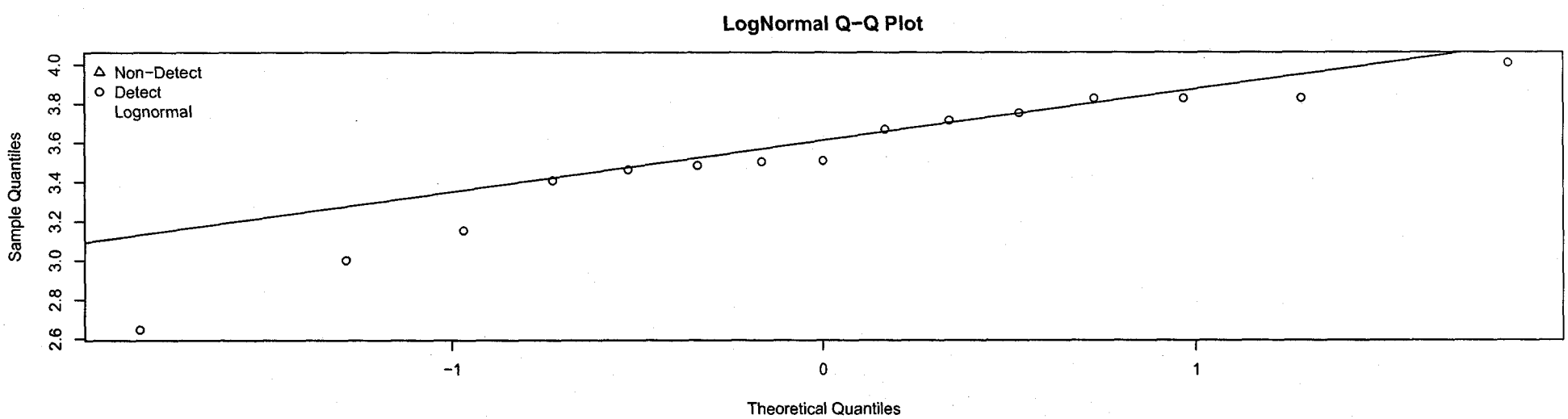
CALCIUM



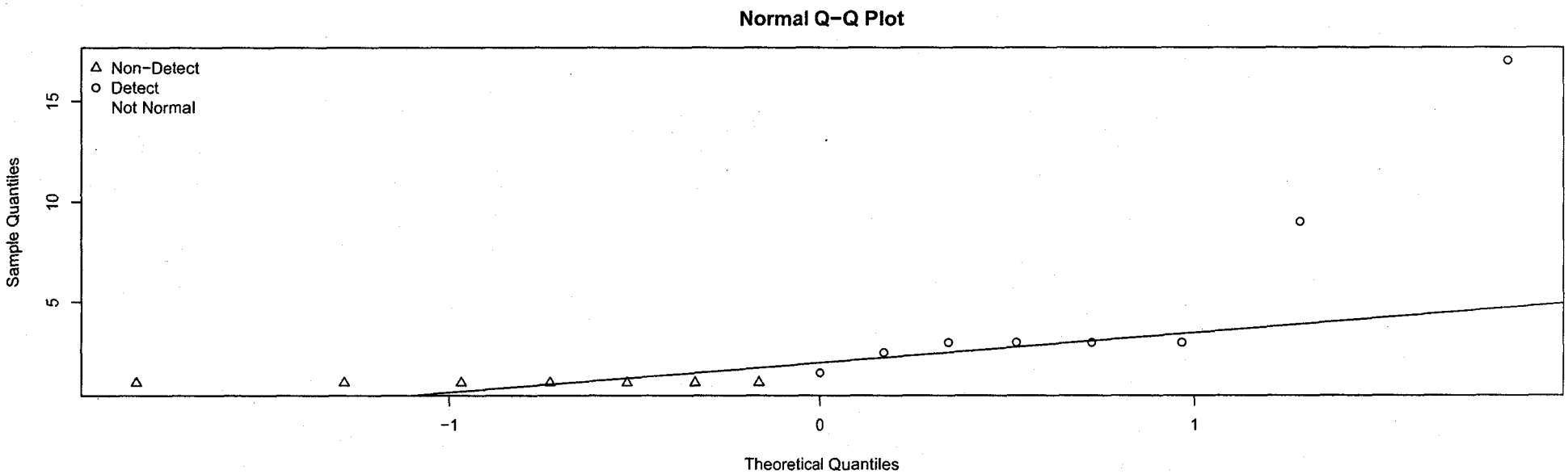


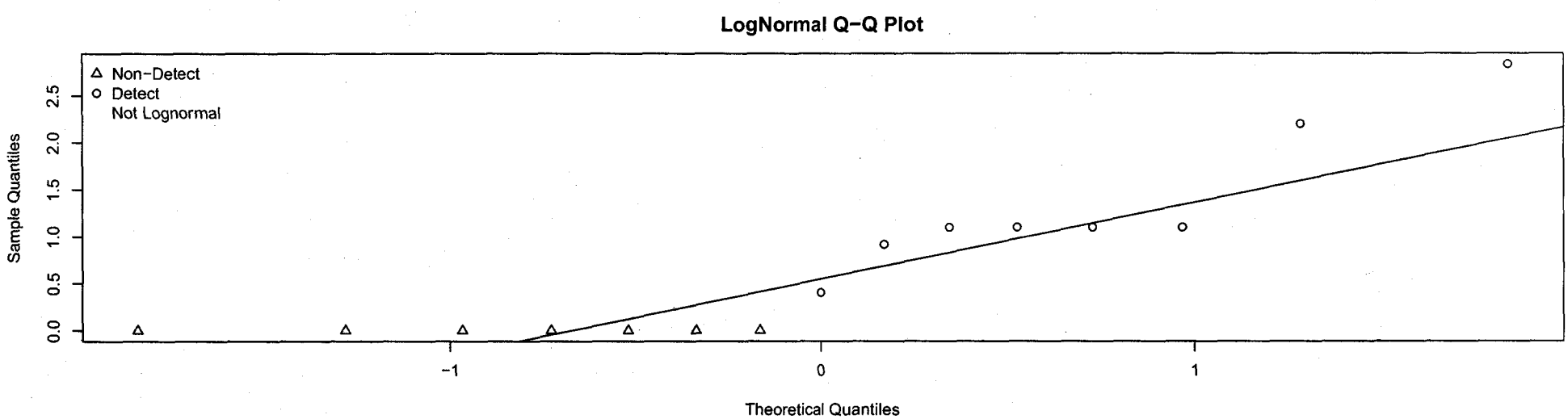
Transition
Surface Soil
CHROMIUM





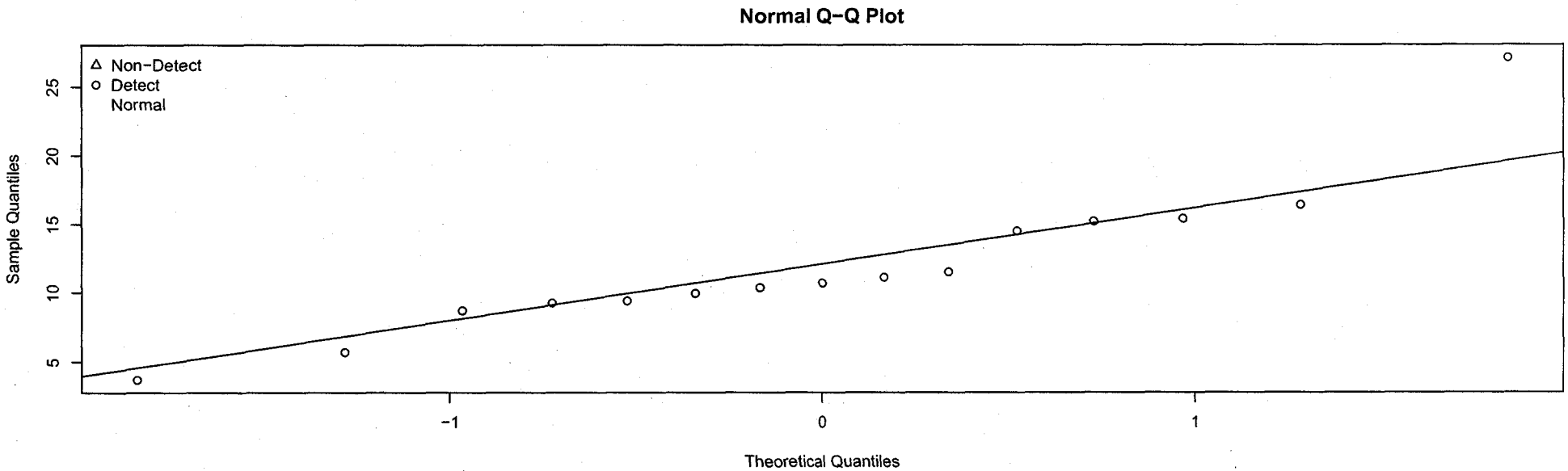
Transition
Surface Soil
CHRYSENE

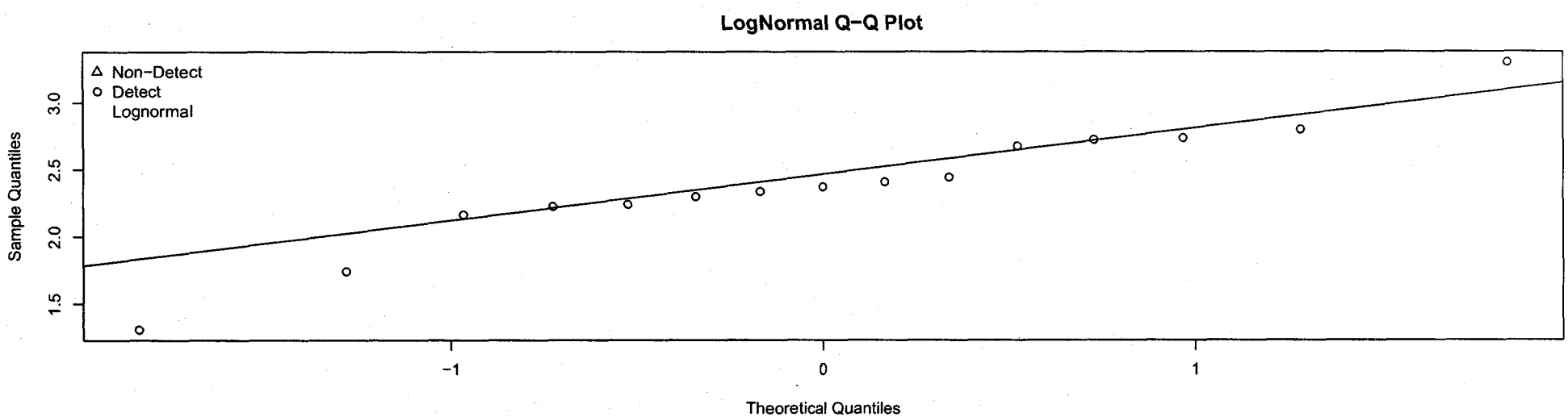




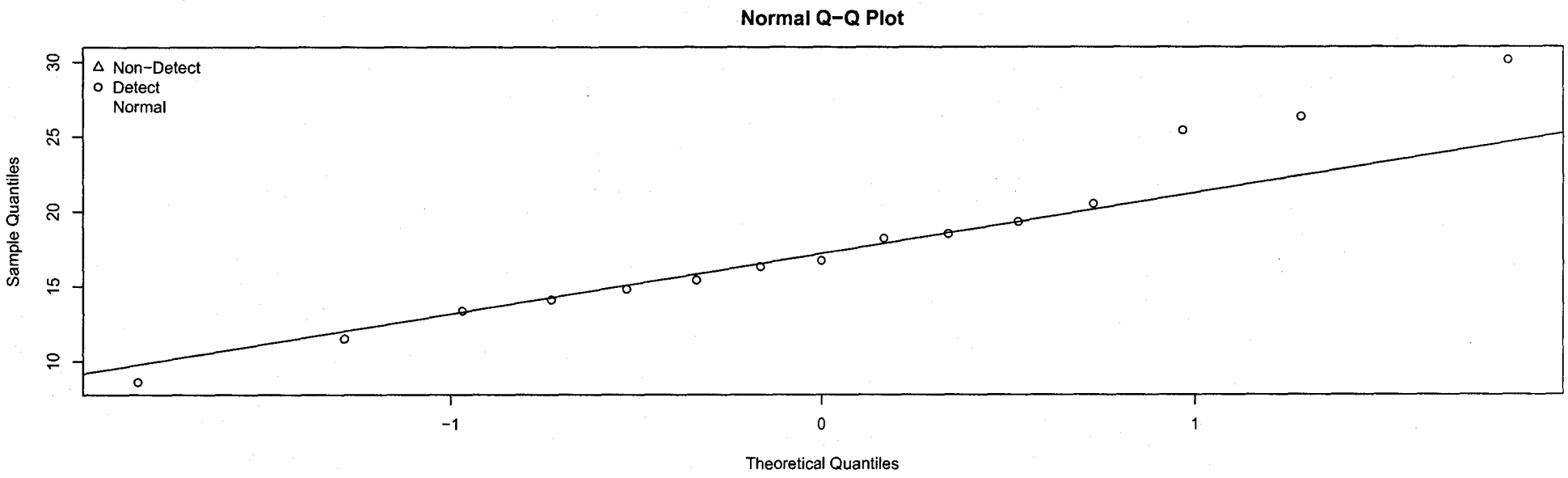
Transition
Surface Soil

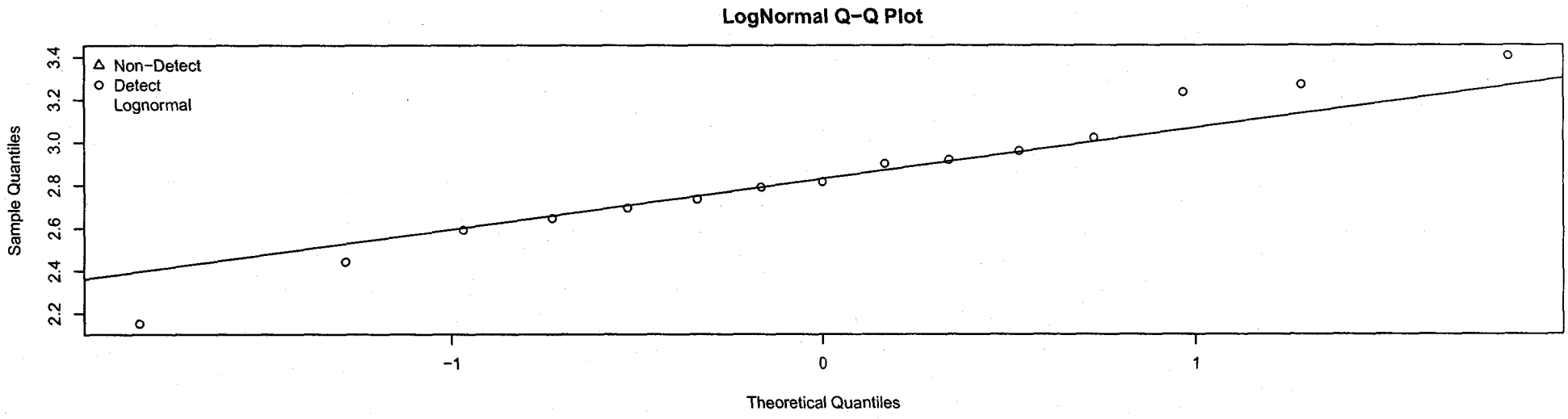
COBALT



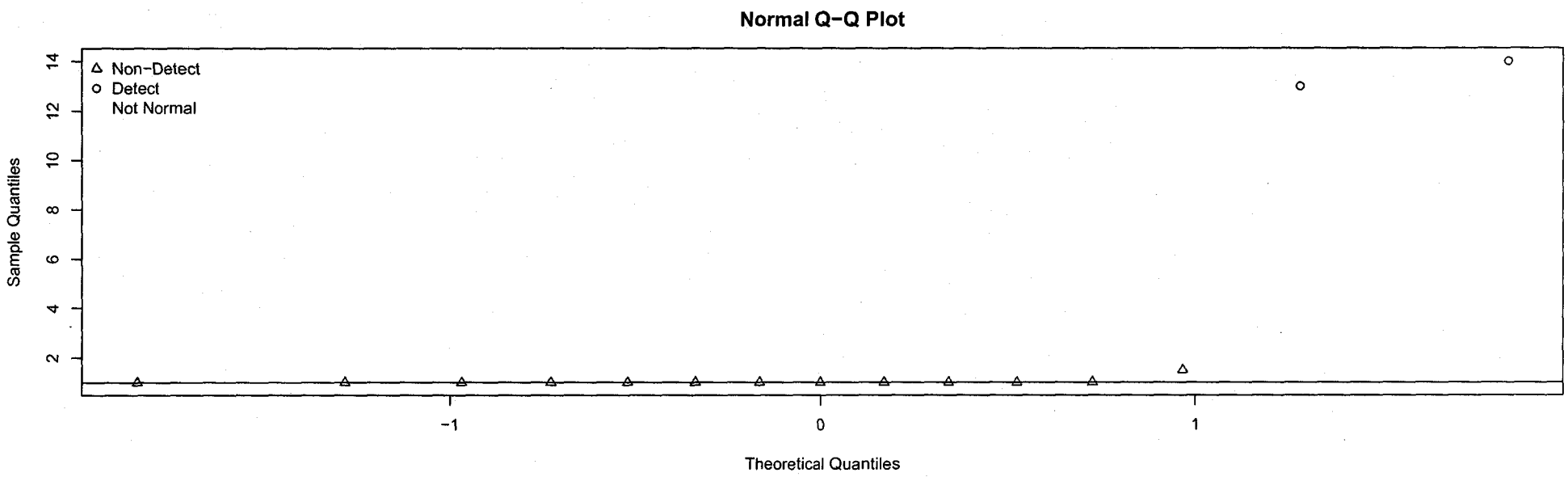


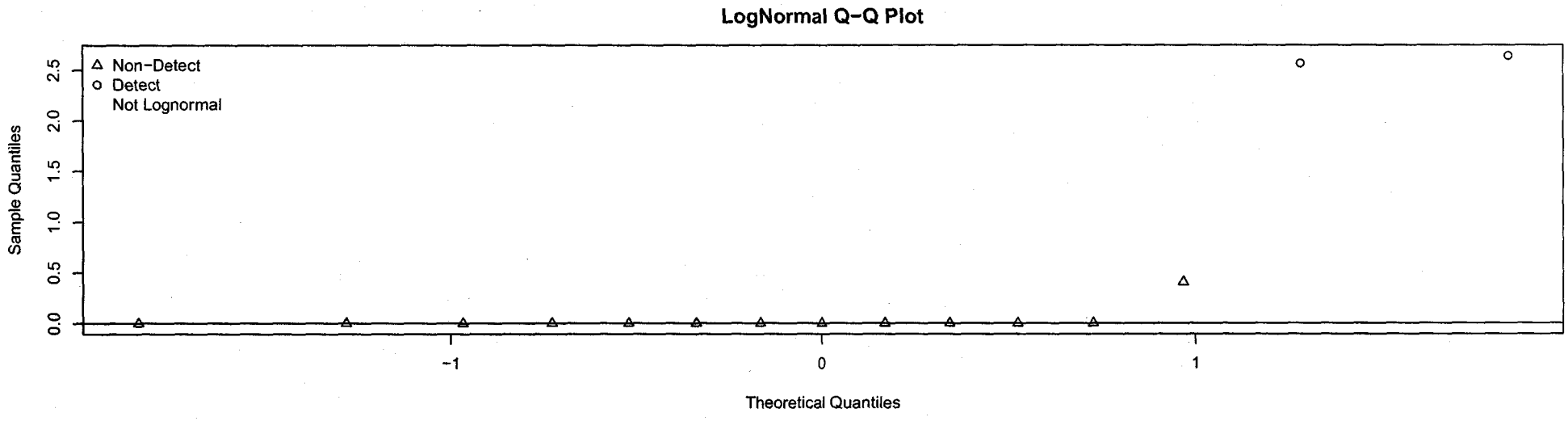
Transition
Surface Soil
COPPER





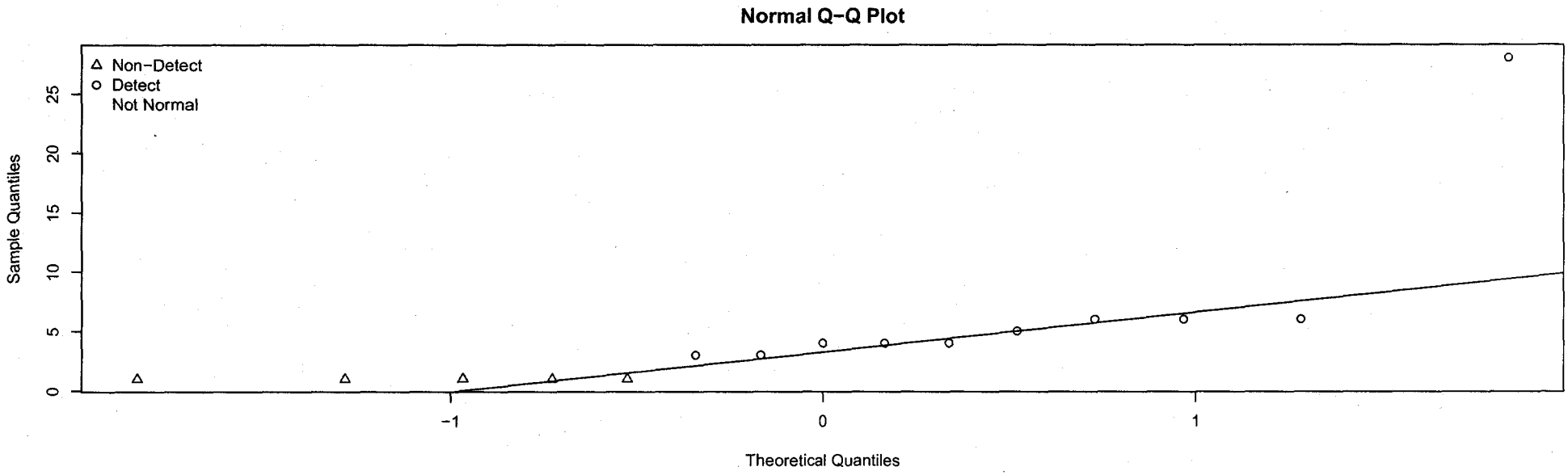
Transition
Surface Soil
DIBENZO(A,H)ANTHRACENE

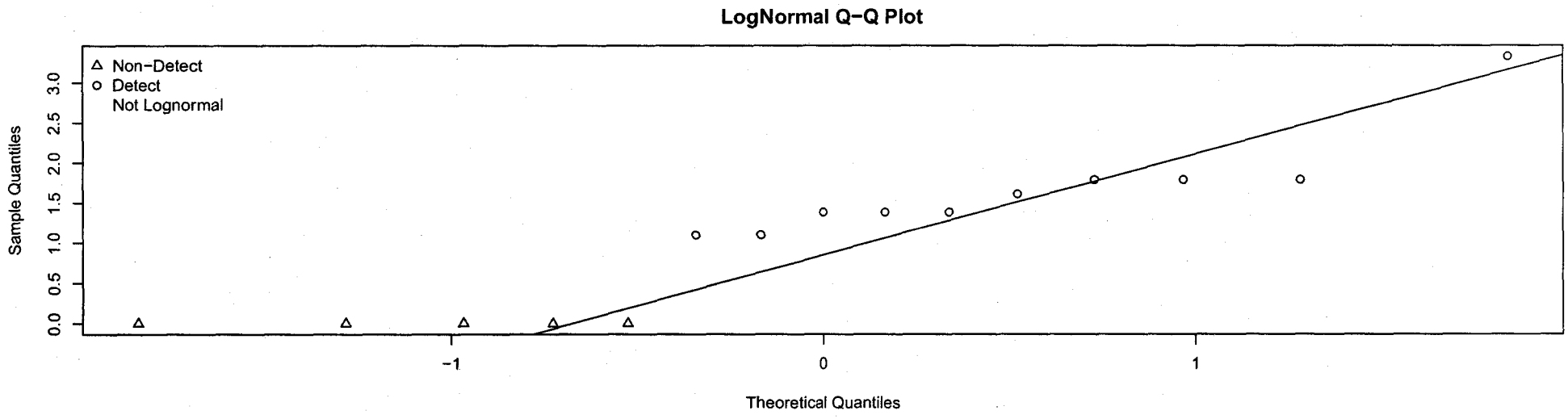




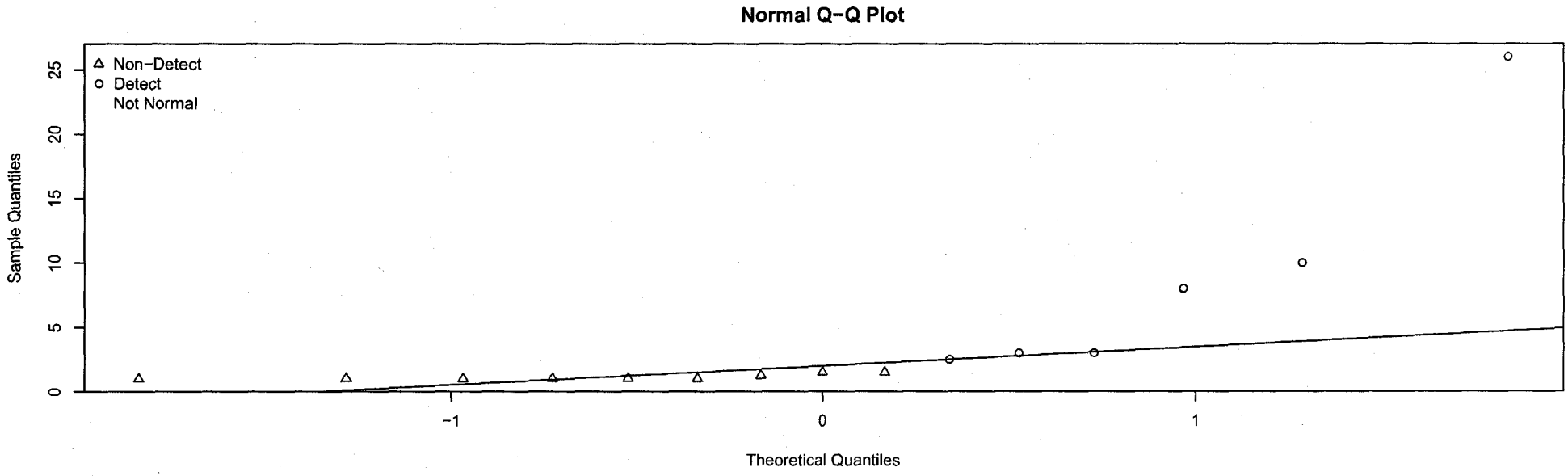
Transition
Surface Soil

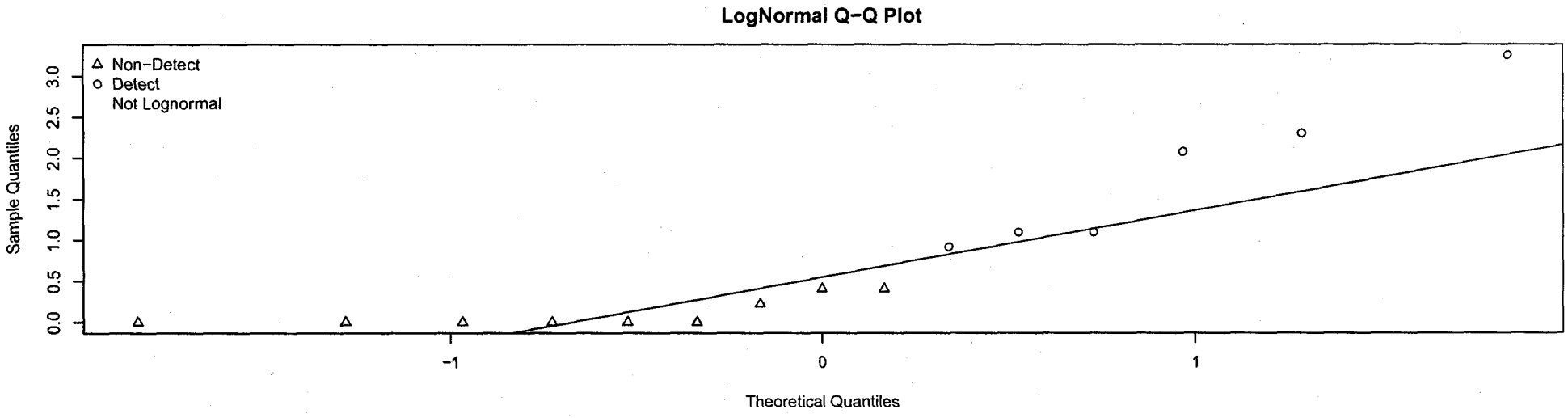
FLUORANTHENE



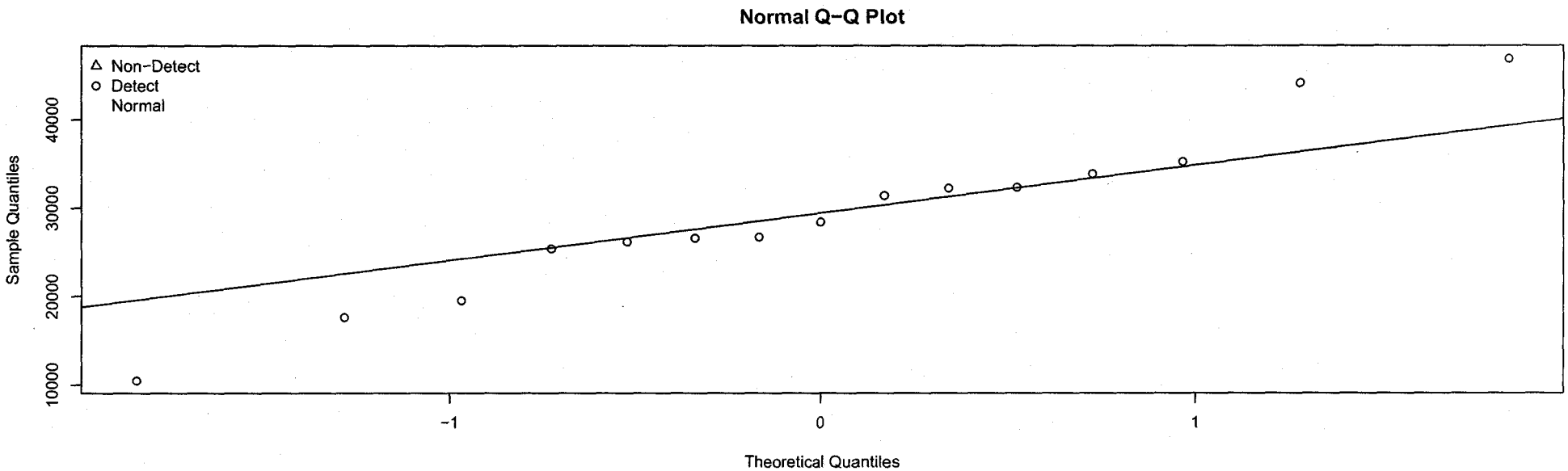


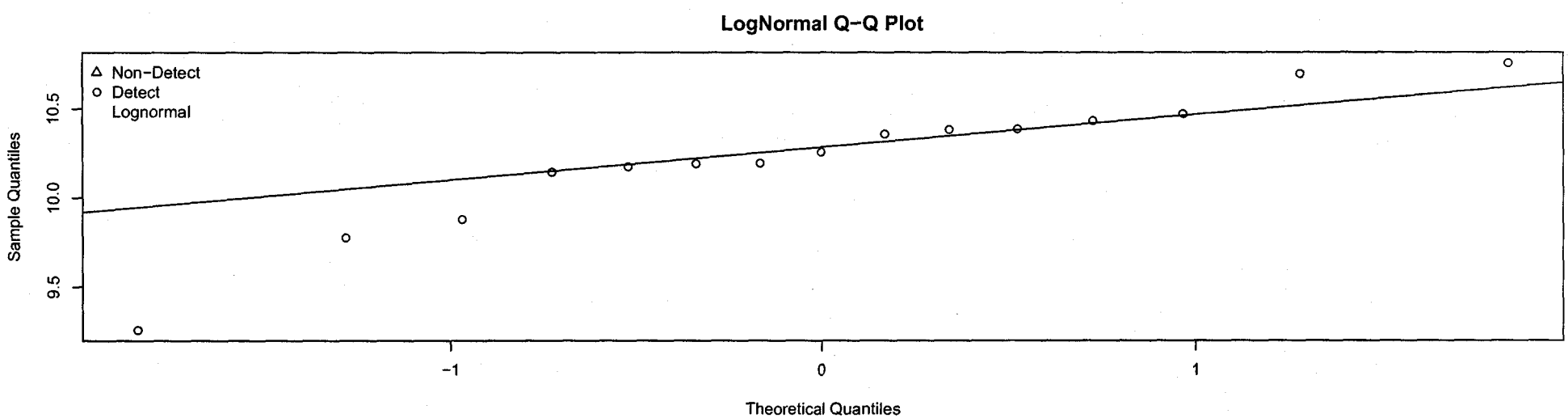
Transition
Surface Soil
INDENO(1,2,3-CD)PYRENE



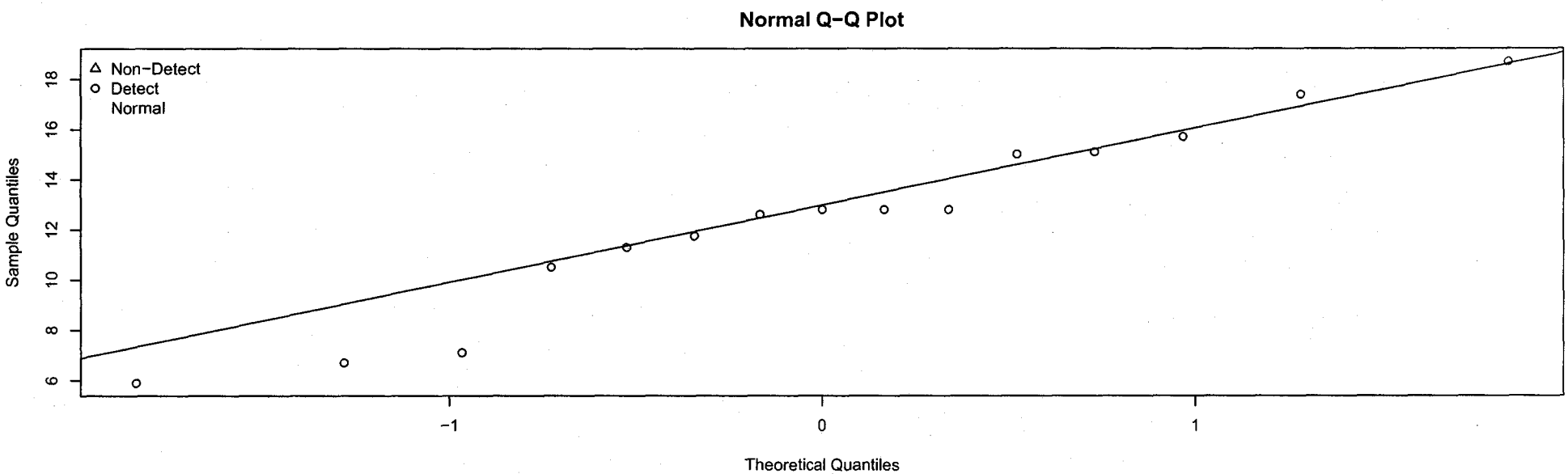


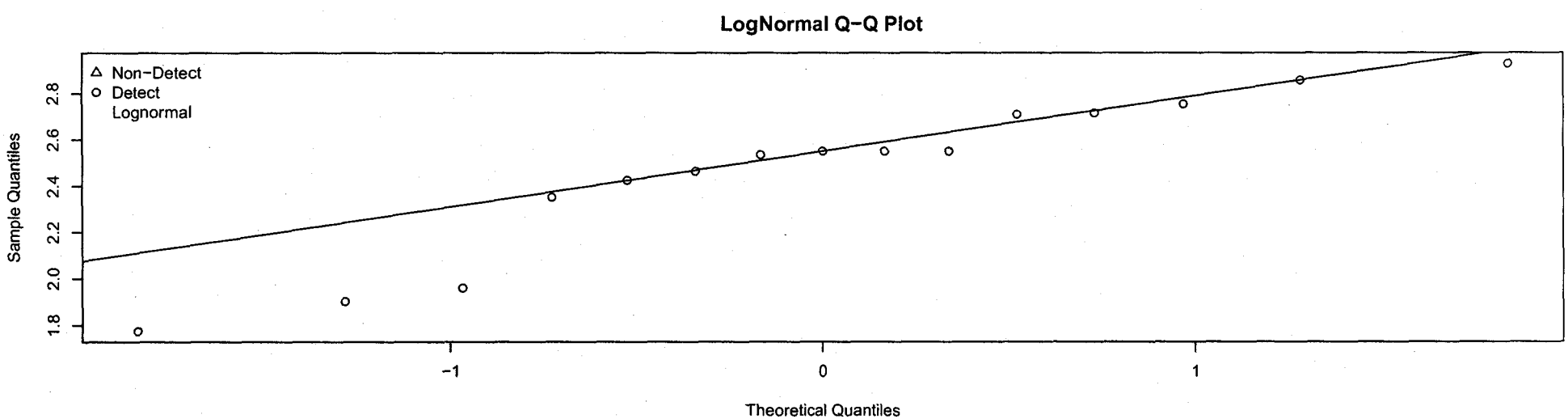
Transition
Surface Soil
IRON



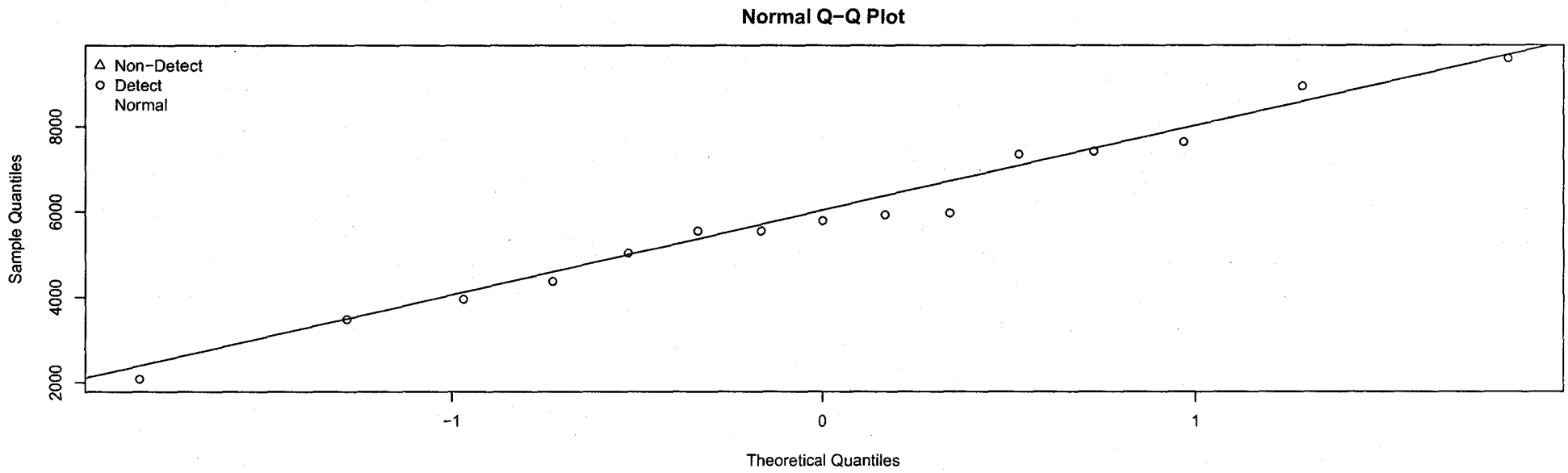


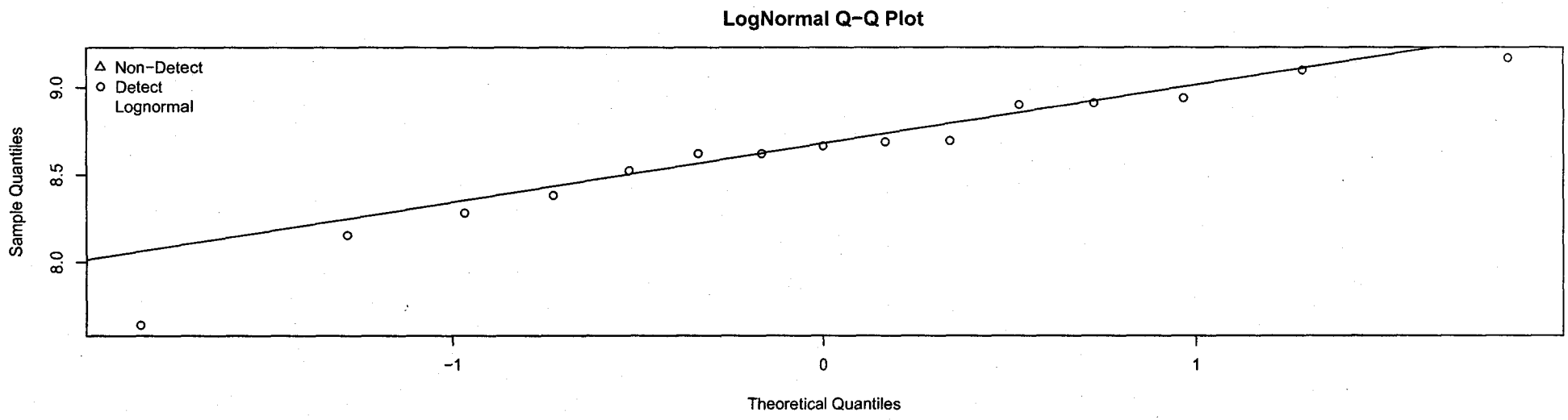
Transition
Surface Soil
LEAD





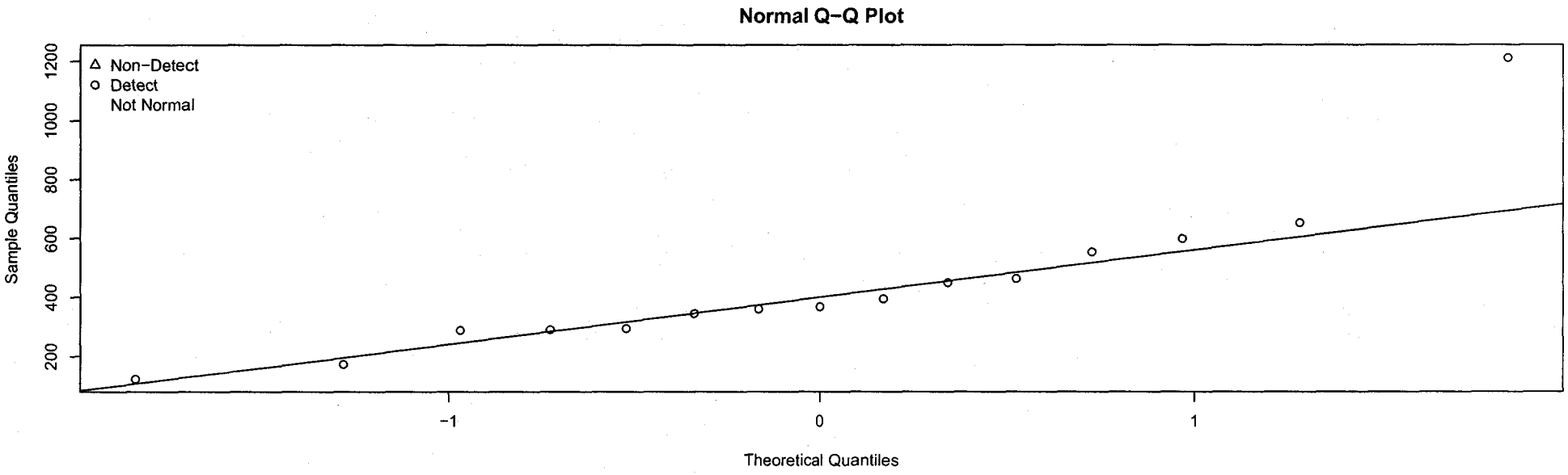
Transition
Surface Soil
MAGNESIUM

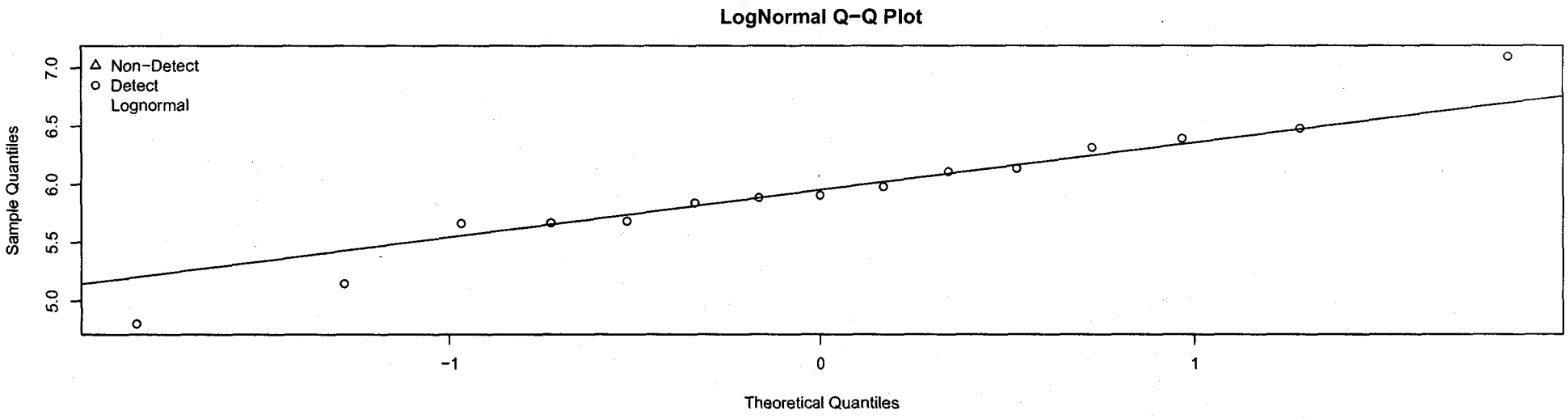




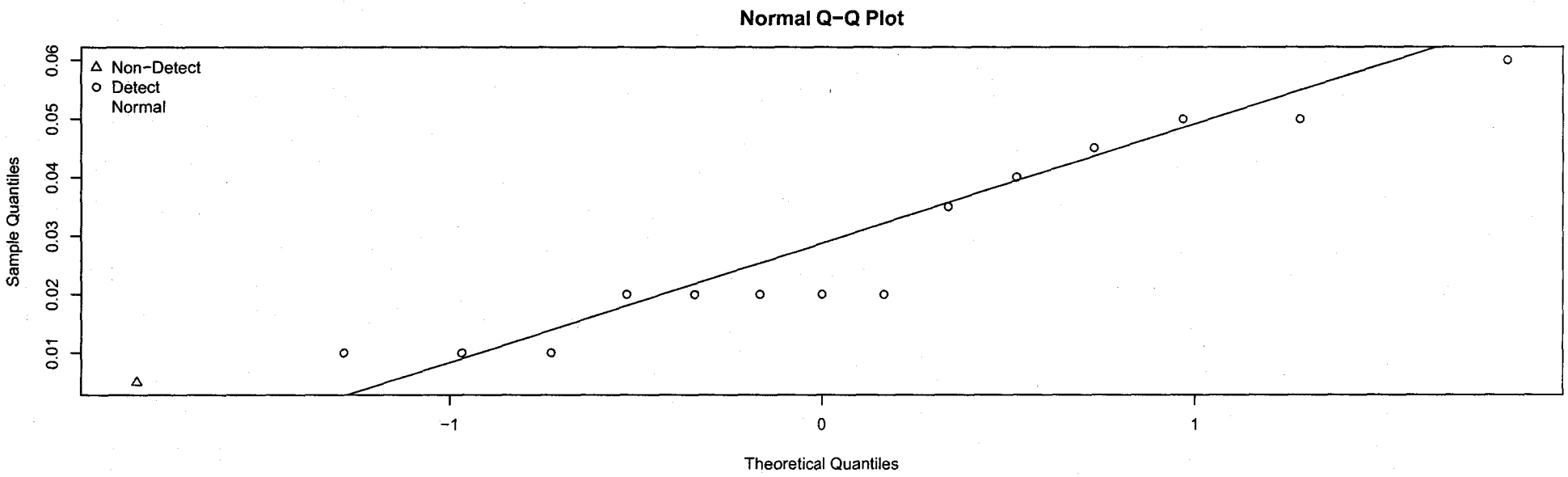
Transition
Surface Soil

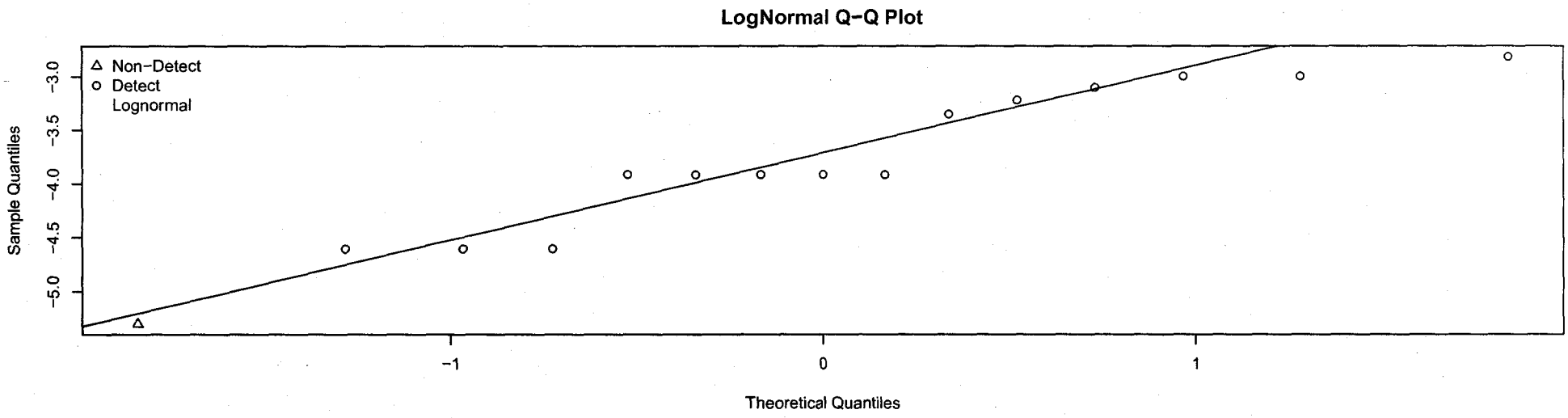
MANGANESE





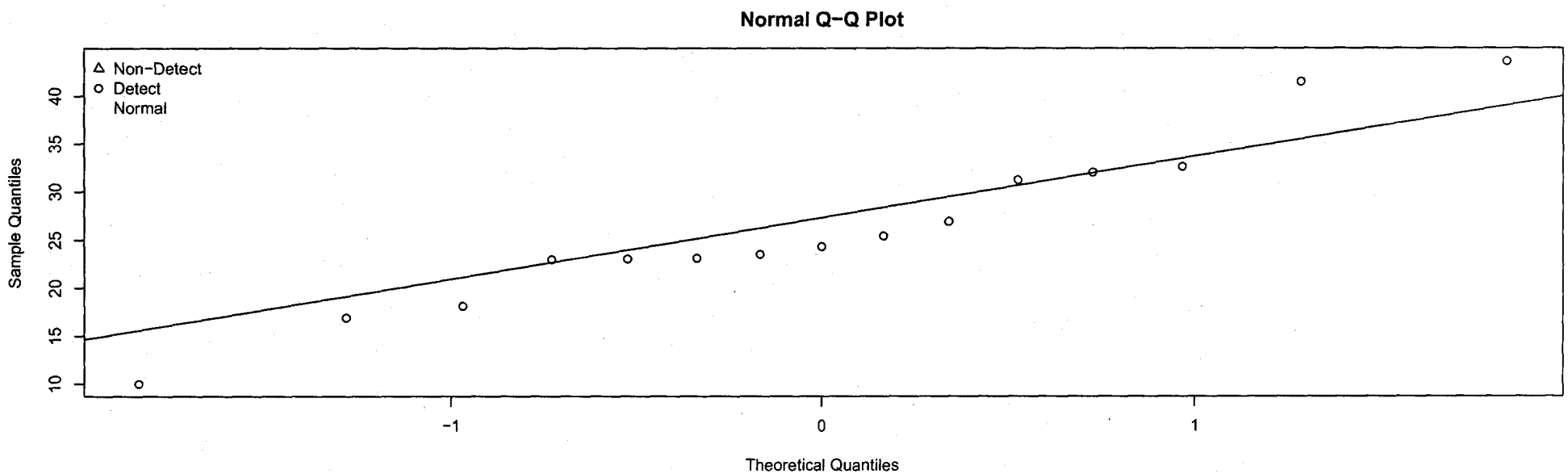
Transition
Surface Soil
MERCURY

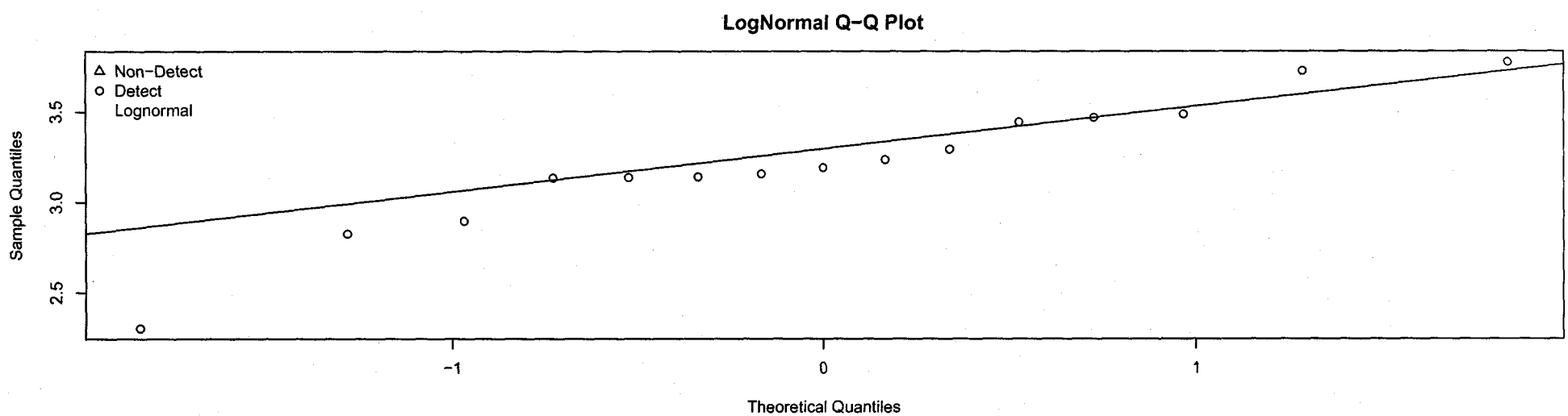




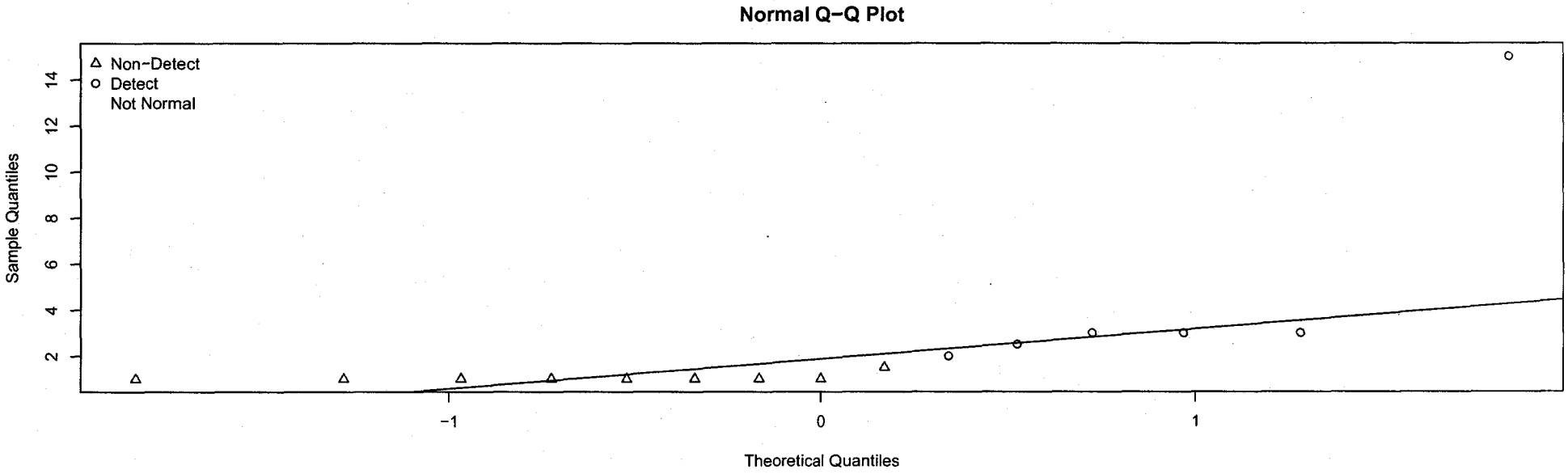
Transition
Surface Soil

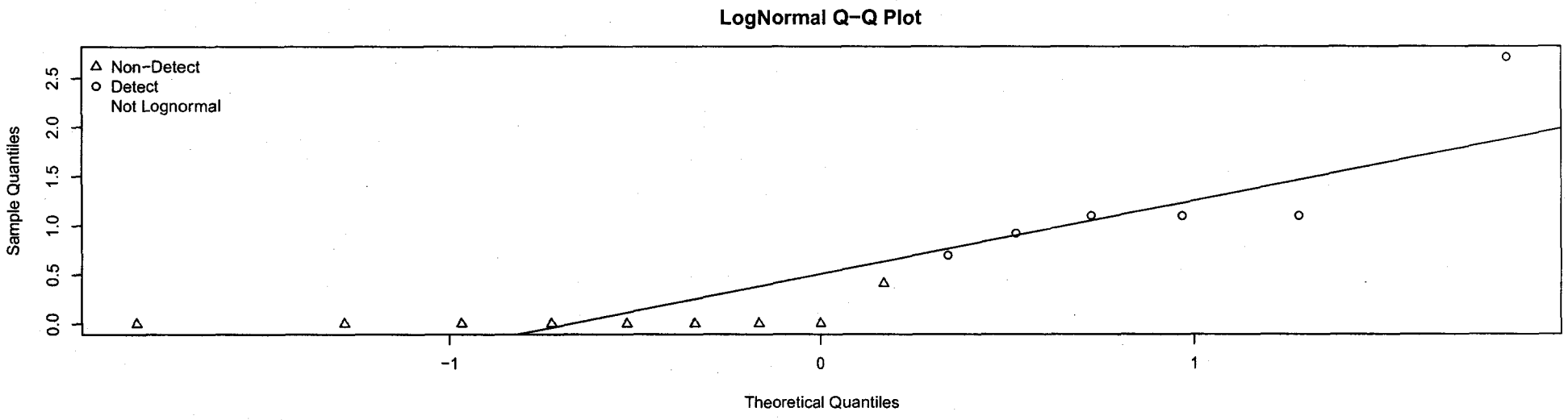
NICKEL



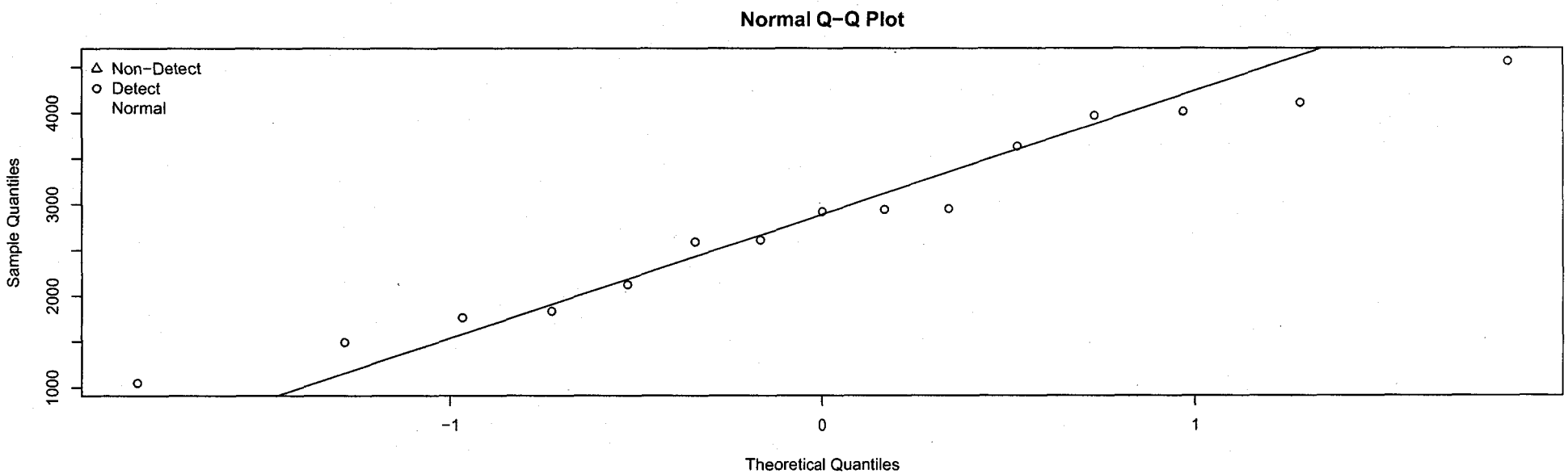


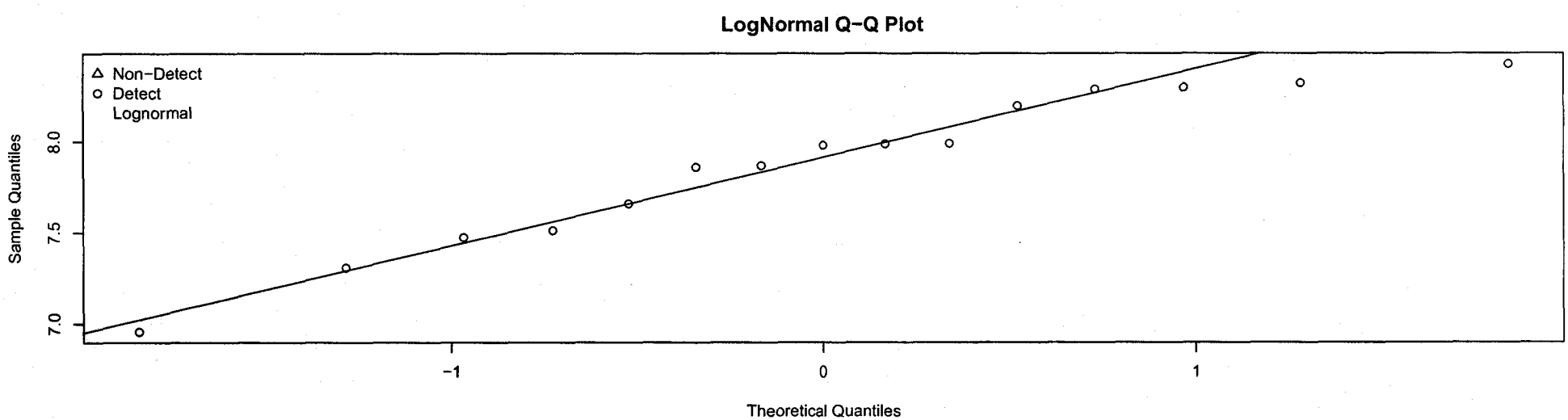
Transition
Surface Soil
PHENANTHRENE





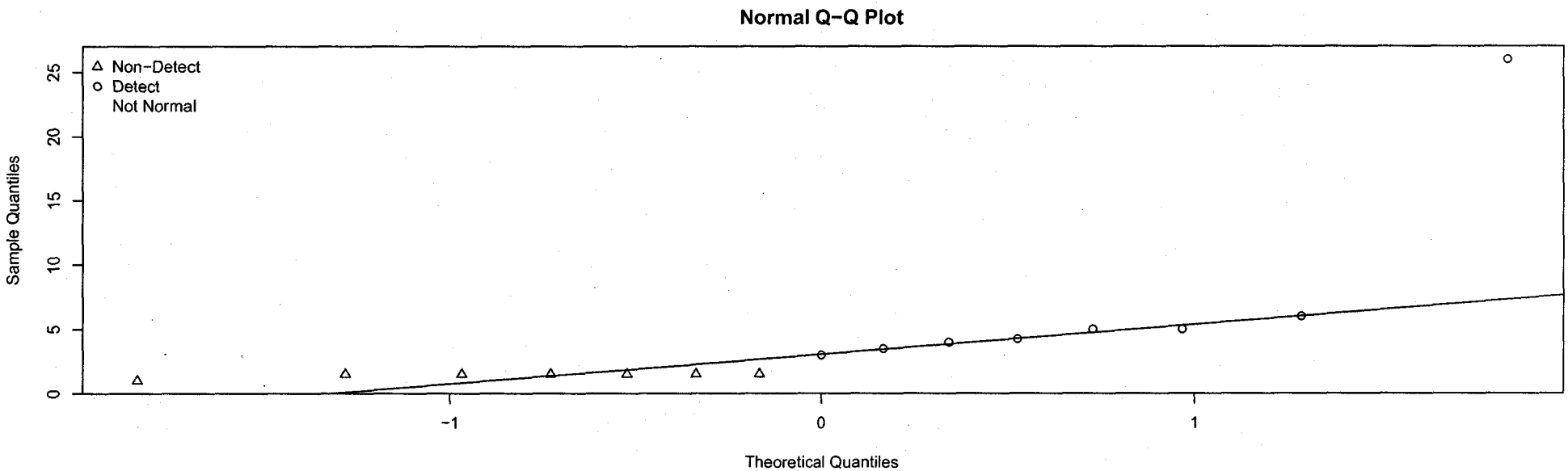
Transition
Surface Soil
POTASSIUM

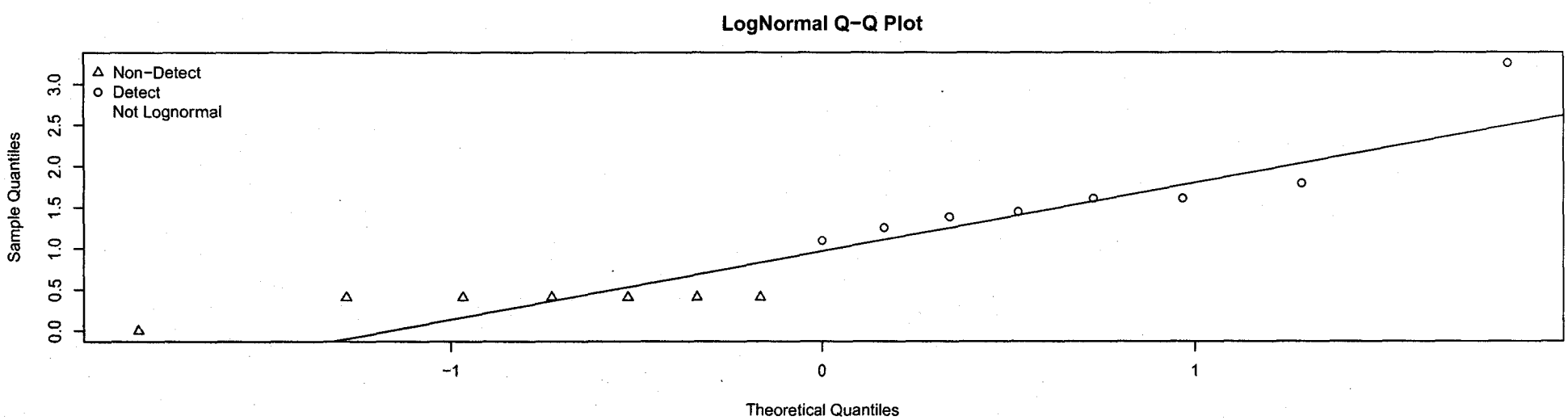




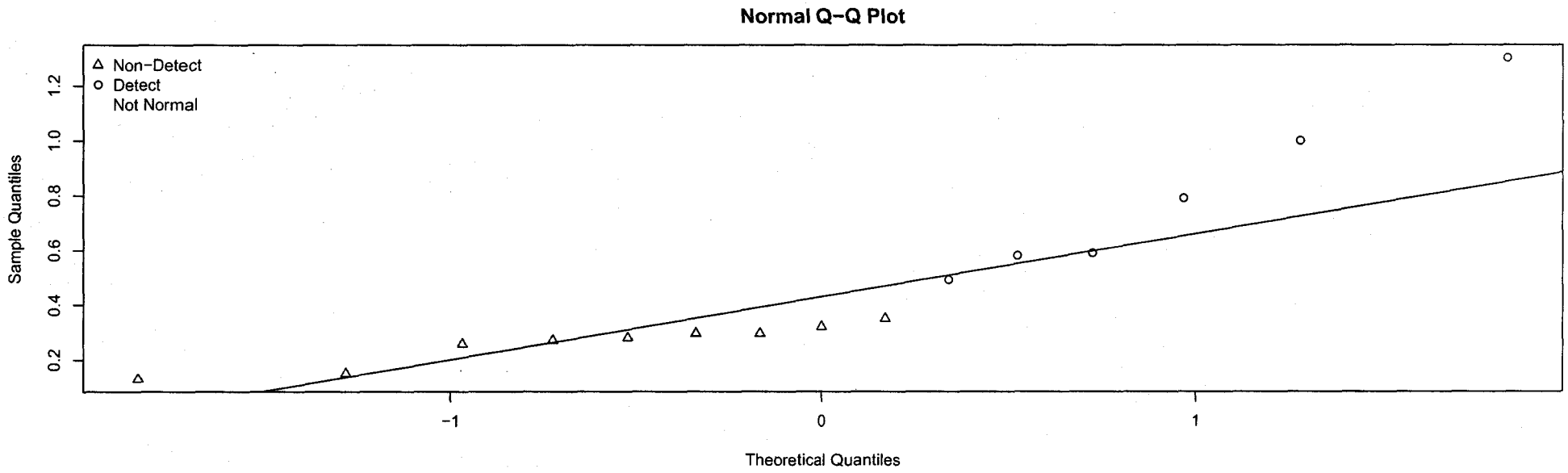
Transition
Surface Soil

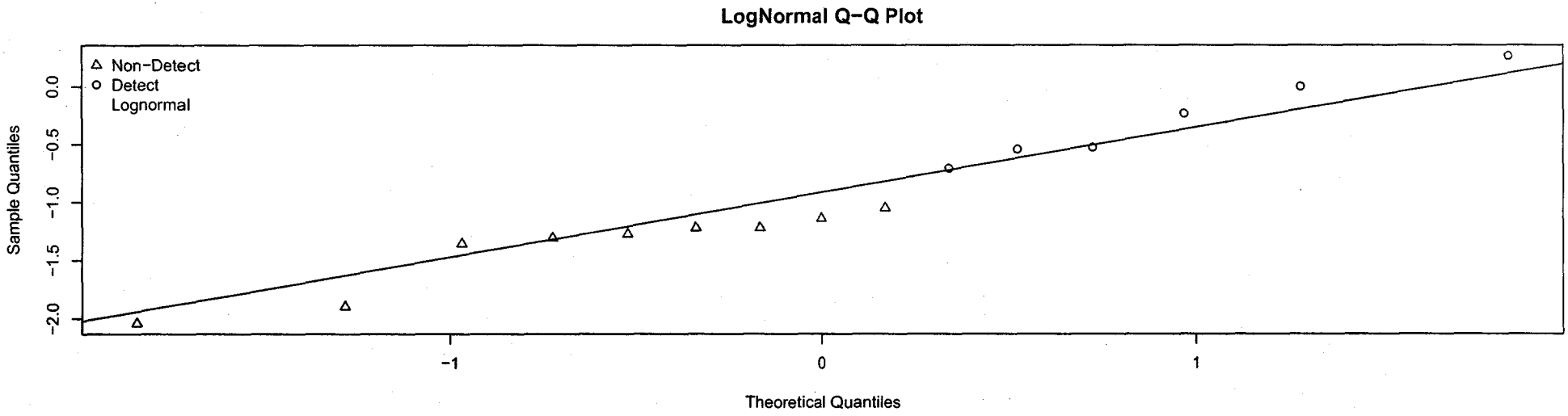
PYRENE



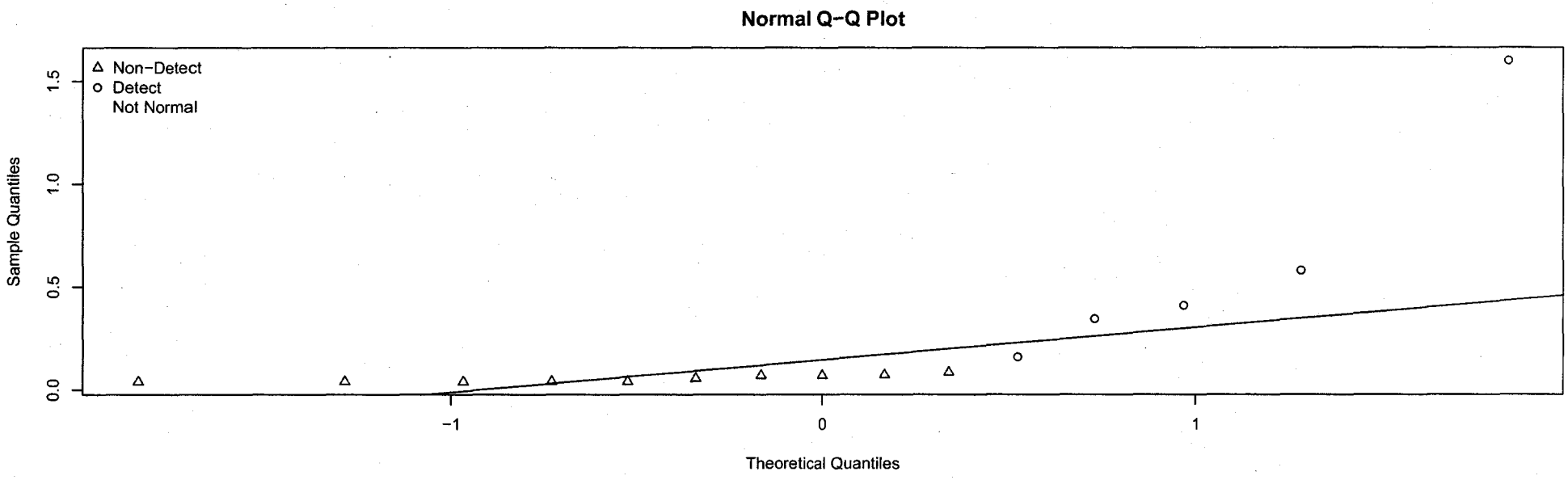


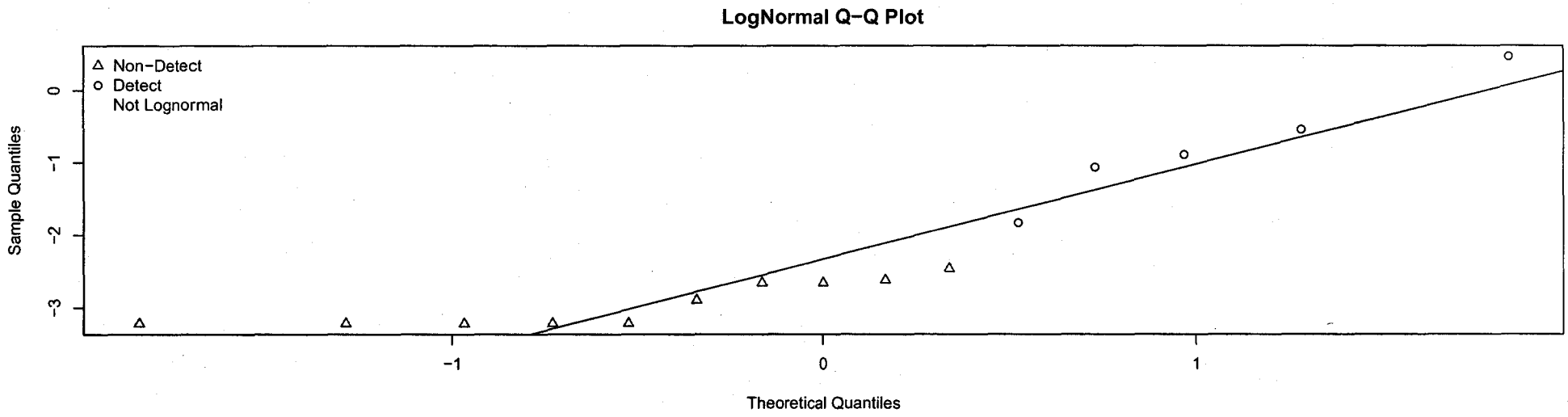
Transition
Surface Soil
SELENIUM



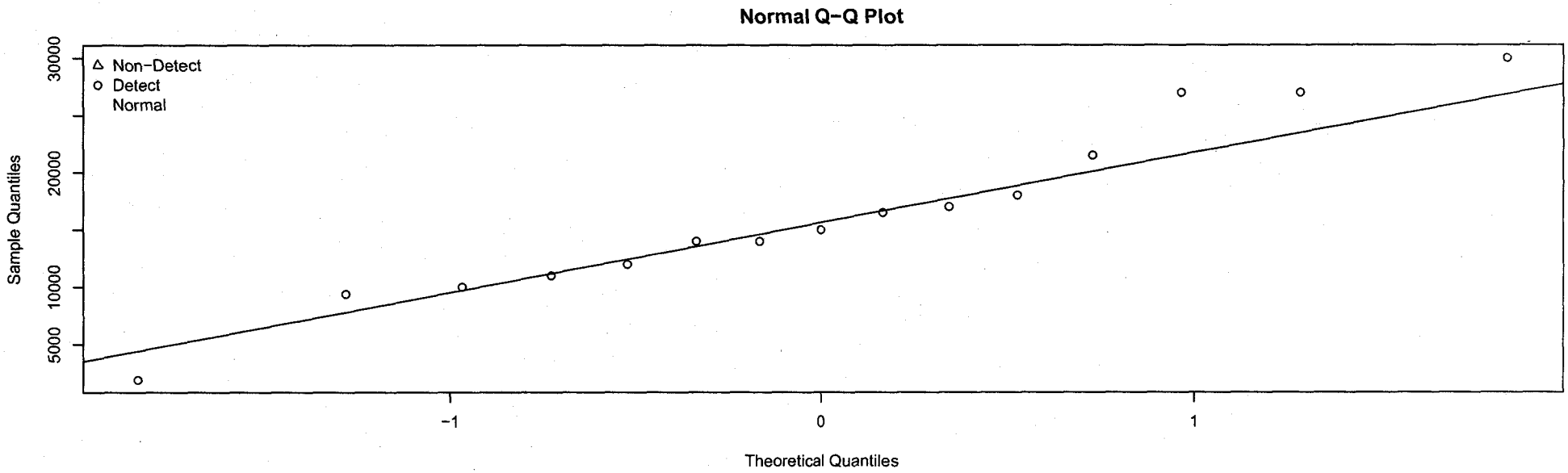


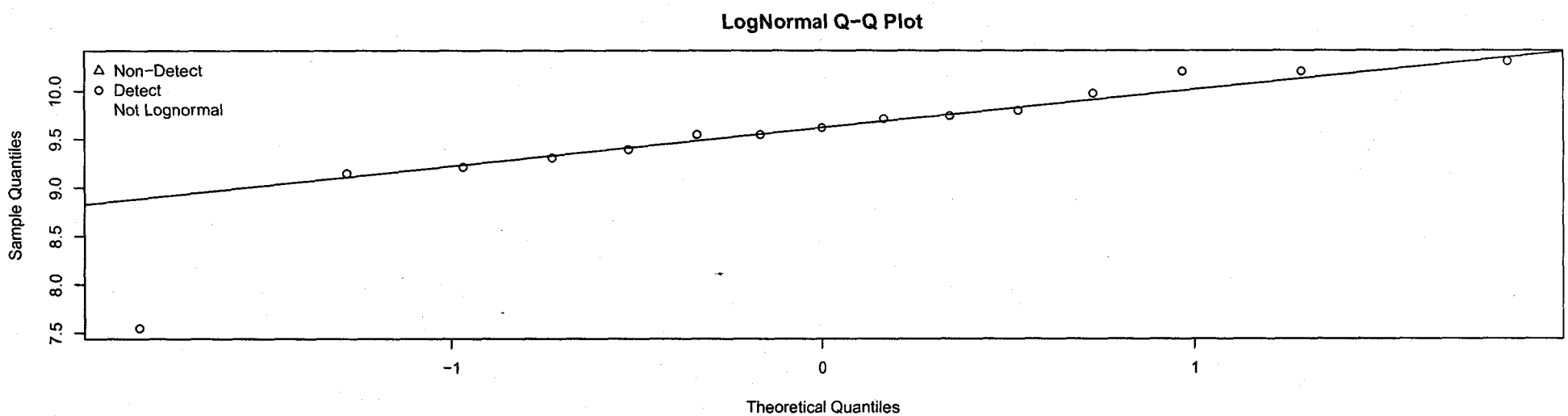
Transition
Surface Soil
SILVER



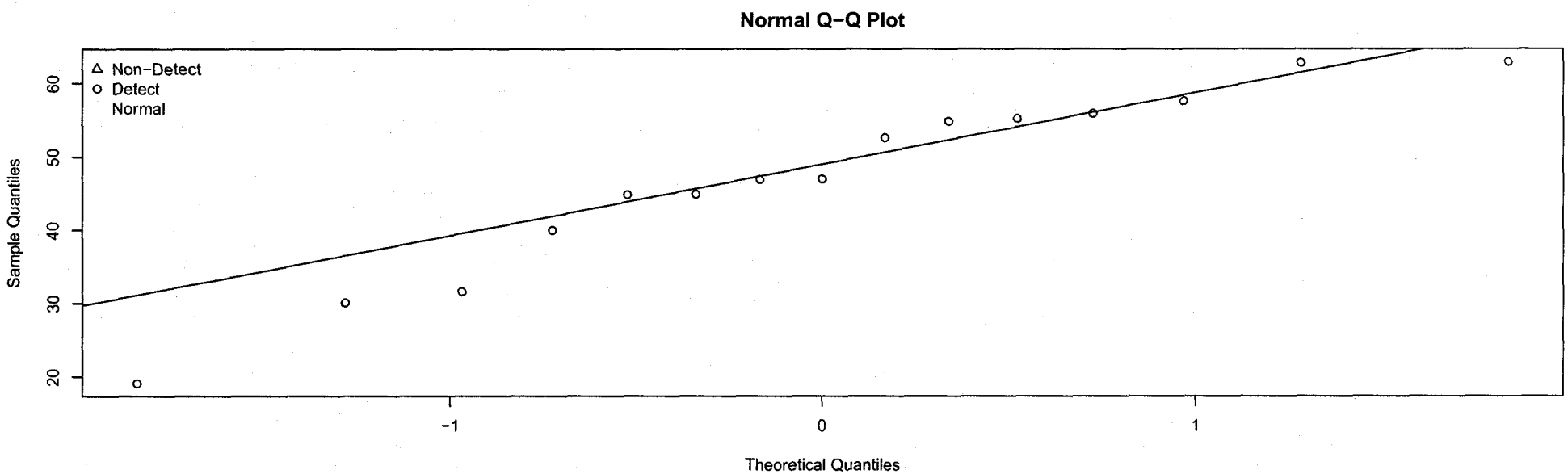


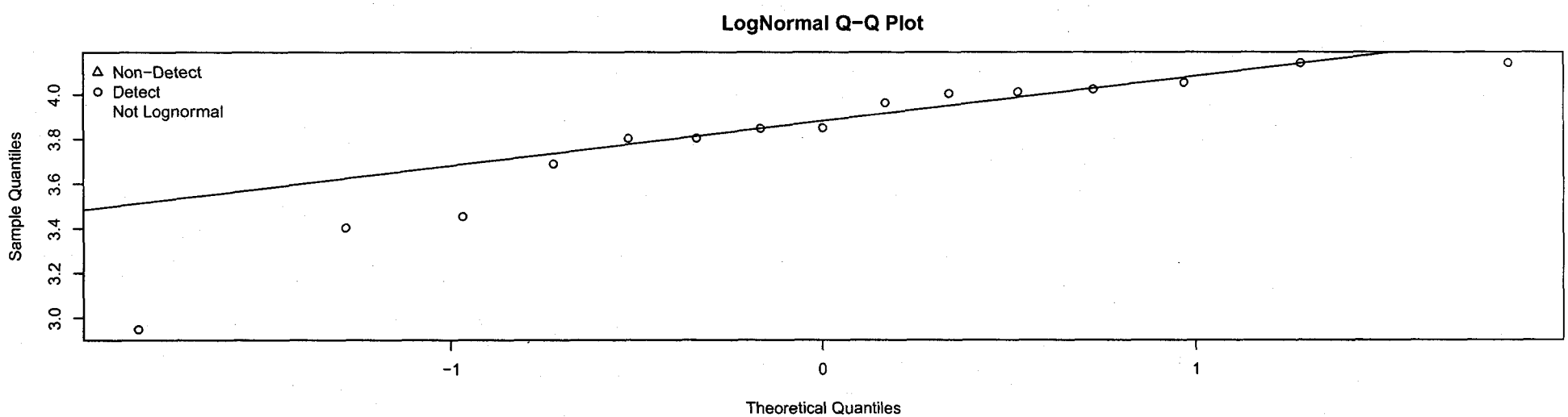
Transition
Surface Soil
TOTAL ORGANIC CARBON



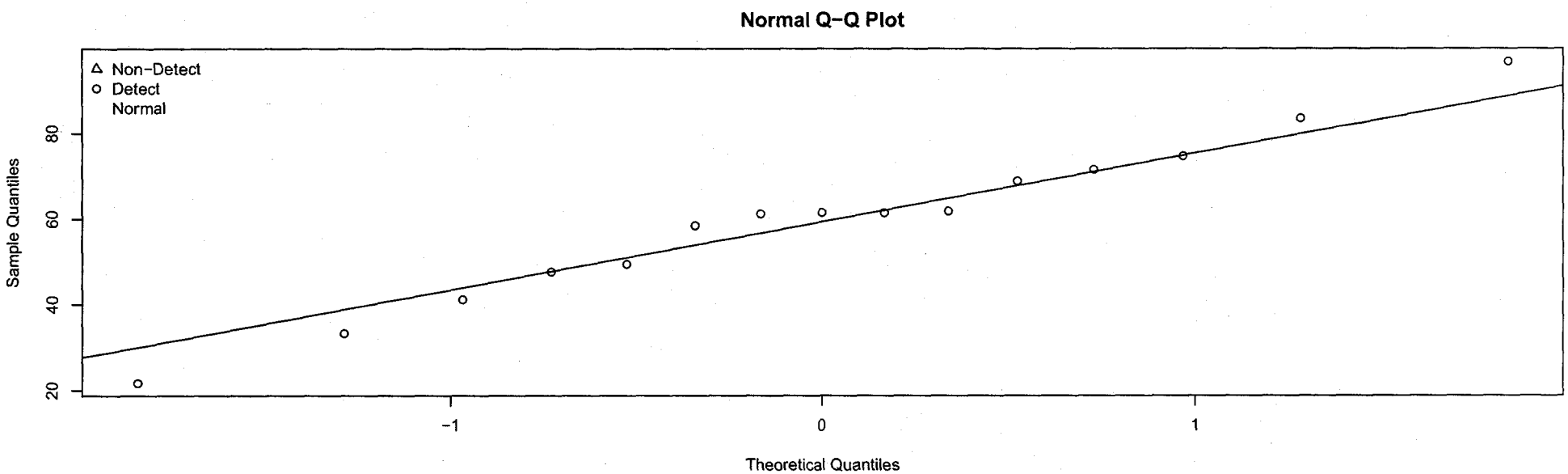


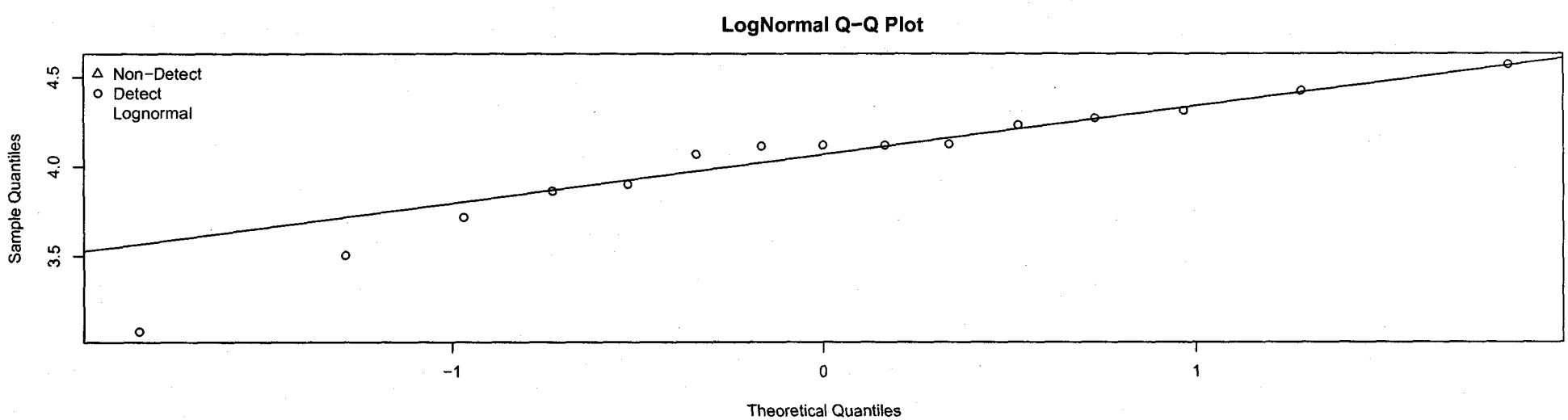
Transition
Surface Soil
VANADIUM



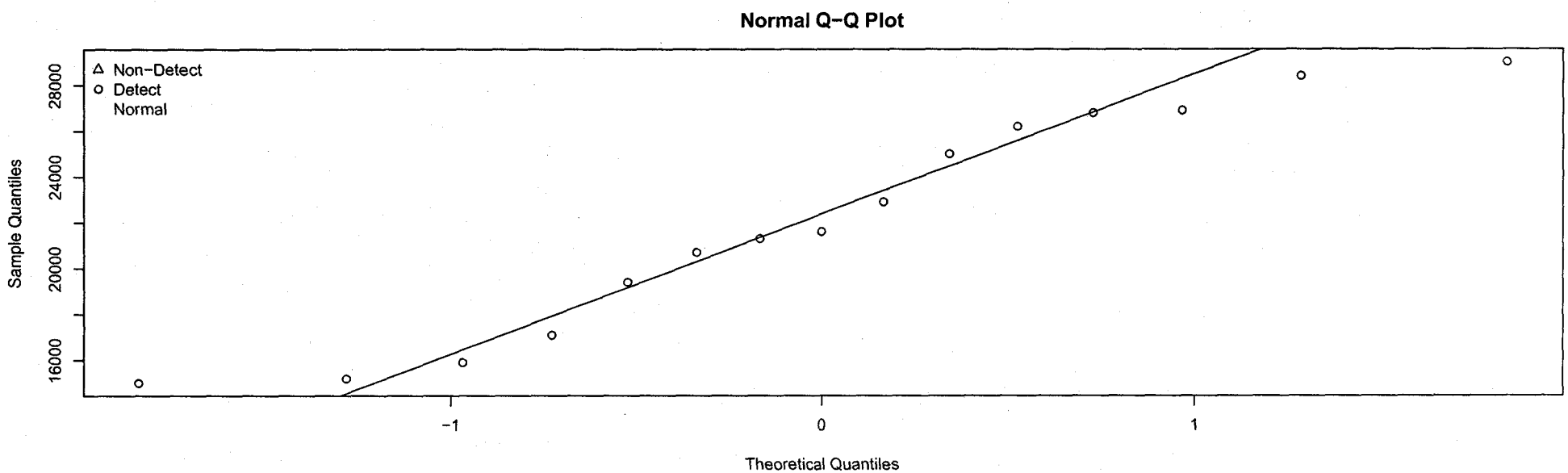


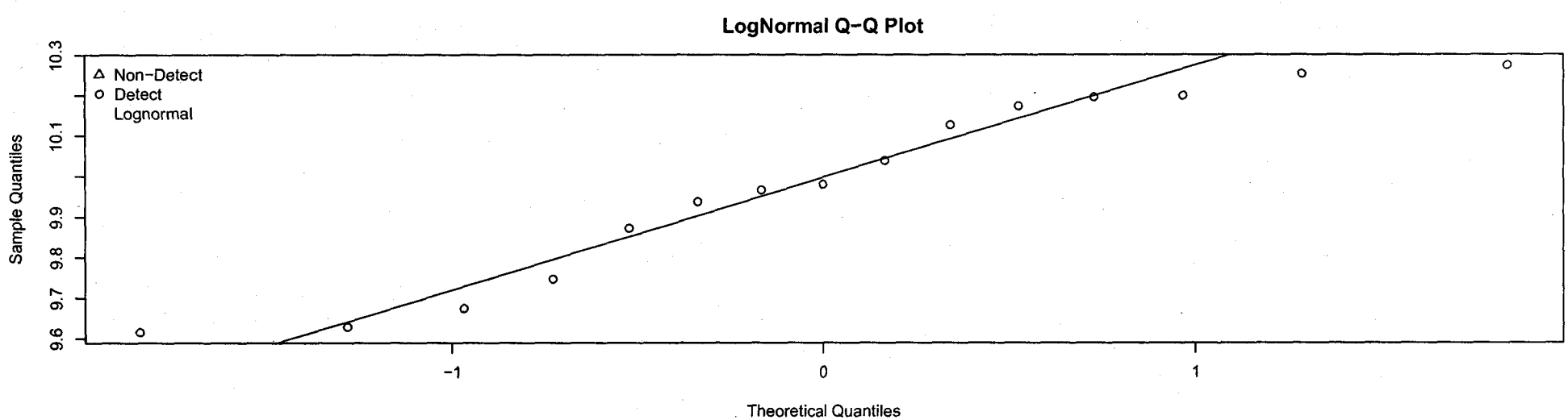
Transition
Surface Soil
ZINC



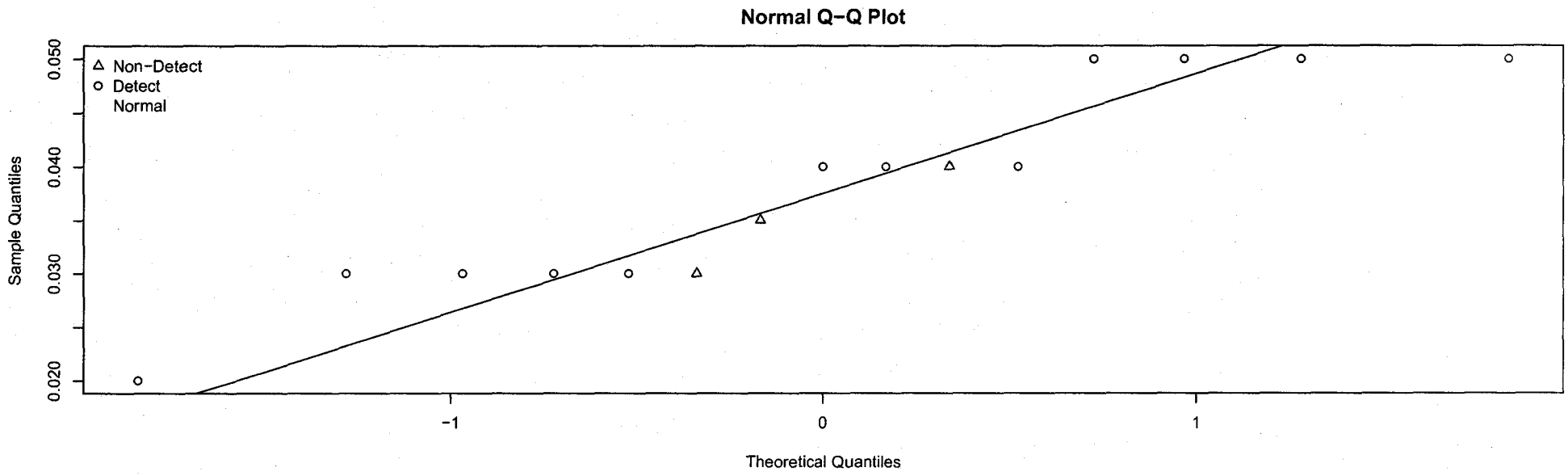


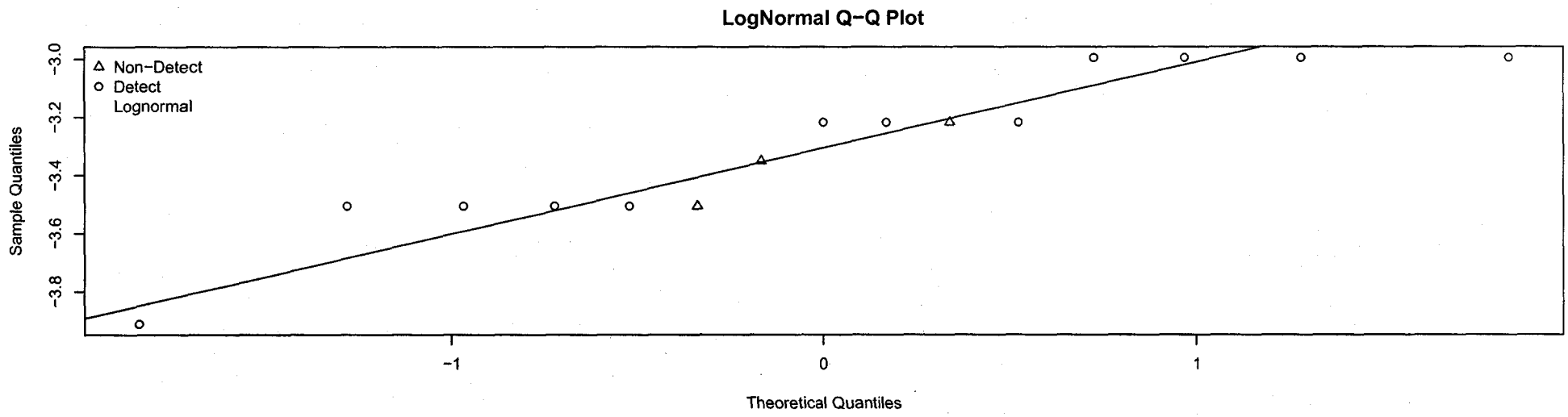
Transition
Subsurface Soil
ALUMINUM



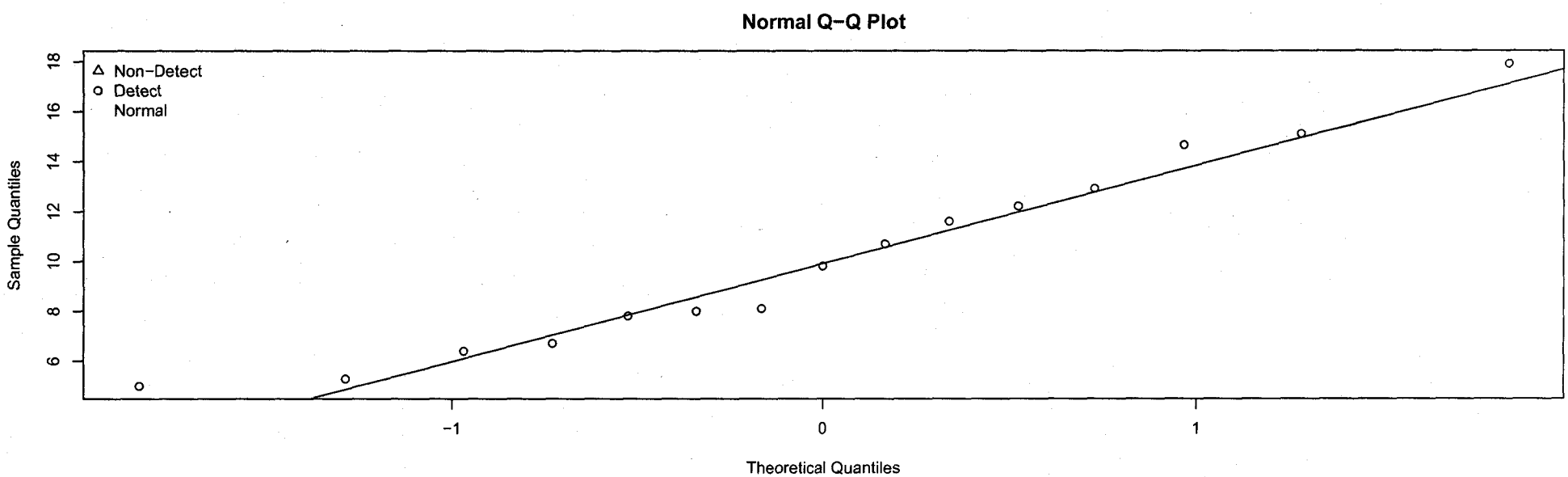


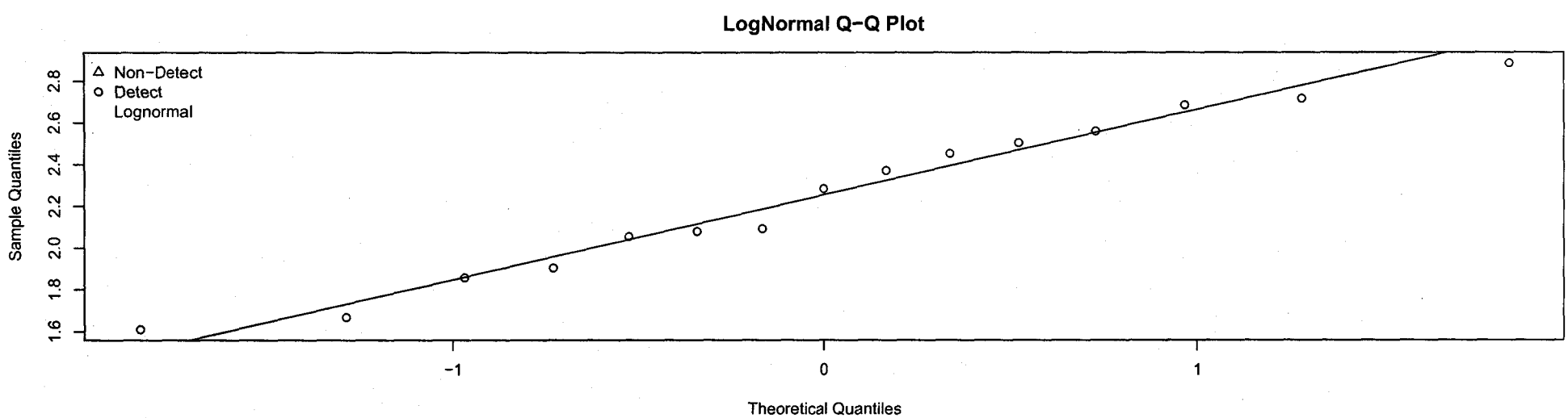
Transition
Subsurface Soil
ANTIMONY





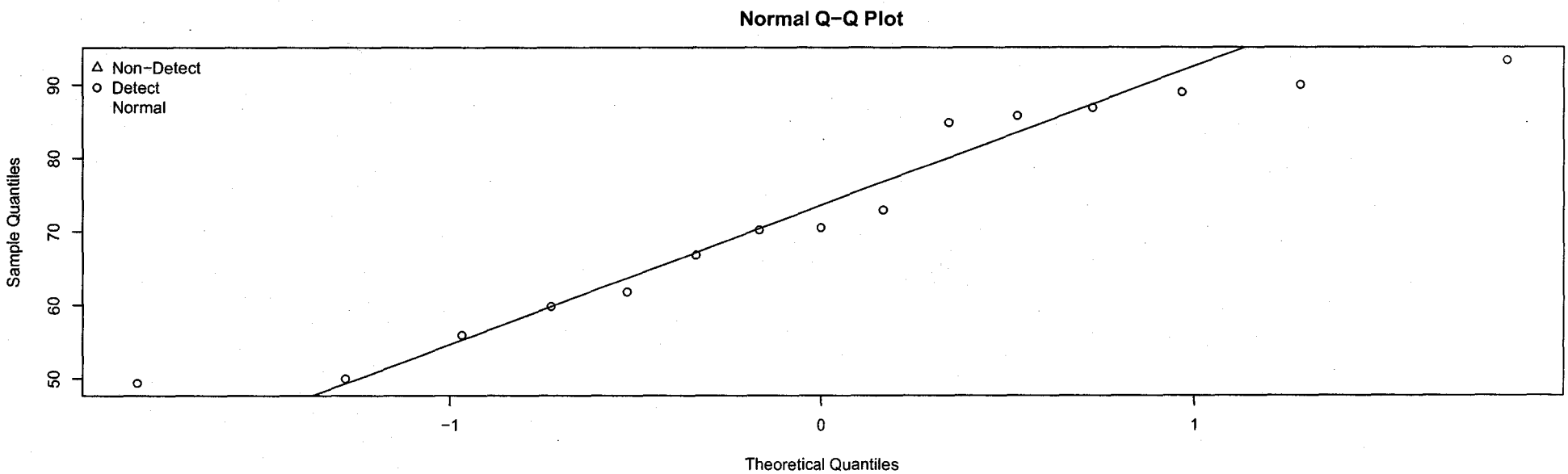
Transition
Subsurface Soil
ARSENIC

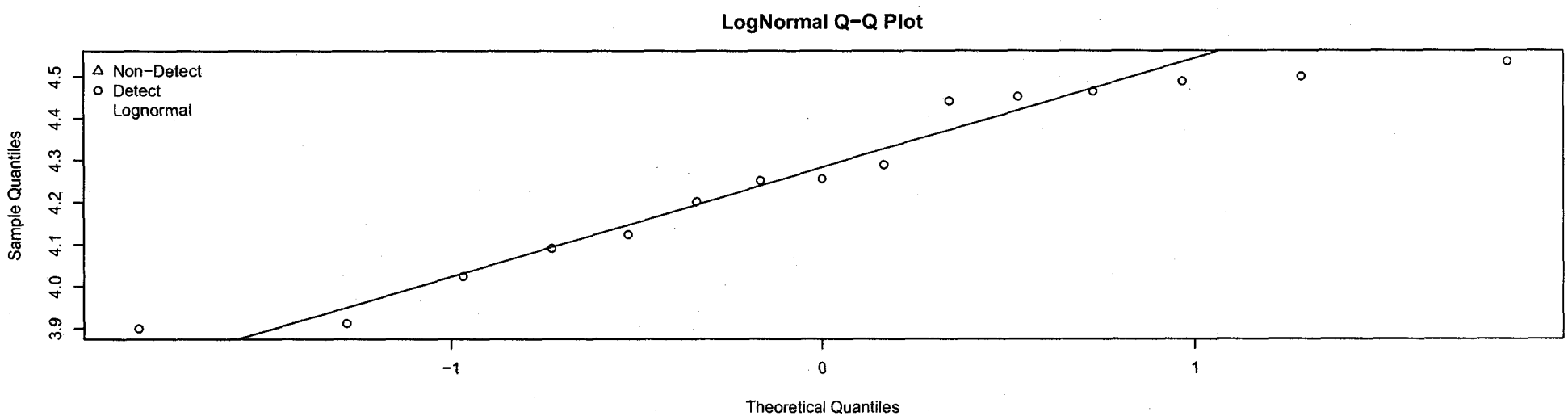




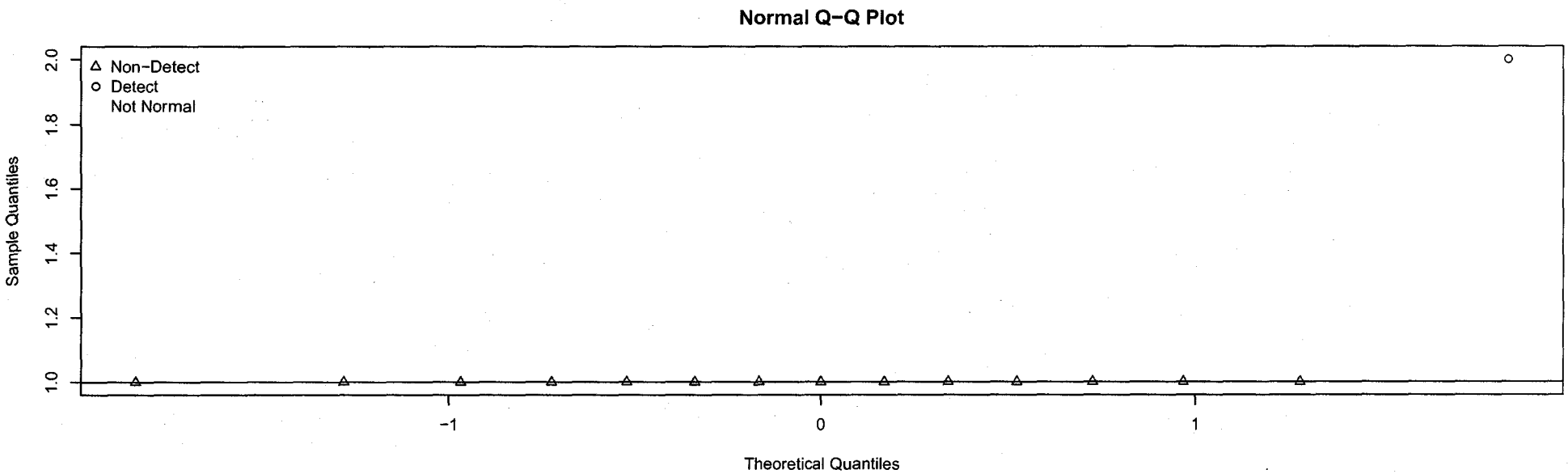
Transition
Subsurface Soil

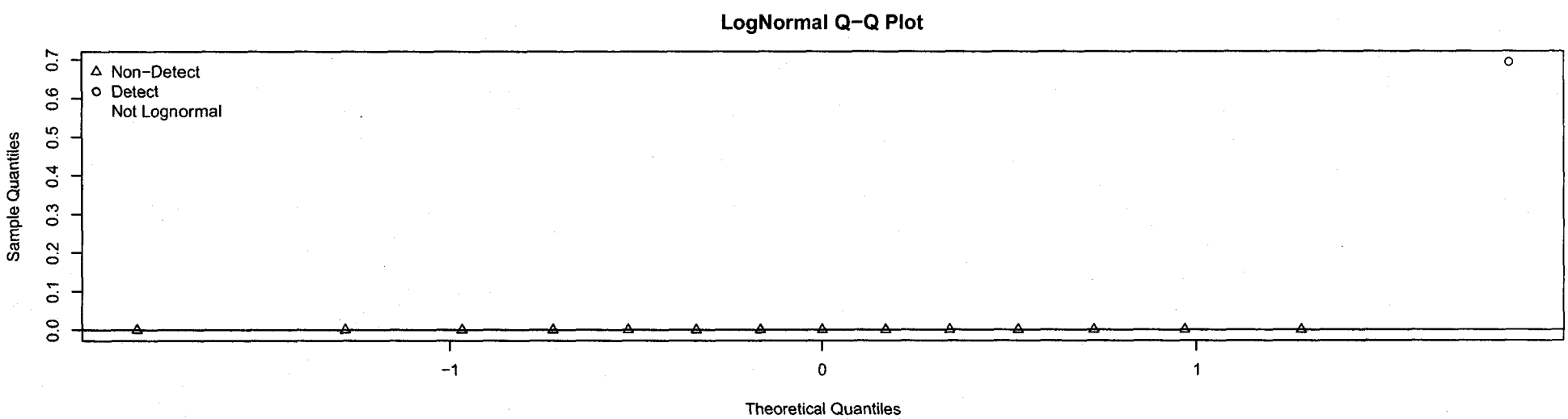
BARIUM





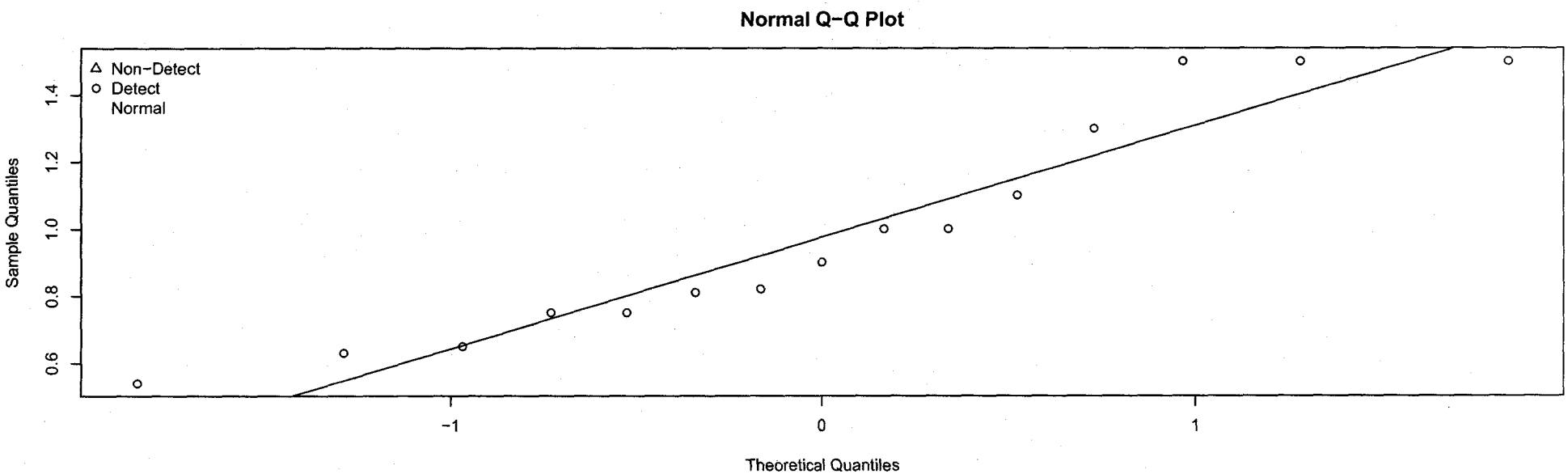
Transition
Subsurface Soil
BENZO(A)ANTHRACENE

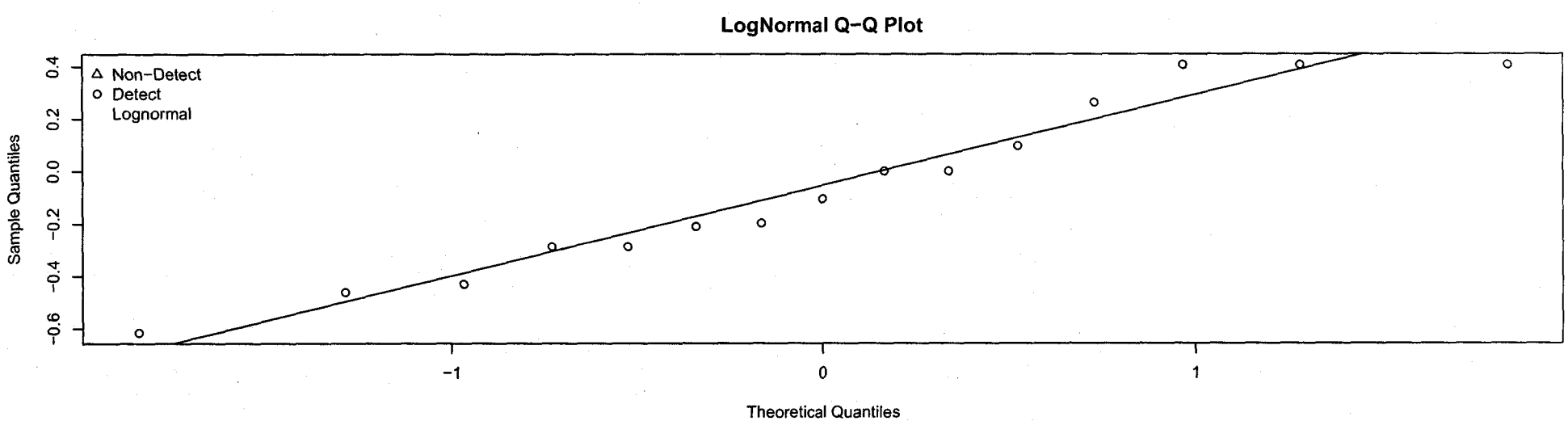




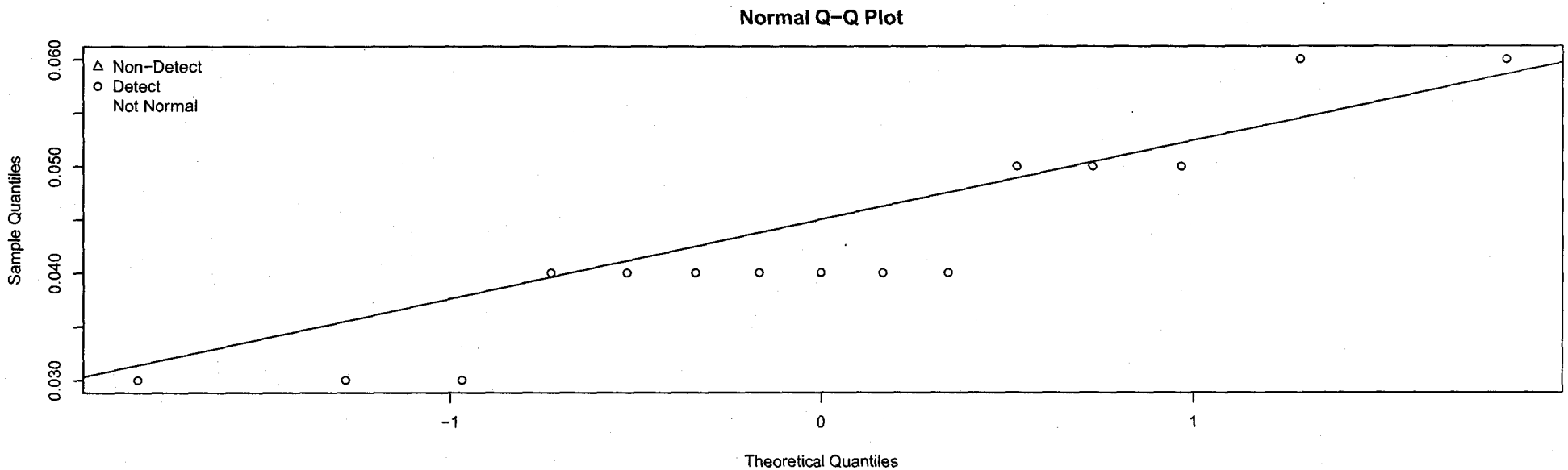
Transition
Subsurface Soil

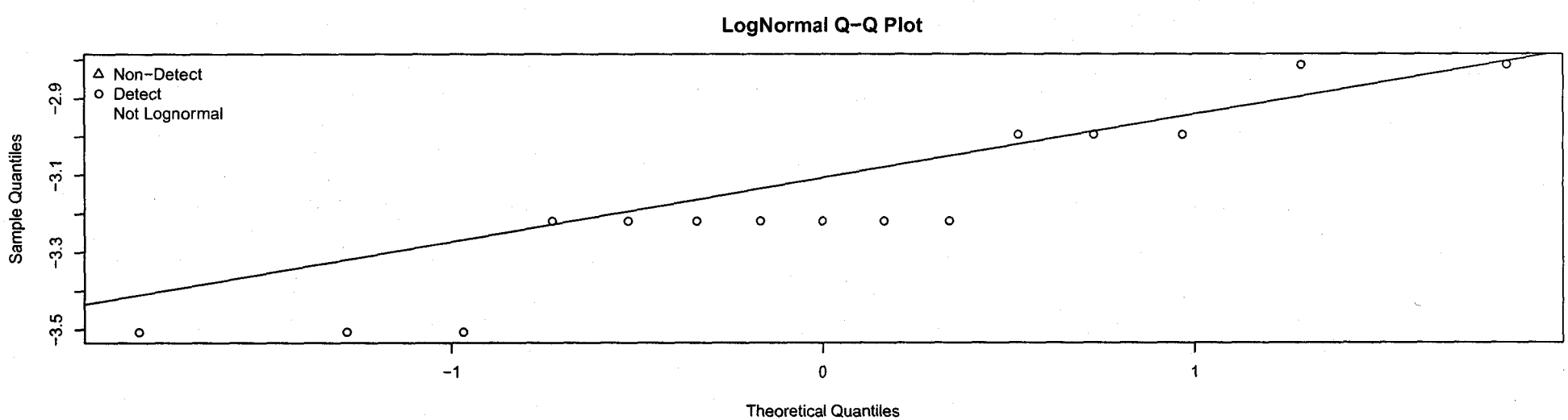
BERYLLIUM



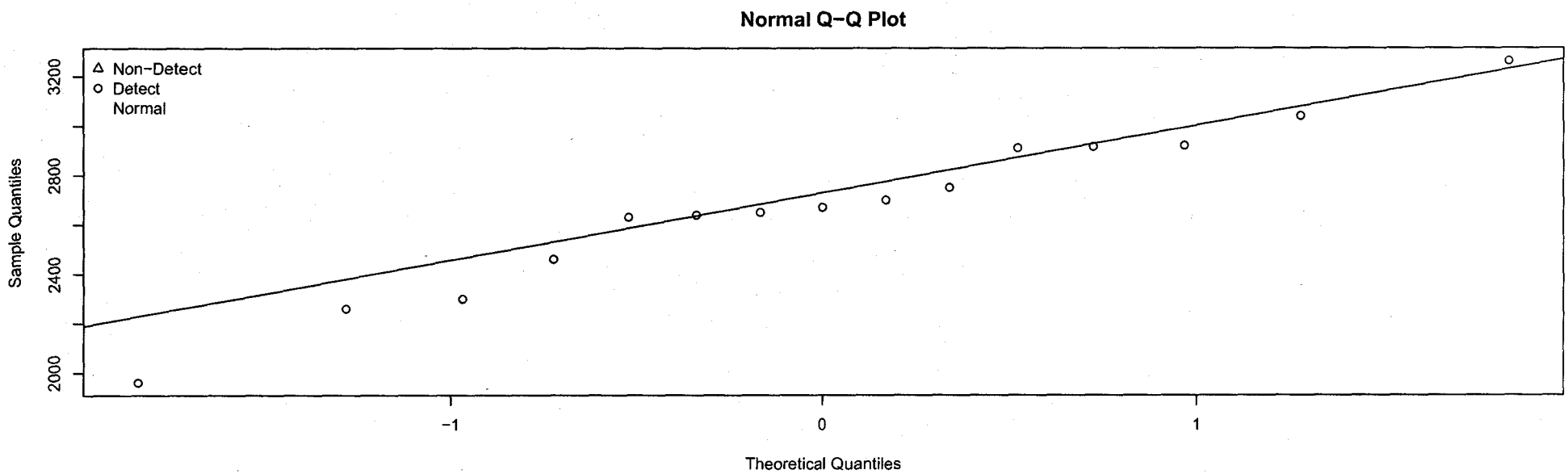


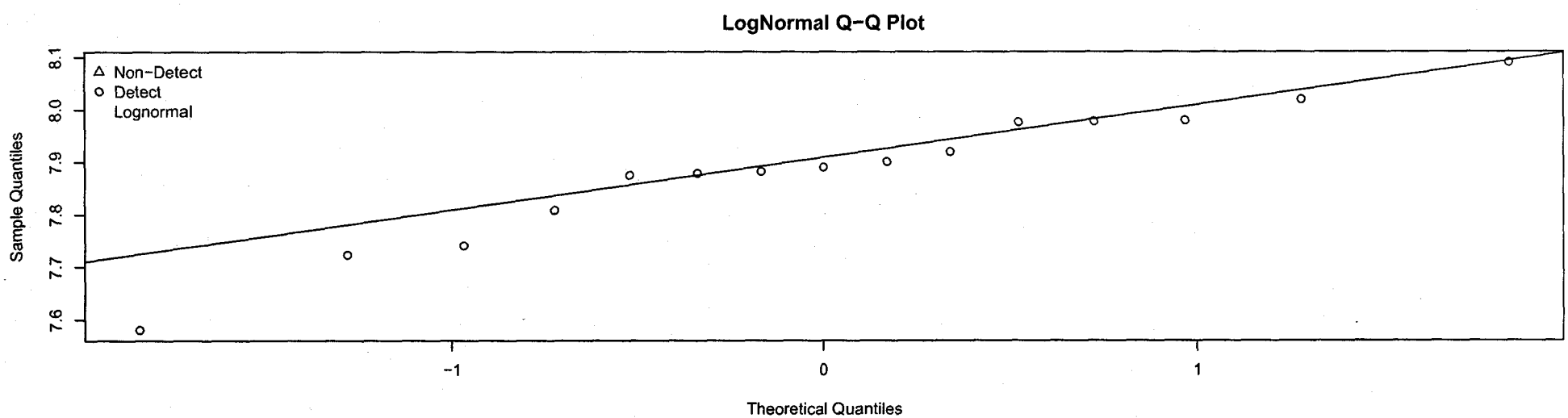
Transition
Subsurface Soil
CADMIUM



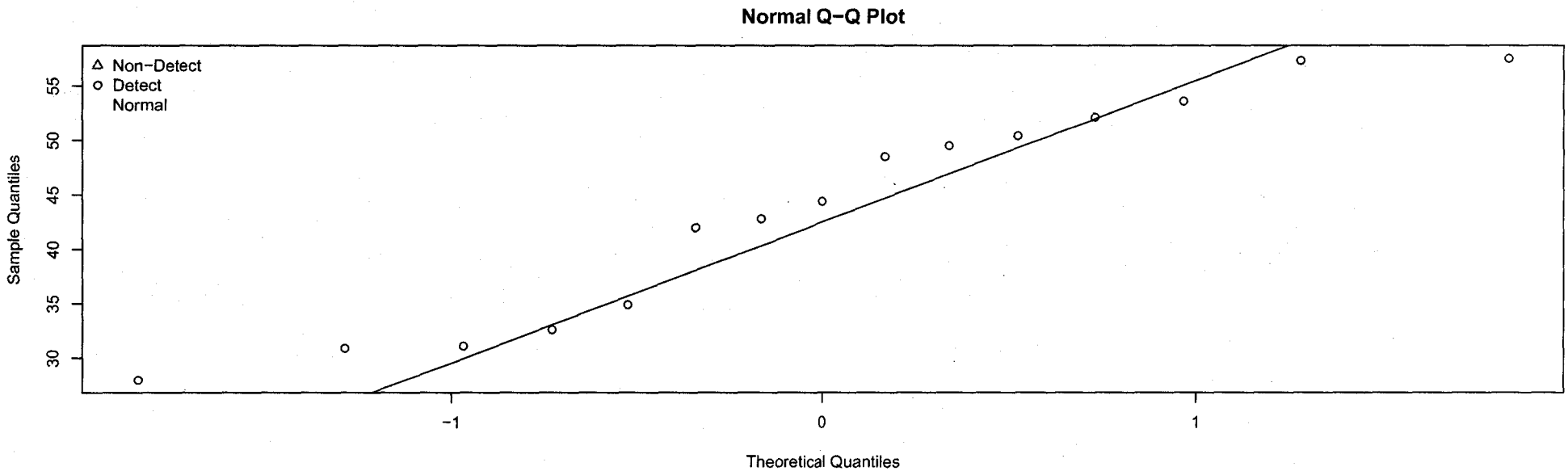


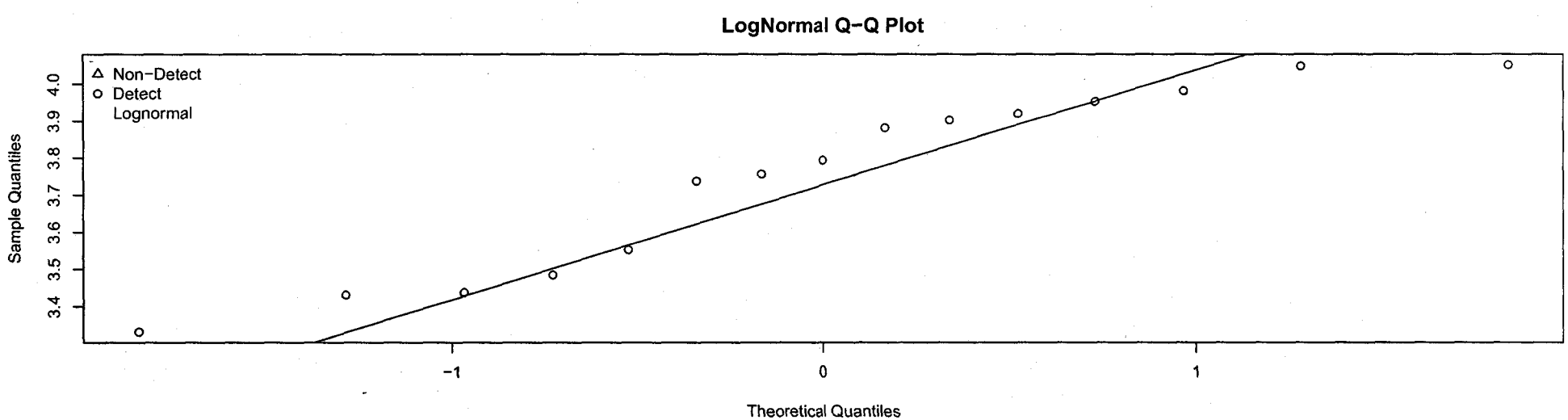
Transition
Subsurface Soil
CALCIUM





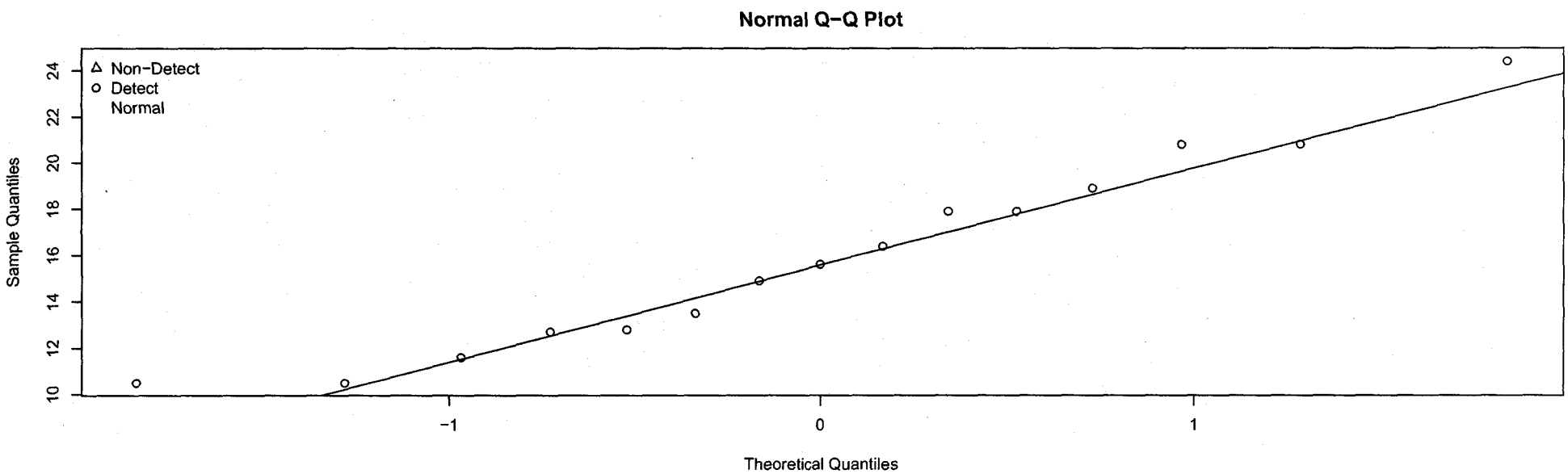
Transition
Subsurface Soil
CHROMIUM

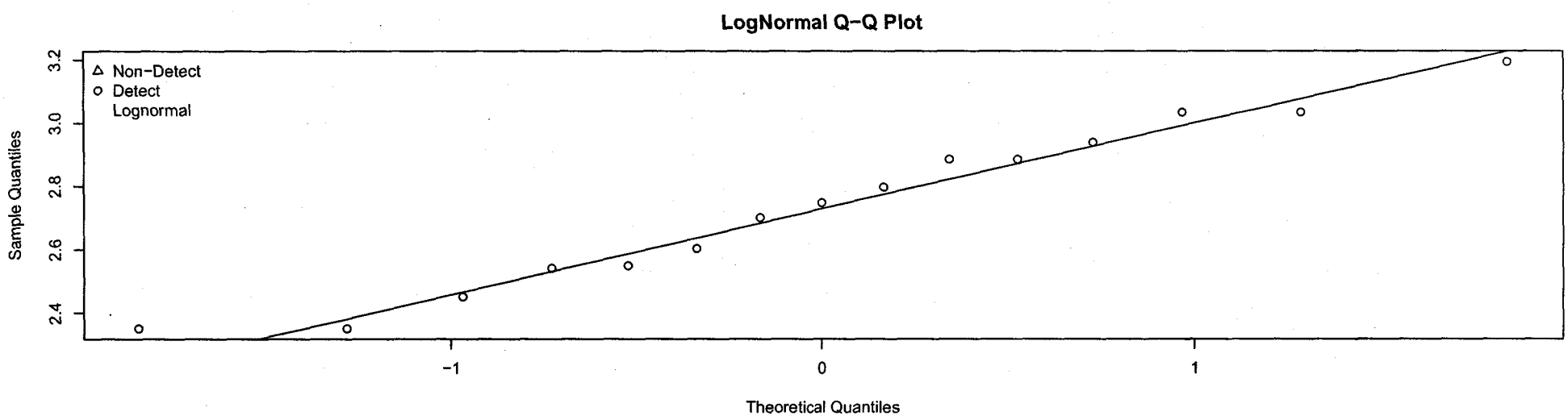




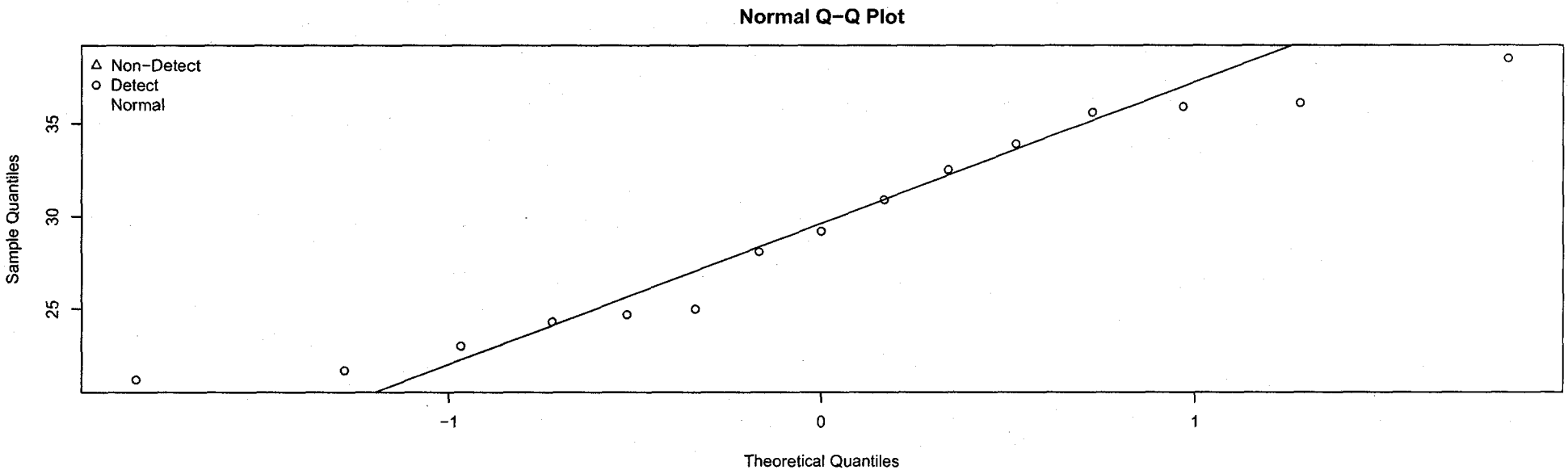
Transition
Subsurface Soil

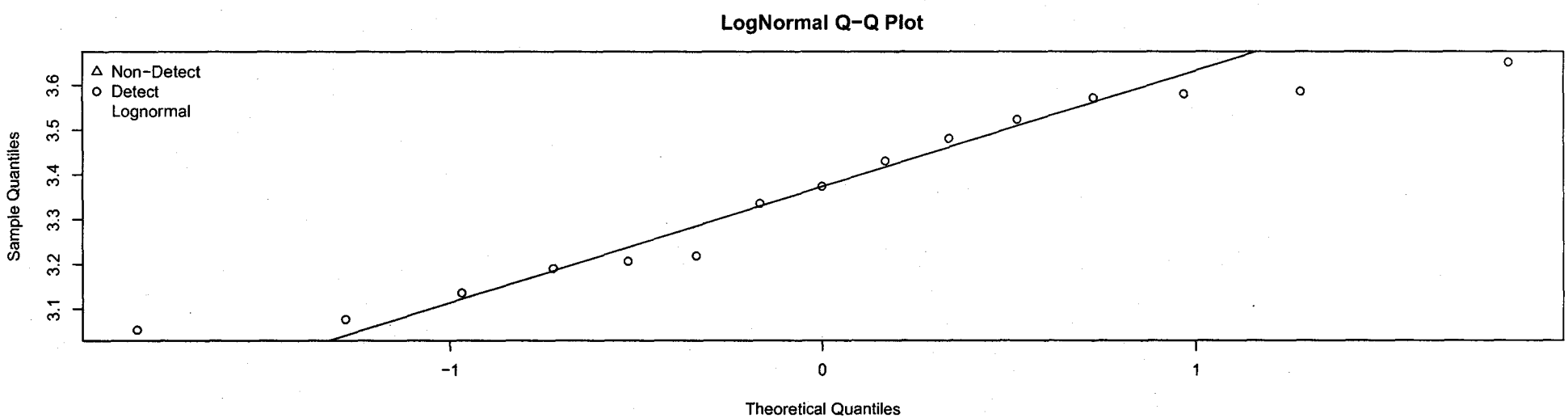
COBALT



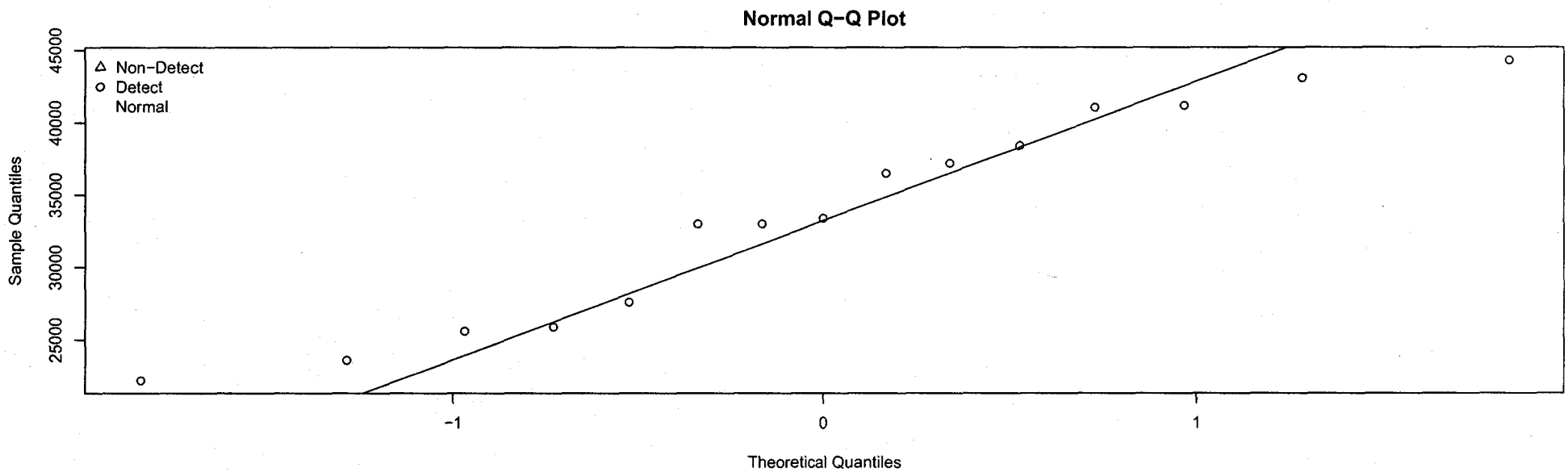


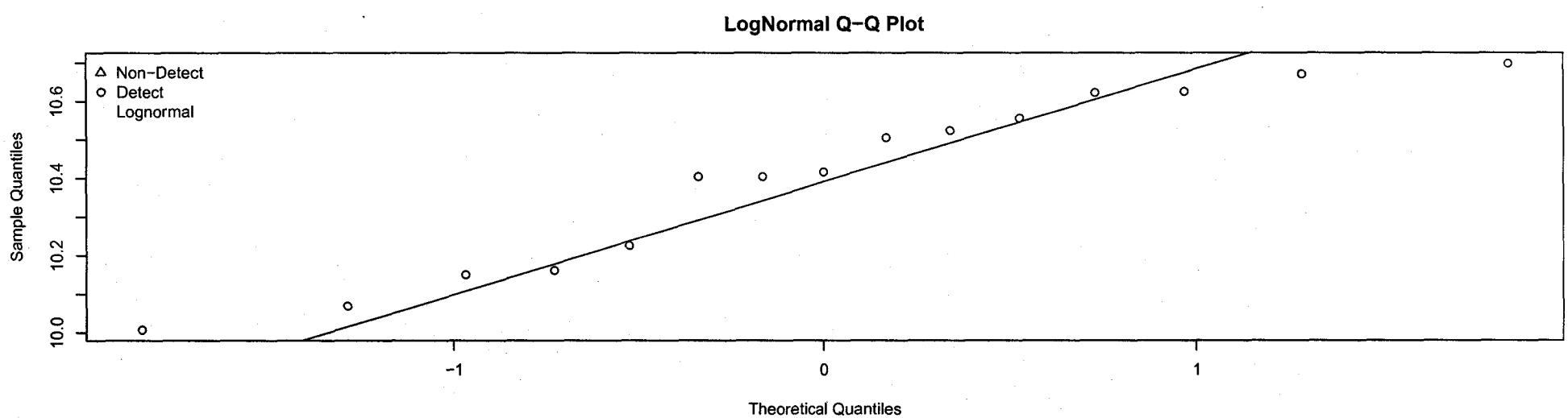
Transition
Subsurface Soil
COPPER



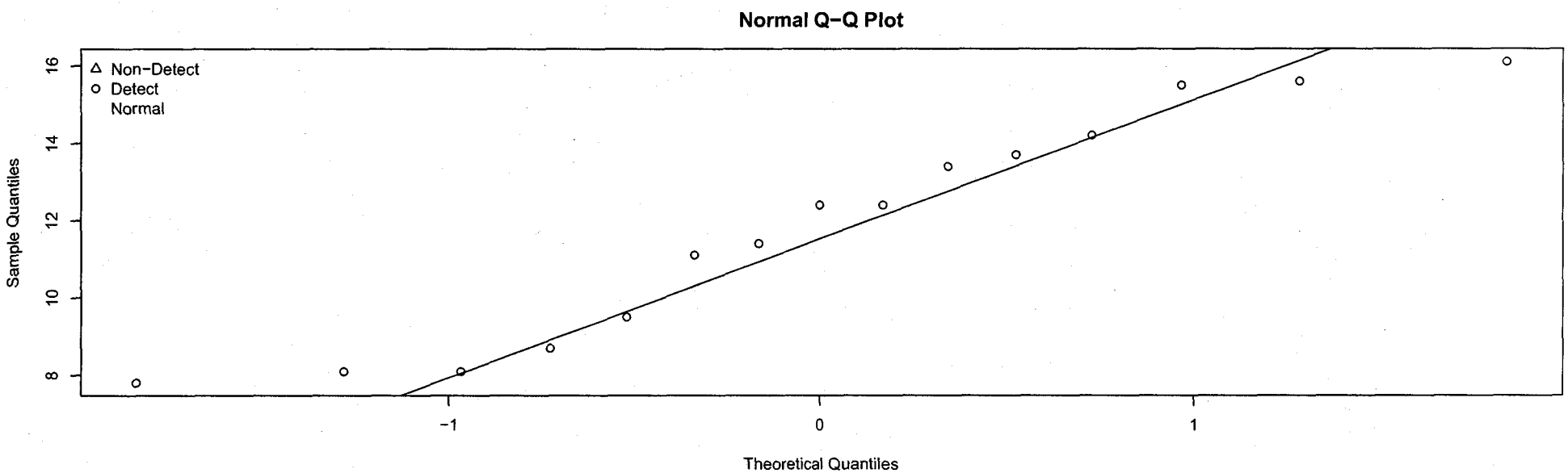


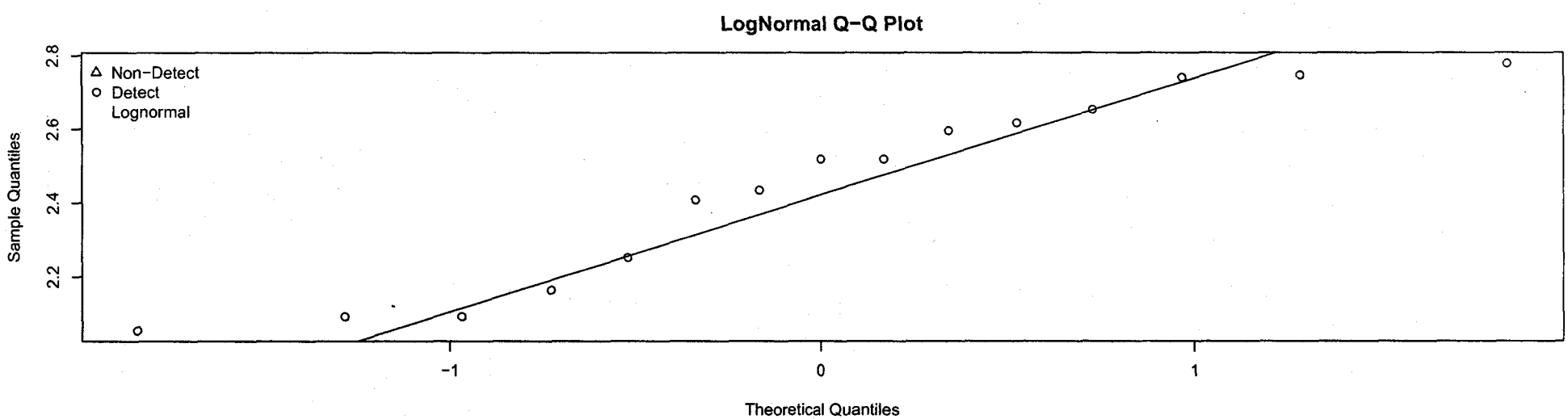
Transition
Subsurface Soil
IRON



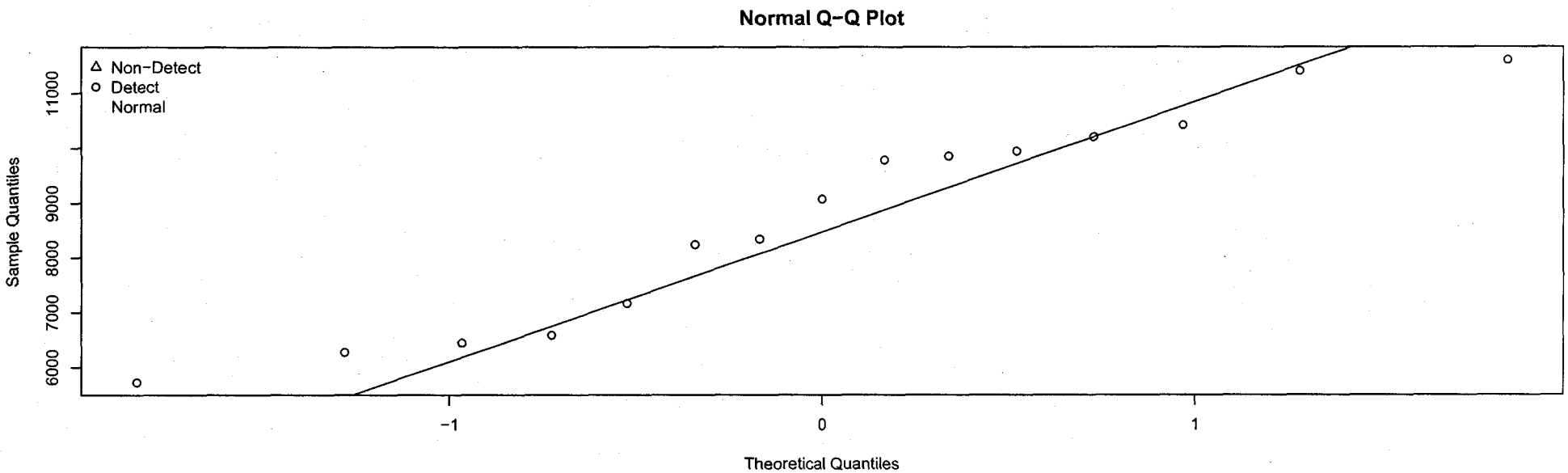


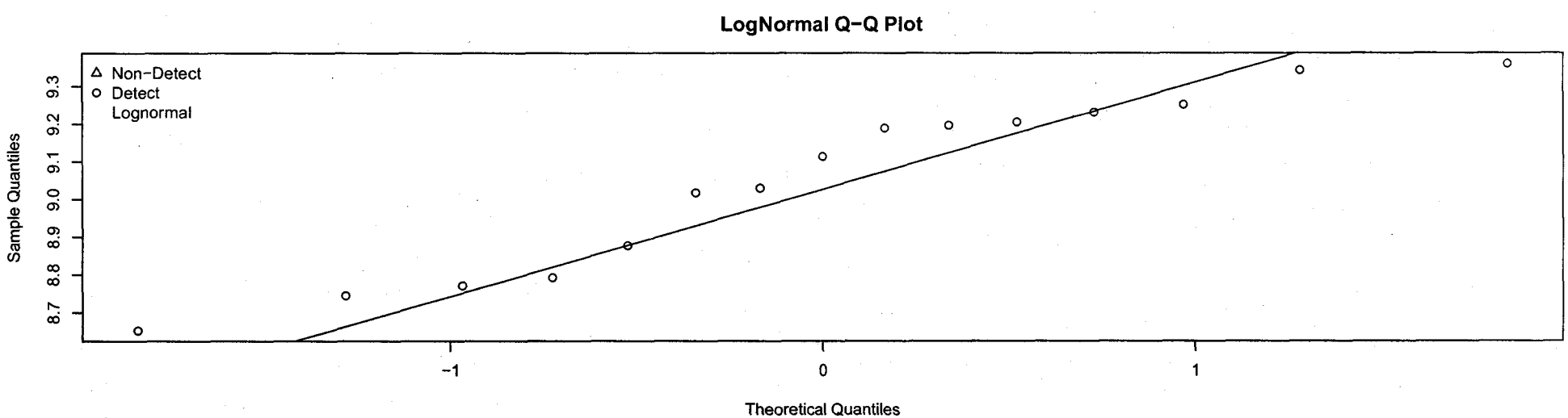
Transition
Subsurface Soil
LEAD



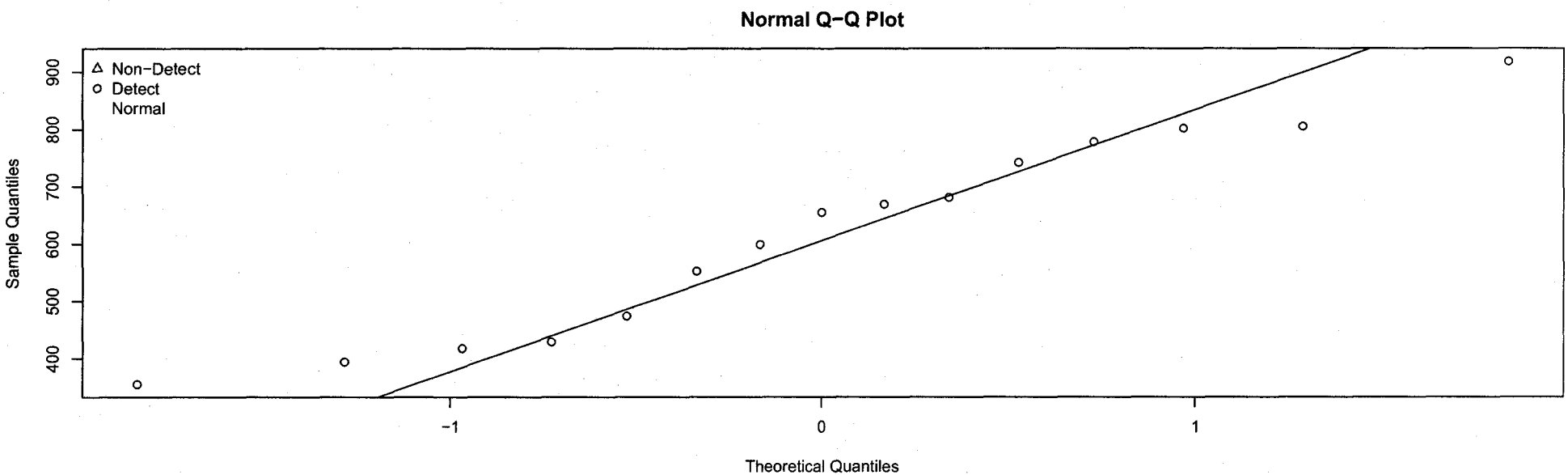


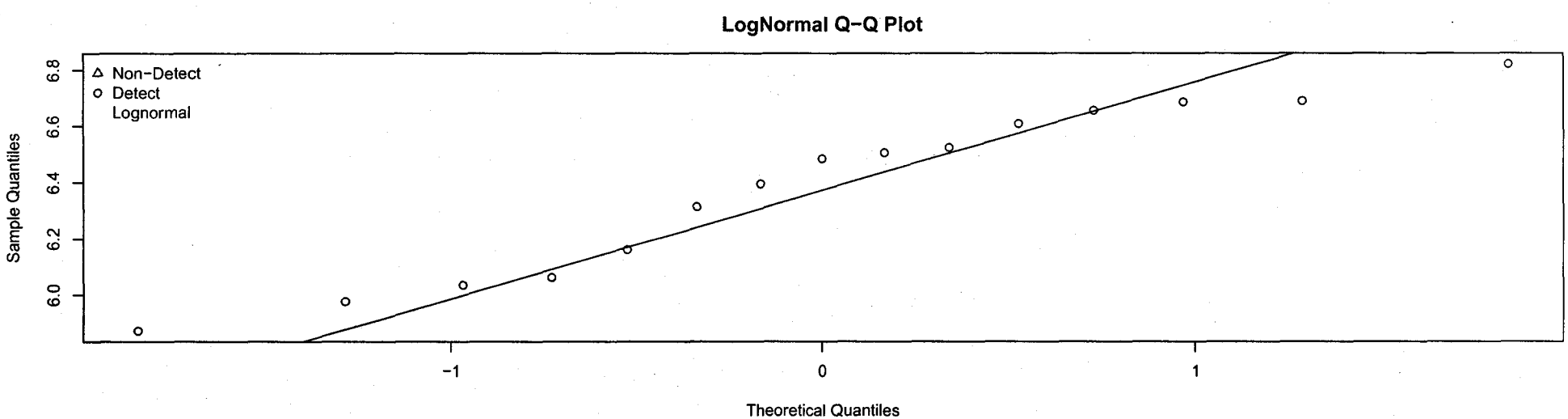
Transition
Subsurface Soil
MAGNESIUM





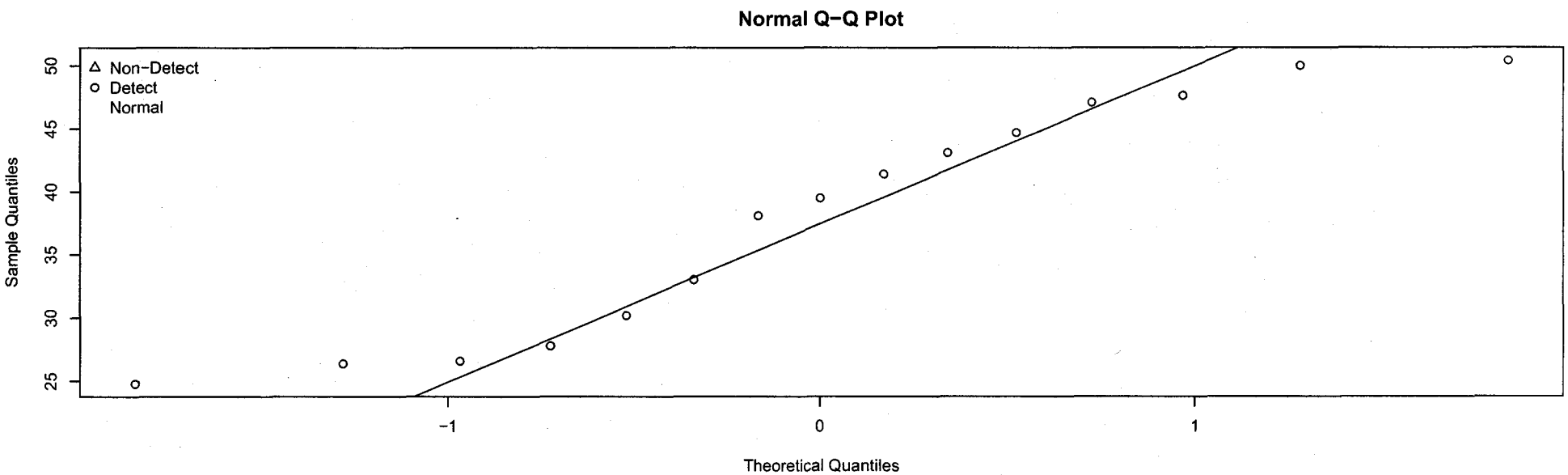
Transition
Subsurface Soil
MANGANESE

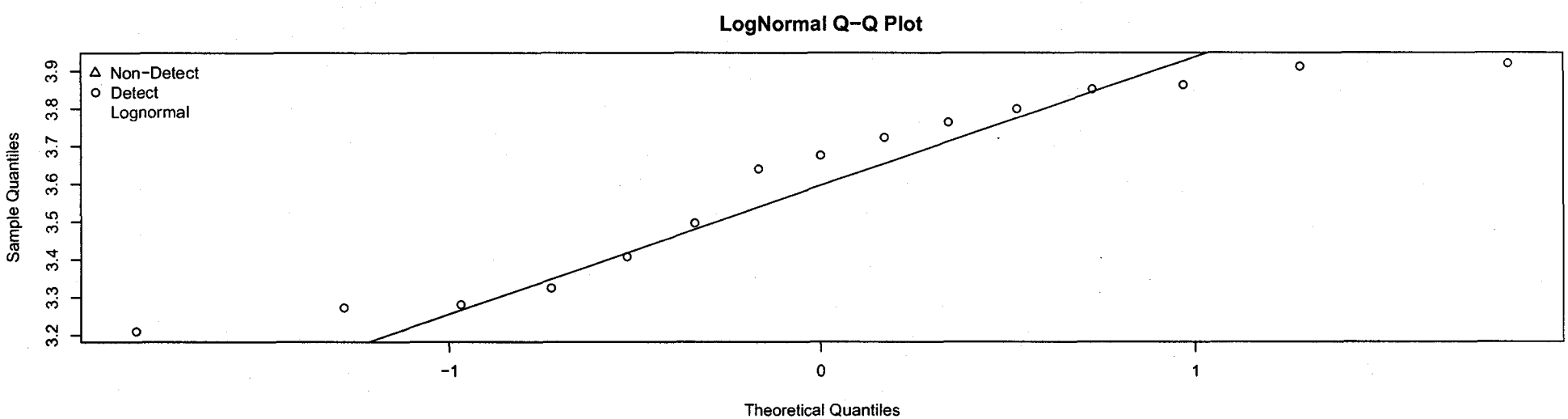




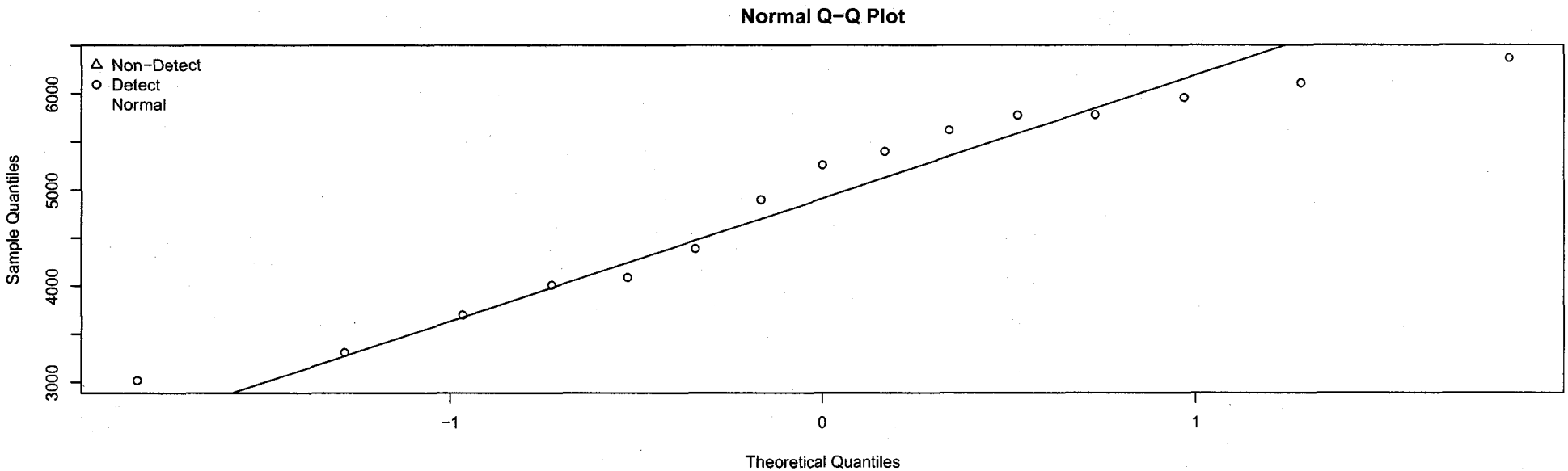
Transition
Subsurface Soil

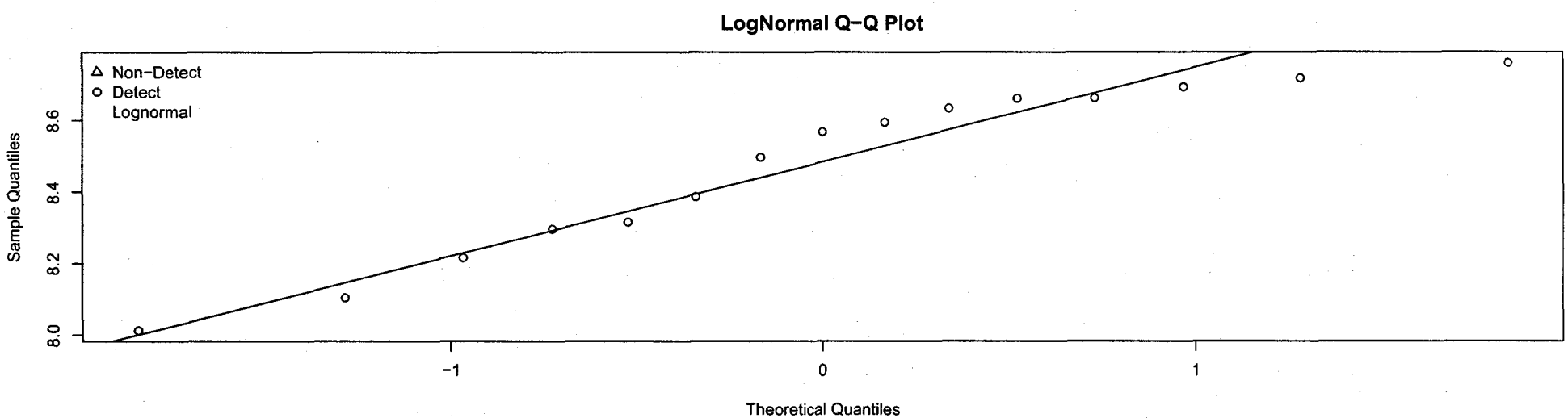
NICKEL



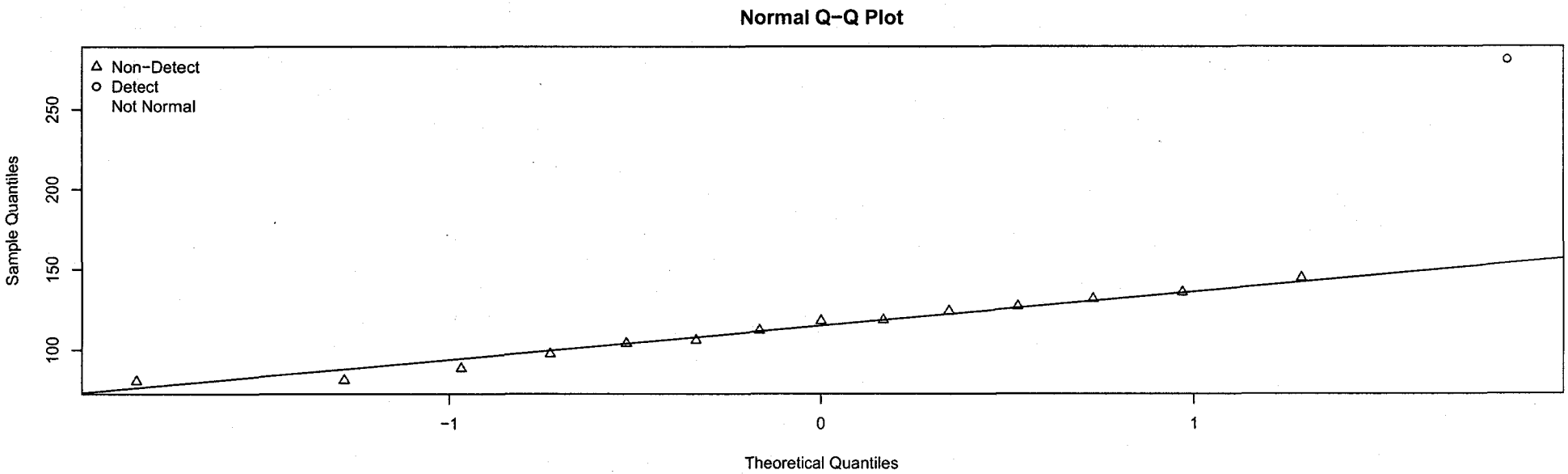


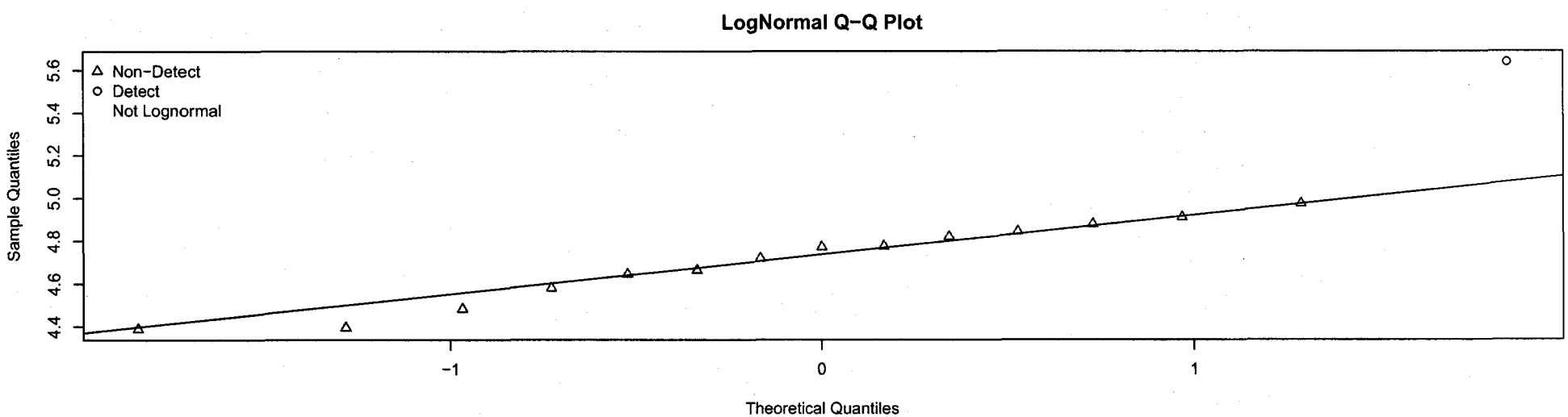
Transition
Subsurface Soil
POTASSIUM



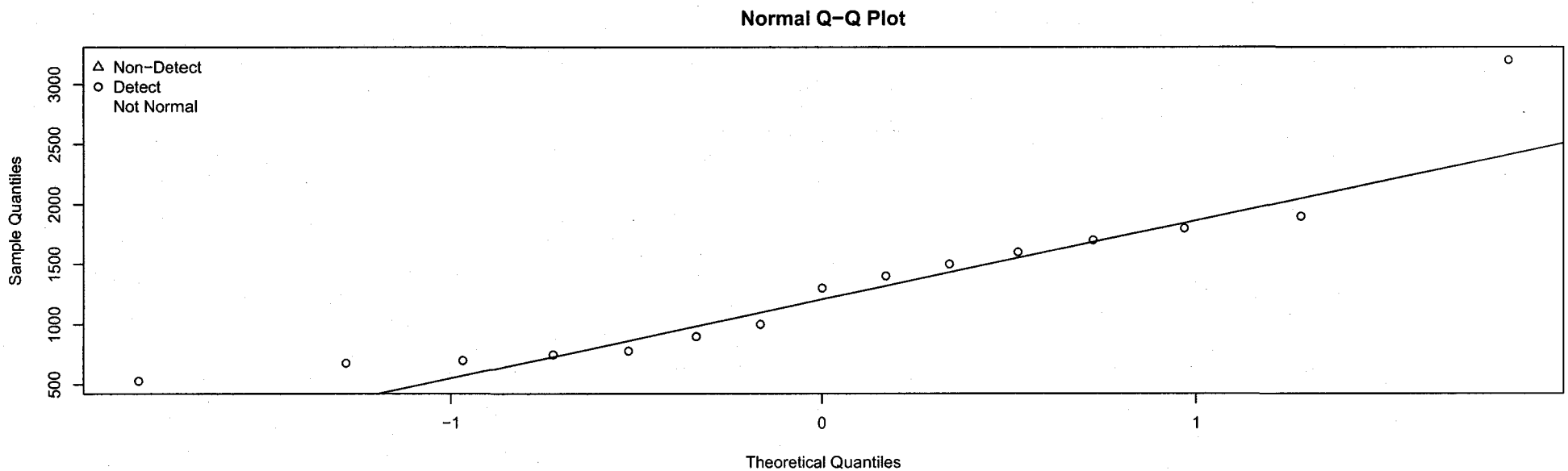


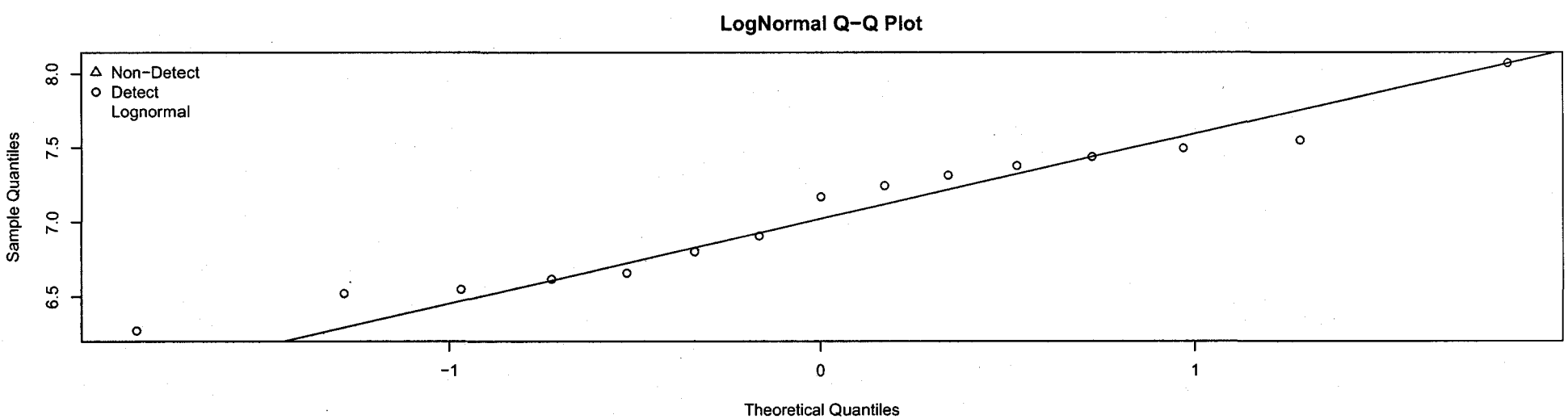
Transition
Subsurface Soil
SODIUM



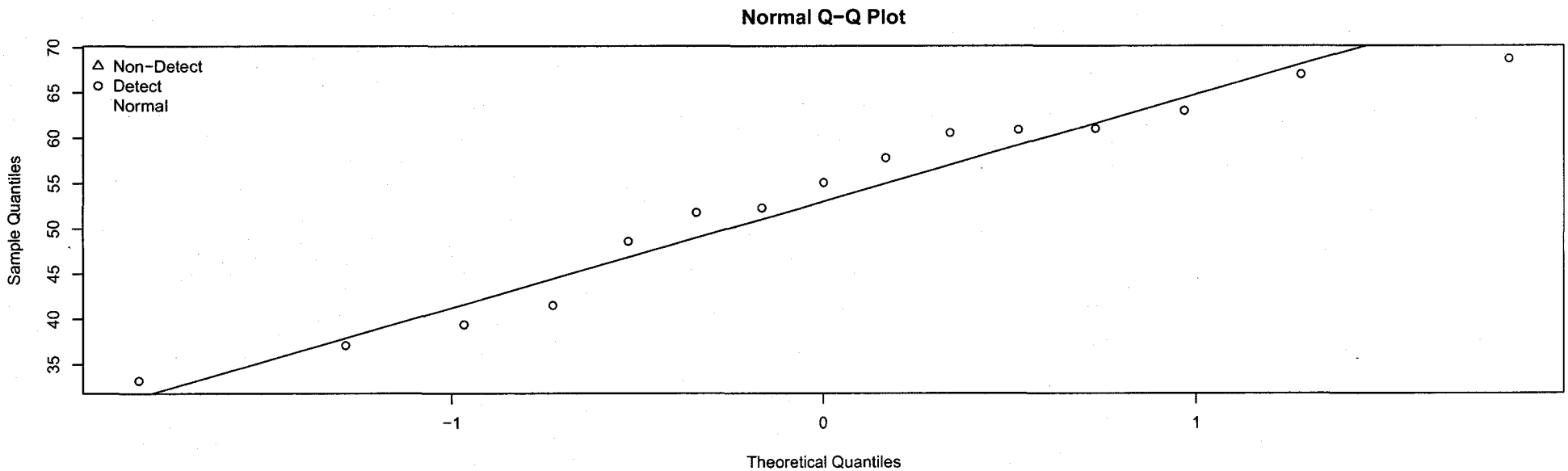


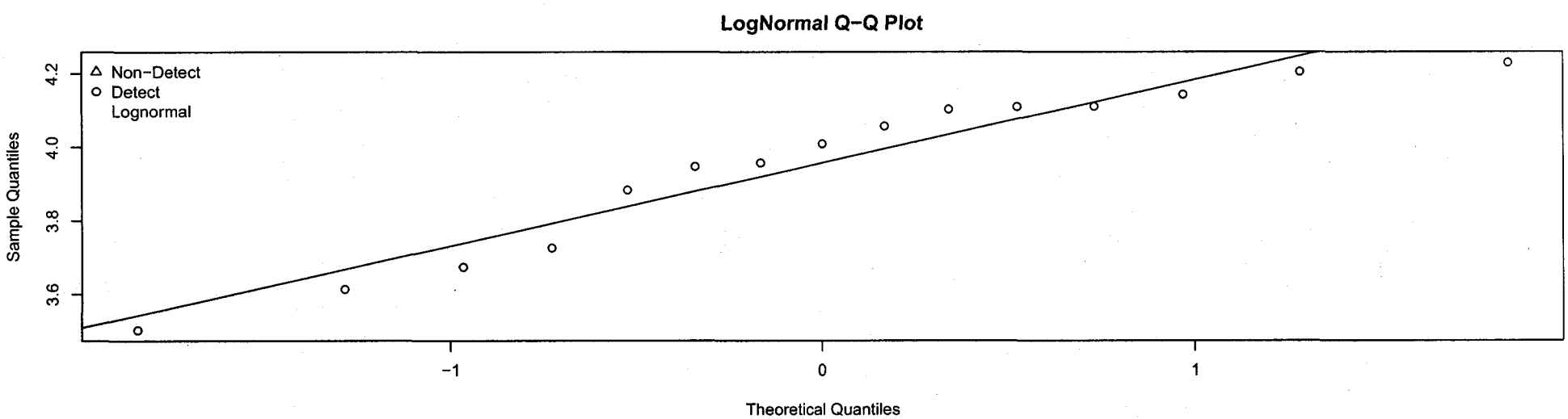
Transition
Subsurface Soil
TOTAL ORGANIC CARBON



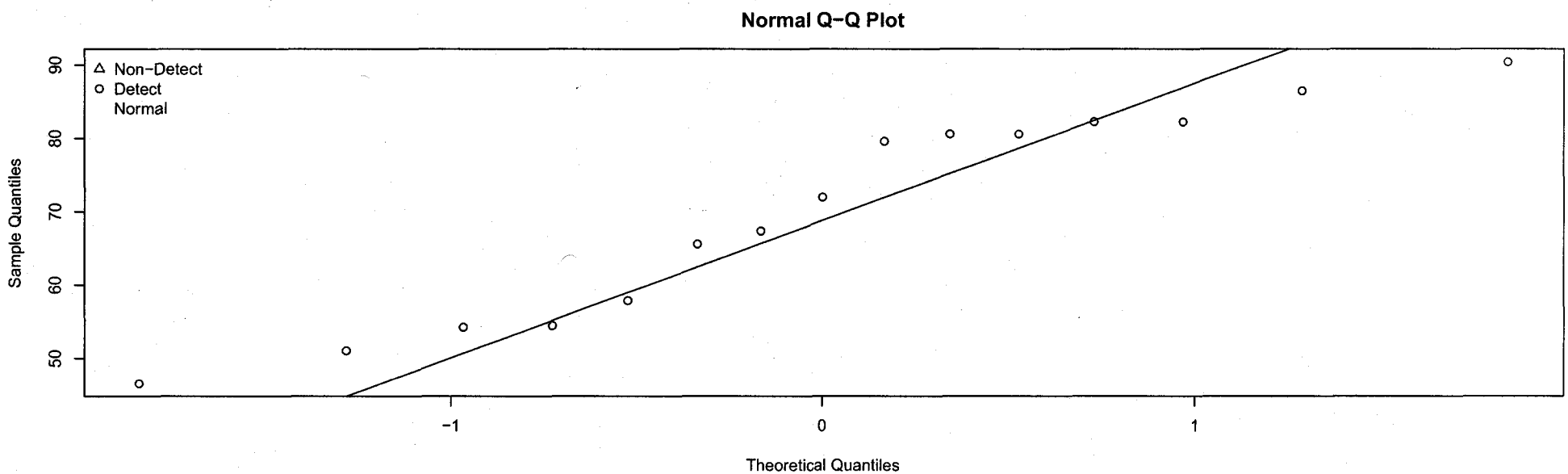


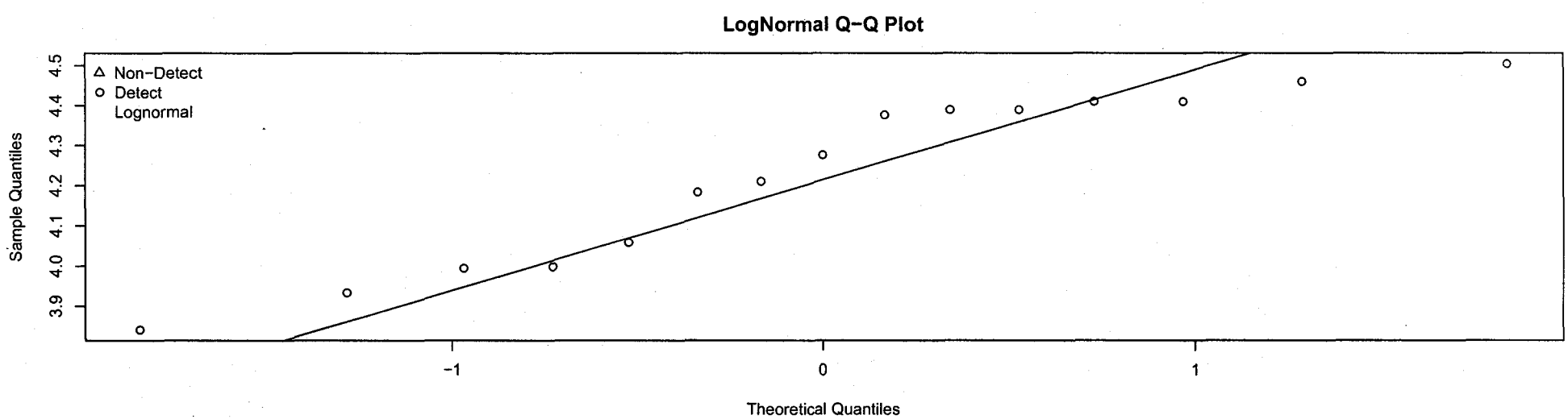
Transition
Subsurface Soil
VANADIUM





Transition
Subsurface Soil
ZINC





A.1.3 SOIL GRAPHICAL DATA EVALUATION

APPENDIX A.1.3 GRAPHICAL DATA EVALUATION

Graphical presentations of the data may identify potential outliers, indicate the presence of more than one data population represented by a data set, suggest that data gaps exist, and/or that there are spatial or temporal trends in the dataset. Each of these has the potential to confound data evaluations and statistical analyses. Box plots, normal probability (Q-Q) plots, and histograms were used to evaluate the data sets and are presented at the end of this section.

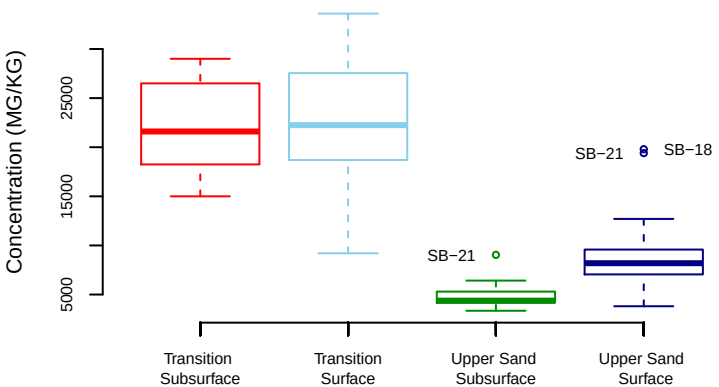
Box plots show the central tendency, degree of symmetry, range of variation, and potential outliers of a data set. The data set is shown as a rectangular box that represents the middle 50 percent of the data. The upper value of the box (75th percentile) and the lower value of the box (25th percentile) define the top and bottom of the rectangle respectively. The median is represented by the middle line in the box. This type of plot can reveal whether data groups are similar and the extent and magnitude of candidate outliers. Candidate outliers as defined in section A.1.2 were labeled with location ID.

A probability (Q-Q) plot graphs the quantiles of a data set against the quantiles of the normal data distribution. A non-linear bend in the Q-Q probability plot or a point of departure from linearity at one end of the probability plot suggest that the data do not follow the normal distribution. Probability (Q-Q) plots augment the identification of outliers and identify any data points or data ranges that contribute to a poor fit to a normal distributional shape. Non-detects and detects were labeled with different symbols and different soil groupings were plotted using different colors. Candidate outliers as defined in Section A.1.1 were labeled with location ID.

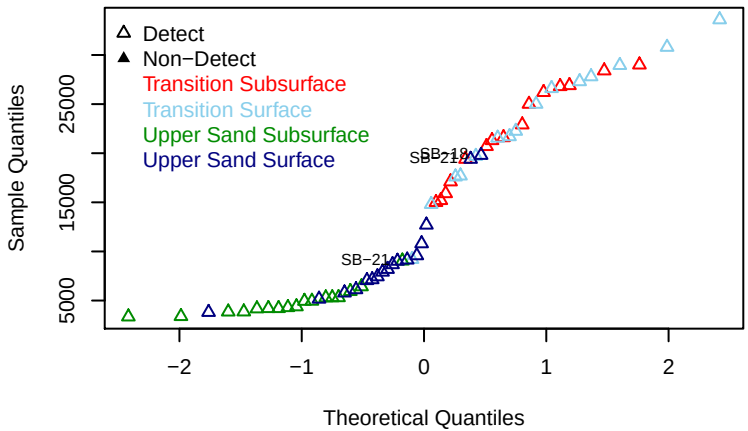
Histograms also depict the distributional shape, showing the mode, the relative frequency of detection at various concentration ranges, and the spread of data points near the upper end. These may be used in conjunction with probability plots to determine which data points contribute anomalies relative to the assumption of a normal bell curve shape.

ALUMINUM

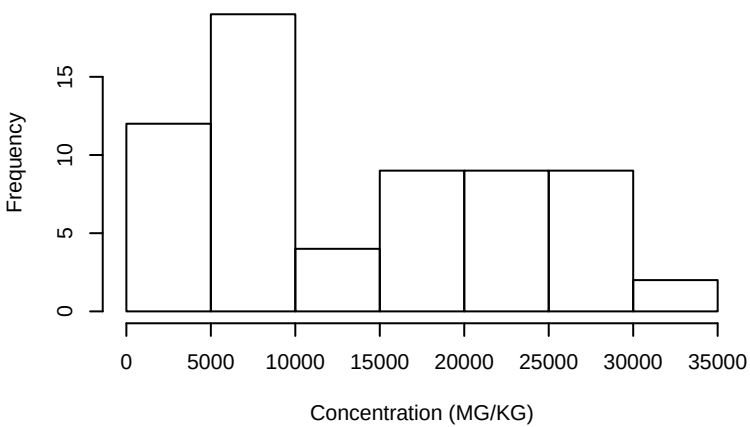
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum	15000	9200	3400	3800
25th Percentile	18000	19000	4200	7000
Median	22000	22000	4400	8200
Mean	22000	23000	4900	9300
75th Percentile	26000	28000	5300	9600
Maximum	29000	34000	9000	20000

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

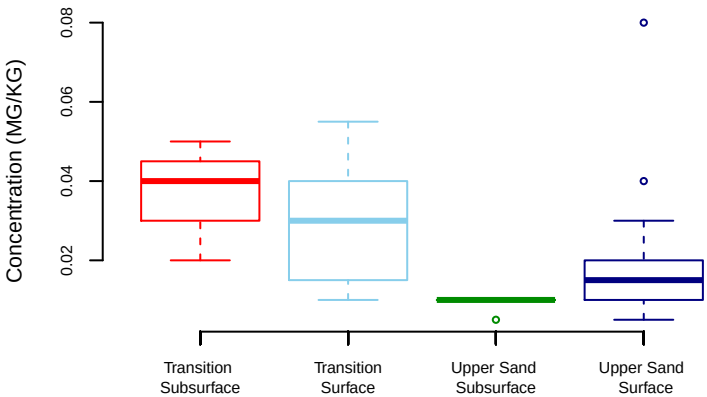
U.S. Sub = Upper Sand Subsurface

NaN = Not Applicable

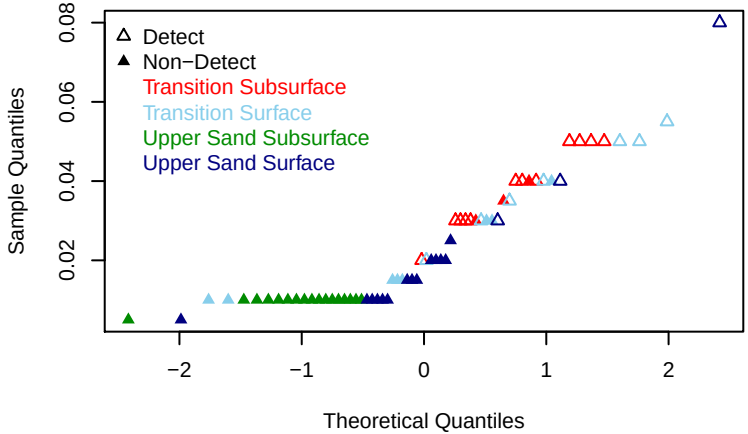
Summary Statistics presented using two significant figures

ANTIMONY

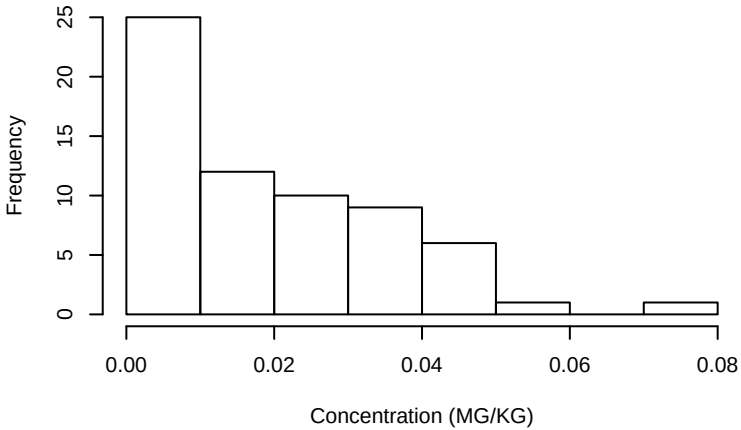
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum	0.02	0.01	0.005	0.005
25th Percentile	0.03	0.015	0.01	0.01
Median	0.04	0.03	0.01	0.015
Mean	0.038	0.03	0.0097	0.021
75th Percentile	0.045	0.04	0.01	0.02
Maximum	0.05	0.055	0.01	0.08

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

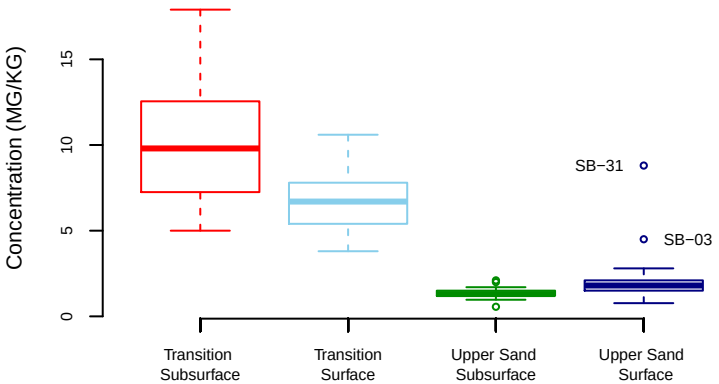
U.S. Sub = Upper Sand Subsurface

NaN = Not Applicable

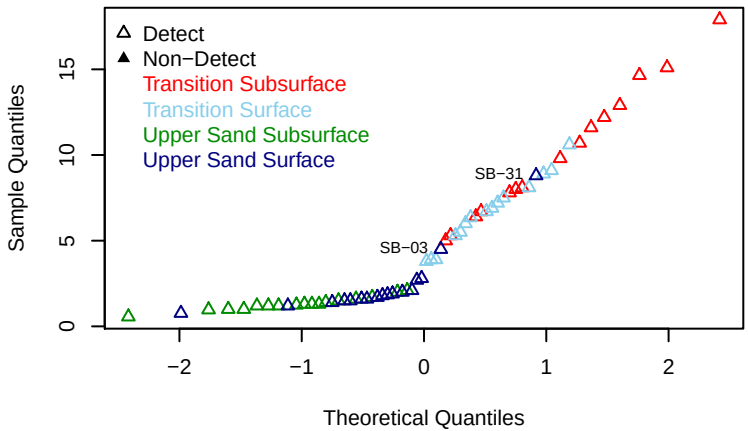
Summary Statistics presented using two significant figures

ARSENIC

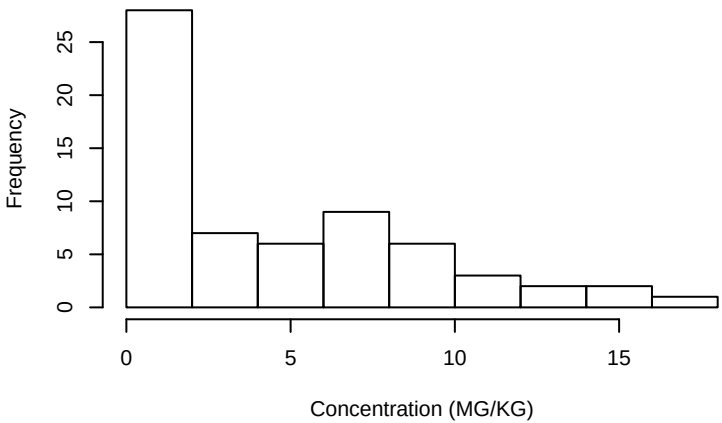
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum	5	3.8	0.56	0.77
25th Percentile	7.2	5.4	1.2	1.5
Median	9.8	6.7	1.3	1.8
Mean	10	6.6	1.3	2.3
75th Percentile	13	7.8	1.5	2.1
Maximum	18	11	2.1	8.8

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

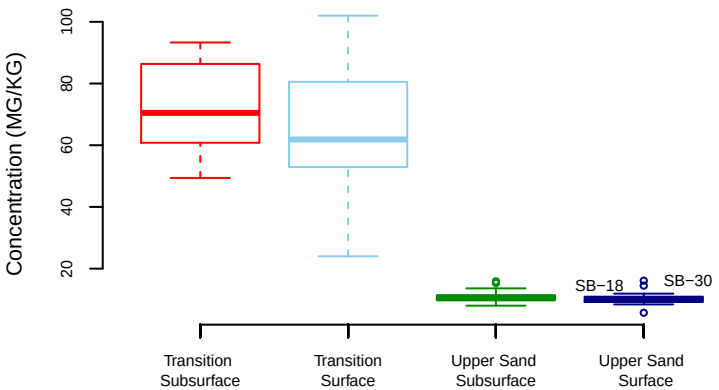
U.S. Sub = Upper Sand Subsurface

NaN = Not Applicable

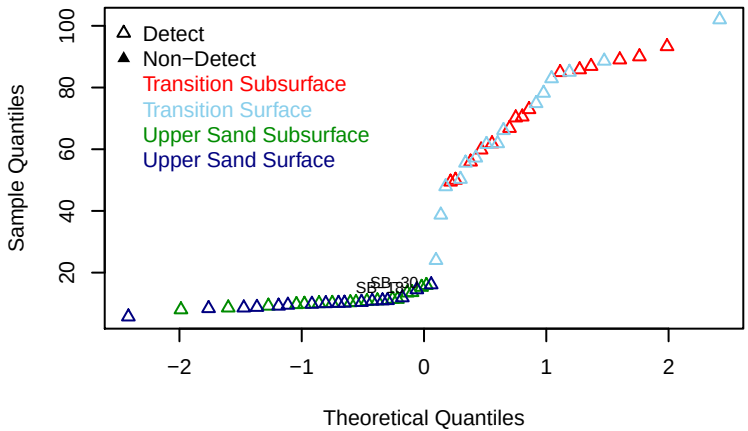
Summary Statistics presented using two significant figures

BARIUM

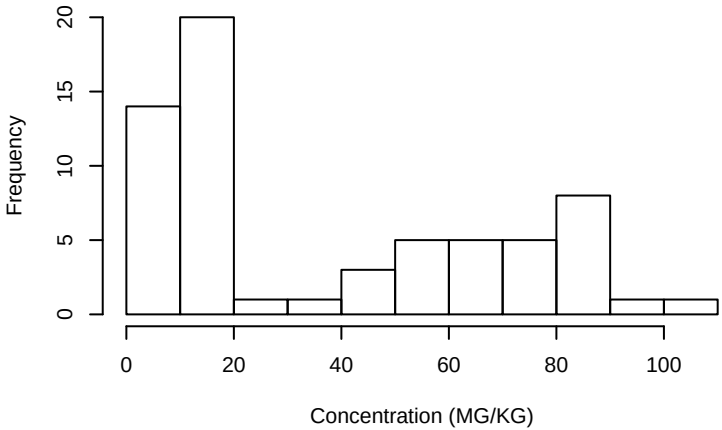
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum	49	24	8	5.7
25th Percentile	61	53	9.8	9.2
Median	70	62	10	10
Mean	72	65	11	10
75th Percentile	86	81	11	11
Maximum	93	100	16	16

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

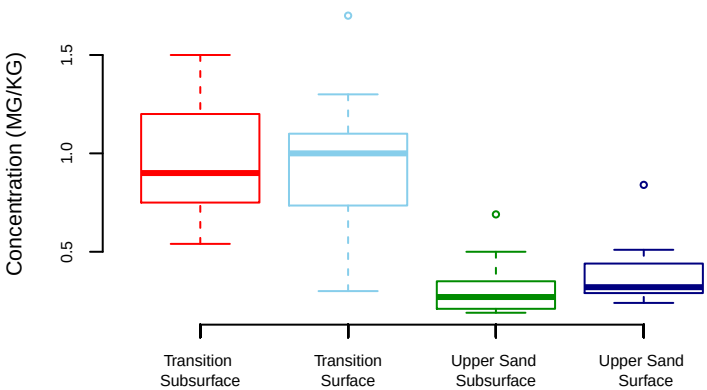
U.S. Sub = Upper Sand Subsurface

NaN = Not Applicable

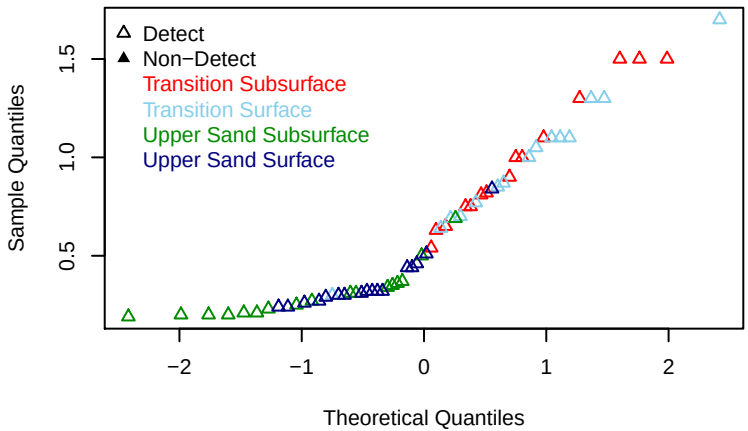
Summary Statistics presented using two significant figures

BERYLLIUM

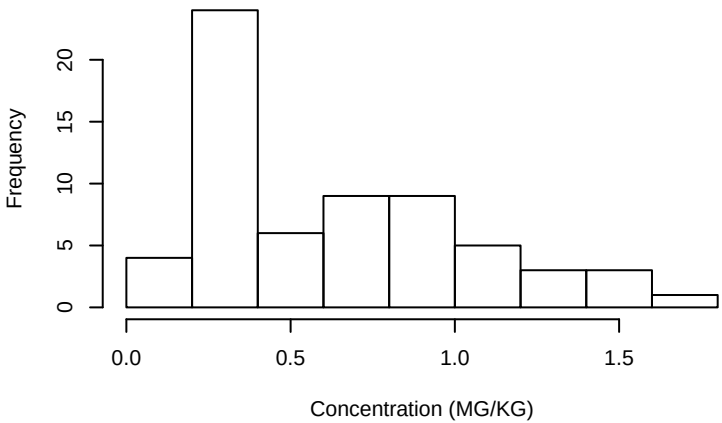
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum	0.54	0.3	0.19	0.24
25th Percentile	0.75	0.74	0.21	0.29
Median	0.9	1	0.27	0.32
Mean	0.98	0.96	0.31	0.36
75th Percentile	1.2	1.1	0.35	0.44
Maximum	1.5	1.7	0.69	0.84

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

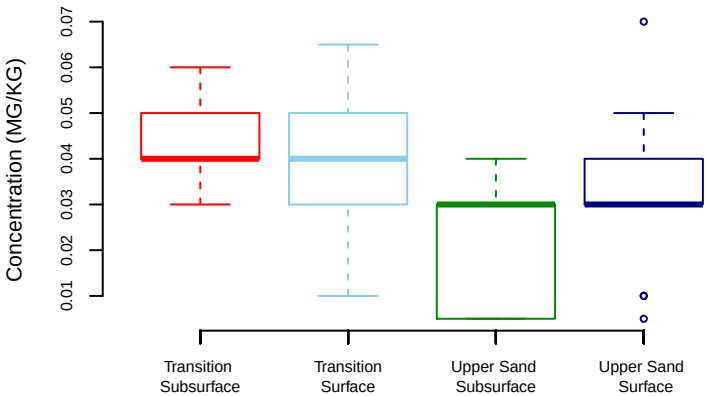
U.S. Sub = Upper Sand Subsurface

NaN = Not Applicable

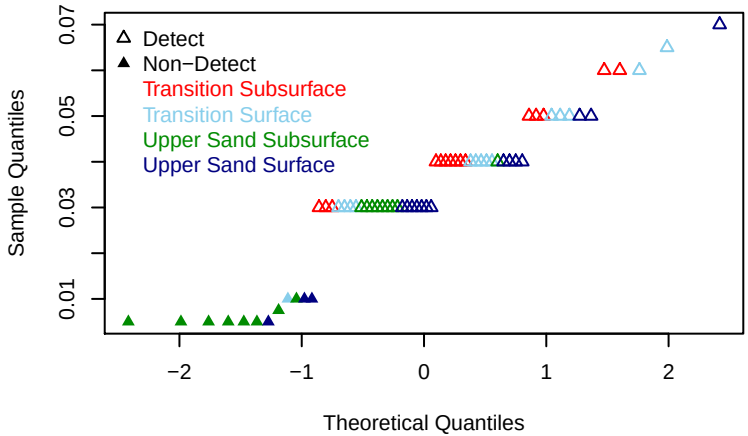
Summary Statistics presented using two significant figures

CADMIUM

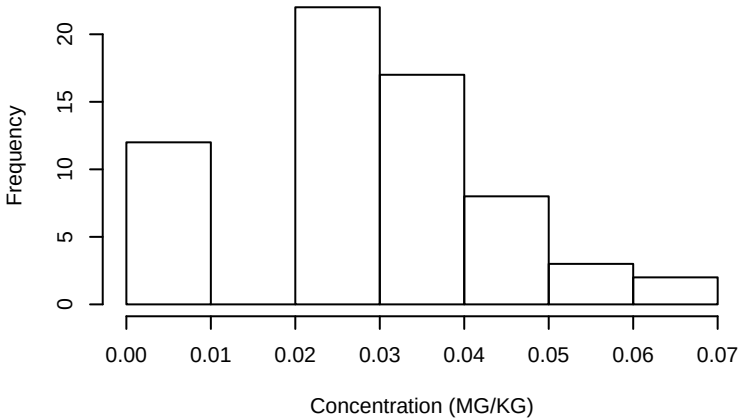
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum	0.03	0.01	0.005	0.005
25th Percentile	0.04	0.03	0.005	0.03
Median	0.04	0.04	0.03	0.03
Mean	0.043	0.04	0.019	0.033
75th Percentile	0.05	0.05	0.03	0.04
Maximum	0.06	0.065	0.04	0.07

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

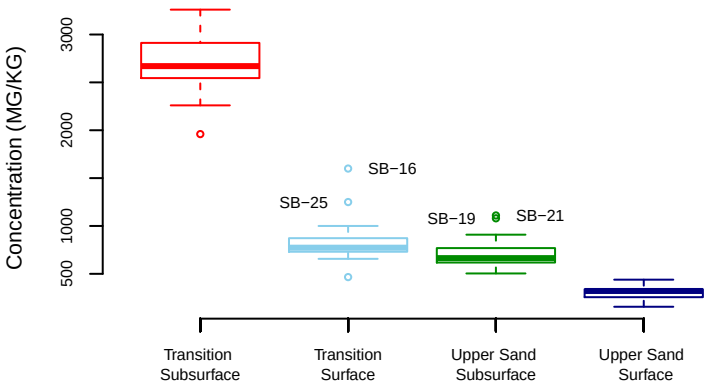
U.S. Sub = Upper Sand Subsurface

NaN = Not Applicable

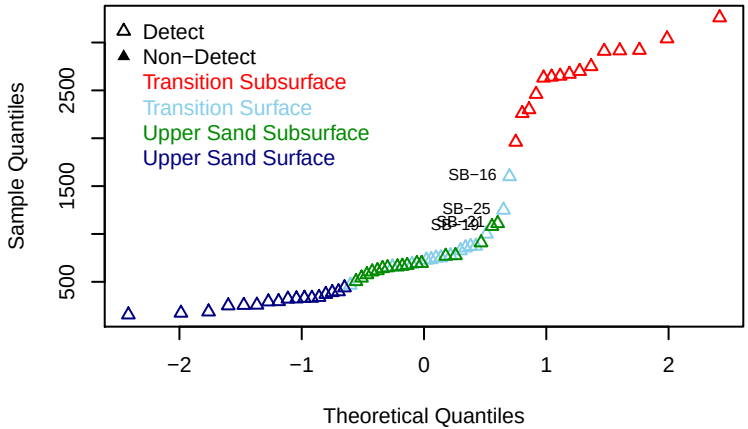
Summary Statistics presented using two significant figures

CALCIUM

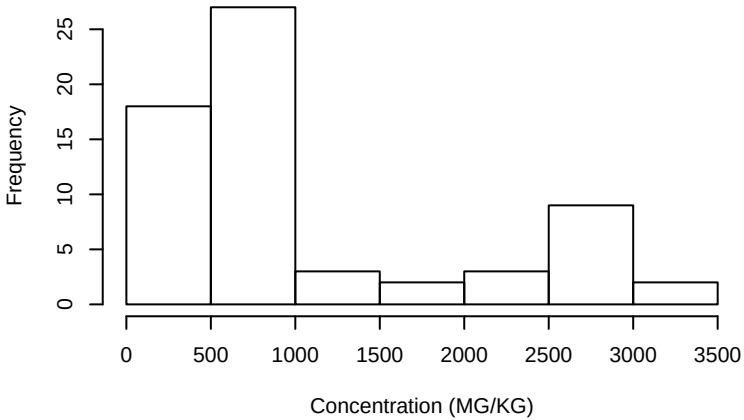
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum	2000	470	500	160
25th Percentile	2500	730	620	260
Median	2700	770	660	320
Mean	2700	850	720	300
75th Percentile	2900	870	770	340
Maximum	3300	1600	1100	440

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

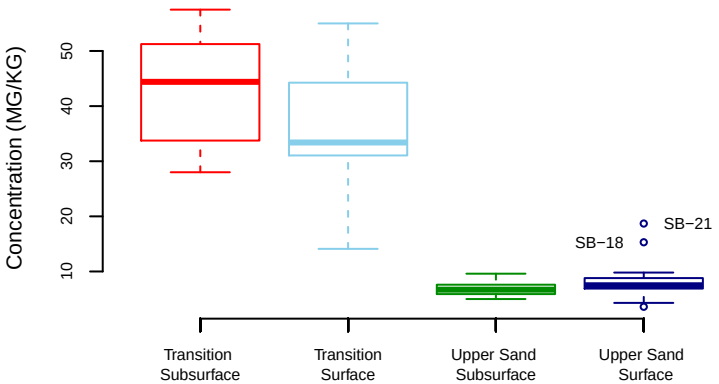
U.S. Sub = Upper Sand Subsurface

NaN = Not Applicable

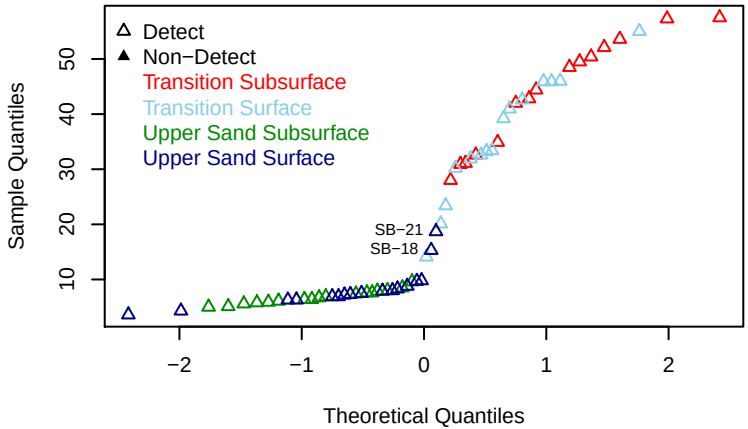
Summary Statistics presented using two significant figures

CHROMIUM

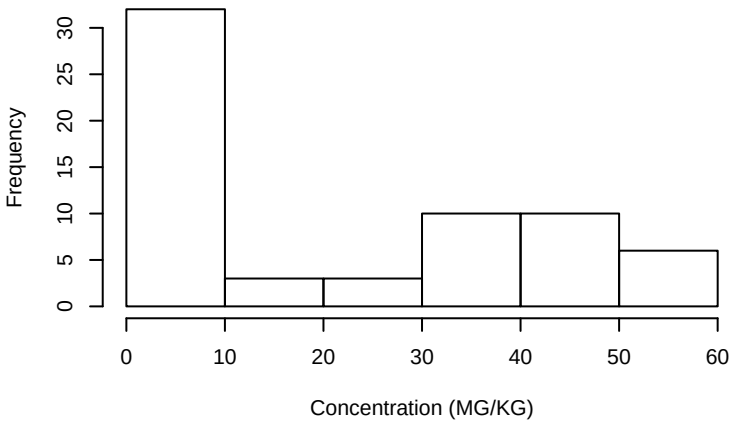
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum	28	14	5	3.6
25th Percentile	34	31	5.9	6.9
Median	44	33	6.7	7.5
Mean	44	36	6.9	8.4
75th Percentile	51	44	7.6	8.8
Maximum	58	55	9.6	19

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

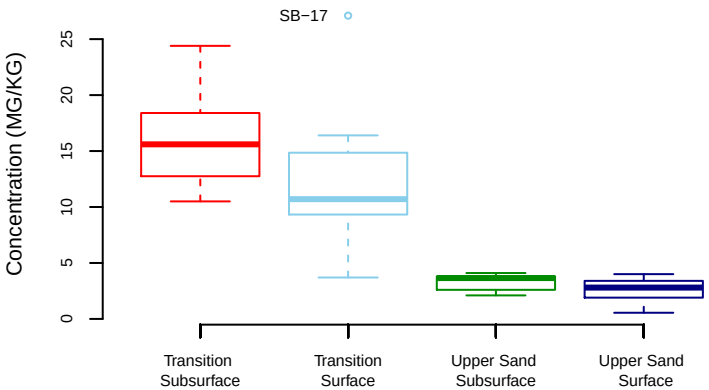
U.S. Sub = Upper Sand Subsurface

NaN = Not Applicable

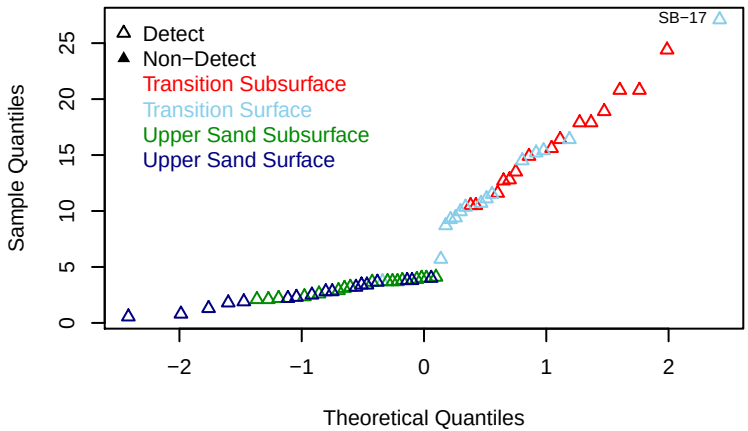
Summary Statistics presented using two significant figures

COBALT

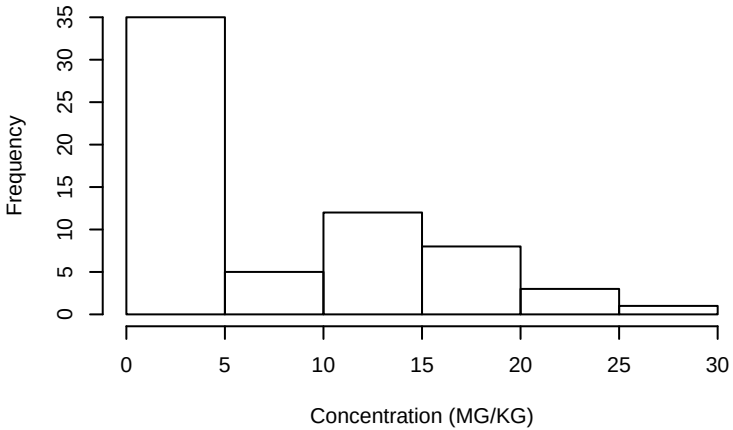
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum	10	3.7	2.1	0.55
25th Percentile	13	9.3	2.6	1.9
Median	16	11	3.6	2.8
Mean	16	12	3.2	2.6
75th Percentile	18	15	3.8	3.4
Maximum	24	27	4.1	4

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

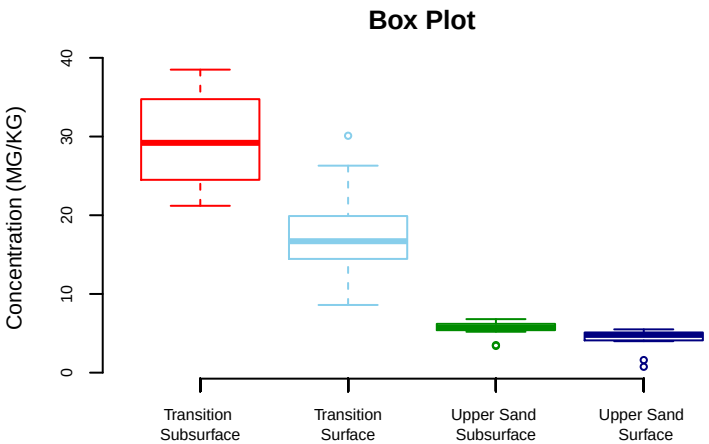
U.S. Surf = Upper Sand Surface

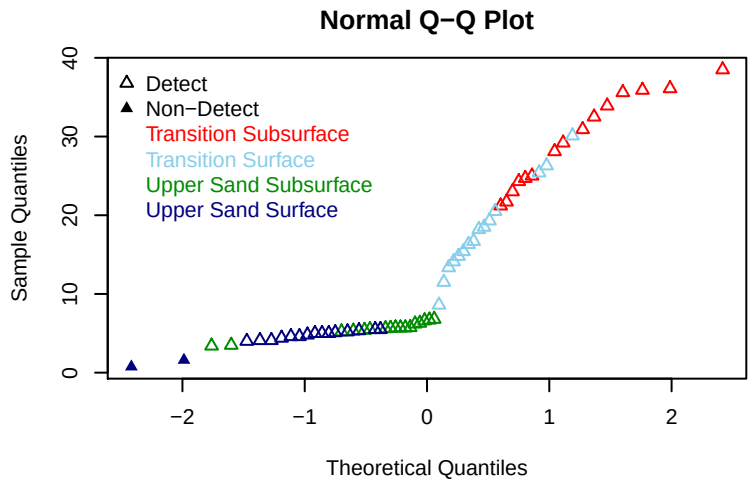
U.S. Sub = Upper Sand Subsurface

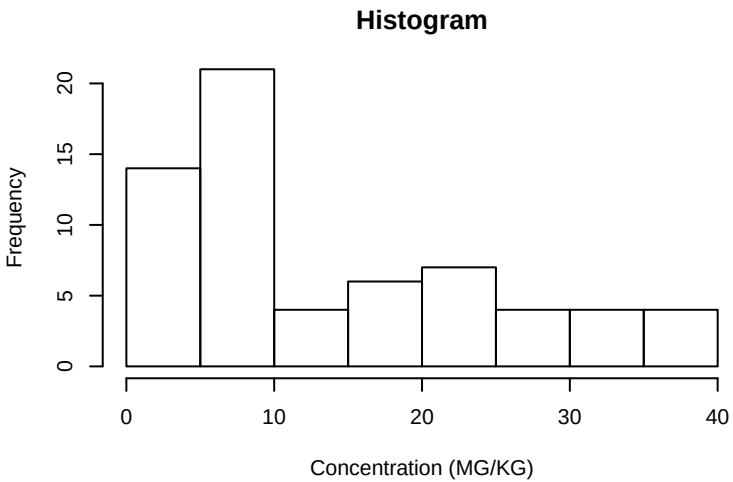
NaN = Not Applicable

Summary Statistics presented using two significant figures

COPPER







Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum	21	8.6	3.4	0.75
25th Percentile	24	14	5.4	4.1
Median	29	17	5.7	4.8
Mean	29	18	5.6	4.4
75th Percentile	35	20	6.2	5.1
Maximum	38	30	6.8	5.5

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

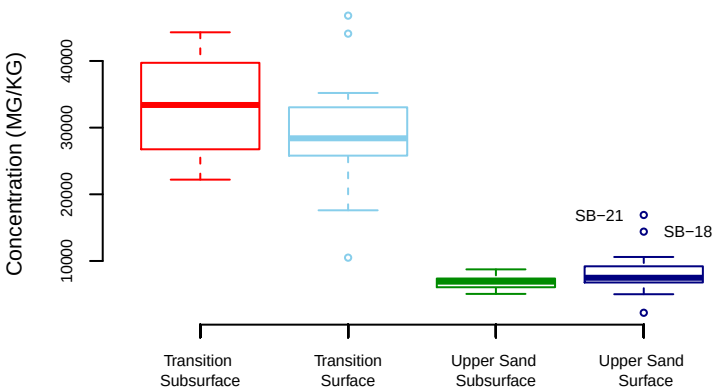
U.S. Sub = Upper Sand Subsurface

NaN = Not Applicable

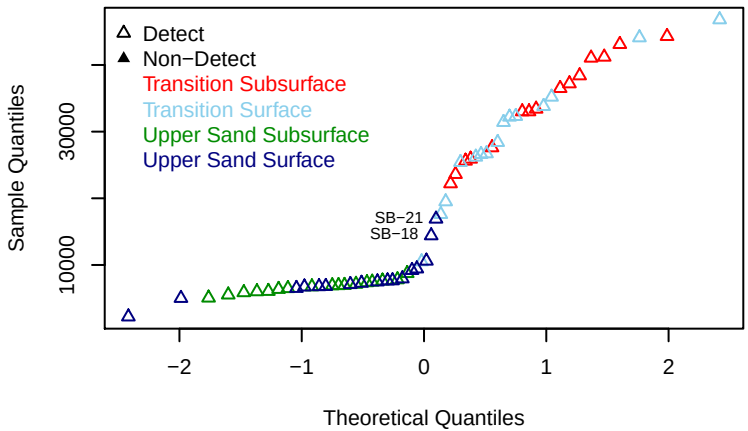
Summary Statistics presented using two significant figures

IRON

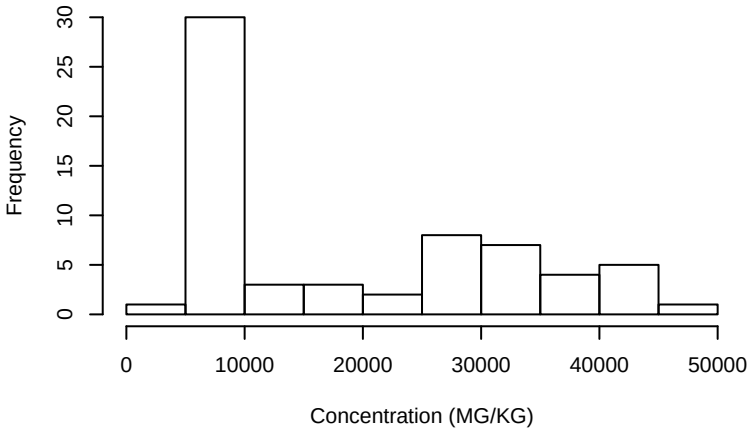
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum	22000	10000	5100	2200
25th Percentile	27000	26000	6100	6800
Median	33000	28000	6900	7500
Mean	34000	29000	6800	8200
75th Percentile	40000	33000	7400	9200
Maximum	44000	47000	8700	17000

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

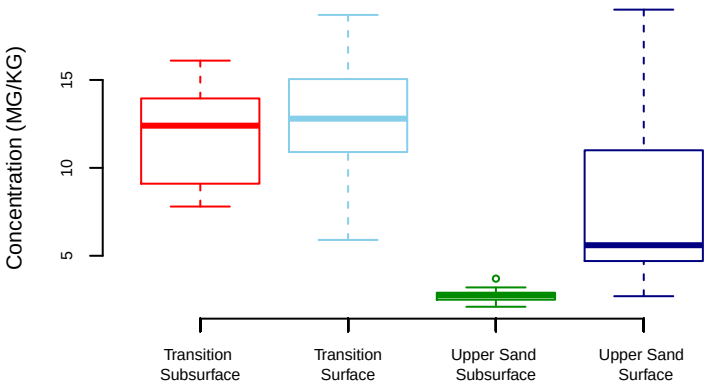
U.S. Sub = Upper Sand Subsurface

NaN = Not Applicable

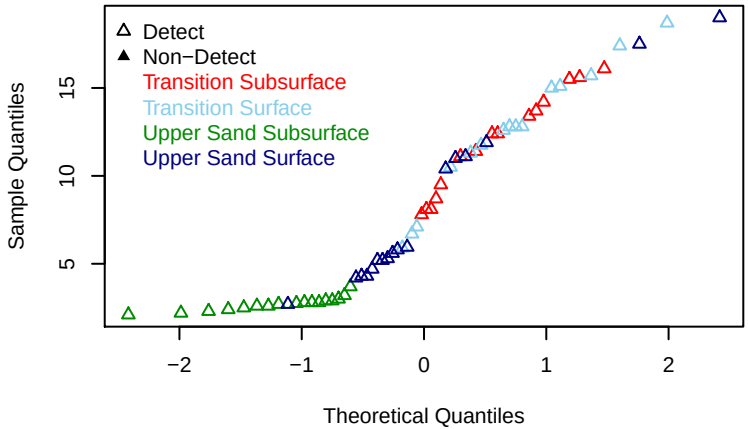
Summary Statistics presented using two significant figures

LEAD

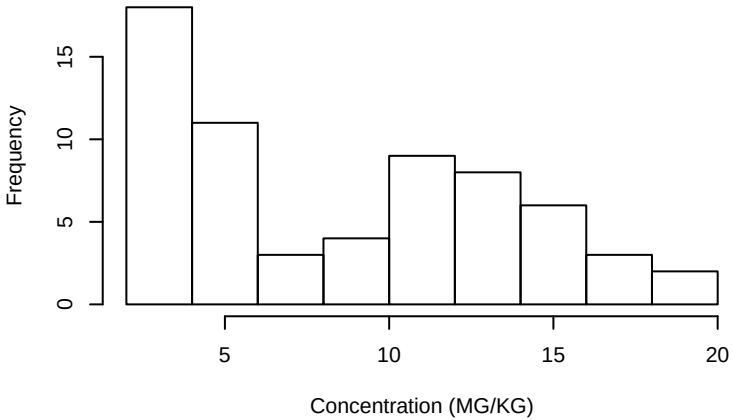
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum	7.8	5.9	2.1	2.7
25th Percentile	9.1	11	2.5	4.7
Median	12	13	2.8	5.6
Mean	12	12	2.7	7.9
75th Percentile	14	15	2.9	11
Maximum	16	19	3.7	19

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

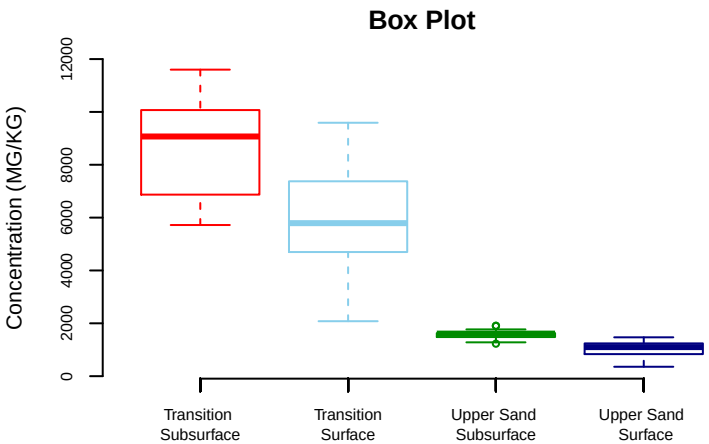
U.S. Surf = Upper Sand Surface

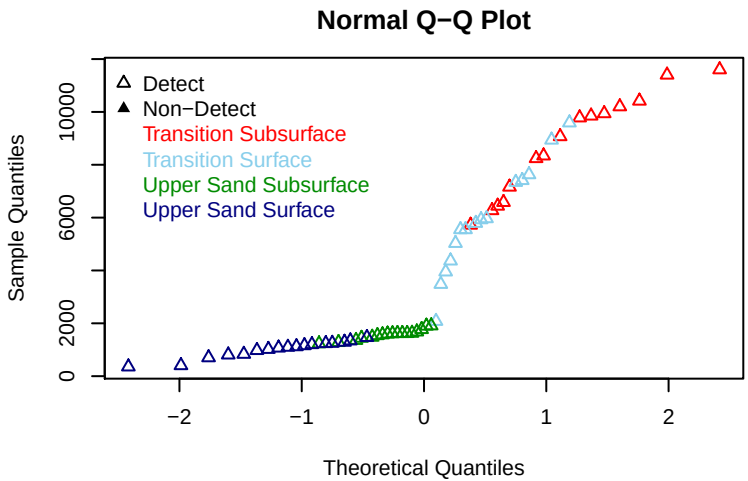
U.S. Sub = Upper Sand Subsurface

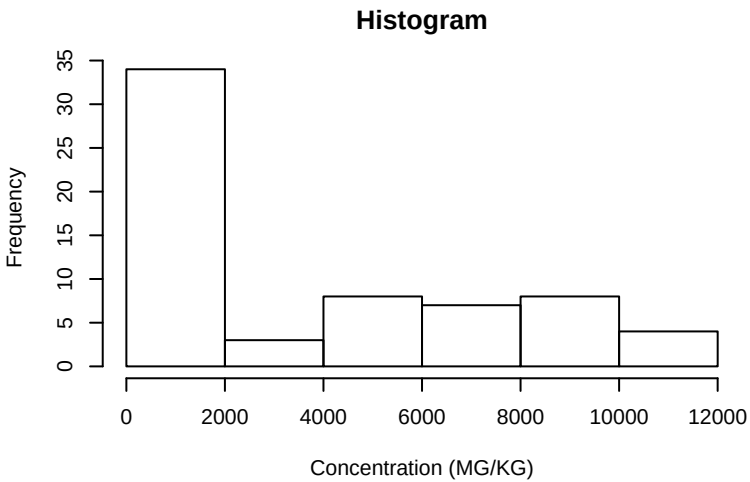
NaN = Not Applicable

Summary Statistics presented using two significant figures

MAGNESIUM







Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum	5700	2100	1200	360
25th Percentile	6900	4700	1500	830
Median	9100	5800	1600	1100
Mean	8700	5900	1600	1000
75th Percentile	10000	7400	1600	1200
Maximum	12000	9600	1900	1500

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

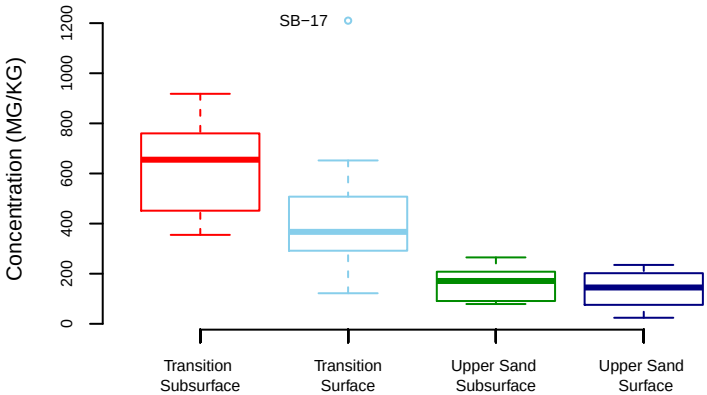
U.S. Sub = Upper Sand Subsurface

NaN = Not Applicable

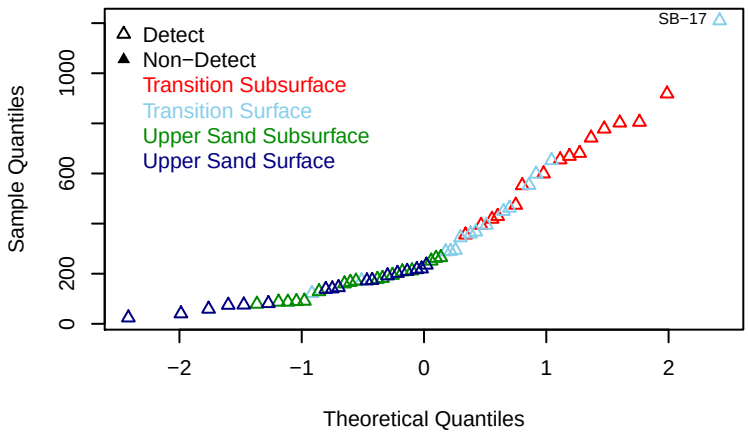
Summary Statistics presented using two significant figures

MANGANESE

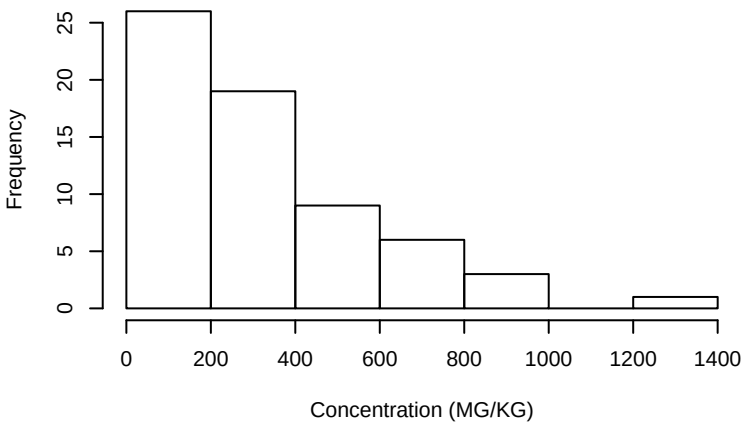
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum	360	120	79	24
25th Percentile	450	290	91	76
Median	660	370	170	140
Mean	620	440	170	140
75th Percentile	760	510	210	200
Maximum	920	1200	260	240

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

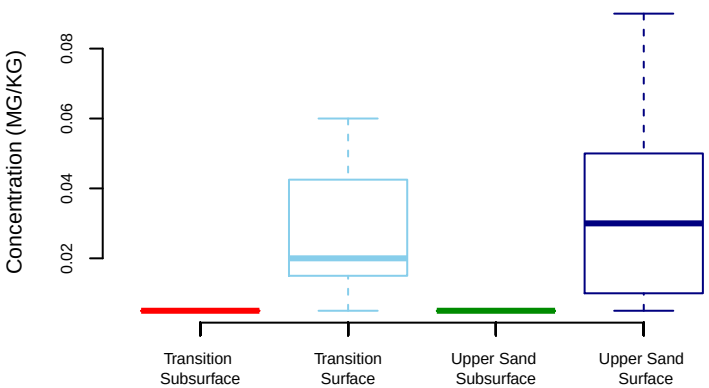
U.S. Sub = Upper Sand Subsurface

NaN = Not Applicable

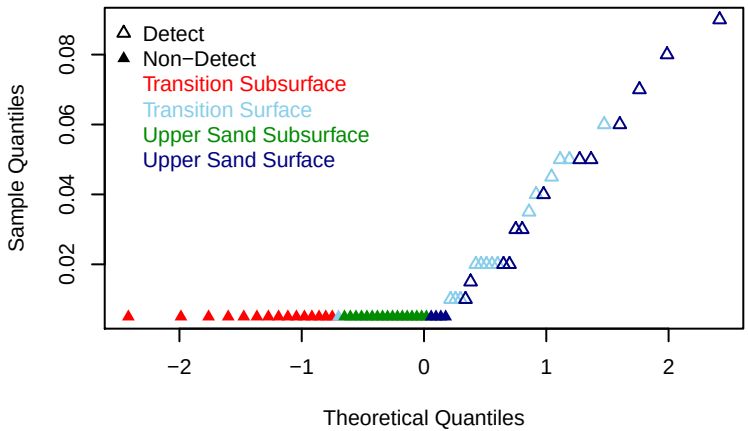
Summary Statistics presented using two significant figures

MERCURY

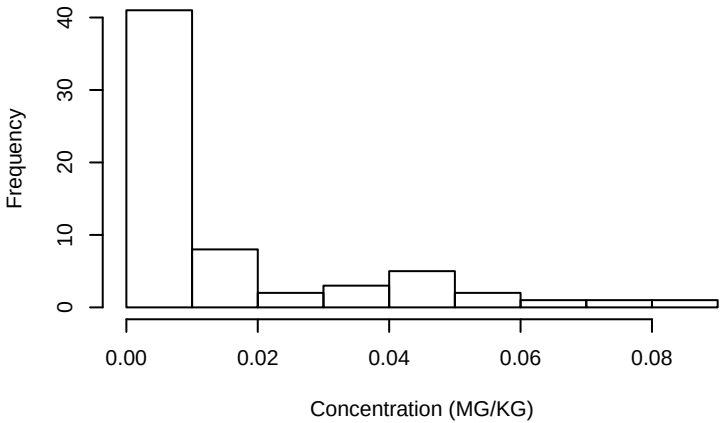
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum	0.005	0.005	0.005	0.005
25th Percentile	0.005	0.015	0.005	0.01
Median	0.005	0.02	0.005	0.03
Mean	0.005	0.028	0.005	0.034
75th Percentile	0.005	0.042	0.005	0.05
Maximum	0.005	0.06	0.005	0.09

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

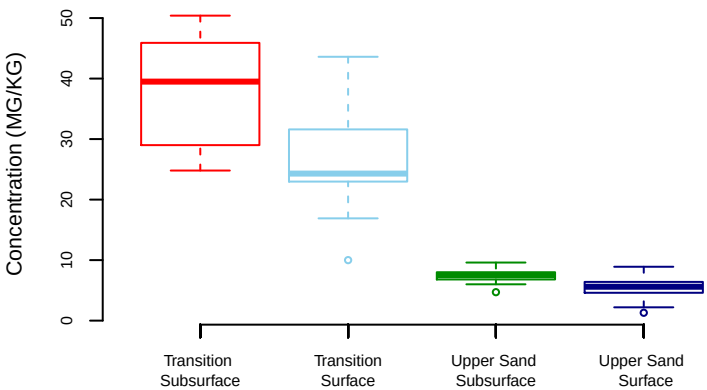
U.S. Sub = Upper Sand Subsurface

NaN = Not Applicable

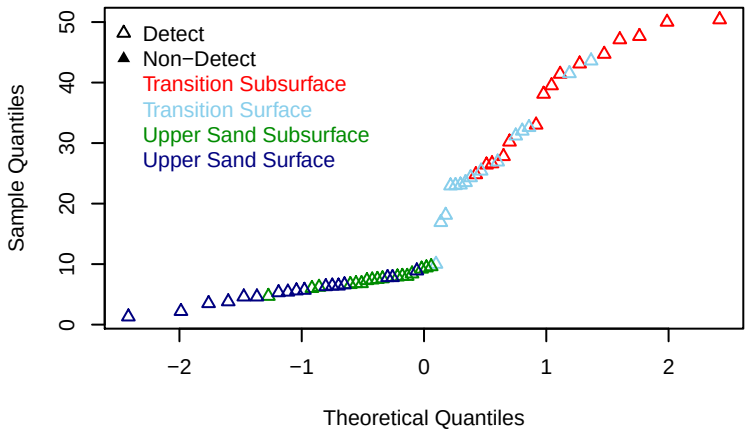
Summary Statistics presented using two significant figures

NICKEL

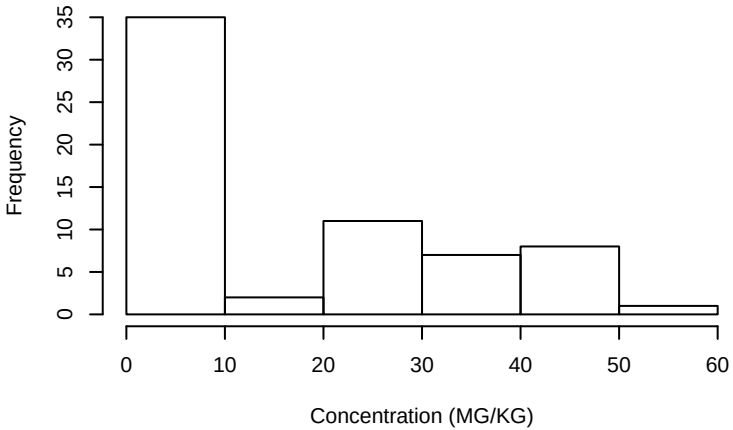
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum	25	10	4.7	1.3
25th Percentile	29	23	6.8	4.6
Median	40	24	7.5	5.6
Mean	38	26	7.5	5.4
75th Percentile	46	32	8	6.4
Maximum	50	44	9.6	8.9

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

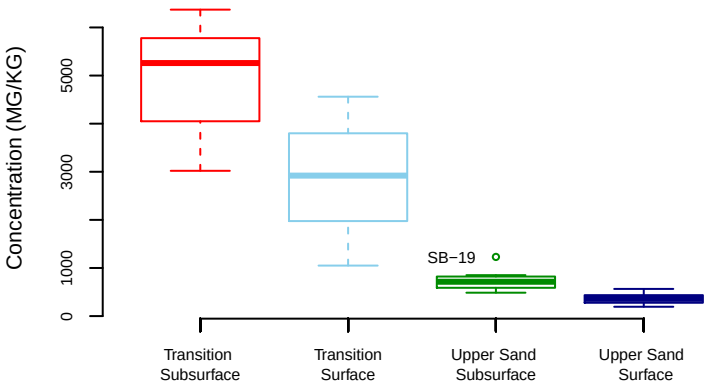
U.S. Sub = Upper Sand Subsurface

NaN = Not Applicable

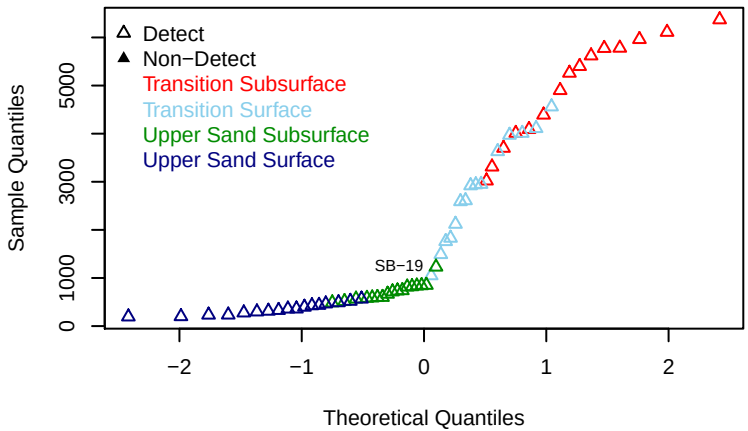
Summary Statistics presented using two significant figures

POTASSIUM

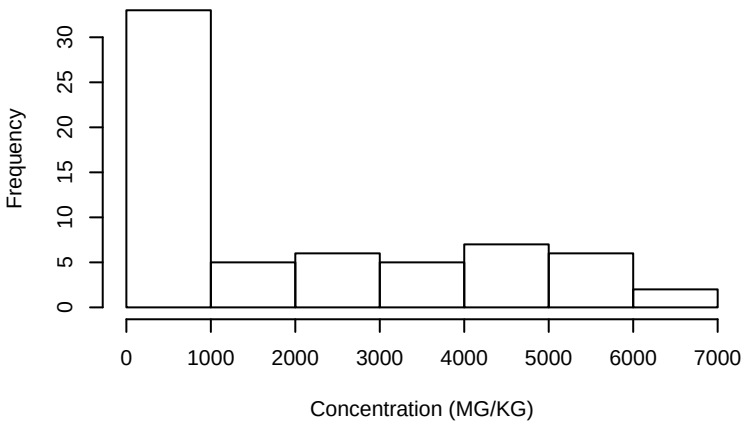
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum	3000	1000	490	190
25th Percentile	4000	2000	590	280
Median	5300	2900	710	360
Mean	4900	2800	720	360
75th Percentile	5800	3800	820	440
Maximum	6400	4600	1200	560

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

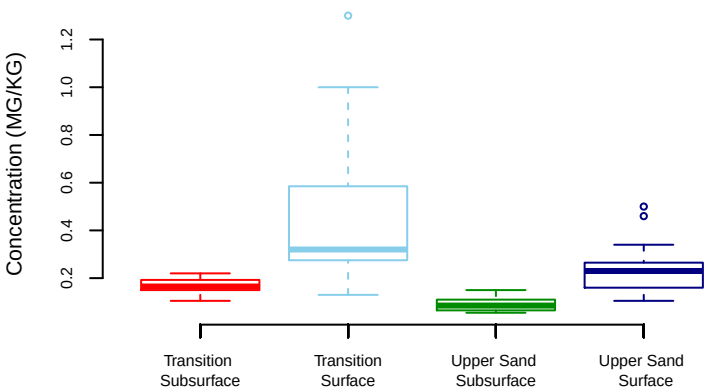
U.S. Sub = Upper Sand Subsurface

NaN = Not Applicable

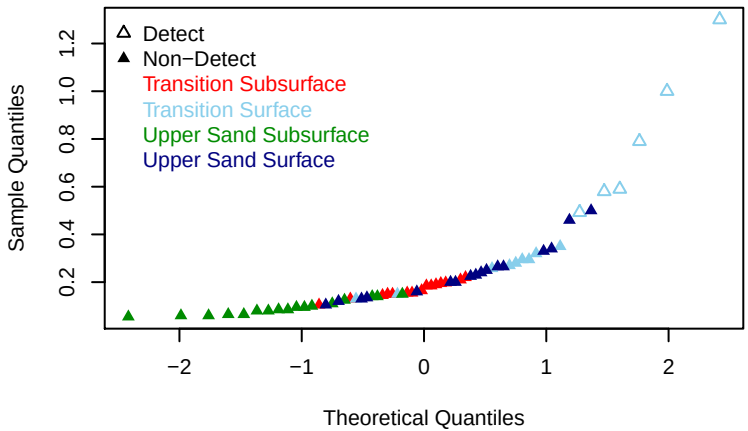
Summary Statistics presented using two significant figures

SELENIUM

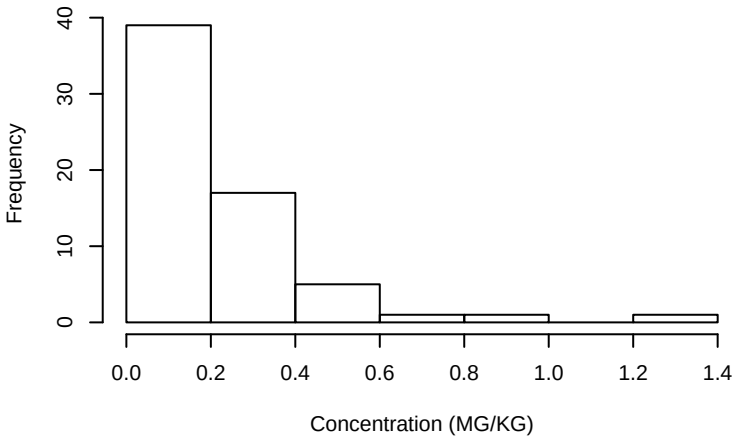
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum	0.1	0.13	0.055	0.1
25th Percentile	0.15	0.28	0.065	0.16
Median	0.16	0.32	0.085	0.23
Mean	0.17	0.47	0.094	0.24
75th Percentile	0.19	0.58	0.11	0.26
Maximum	0.22	1.3	0.15	0.5

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

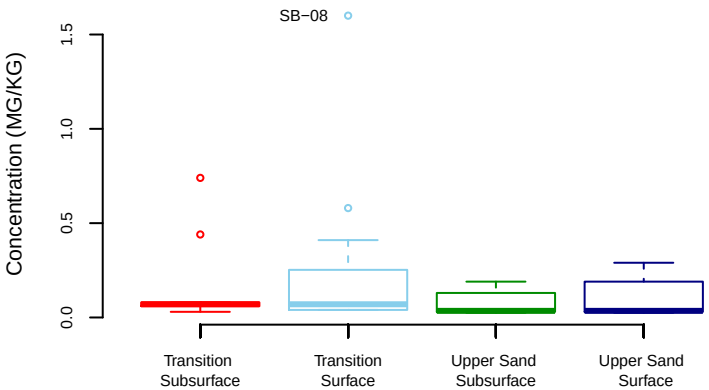
U.S. Sub = Upper Sand Subsurface

NaN = Not Applicable

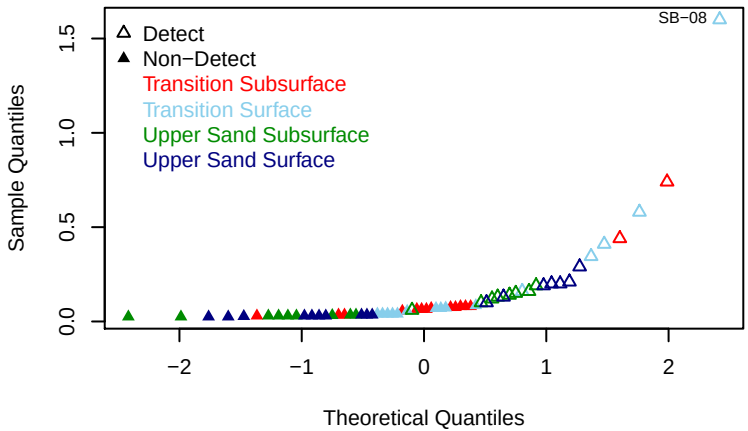
Summary Statistics presented using two significant figures

SILVER

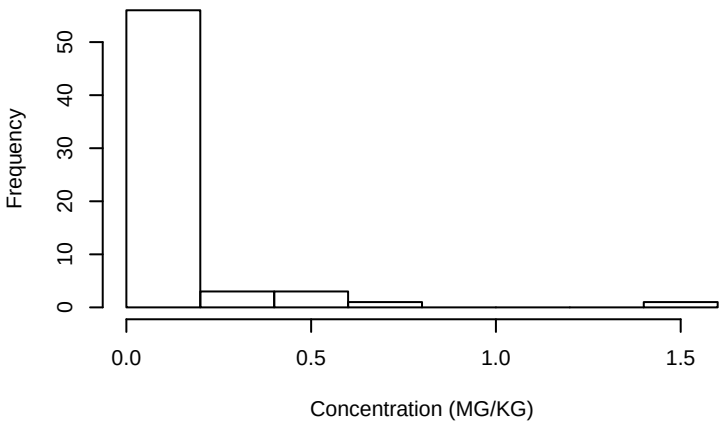
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum	0.03	0.04	0.025	0.025
25th Percentile	0.06	0.04	0.03	0.03
Median	0.07	0.07	0.035	0.035
Mean	0.13	0.24	0.078	0.095
75th Percentile	0.08	0.25	0.13	0.19
Maximum	0.74	1.6	0.19	0.29

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

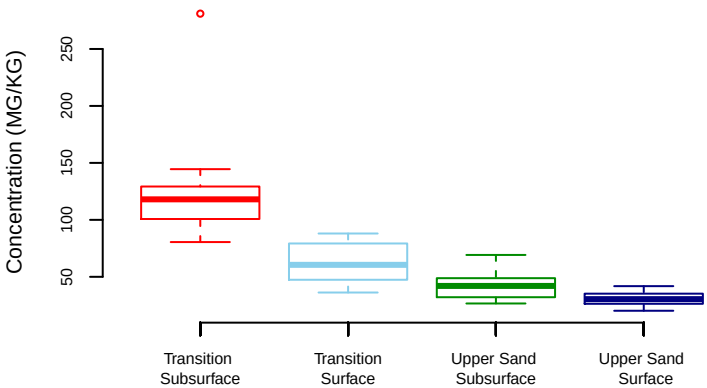
U.S. Sub = Upper Sand Subsurface

NaN = Not Applicable

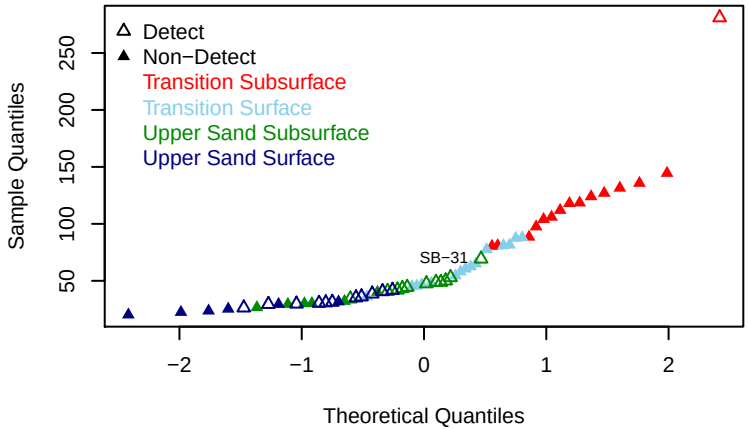
Summary Statistics presented using two significant figures

SODIUM

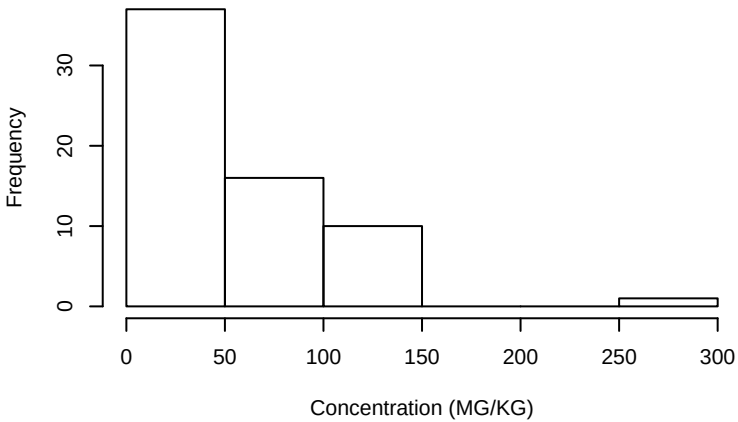
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum	80	36	27	20
25th Percentile	100	47	32	26
Median	120	60	42	30
Mean	120	63	42	31
75th Percentile	130	79	49	35
Maximum	280	88	69	42

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

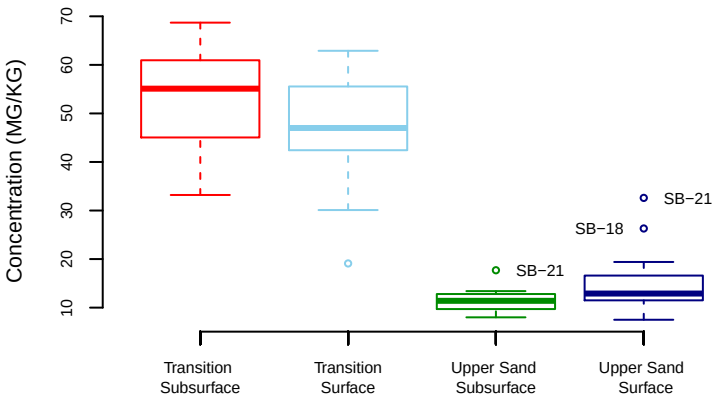
U.S. Sub = Upper Sand Subsurface

NaN = Not Applicable

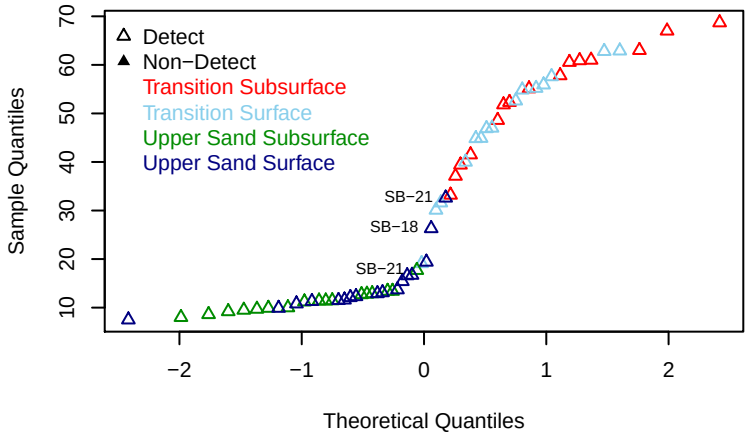
Summary Statistics presented using two significant figures

VANADIUM

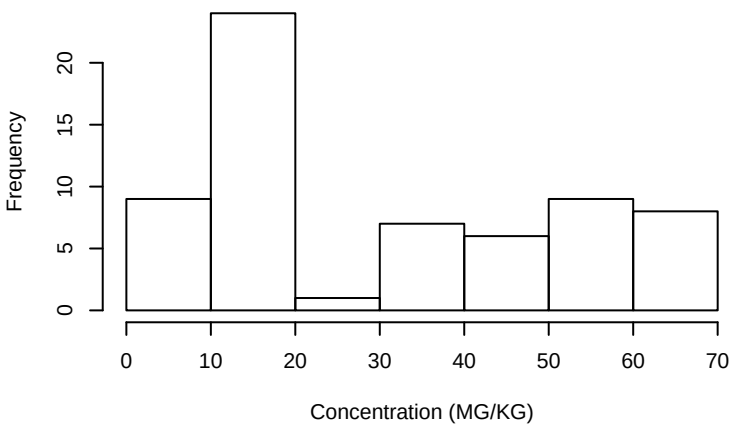
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum	33	19	8	7.5
25th Percentile	45	42	9.7	12
Median	55	47	11	13
Mean	53	47	11	15
75th Percentile	61	56	13	17
Maximum	69	63	18	33

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

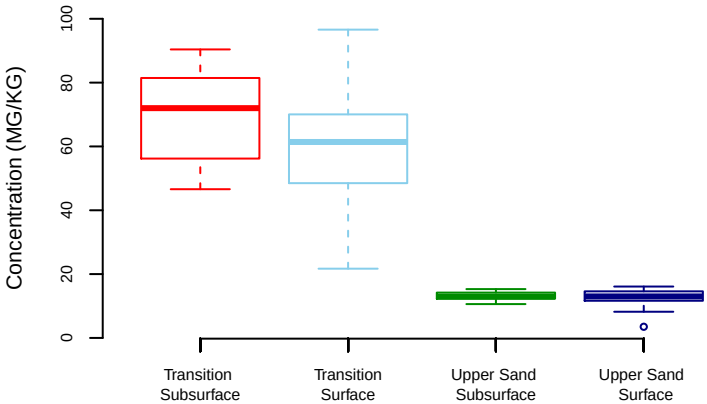
U.S. Sub = Upper Sand Subsurface

NaN = Not Applicable

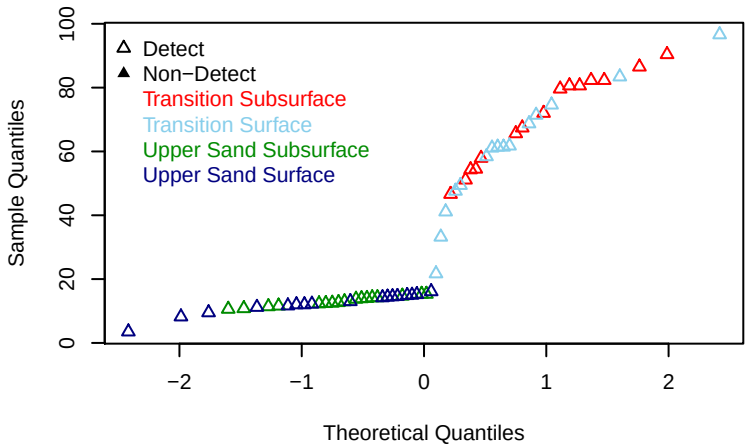
Summary Statistics presented using two significant figures

ZINC

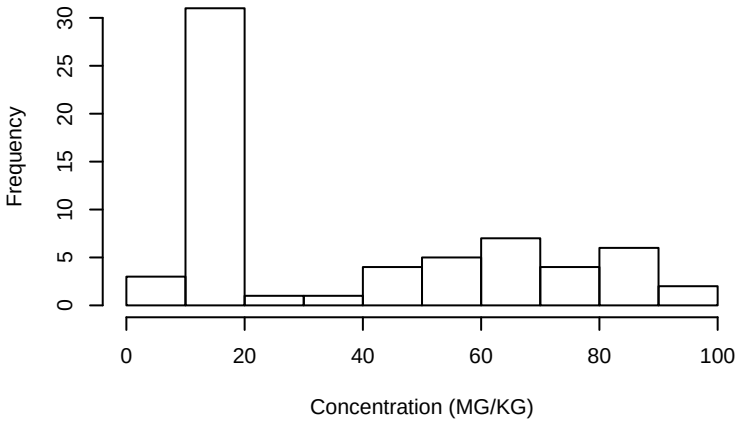
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum	47	22	11	3.5
25th Percentile	56	48	12	12
Median	72	61	13	13
Mean	70	59	13	12
75th Percentile	81	70	14	15
Maximum	90	97	15	16

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

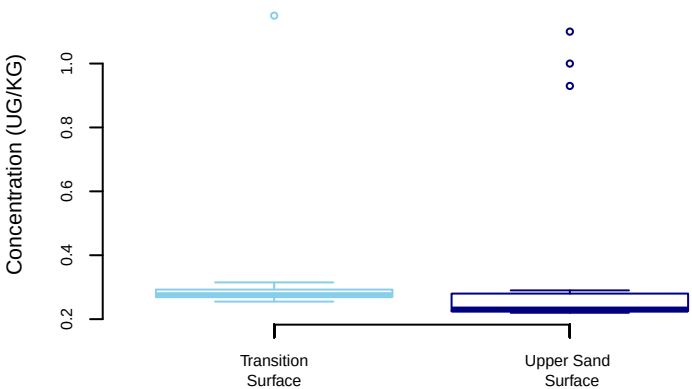
U.S. Sub = Upper Sand Subsurface

NaN = Not Applicable

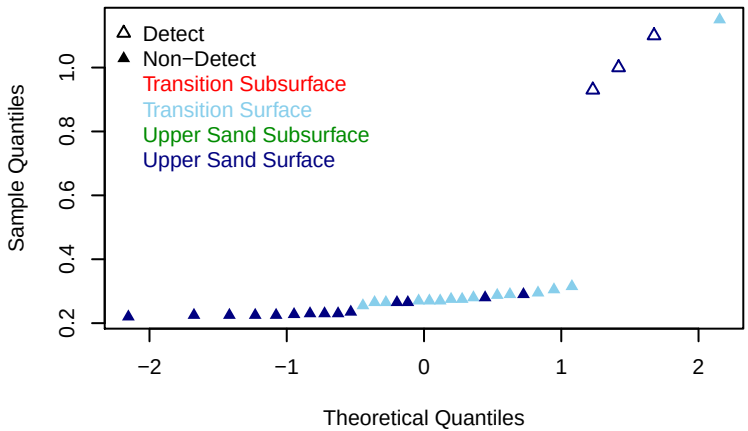
Summary Statistics presented using two significant figures

4,4'−DDD

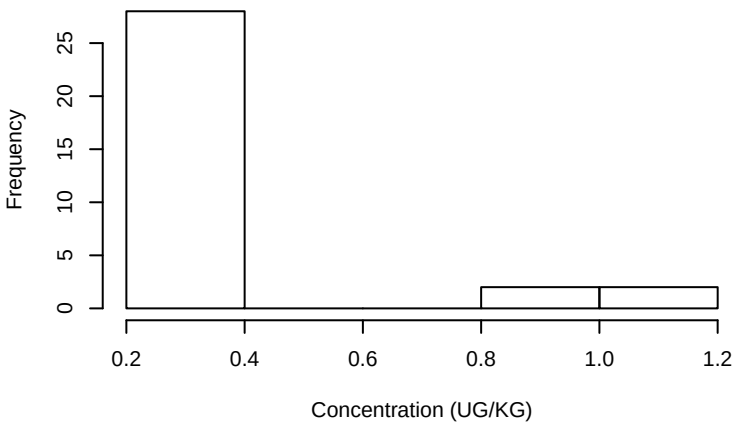
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum		0.26		0.22
25th Percentile		0.27		0.22
Median		0.28		0.23
Mean	NaN	0.34	NaN	0.38
75th Percentile		0.29		0.28
Maximum		1.2		1.1

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

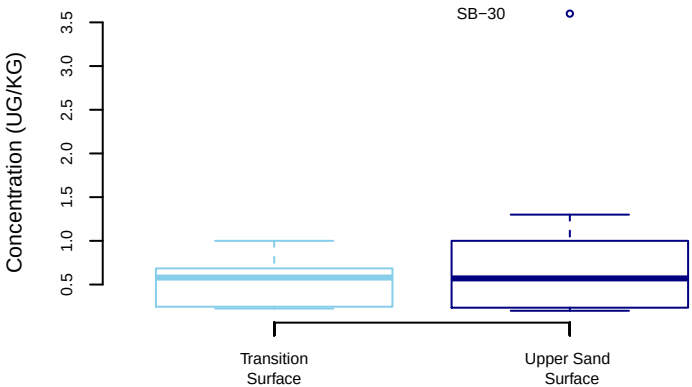
U.S. Sub = Upper Sand Subsurface

NaN = Not Applicable

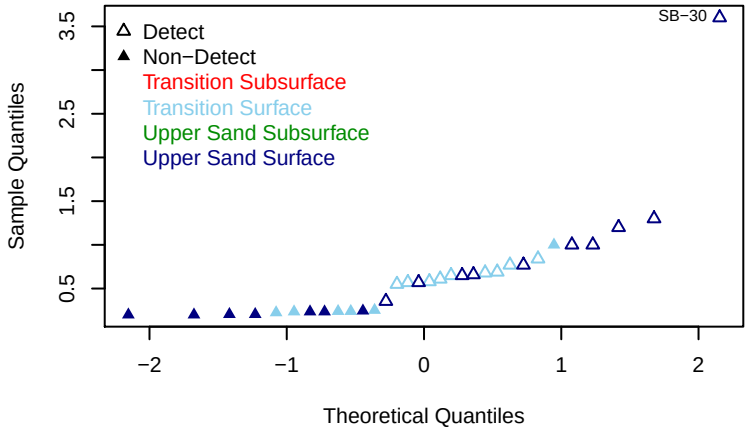
Summary Statistics presented using two significant figures

4,4'−DDE

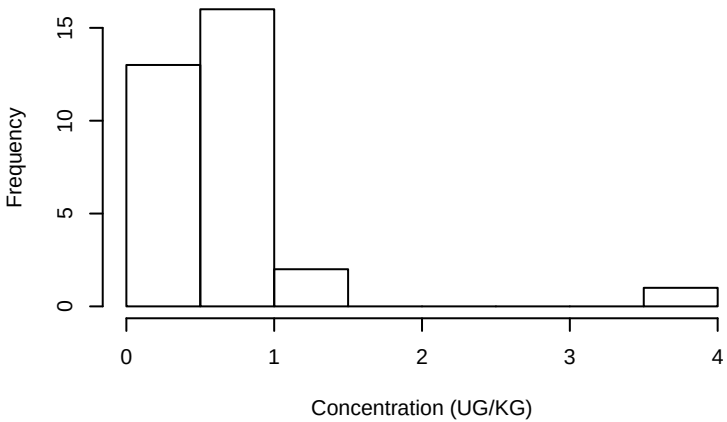
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum		0.22		0.2
25th Percentile		0.25		0.24
Median		0.58		0.57
Mean	NaN	0.54	NaN	0.74
75th Percentile		0.68		1
Maximum		1		3.6

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

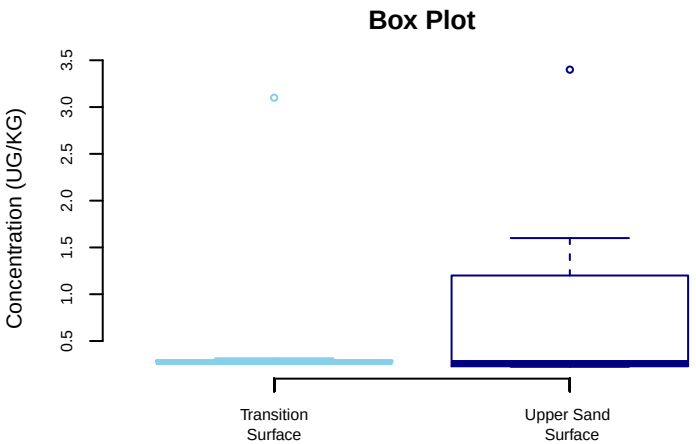
U.S. Surf = Upper Sand Surface

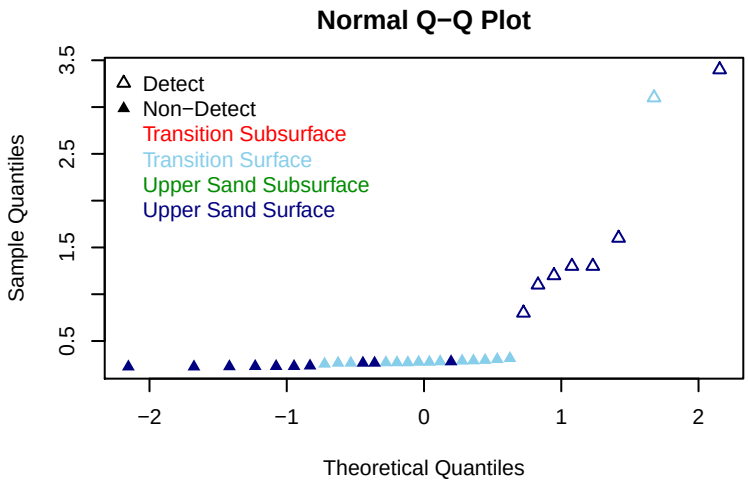
U.S. Sub = Upper Sand Subsurface

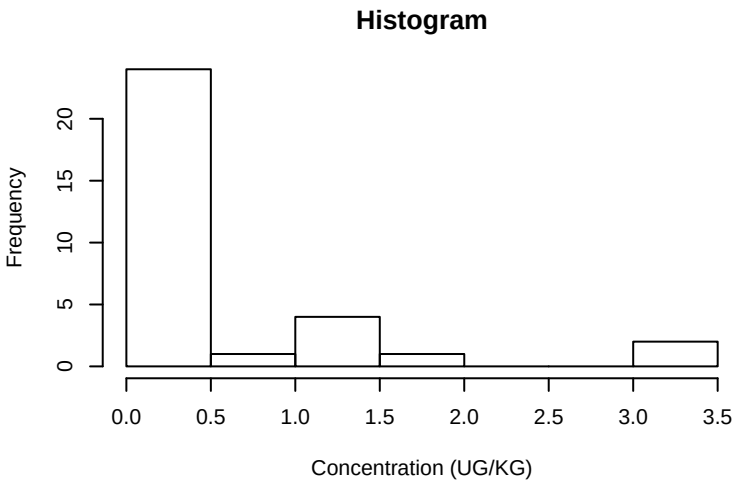
NaN = Not Applicable

Summary Statistics presented using two significant figures

4,4'−DDT







Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum		0.26		0.22
25th Percentile		0.27		0.23
Median		0.28		0.26
Mean	NaN	0.47	NaN	0.77
75th Percentile		0.29		1.2
Maximum		3.1		3.4

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

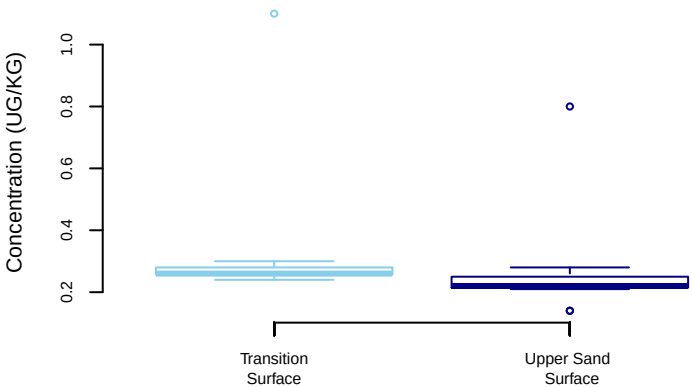
U.S. Sub = Upper Sand Subsurface

NaN = Not Applicable

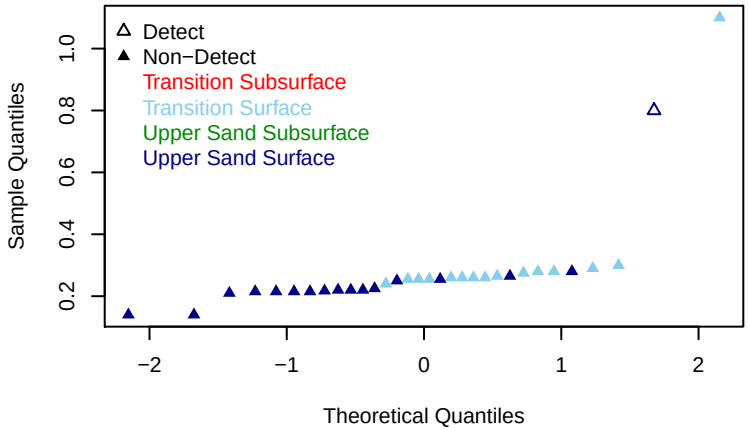
Summary Statistics presented using two significant figures

ENDOSULFAN I

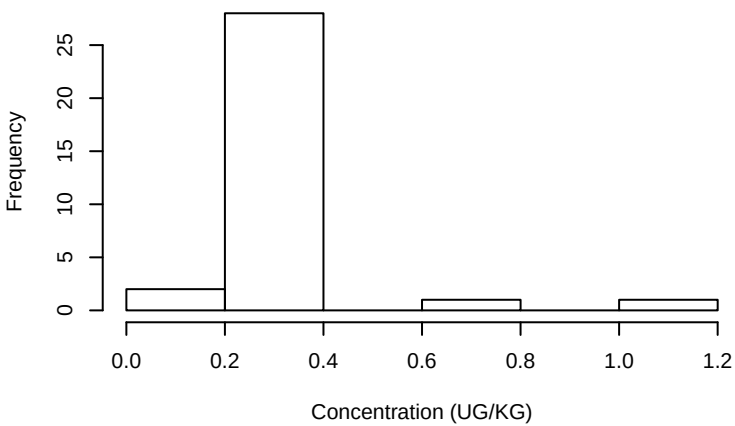
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum		0.24		0.14
25th Percentile		0.26		0.22
Median		0.26		0.22
Mean	NaN	0.32	NaN	0.25
75th Percentile		0.28		0.25
Maximum		1.1		0.8

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

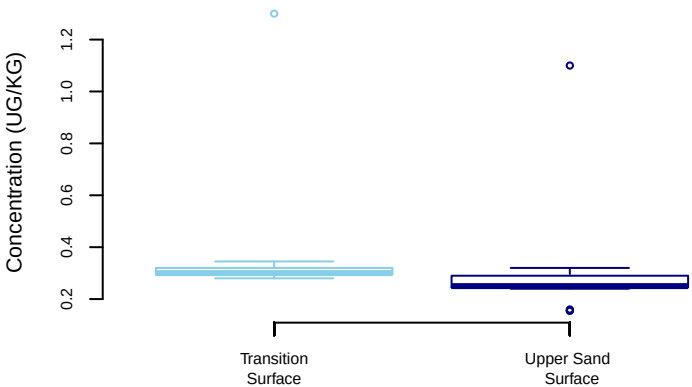
U.S. Sub = Upper Sand Subsurface

NaN = Not Applicable

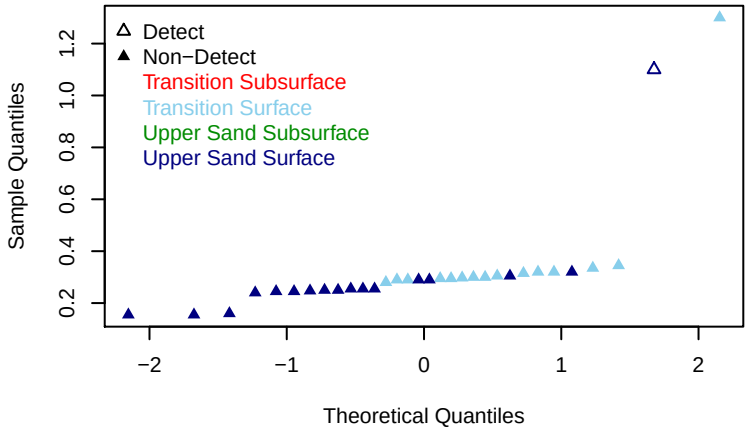
Summary Statistics presented using two significant figures

GAMMA−BHC (LINDANE)

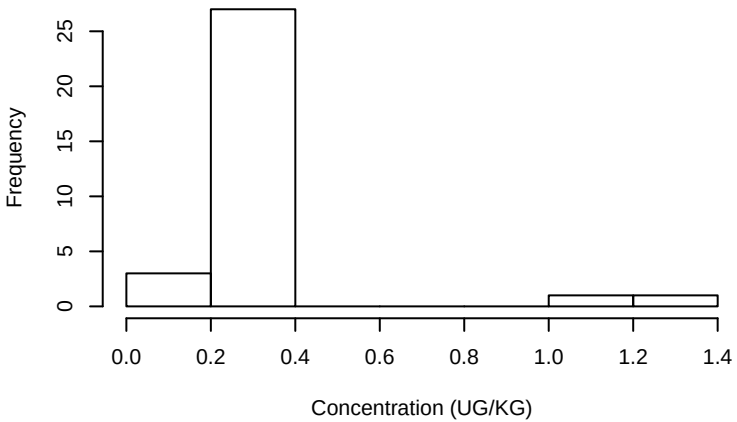
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum		0.28		0.16
25th Percentile		0.3		0.24
Median		0.3		0.25
Mean	NaN	0.37	NaN	0.3
75th Percentile		0.32		0.29
Maximum		1.3		1.1

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

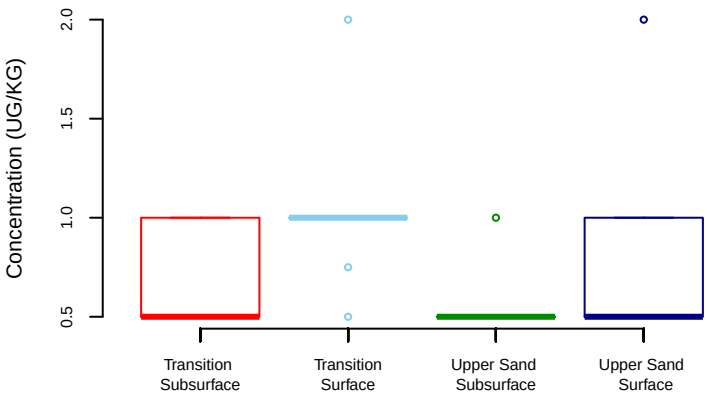
U.S. Sub = Upper Sand Subsurface

NaN = Not Applicable

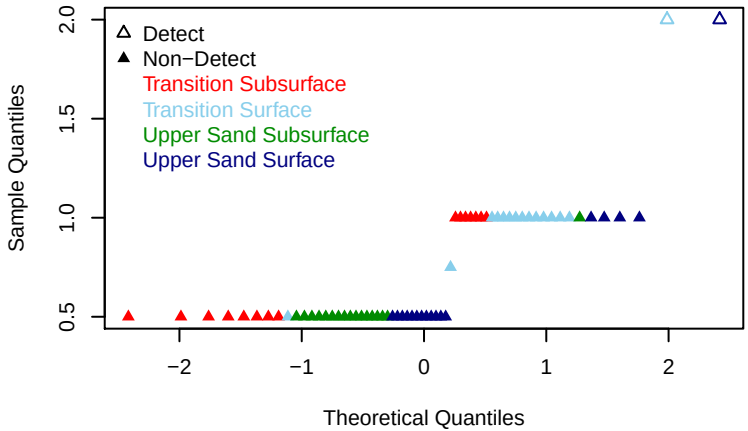
Summary Statistics presented using two significant figures

ACENAPHTHYLENE

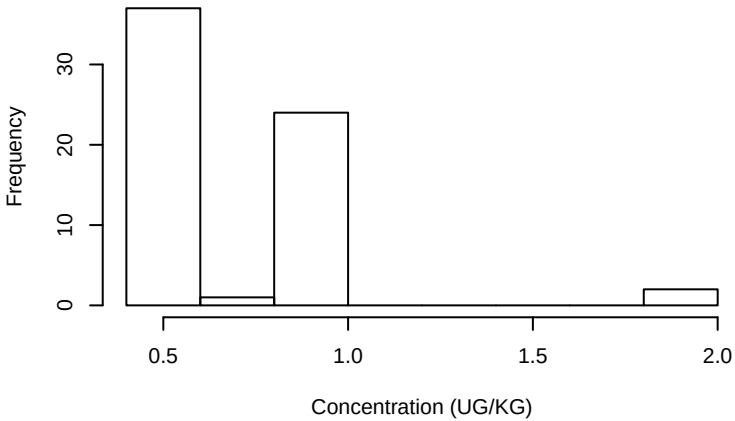
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum	0.5	0.5	0.5	0.5
25th Percentile	0.5	1	0.5	0.5
Median	0.5	1	0.5	0.5
Mean	0.73	1	0.53	0.71
75th Percentile	1	1	0.5	1
Maximum	1	2	1	2

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

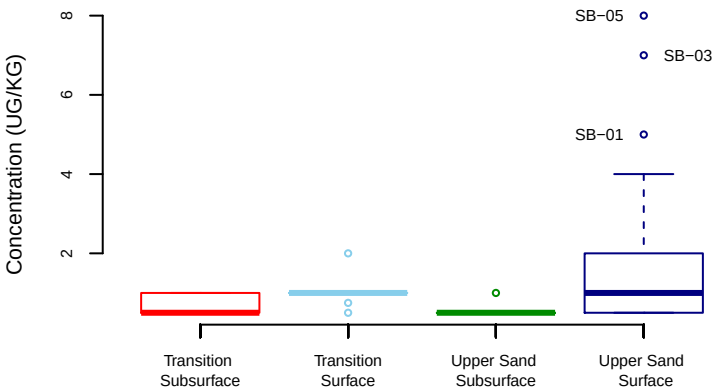
U.S. Sub = Upper Sand Subsurface

NaN = Not Applicable

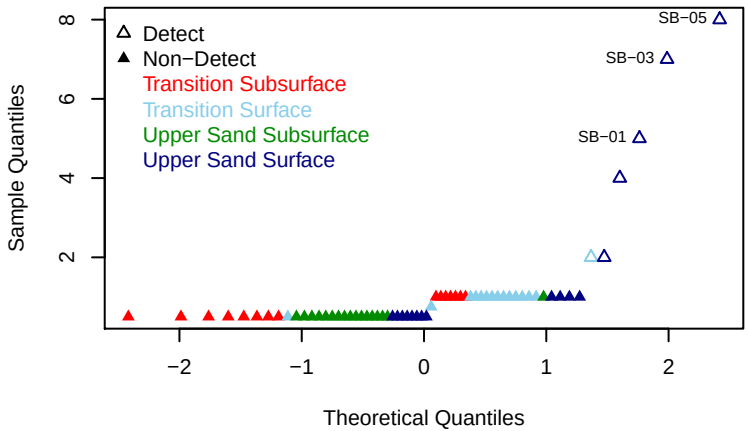
Summary Statistics presented using two significant figures

ANTHRACENE

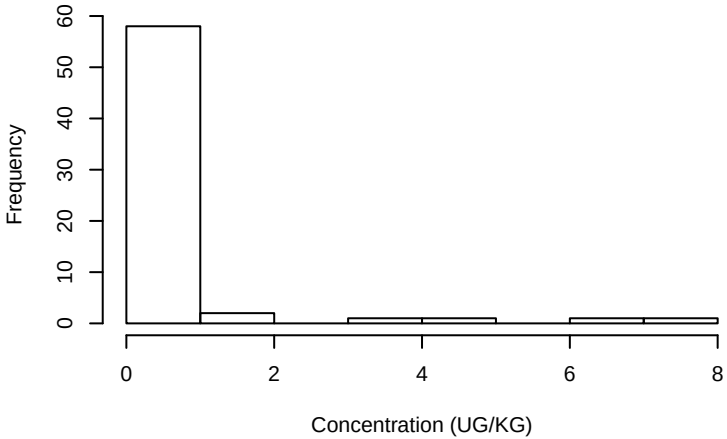
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum	0.5	0.5	0.5	0.5
25th Percentile	0.5	1	0.5	0.5
Median	0.5	1	0.5	1
Mean	0.73	1	0.53	2
75th Percentile	1	1	0.5	2
Maximum	1	2	1	8

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

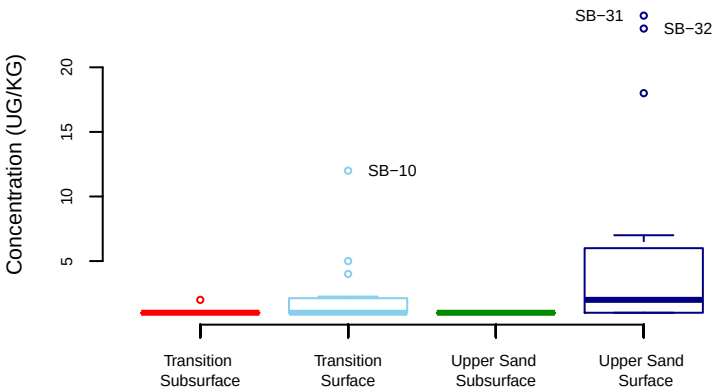
U.S. Sub = Upper Sand Subsurface

NaN = Not Applicable

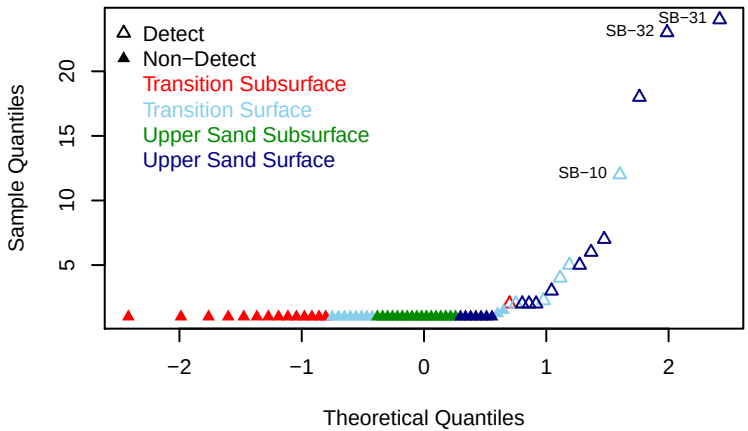
Summary Statistics presented using two significant figures

BENZO(A)ANTHRACENE

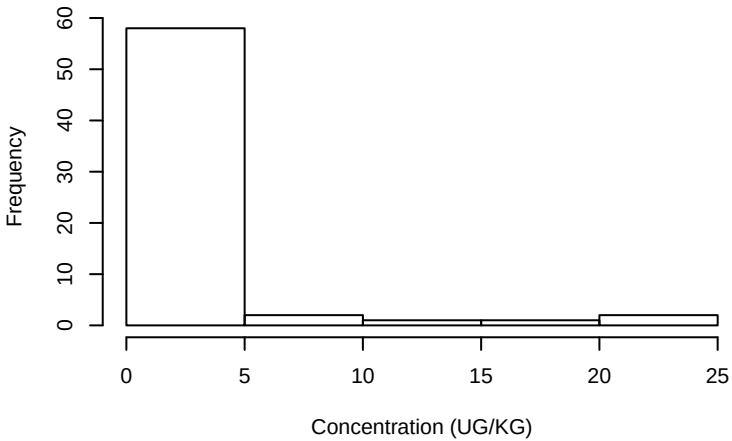
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum	1	1	1	1
25th Percentile	1	1	1	1
Median	1	1	1	2
Mean	1.1	2.4	1	5.8
75th Percentile	1	2.1	1	6
Maximum	2	12	1	24

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

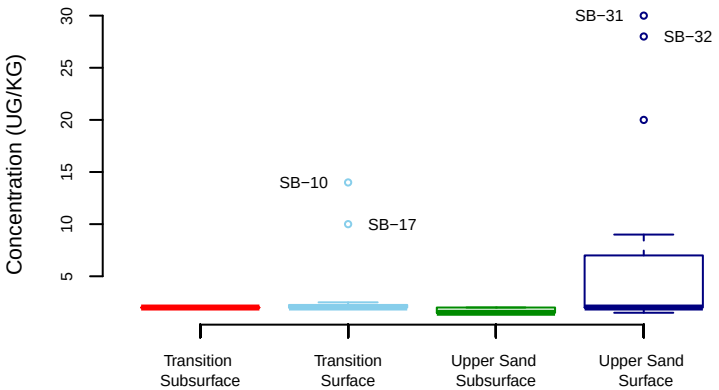
U.S. Sub = Upper Sand Subsurface

NaN = Not Applicable

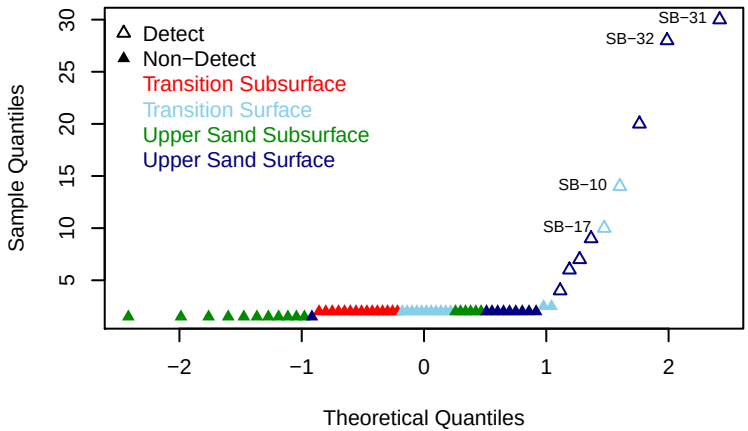
Summary Statistics presented using two significant figures

BENZO(A)PYRENE

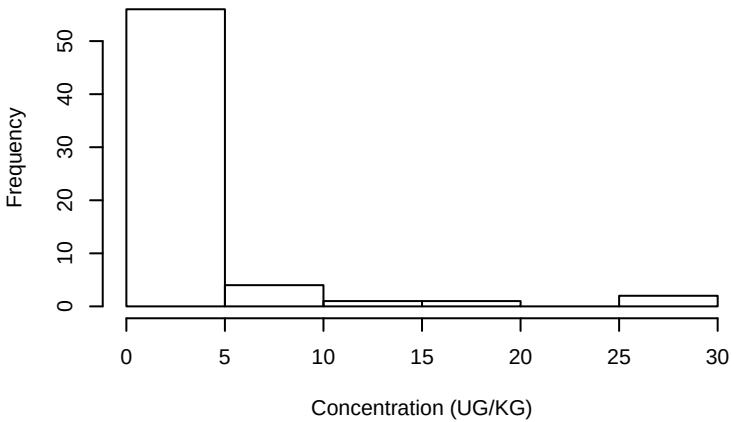
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum	2	2	1.5	1.5
25th Percentile	2	2	1.5	2
Median	2	2	1.5	2
Mean	2	3.4	1.7	7.3
75th Percentile	2	2.2	2	7
Maximum	2	14	2	30

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

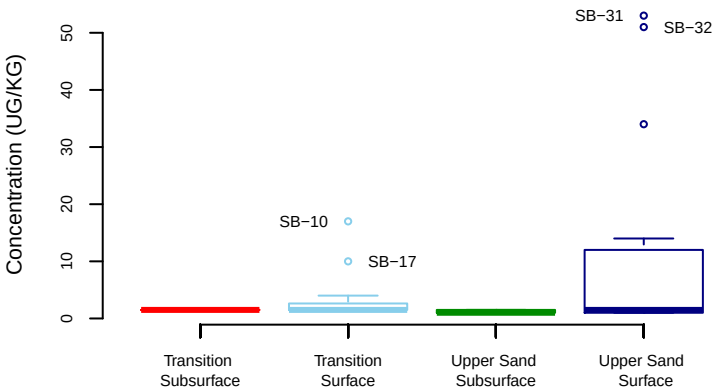
U.S. Sub = Upper Sand Subsurface

NaN = Not Applicable

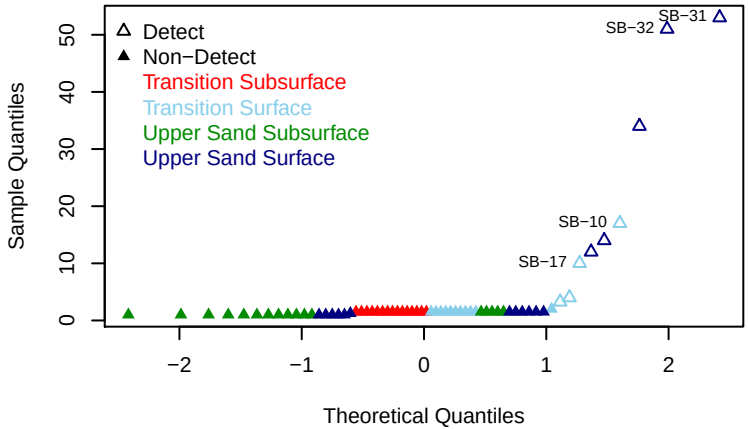
Summary Statistics presented using two significant figures

BENZO(B)FLUORANTHENE

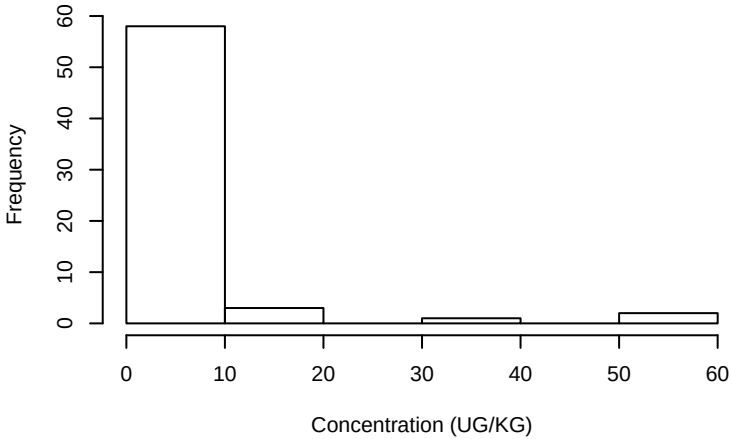
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum	1.5	1.5	1	1
25th Percentile	1.5	1.5	1	1
Median	1.5	1.5	1	1.5
Mean	1.5	3.4	1.1	11
75th Percentile	1.5	2.6	1.5	12
Maximum	1.5	17	1.5	53

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

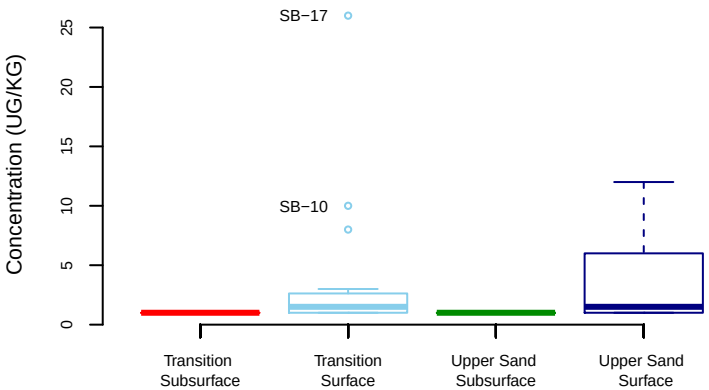
U.S. Sub = Upper Sand Subsurface

NaN = Not Applicable

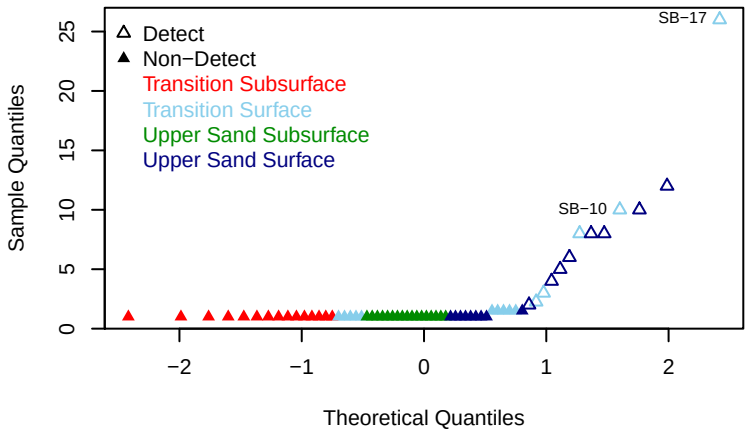
Summary Statistics presented using two significant figures

BENZO(G,H,I)PERYLENE

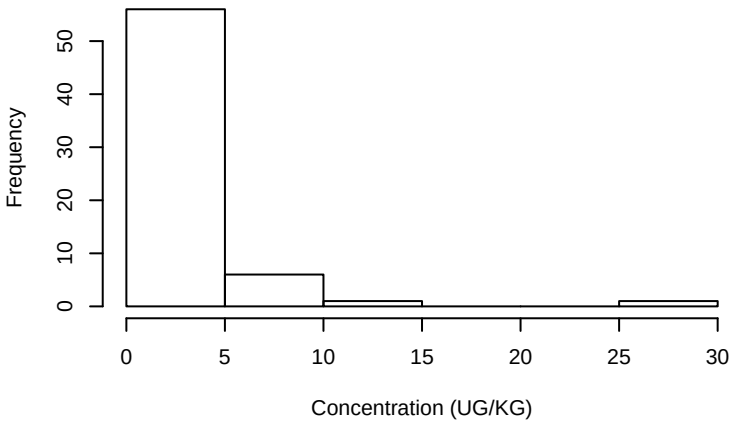
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum	1	1	1	1
25th Percentile	1	1	1	1
Median	1	1.5	1	1.5
Mean	1	4.1	1	3.8
75th Percentile	1	2.6	1	6
Maximum	1	26	1	12

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

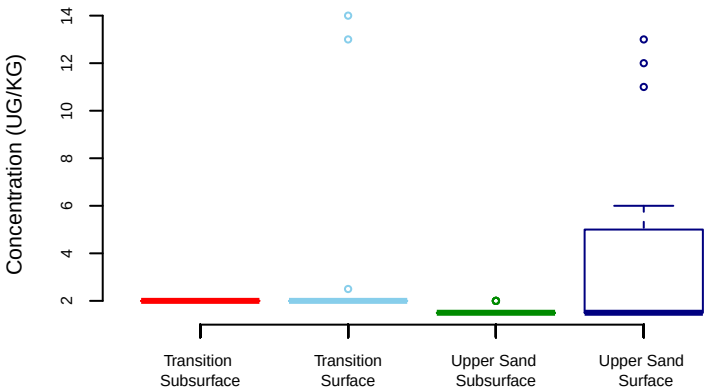
U.S. Sub = Upper Sand Subsurface

NaN = Not Applicable

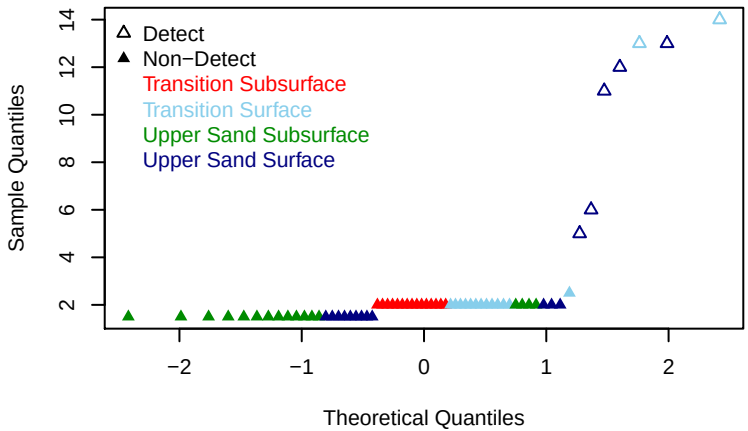
Summary Statistics presented using two significant figures

BENZO(K)FLUORANTHENE

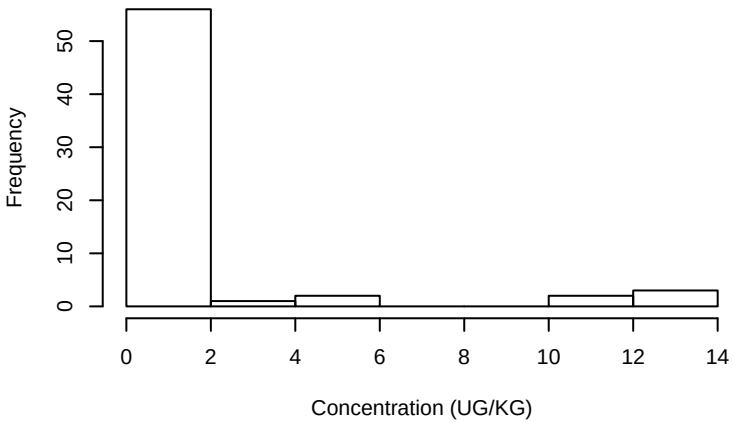
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum	2	2	1.5	1.5
25th Percentile	2	2	1.5	1.5
Median	2	2	1.5	1.5
Mean	2	3.6	1.6	3.9
75th Percentile	2	2	1.5	5
Maximum	2	14	2	13

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

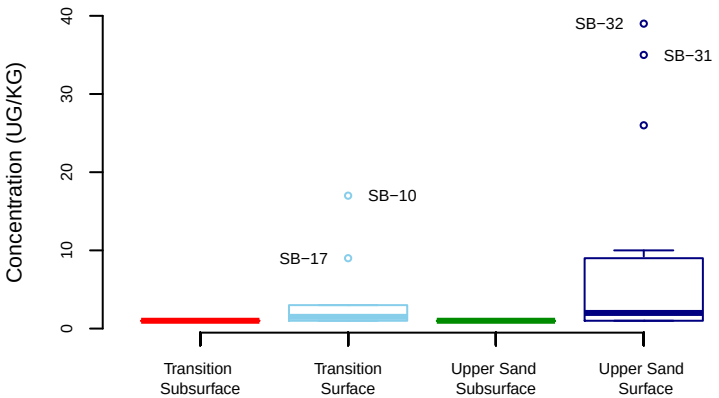
U.S. Sub = Upper Sand Subsurface

NaN = Not Applicable

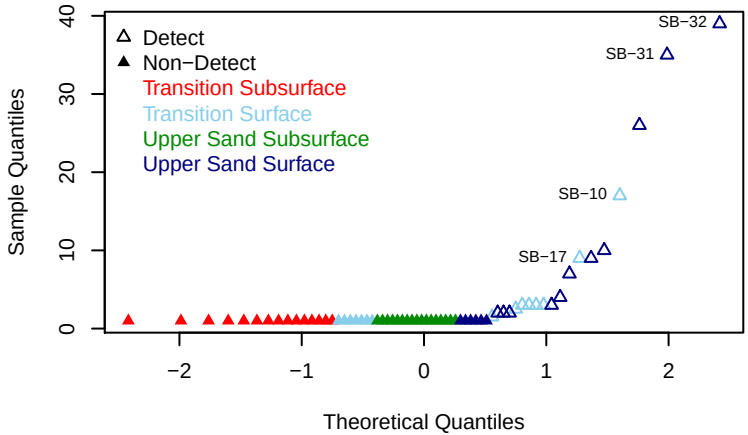
Summary Statistics presented using two significant figures

CHRYSENE

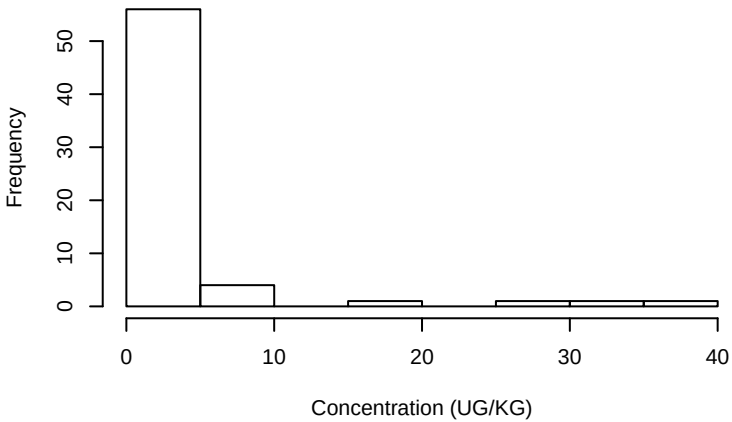
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum	1	1	1	1
25th Percentile	1	1	1	1
Median	1	1.5	1	2
Mean	1	3.3	1	8.5
75th Percentile	1	3	1	9
Maximum	1	17	1	39

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

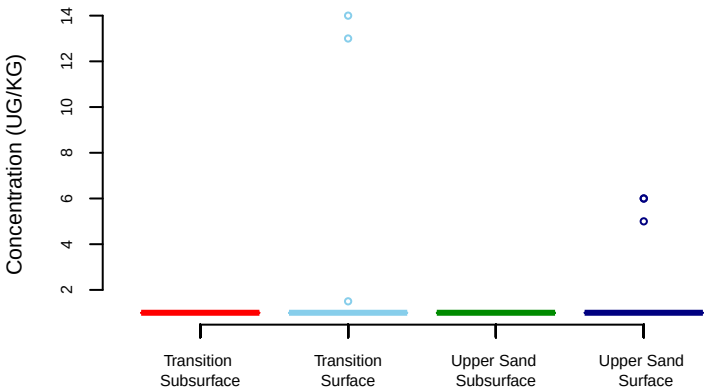
U.S. Sub = Upper Sand Subsurface

NaN = Not Applicable

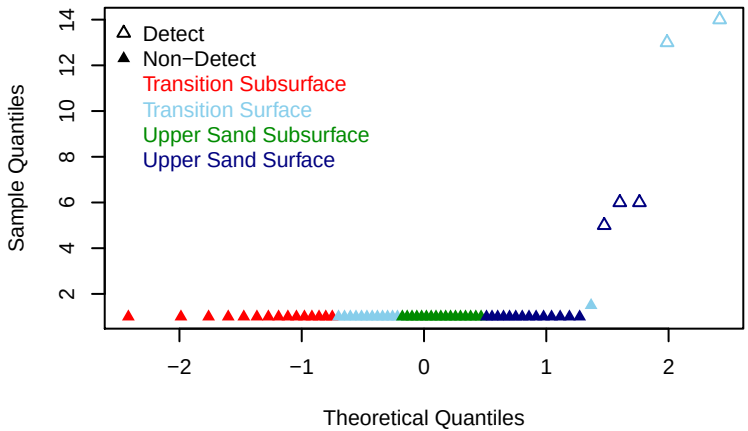
Summary Statistics presented using two significant figures

DIBENZO(A,H)ANTHRACENE

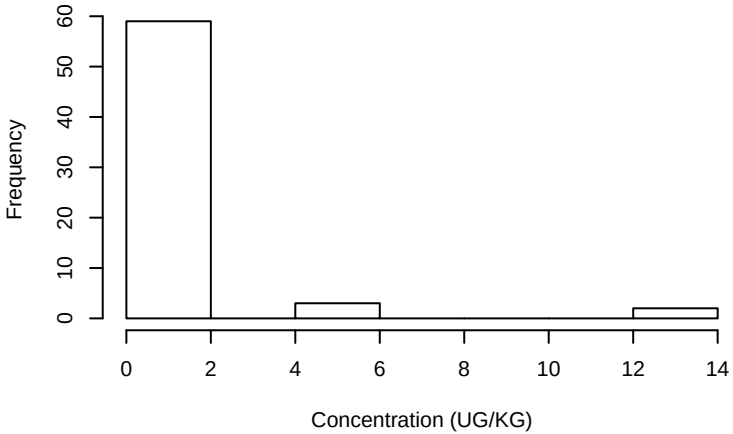
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum	1	1	1	1
25th Percentile	1	1	1	1
Median	1	1	1	1
Mean	1	2.7	1	1.8
75th Percentile	1	1	1	1
Maximum	1	14	1	6

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

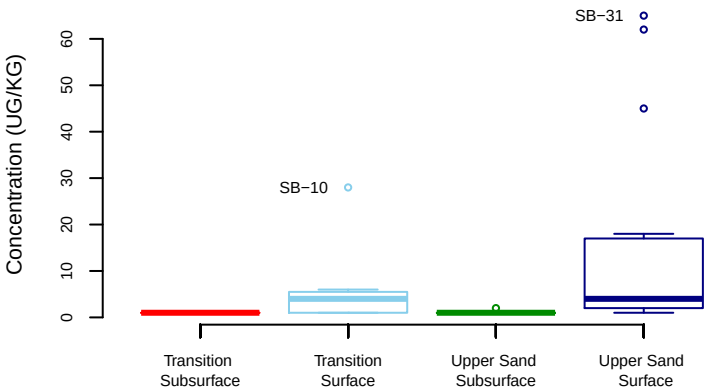
U.S. Sub = Upper Sand Subsurface

NaN = Not Applicable

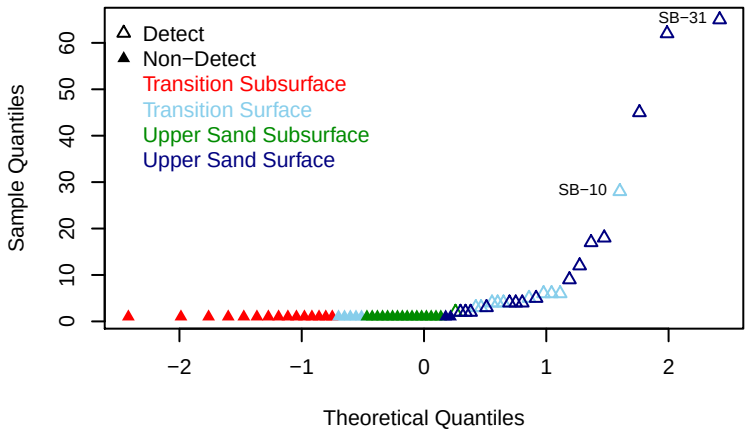
Summary Statistics presented using two significant figures

FLUORANTHENE

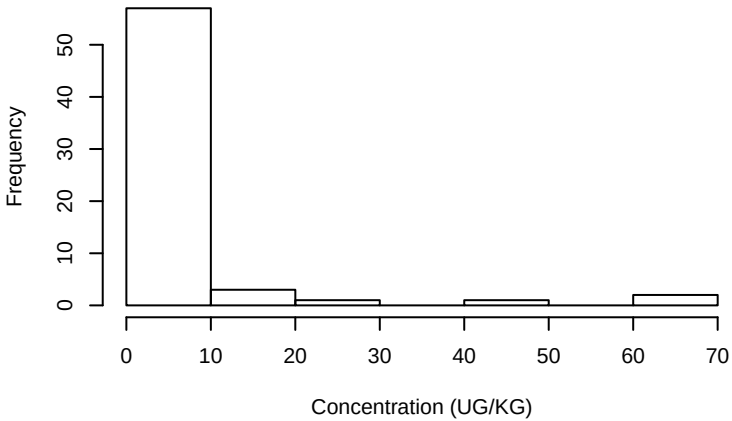
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum	1	1	1	1
25th Percentile	1	1	1	2
Median	1	4	1	4
Mean	1	4.9	1.1	15
75th Percentile	1	5.5	1	17
Maximum	1	28	2	65

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

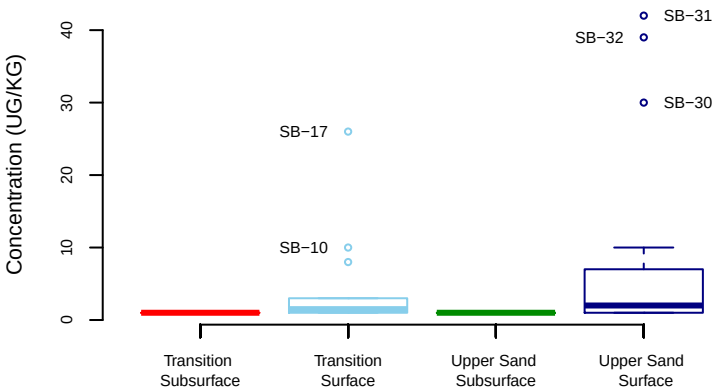
U.S. Sub = Upper Sand Subsurface

NaN = Not Applicable

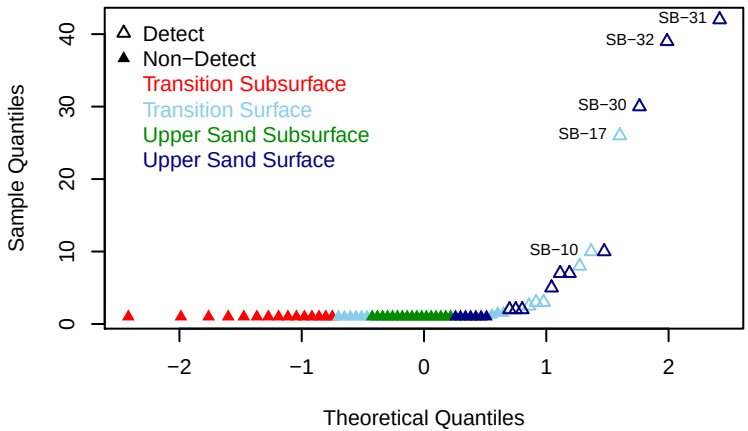
Summary Statistics presented using two significant figures

INDENO(1,2,3−CD)PYRENE

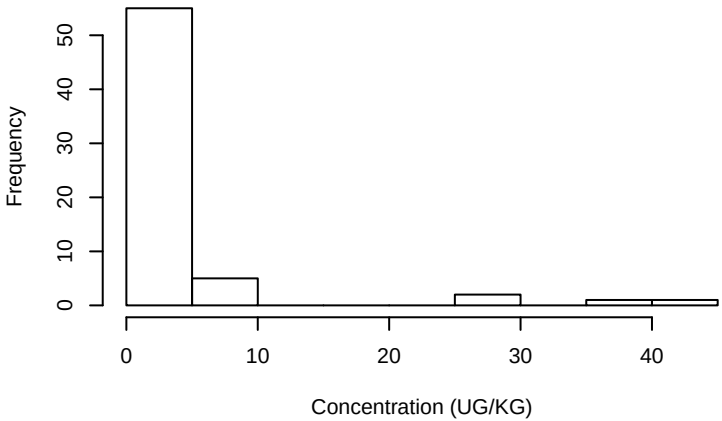
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum	1	1	1	1
25th Percentile	1	1	1	1
Median	1	1.5	1	2
Mean	1	4.2	1	9
75th Percentile	1	3	1	7
Maximum	1	26	1	42

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

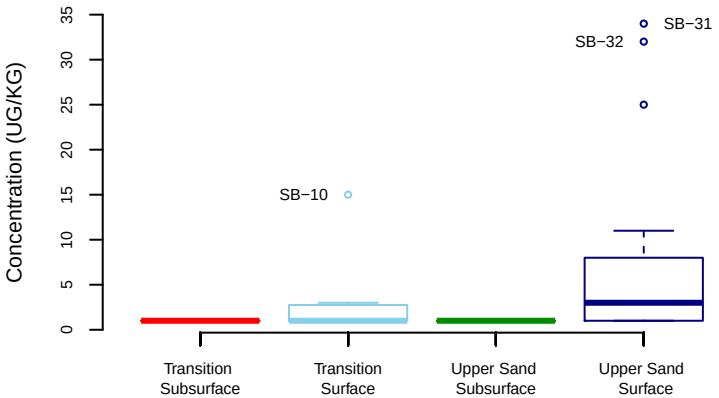
U.S. Sub = Upper Sand Subsurface

NaN = Not Applicable

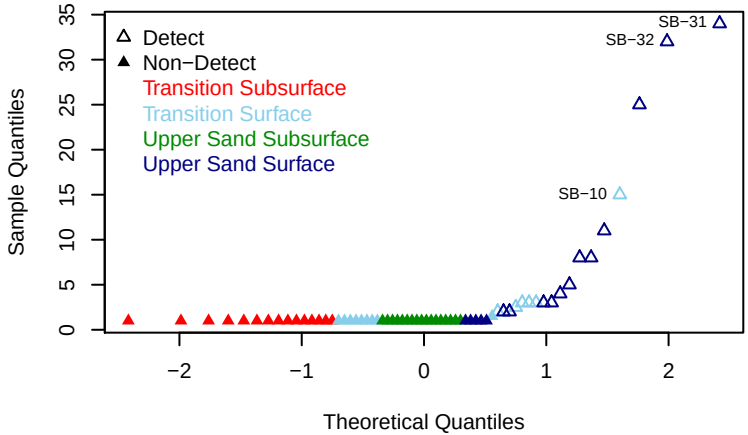
Summary Statistics presented using two significant figures

PHENANTHRENE

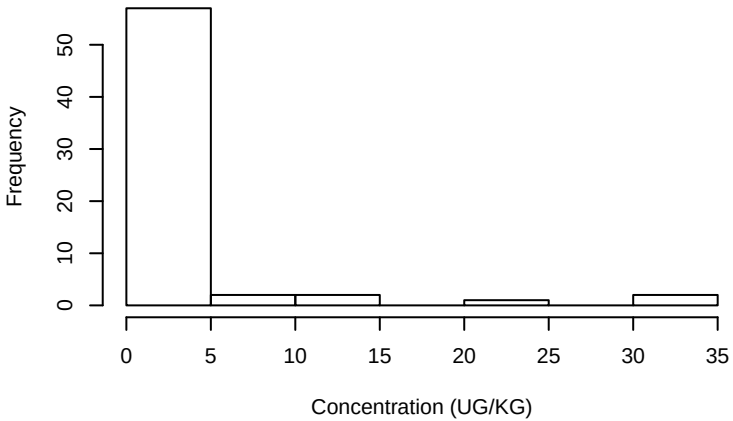
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum	1	1	1	1
25th Percentile	1	1	1	1
Median	1	1	1	3
Mean	1	2.5	1	8.4
75th Percentile	1	2.8	1	8
Maximum	1	15	1	34

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

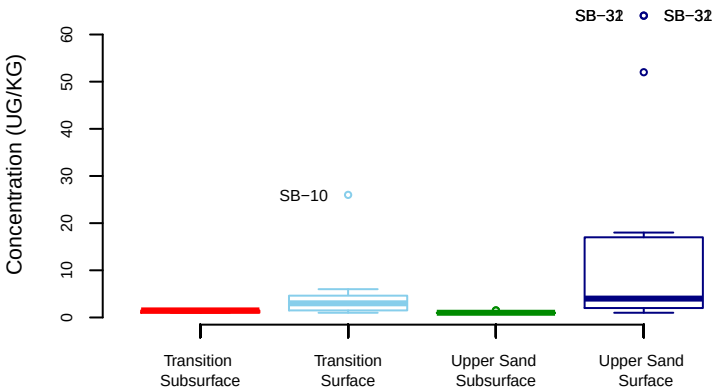
U.S. Sub = Upper Sand Subsurface

NaN = Not Applicable

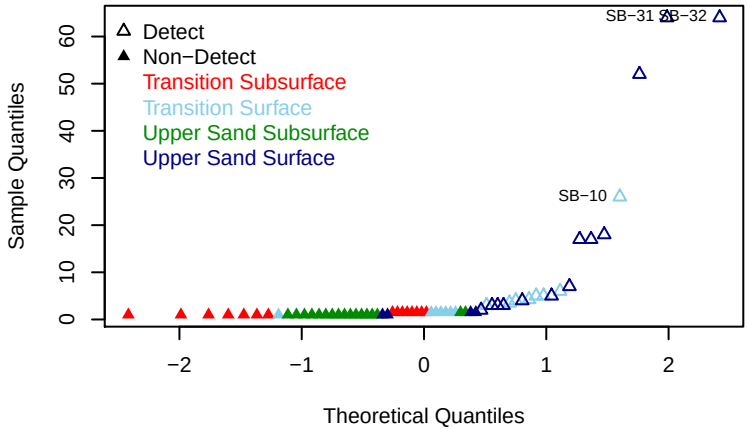
Summary Statistics presented using two significant figures

PYRENE

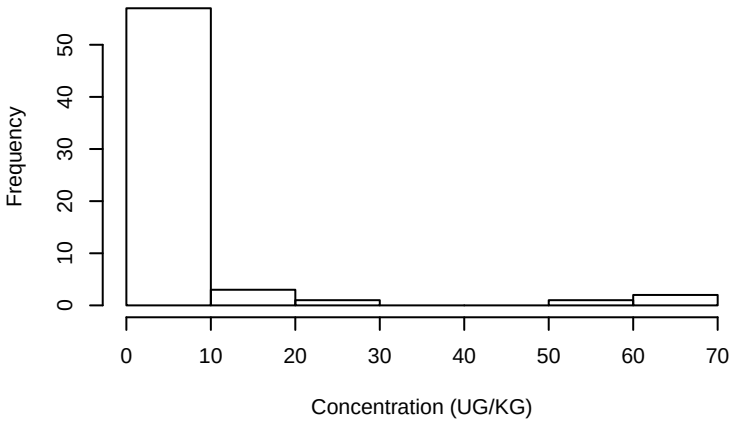
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum	1	1	1	1
25th Percentile	1	1.5	1	2
Median	1.5	3	1	4
Mean	1.3	4.4	1.1	16
75th Percentile	1.5	4.6	1	17
Maximum	1.5	26	1.5	64

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

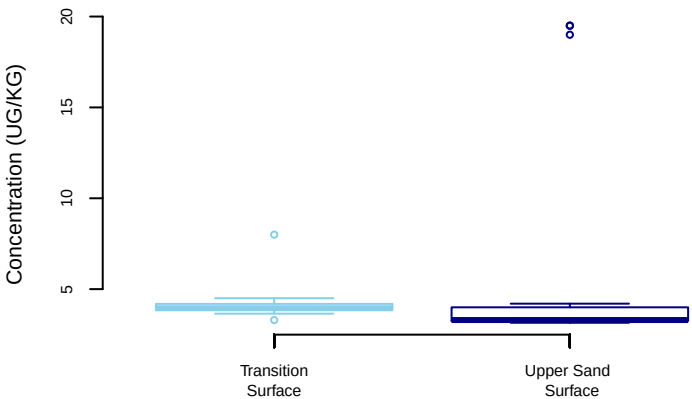
U.S. Sub = Upper Sand Subsurface

NaN = Not Applicable

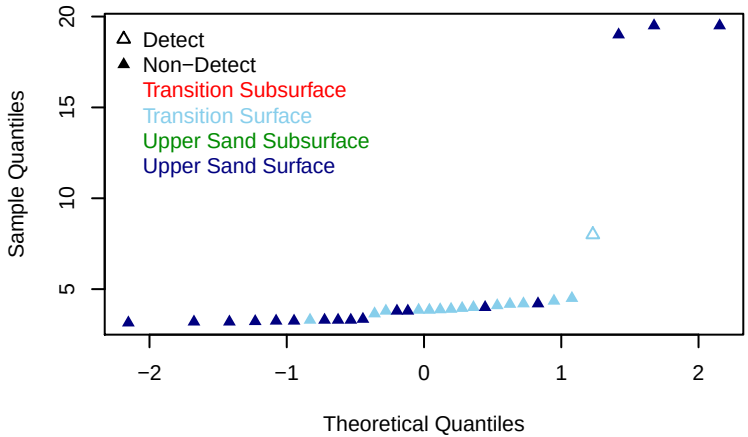
Summary Statistics presented using two significant figures

2,4−D

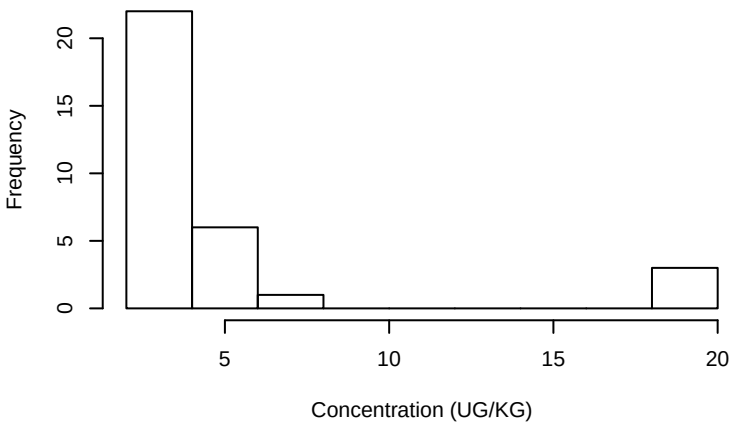
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum		3.3		3.2
25th Percentile		3.8		3.2
Median		4		3.3
Mean	NaN	4.2	NaN	6.3
75th Percentile		4.2		4
Maximum		8		20

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

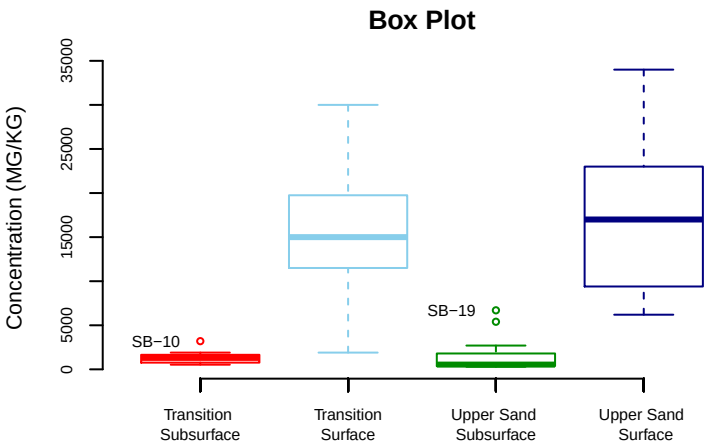
U.S. Surf = Upper Sand Surface

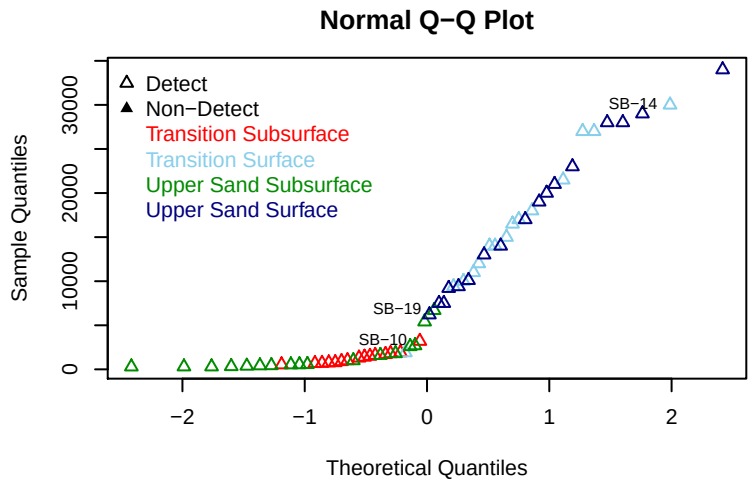
U.S. Sub = Upper Sand Subsurface

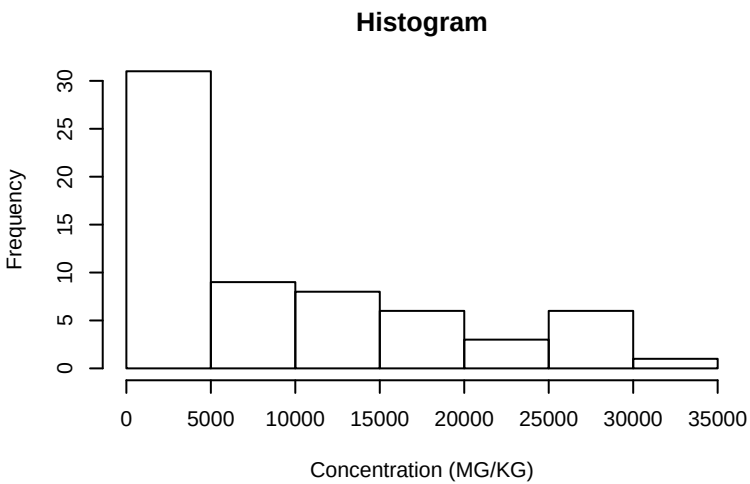
NaN = Not Applicable

Summary Statistics presented using two significant figures

TOTAL ORGANIC CARBON







Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum	530	1900	300	6200
25th Percentile	760	12000	380	9400
Median	1300	15000	540	17000
Mean	1300	16000	1500	17000
75th Percentile	1600	20000	1800	23000
Maximum	3200	30000	6700	34000

Trans Surf = Transition Subsurface

Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

U.S. Sub = Upper Sand Subsurface

NaN = Not Applicable

Summary Statistics presented using two significant figures

A.1.4 SOIL HYPOTHESIS TESTING TO COMPARE DATA GROUPS

APPENDIX A.1.4 HYPOTHESIS TESTING TO COMPARE DATA GROUPS

To determine whether differences exist between soil data subgroups, an appropriate statistical hypothesis test was conducted in accordance with the project SAP (Tt, 2009). Table A.1.4.1 repeats the frequency of detection, data distribution conclusion (see discussion in Appendix A.1.2), and the appropriate test for each chemical subgroup. In Appendix A.1.2 only chemicals that were detected at least once were presented. If a chemical was not detected in a subgroup then the chemical subgroup was not included in the statistical hypothesis test. All tests were conducted using a significance level of 0.05.

For the inorganic fraction, with the exception of selenium and TOC there are more than two background data groups to be compared. Either a parametric or nonparametric ANOVA can determine if there are differences among groups. The parametric ANOVA test determines if the means of the groups differ, while the nonparametric Kruskall Wallis ANOVA test determines if the medians of the groups differ. The parametric ANOVA test is valid only if the population variances are equal (homoscedastic) and either the population distributions are normal or the sample sizes are large. The parametric and nonparametric ANOVA only determine that differences exist, not which groups are different. To determine which groups differ multiple comparisons are used. For chemicals with more than two subgroups, the residuals were not constant and each subgroup was not normally distributed; therefore, Kruskall Wallis ANOVAs were used to determine differences between the appropriate subgroups. The plots of the residuals to check for constant variance are not presented. Table A.1.4.2 presents the p-value for the Kruskall Wallis ANOVA and the conclusion regarding the comparisons of the subgroups. The conclusions are based on the results of the statistical tests and the similarity of the geology. Table A.1.4.3 presents the p-value for the multiple comparisons for chemicals where differences were detected.

When there are two background data groups to be compared, either a parametric or nonparametric two sample test can determine if the two groups are different. If the two groups are normally distributed and the data sets contain no non-detects, then the Two Sample T-Test (equal variance or unequal variance) can be used to determine if the means of the two groups differ. When the two groups are not normally distributed, or there are more than two non-detects, then the non-parametric Gehan Test was applied to determine whether two background data sets belong to populations with identical medians and distributions. When only a very small portion of results are detected (less than 10 percent), the proportion test is recommended to compare two data sets (EPA, 2006, 1989). If either the Two Sample T-Test or the Gehan Test were conducted, then the quantile test, or upper ranks test (EPA, 1992, 2006), was applied to determine whether the upper tail of one data set is greater than the upper tail of the other data

set. If the data in each subgroup were not normally distributed, and/or there were multiple non-detects the Gehan Test or proportion test was used depending on the percentages of non-detects. Fisher's Exact proportion test was computed instead of the normal approximation to the binomial (two sample proportion test) due to failure of the assumption that the probability of a detect times the sample size is greater than five. Table A.1.4.4 presents the p-values for the Gehan Test/Quantile Test or Proportion Test for each chemical and the conclusions regarding the comparison of the two groups. For the quantile test, if the test statistic is greater than or equal to the critical value, then it was concluded that the two data sets do not have equal upper tails. For the Gehan and Fisher Exact Test, if the p-value is less than 0.05, it was concluded that the two data sets represent different populations.

For TOC and the chemicals in the inorganic fractions, with the exception of calcium, lead, and mercury, the Upper Sand surface soil and Upper Sand subsurface soil data sets represent the same populations, while the Transition surface soil and Transition subsurface soil represent the same distribution. For calcium, the Upper Sand surface soil concentrations represent a different population than the other three subgroups. For calcium, the Transition subsurface soil group represents a different population than the other three subgroups. Mercury was only detected in the surface soil and the two geological units are not statistically similar.

PAHs, with the exception of one sample of Benzo(a)anthracene and flouorenthene, were not detected in the subsurface of either geological soil group. Based on the two sample hypothesis results, comparing the two geological groups for surface soil anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3)pyrene concentrations represent the same population and may be combined into one dataset. The two geological units for fluoranthene, phenanthrene, and pyrene do not represent the same population and should not be combined.

Pesticides and herbicides were not analyzed in the subsurface soil. Based on the two sample hypothesis tests, the samples of the two geological units for 4,4 DDE represent the same population and may be combined into one dataset, while the concentrations of 4,4 DDT do not represent the same population.

Table A.1.4.1
Hypothesis Tests
Naval Air Station, Brunswick, Maine

Parameter	Frequency of Detection				Data Distribution				Test
	Upper Sand Surface Soil	Upper Sand Subsurface Soil	Transition Surface Soil	Transition Subsurface Soil	Upper Sand Surface Soil	Upper Sand Subsurface Soil	Transition Surface Soil	Transition Subsurface Soil	
Inorganics (mg/kg)									
ALUMINUM	17/17	17/17	15/15	15/15	Lognormal	Lognormal	Normal	Normal	Kruskal Wallis ANOVA
ANTIMONY	3/17	0/17	7/15	12/15	Nonparametric	NA	Nonparametric	Normal	Kruskal Wallis ANOVA
ARSENIC	17/17	17/17	15/15	15/15	Nonparametric	Normal	Normal	Lognormal	Kruskal Wallis ANOVA
BARIUM	17/17	17/17	15/15	15/15	Lognormal	Lognormal	Normal	Normal	Kruskal Wallis ANOVA
BERYLLIUM	17/17	17/17	15/15	15/15	Nonparametric	Lognormal	Normal	Lognormal	Kruskal Wallis ANOVA
CADMIUM	14/17	9/17	14/15	15/15	Normal	Nonparametric	Normal	Nonparametric	Kruskal Wallis ANOVA
CALCIUM	17/17	17/17	15/15	15/15	Normal	Lognormal	Lognormal	Normal	Kruskal Wallis ANOVA
CHROMIUM	17/17	17/17	15/15	15/15	Lognormal	Lognormal	Normal	Normal	Kruskal Wallis ANOVA
COBALT	17/17	17/17	15/15	15/15	Normal	Nonparametric	Lognormal	Lognormal	Kruskal Wallis ANOVA
COPPER	15/17	17/17	15/15	15/15	Nonparametric	Nonparametric	Lognormal	Normal	Kruskal Wallis ANOVA
IRON	17/17	17/17	15/15	15/15	Nonparametric	Normal	Normal	Normal	Kruskal Wallis ANOVA
LEAD	17/17	17/17	15/15	15/15	Lognormal	Lognormal	Normal	Normal	Kruskal Wallis ANOVA
MAGNESIUM	17/17	17/17	15/15	15/15	Normal	Normal	Normal	Normal	Kruskal Wallis ANOVA
MANGANESE	17/17	17/17	15/15	15/15	Normal	Normal	Lognormal	Normal	Kruskal Wallis ANOVA
MERCURY	13/17	0/17	14/15	0/15	Normal	NA	Lognormal	NA	Gehan
NICKEL	17/17	17/17	15/15	15/15	Normal	Normal	Lognormal	Normal	Kruskal Wallis ANOVA
POTASSIUM	17/17	17/17	15/15	15/15	Normal	Lognormal	Normal	Normal	Kruskal Wallis ANOVA
SELENIUM	0/17	0/17	6/15	0/15	NA	NA	Normal	NA	NA ONLY DETECTED IN ONE GROUP
SILVER	7/17	8/17	5/15	2/15	Nonparametric	Nonparametric	Nonparametric	Nonparametric	Kruskal Wallis ANOVA
SODIUM	11/17	11/17	0/15	1/15	Lognormal	Lognormal	Nonparametric	Nonparametric	Kruskal Wallis ANOVA
VANADIUM	17/17	17/17	15/15	15/15	Lognormal	Lognormal	Normal	Normal	Kruskal Wallis ANOVA
ZINC	17/17	17/17	15/15	15/15	Nonparametric	Normal	Normal	Normal	Kruskal Wallis ANOVA
Pesticides/PCBs (ug/kg)									
4,4'-DDD	3/17	NA	0/15	NA	Nonparametric	NA	NA	NA	NA ONLY DETECTED IN ONE GROUP
4,4'-DDE	10/17	NA	9/15	NA	Nonparametric	NA	Normal	NA	Gehan
4,4'-DDT	7/17	NA	1/15	NA	Nonparametric	NA	Nonparametric	NA	Proportion
ENDOSULFAN I	1/17	NA	0/15	NA	Nonparametric	NA	NA	NA	NA ONLY DETECTED IN ONE GROUP
GAMMA-BHC (LINDANE)	1/17	NA	0/15	NA	Nonparametric	NA	NA	NA	NA ONLY DETECTED IN ONE GROUP
PAHs (ug/kg)									
ACENAPHTHYLENE	1/17	0/17	1/15	0/15	Nonparametric	NA	Nonparametric	NA	NA ONLY DETECTED ONCE IN TWO GROUPS
ANTHRACENE	5/17	0/17	1/15	0/15	Nonparametric	NA	Nonparametric	NA	Proportion
BENZO(A)ANTHRACENE	10/17	0/17	5/15	1/15	Nonparametric	NA	Nonparametric	Nonparametric	Gehan
BENZO(A)PYRENE	7/17	0/17	2/15	0/15	Nonparametric	NA	Nonparametric	NA	Proportion
BENZO(B)FLUORANTHENE	5/17	0/17	4/15	0/15	Nonparametric	NA	Nonparametric	NA	Gehan
BENZO(G,H,I)PERYLENE	8/17	0/17	5/15	0/15	Nonparametric	NA	Nonparametric	NA	Gehan
BENZO(K)FLUORANTHENE	5/17	0/17	2/15	0/15	Nonparametric	NA	Nonparametric	NA	Proportion
CHRYSENE	11/17	0/17	8/15	0/15	Nonparametric	NA	Nonparametric	NA	Gehan
DIBENZO(A,H)ANTHRACENE	3/17	0/17	2/15	0/15	Nonparametric	NA	Nonparametric	NA	Proportion
FLUORANTHENE	15/17	1/17	10/15	0/15	Lognormal	Nonparametric	Nonparametric	NA	Gehan
INDENO(1,2,3-CD)PYRENE	10/17	0/17	6/15	0/15	Nonparametric	NA	Nonparametric	NA	Gehan
PHENANTHRENE	12/17	0/17	6/15	0/15	Lognormal	NA	Nonparametric	NA	Gehan
PYRENE	13/17	0/17	8/15	0/15	Lognormal	NA	Nonparametric	NA	Gehan
Herbicides									
2,4-D	0/17	NA	1/14	NA	NA	NA	Nonparametric	NA	NA ONLY DETECTED IN ONE GROUP
Miscellaneous Parameters (mg/kg)									
TOTAL ORGANIC CARBON	17/17	17/17	15/15	15/15	Lognormal	Lognormal	Normal	Lognormal	Kruskal Wallis ANOVA

NA = Not Applicable

Table A.1.4.2
Kruskal Wallis Test Results
Naval Air Station, Brunswick, Maine

Parameter	Test	P-Value	Conclusion
Inorganics (mg/kg)			
ALUMINUM	Kruskal Wallis ANOVA	0.00	At Least One Group is Different
ANTIMONY	Kruskal Wallis ANOVA	0.00	At Least One Group is Different
ARSENIC	Kruskal Wallis ANOVA	0.00	At Least One Group is Different
BARIUM	Kruskal Wallis ANOVA	0.00	At Least One Group is Different
BERYLLIUM	Kruskal Wallis ANOVA	0.00	At Least One Group is Different
CADMIUM	Kruskal Wallis ANOVA	0.00	At Least One Group is Different
CALCIUM	Kruskal Wallis ANOVA	0.00	At Least One Group is Different
CHROMIUM	Kruskal Wallis ANOVA	0.00	At Least One Group is Different
COBALT	Kruskal Wallis ANOVA	0.00	At Least One Group is Different
COPPER	Kruskal Wallis ANOVA	0.00	At Least One Group is Different
IRON	Kruskal Wallis ANOVA	0.00	At Least One Group is Different
LEAD	Kruskal Wallis ANOVA	0.00	At Least One Group is Different
MAGNESIUM	Kruskal Wallis ANOVA	0.00	At Least One Group is Different
MANGANESE	Kruskal Wallis ANOVA	0.00	At Least One Group is Different
NICKEL	Kruskal Wallis ANOVA	0.00	At Least One Group is Different
POTASSIUM	Kruskal Wallis ANOVA	0.00	At Least One Group is Different
SILVER	Kruskal Wallis ANOVA	0.18	None of the Groups are Different
SODIUM	Kruskal Wallis ANOVA	0.00	At Least One Group is Different
VANADIUM	Kruskal Wallis ANOVA	0.00	At Least One Group is Different
ZINC	Kruskal Wallis ANOVA	0.00	At Least One Group is Different
Miscellaneous Parameters (mg/kg)			
TOTAL ORGANIC CARBON	Kruskal Wallis ANOVA	0.00	At Least One Group is Different

5 percent Significance Level was used.

Table A.1.4.3
Nonparametric Multiple Comparison Test Results
Naval Air Station, Brunswick, Maine

Parameter	P-Values for Nonparametric Multiple Comparisons					Conclusion [1]
Inorganics						
ALUMINUM		Upper Sand Surface	Upper Sand Subsurface	Transition Surface	Transition Subsurface	Upper Sand Surface and Subsurface are similar to each other. Transition Surface and Subsurface are similar to each other.
	Upper Sand Surface		0.15	0.00	0.00	
	Upper Sand Subsurface	0.15		0.00	0.00	
	Transition Surface	0.00	0.00		1.00	
	Transition Subsurface	0.00	0.00	1.00		
ANTIMONY		Upper Sand Surface	Upper Sand Subsurface	Transition Surface	Transition Subsurface	Upper Sand Surface and Subsurface are similar to each other. Transition Surface and Subsurface are similar to each other.
	Upper Sand Surface		0.08	0.46	0.01	
	Upper Sand Subsurface	0.08		0.00	0.00	
	Transition Surface	0.43	0.00		1.00	
	Transition Subsurface	0.01	0.00	1.00		
ARSENIC		Upper Sand Surface	Upper Sand Subsurface	Transition Surface	Transition Subsurface	Upper Sand Surface and Subsurface are similar to each other. Transition Surface and Subsurface are similar to each other.
	Upper Sand Surface		0.46	0.01	0.00	
	Upper Sand Subsurface	0.46		0.00	0.00	
	Transition Surface	0.01	0.00		1.00	
	Transition Subsurface	0.00	0.00	1.00		
BARIUM		Upper Sand Surface	Upper Sand Subsurface	Transition Surface	Transition Subsurface	Upper Sand Surface and Subsurface are similar to each other. Transition Surface and Subsurface are similar to each other.
	Upper Sand Surface		1.00	0.00	0.00	
	Upper Sand Subsurface	1.00		0.00	0.00	
	Transition Surface	0.00	0.00		1.00	
	Transition Subsurface	0.00	0.00	1.00		
BERYLLIUM		Upper Sand Surface	Upper Sand Subsurface	Transition Surface	Transition Subsurface	Upper Sand Surface and Subsurface are similar to each other. Transition Surface and Subsurface are similar to each other.
	Upper Sand Surface		1.00	0.00	0.00	
	Upper Sand Subsurface	1.00		0.00	0.00	
	Transition Surface	0.00	0.00		1.00	
	Transition Subsurface	0.00	0.00	1.00		
CADMIUM		Upper Sand Surface	Upper Sand Subsurface	Transition Surface	Transition Subsurface	Upper Sand Surface and Subsurface are similar to each other. Transition Surface and Subsurface are similar to each other.
	Upper Sand Surface		0.09	1.00	0.36	
	Upper Sand Subsurface	0.09		0.00	0.00	
	Transition Surface	1.00	0.00		1.00	
	Transition Subsurface	0.36	0.00	1.00		
CALCIUM		Upper Sand Surface	Upper Sand Subsurface	Transition Surface	Transition Subsurface	Upper Sand Subsurface and Transition Surface are similar to each other.
	Upper Sand Surface		0.01	0.00	0.00	
	Upper Sand Subsurface	0.01		1.00	0.00	
	Transition Surface	0.00	1.00		0.02	
	Transition Subsurface	0.00	0.00	0.02		
CHROMIUM		Upper Sand Surface	Upper Sand Subsurface	Transition Surface	Transition Subsurface	Upper Sand Surface and Subsurface are similar to each other. Transition Surface and Subsurface are similar to each other.
	Upper Sand Surface		1.00	0.00	0.00	
	Upper Sand Subsurface	1.00		0.00	0.00	
	Transition Surface	0.00	0.00		1.00	
	Transition Subsurface	0.00	0.00	1.00		
COBALT		Upper Sand Surface	Upper Sand Subsurface	Transition Surface	Transition Subsurface	Upper Sand Surface and Subsurface are similar to each other. Transition Surface and Subsurface are similar to each other.
	Upper Sand Surface		1.00	0.00	0.00	
	Upper Sand Subsurface	1.00		0.00	0.00	
	Transition Surface	0.00	0.00		1.00	
	Transition Subsurface	0.00	0.00	1.00		

Table A.1.4.3
Nonparametric Multiple Comparison Test Results
Naval Air Station, Brunswick, Maine

Parameter	P-Values for Nonparametric Multiple Comparisons					Conclusion [1]
COPPER		Upper Sand Surface	Upper Sand Subsurface	Transition Surface	Transition Subsurface	Upper Sand Surface and Subsurface are similar to each other. Transition Surface and Subsurface are similar to each other.
	Upper Sand Surface		0.32	0.00	0.00	
	Upper Sand Subsurface	0.32		0.02	0.00	
	Transition Surface	0.00	0.02		0.42	
	Transition Subsurface	0.00	0.00	0.42		
IRON		Upper Sand Surface	Upper Sand Subsurface	Transition Surface	Transition Subsurface	Upper Sand Surface and Subsurface are similar to each other. Transition Surface and Subsurface are similar to each other.
	Upper Sand Surface		1.00	0.00	0.00	
	Upper Sand Subsurface	1.00		0.00	0.00	
	Transition Surface	0.00	0.00		1.00	
	Transition Subsurface	0.00	0.00	1.00		
LEAD		Upper Sand Surface	Upper Sand Subsurface	Transition Surface	Transition Subsurface	Upper Sand Surface, Transition Surface, and Transistion Subsurface are similar to each other.
	Upper Sand Surface		0.00	0.10	0.20	
	Upper Sand Subsurface	0.00		0.00	0.00	
	Transition Surface	0.10	0.00		1.00	
	Transition Subsurface	0.20	0.00	1.00		
MAGNESIUM		Upper Sand Surface	Upper Sand Subsurface	Transition Surface	Transition Subsurface	Upper Sand Surface and Subsurface are similar to each other. Transition Surface and Subsurface are similar to each other.
	Upper Sand Surface		0.08	0.00	0.00	
	Upper Sand Subsurface	0.08		0.03	0.00	
	Transition Surface	0.00	0.03		0.71	
	Transition Subsurface	0.00	0.00	0.71		
MANGANESE		Upper Sand Surface	Upper Sand Subsurface	Transition Surface	Transition Subsurface	Upper Sand Surface and Subsurface are similar to each other. Transition Surface and Subsurface are similar to each other.
	Upper Sand Surface		1.00	0.00	0.00	
	Upper Sand Subsurface	1.00		0.01	0.00	
	Transition Surface	0.00	0.01		0.54	
	Transition Subsurface	0.00	0.00	0.54		
NICKEL		Upper Sand Surface	Upper Sand Subsurface	Transition Surface	Transition Subsurface	Upper Sand Surface and Subsurface are similar to each other. Transition Surface and Subsurface are similar to each other.
	Upper Sand Surface		0.49	0.00	0.00	
	Upper Sand Subsurface	0.49		0.01	0.00	
	Transition Surface	0.00	0.01		0.86	
	Transition Subsurface	0.00	0.00	0.86		
POTASSIUM		Upper Sand Surface	Upper Sand Subsurface	Transition Surface	Transition Subsurface	Upper Sand Surface and Subsurface are similar to each other. Transition Surface and Subsurface are similar to each other.
	Upper Sand Surface		0.06	0.00	0.00	
	Upper Sand Subsurface	0.06		0.05	0.00	
	Transition Surface	0.00	0.05		0.40	
	Transition Subsurface	0.00	0.00	0.40		
SODIUM		Upper Sand Surface	Upper Sand Subsurface	Transition Surface	Transition Subsurface	Upper Sand Surface and Upper Sand Subsurface are similar to each other. Upper Sand Subsurface and Transition Surface are similar to each other.
	Upper Sand Surface		0.26	0.00	0.00	
	Upper Sand Subsurface	0.26		0.17	0.00	
	Transition Surface	0.00	0.17		0.08	
	Transition Subsurface	0.00	0.00	0.08		
VANADIUM		Upper Sand Surface	Upper Sand Subsurface	Transition Surface	Transition Subsurface	Upper Sand Surface and Subsurface are similar to each other. Transition Surface and Subsurface are similar to each other.
	Upper Sand Surface		1.00	0.00	0.00	
	Upper Sand Subsurface	1.00		0.00	0.00	
	Transition Surface	0.00	0.00		1.00	
	Transition Subsurface	0.00	0.00	1.00		

Table A.1.4.3
Nonparametric Multiple Comparison Test Results
Naval Air Station, Brunswick, Maine

Parameter	P-Values for Nonparametric Multiple Comparisons					Conclusion (1)
		Upper Sand Surface	Upper Sand Subsurface	Transition Surface	Transition Subsurface	
ZINC	Upper Sand Surface		1.00	0.00	0.00	Upper Sand Surface and Subsurface are similar to each other. Transition Surface and Subsurface are similar to each other.
	Upper Sand Subsurface	1.00		0.00	0.00	
	Transition Surface	0.00	0.00		1.00	
	Transition Subsurface	0.00	0.00	1.00		
Miscellaneous Parameters						
		Upper Sand Surface	Upper Sand Subsurface	Transition Surface	Transition Subsurface	
TOTAL ORGANIC CARBON	Upper Sand Surface		0.00	1.00	0.00	Upper Sand Surface and Transition Surface are similar to each other. Upper Sand Subsurface and Transition Subsurface are similar to each other.
	Upper Sand Subsurface	0.00		0.00	1.00	
	Transition Surface	1.00	0.00		0.00	
	Transition Subsurface	0.00	1.00	0.00		

5 percent Significance Level was used.

(1) Conclusion based on statistical hypothesis test, and combining subgroups across geological units.

Table A.1.4.4
Two Sample Hypothesis Tests
Naval Air Station, Brunswick, Maine

Parameter	Gehan Test	Quantile Test			Proportion Test	Conclusion
	P-Value	Test Statistic	Critical Value	Conclusion	P-Value	
Inorganics (mg/kg)						
Mercury	0.37	5	7	Equal	NA	Transition Surface Soil Similar to Upper Sand Surface Soil
Pesticides/PCBs (ug/kg)						
4,4'-DDE	0.727	5	7	Equal	NA	Transition Surface Soil Similar to Upper Sand Surface Soil
4,4'-DDT	NA	NA	NA	NA	0.04	Transition Surface Soil Not Similar to Upper Sand Surface
PAHs (ug/kg)						
ANTHRACENE	NA	NA	NA	NA	0.18	Transition Surface Soil Similar to Upper Sand Surface Soil
BENZO(A)ANTHRACENE	0.27	6	7	Equal	NA	Transition Surface Soil Similar to Upper Sand Surface Soil
BENZO(A)PYRENE	NA	NA	NA	NA	0.12	Transition Surface Soil Similar to Upper Sand Surface Soil
BENZO(B)FLUORANTHENE	0.583	5	7	Equal	NA	Transition Surface Soil Similar to Upper Sand Surface Soil
BENZO(G,H,I)PERYLENE	0.63	5	7	Equal	NA	Transition Surface Soil Similar to Upper Sand Surface Soil
BENZO(K)FLUORANTHENE	NA	NA	NA	NA	0.4	Transition Surface Soil Similar to Upper Sand Surface Soil
CHRYSENE	0.3	6	7	Equal	NA	Transition Surface Soil Similar to Upper Sand Surface Soil
DIBENZO(A,H)ANTHRACENE	NA	NA	NA	NA	1	Transition Surface Soil Similar to Upper Sand Surface Soil
FLUORANTHENE	0.115	7	7	Not Equal	NA	Transition Surface Soil not Similar to Upper Sand Surface Soil.
INDENO(1,2,3-CD)PYRENE	0.54	5	7	Equal	NA	Transition Surface Soil Similar to Upper Sand Surface Soil
PHENANTHRENE	0.03	7	7	Not Equal	NA	Transition Surface Soil not Similar to Upper Sand Surface Soil.
PYRENE	0.15	7	7	Not Equal	NA	Transition Surface Soil not Similar to Upper Sand Surface Soil.

NA = Not Applicable
5 percent Significance Level was used.

A.1.5 SOIL UPPER PREDICTION LIMITS

APPENDIX A.1.5 UPPER PREDICTION LIMITS

For the evaluation of site data, either site-wide tests or individual comparison tests will be used to compare site concentrations to background concentrations. Site wide tests are used to compare an average/median site concentration to an average/median background concentration. Individual comparison tests are used to compare individual site data concentrations to a representative background concentration. Site wide comparisons are the preferred method of comparison; however, if site-wide comparisons cannot be used, then the alternative is to use individual comparison tests.

Two types of individual comparison test will be available, either UPL or geochemical comparisons. Geochemical comparisons are discussed in Appendix A.1.6. UPLs were established for each substance in each subgroup. The UPL is based on the null hypothesis that individual site concentrations represent background concentrations. Concentrations from one site sample are compared to a threshold level that is statistically derived so as to represent an upper bound of the average background concentration. The 95 percent UPL was based on the t distribution if the data follow a normal distribution; otherwise, a nonparametric 95 percent UPL was estimated.

$$95\%\ \text{Normal UPL} = \bar{x} + t_{((1-\alpha),(n-1))} S \sqrt{1 + \frac{1}{n}}$$

$$95\%\ \text{Nonparametric UPL} = X_m,\ m = (n+1)(1-\alpha)$$

where,
$\bar{x}$ = average concentration
S = standard deviation
n = sample size
α = significance level, 0.05

The data subgroups were combined to calculate 95 percent UPLs based on the recommendations presented in Appendix A.1.4. Table A.1.5.1 presents the 95 percent UPLs for Upper Sand soils and Transition soil. A UPL was calculated only if there were at least three detected concentrations for a specific chemical.

TABLE A.1.5.1

SOIL UPPER PREDICTION LIMITS
NAVAL AIR STATION, BRUNSWICK, MAINE

Parameter	Upper Prediction Limits							
	Upper Sand Surface Soil		Upper Sand Subsurface Soil		Transition Surface Soil		Transition Subsurface Soil	
	UPL	UPL Type	UPL	UPL Type	UPL	UPL Type	UPL	UPL Type
Inorganics (mg/kg)								
ALUMINUM	13600	Gamma WH	13600	Gamma WH	32300	Normal	32300	Normal
ANTIMONY	0.054	Normal	ND	ND	0.054	Normal	0.06	Normal
ARSENIC	5.6	Nonparametric	5.6	Nonparametric	15	Gamma WH	15	Gamma WH
BARIUM	15	Lognormal	15	Lognormal	100	Normal	100	Normal
BERYLLIUM	0.57	Lognormal	0.57	Lognormal	1.5	Normal	1.5	Normal
CADMIUM	0.048	Nonparametric	0.048	Nonparametric	0.06	Nonparametric	0.06	Nonparametric
CALCIUM	444	Normal	1180	Lognormal	1180	Lognormal	3270	Normal
CHROMIUM	16.2	Nonparametric	16.2	Nonparametric	58.9	Normal	58.9	Normal
COBALT	5.2	Gamma WH	5.2	Gamma WH	22.9	Normal	22.9	Normal
COPPER	6.8	Normal	6.8	Normal	37.7	Normal	37.7	Normal
IRON	15000	Nonparametric	15000	Nonparametric	46300	Normal	46300	Normal
LEAD	18	Normal	3.4	Normal	18	Normal	18	Normal
MAGNESIUM	1950	Normal	1950	Normal	11500	Normal	11500	Normal
MANGANESE	267	Normal	267	Normal	935	Normal	935	Normal
MERCURY	0.12	Gamma WH	ND	ND	0.12	Gamma WH	ND	ND
NICKEL	9.8	Normal	9.8	Normal	50.6	Normal	50.6	Normal
POTASSIUM	940	Normal	940	Normal	6450	Normal	6450	Normal
SELENIUM	ND	ND	ND	ND	1.4	Normal	ND	ND
SILVER	0.43	Lognormal	0.43	Lognormal	0.43	Lognormal	0.43	Lognormal
SODIUM	54.1	Normal	54.1	Normal	ND	ND	NA	NA
VANADIUM	27.9	Nonparametric	27.9	Nonparametric	71	Normal	71	Normal
ZINC	15.5	Nonparametric	15.5	Nonparametric	95	Normal	95	Normal
Pesticides/PCBs (µg/kg)								
4,4'-DDD	1.4	Normal	NA	NA	ND	ND	NA	NA
4,4'-DDE	1.7	Nonparametric	NA	NA	1.7	Nonparametric	NA	NA
4,4'-DDT	3.4	Gamma WH	NA	NA	NA	NA	NA	NA
PAHs (µg/kg)								
ANTHRACENE	6.1	Normal	ND	ND	6.1	Normal	ND	ND
BENZO(A)ANTHRACENE	16.9	Gamma WH	ND	ND	16.9	Gamma WH	NA	NA
BENZO(A)PYRENE	23.5	Normal	ND	ND	23.5	Normal	ND	ND
BENZO(B)FLUORANTHENE	40.4	Normal	ND	ND	40.4	Normal	ND	ND
BENZO(G,H,I)PERYLENE	15.1	Gamma WH	ND	ND	15.1	Gamma WH	ND	ND
BENZO(K)FLUORANTHENE	13.6	Normal	ND	ND	13.6	Normal	ND	ND
CHRYSENE	22.6	Nonparametric	ND	ND	22.6	Nonparametric	ND	ND
DIBENZO(A,H)ANTHRACENE	10.6	Normal	ND	ND	10.6	Normal	ND	ND
FLUORANTHENE	86.9	Lognormal	NA	NA	16.7	Nonparametric	ND	ND
INDENO(1,2,3-CD)PYRENE	28.2	Gamma WH	ND	ND	28.2	Gamma WH	ND	ND
PHENANTHRENE	40.8	Gamma WH	ND	ND	8.9	Nonparametric	ND	ND
PYRENE	73.9	Gamma WH	ND	ND	15.4	Nonparametric	ND	ND
Miscellaneous Parameters (mg/kg)								
TOTAL ORGANIC CARBON	30800	Normal	3840	Gamma WH	30800	Normal	3840	Gamma WH

UPLs were calculated using Pro UCL version 4.1.00.
Chemicals are listed only if there are enough detected samples in one soil group to calculate a UPL.

ND = Non-Detect
NA = Not enough detected samples to calculate a meaningful UPL.
UPL = 95% Upper Prediction
WH = Wilson Hilferty

TABLE A.1.5.2

UPPER PREDICTION LIMITS - ALL SOILS (MIXED SOILS)
NAVAL AIR STATION, BRUNSWICK, MAINE

Parameter	UPL	UPL Type
Inorganics (mg/kg)		
ALUMINUM	29000	Nonparametric
ANTIMONY	0.072	Gamma WH
ARSENIC	14.2	Nonparametric
BARIUM	89.8	Nonparametric
BERYLLIUM	1.5	Nonparametric
CADMIUM	0.055	Nonparametric
CALCIUM	2920	Nonparametric
CHROMIUM	54.7	Nonparametric
COBALT	20.8	Nonparametric
COPPER	31.9	Nonparametric
IRON	43900	Nonparametric
LEAD	17.5	Nonparametric
MAGNESIUM	10400	Nonparametric
MANGANESE	819	Gamma WH
MERCURY	0.067	Gamma WH
NICKEL	47.5	Nonparametric
POTASSIUM	5920	Nonparametric
SELENIUM	0.61	Normal
SILVER	0.43	Lognormal
SODIUM	96.3	Nonparametric
VANADIUM	63	Nonparametric
ZINC	85.7	Nonparametric
Miscellaneous (mg/kg)		
TOTAL ORGANIC CARBON	28800	Nonparametric
PAHs (µg/kg)		
ANTHRACENE	4.1	Normal
BENZO(A)ANTHRACENE	6.2	Gamma WH
BENZO(A)PYRENE	16.2	Normal
BENZO(B)FLUORANTHENE	25.9	Normal
BENZO(G,H,I)PERYLENE	5.1	Gamma WH
BENZO(K)FLUORANTHENE	10	Normal
CHRYSENE	15.9	Nonparametric
DIBENZO(A,H)ANTHRACENE	6.3	Normal
FLUORANTHENE	26.9	Nonparametric
INDENO(1,2,3-CD)PYRENE	9.9	Gamma WH
PHENANTHRENE	14.6	Nonparametric
PYRENE	27.7	Nonparametric
Pesticides/PCBs (µg/kg)		
4,4'-DDD	0.82	Normal
4,4'-DDE	1.7	Nonparametric
4,4'-DDT	1.7	Gamma WH

UPLs were calculated using Pro UCL version 4.1.00.
Chemicals are listed only if there are enough detected samples to calculate a UPL.

UPL = 95% Upper Prediction
WH = Wilson Hilferty

General Background Statistics for Full Data Sets

User Selected Options

From File	UpperSand.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

ALUMINUM

General Statistics

Total Number of Observations	34	Number of Distinct Observations	33
Tolerance Factor	1.732		

Raw Statistics		Log-Transformed Statistics	
Minimum	3350	Minimum	8.117
Maximum	19800	Maximum	9.893
Second Largest	19400	Second Largest	9.873
First Quartile	4320	First Quartile	8.371
Median	5865	Median	8.677
Third Quartile	8550	Third Quartile	9.053
Mean	7077	Mean	8.753
SD	3921	SD	0.453
Coefficient of Variation	0.554		
Skewness	2.051		

Background Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.772	Shapiro Wilk Test Statistic	0.931
Shapiro Wilk Critical Value	0.933	Shapiro Wilk Critical Value	0.933
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% UTL with 90% Coverage	13866	95% UTL with 90% Coverage	13867
95% UPL (t)	13810	95% UPL (t)	13776
90% Percentile (z)	12102	90% Percentile (z)	11311
95% Percentile (z)	13526	95% Percentile (z)	13333
99% Percentile (z)	16199	99% Percentile (z)	18152

Gamma Distribution Test		Data Distribution Test
k star	4.266	Data Follow Appr. Gamma Distribution at 5% Significance Level
Theta Star	1659	
MLE of Mean	7077	
MLE of Standard Deviation	3426	
nu star	290.1	
A-D Test Statistic	0.96	**Nonparametric Statistics**
5% A-D Critical Value	0.75	90% Percentile 10434
K-S Test Statistic	0.138	95% Percentile 15045
5% K-S Critical Value	0.151	99% Percentile 19668

Data follow Appx. Gamma Distribution at 5% Significance Level

Assuming Gamma Distribution		95% UTL with 90% Coverage	19400
90% Percentile	11668	95% Percentile Bootstrap UTL with 90% Coverage	19400
95% Percentile	13488	95% BCA Bootstrap UTL with 90% Coverage	17390
99% Percentile	17362	95% UPL	19500
		95% Chebyshev UPL	24418
95% WH Approx. Gamma UPL	13610	Upper Threshold Limit Based upon IQR	14895
95% HW Approx. Gamma UPL	13629		
95% WH Approx. Gamma UTL with 90% Coverage	13684		
95% HW Approx. Gamma UTL with 90% Coverage	13707		

General Background Statistics for Full Data Sets

User Selected Options

From File	Transition.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

ALUMINUM

General Statistics

Total Number of Observations	30	Number of Distinct Observations	29
Tolerance Factor	1.777		

Raw Statistics		Log-Transformed Statistics	
Minimum	9200	Minimum	9.127
Maximum	33600	Maximum	10.42
Second Largest	30800	Second Largest	10.34
First Quartile	18125	First Quartile	9.804
Median	21975	Median	9.998
Third Quartile	26875	Third Quartile	10.2
Mean	22532	Mean	9.988
SD	5672	SD	0.281
Coefficient of Variation	0.252		
Skewness	-0.239		

Background Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.978	Shapiro Wilk Test Statistic	0.934
Shapiro Wilk Critical Value	0.927	Shapiro Wilk Critical Value	0.927
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% UTL with 90% Coverage	32610	95% UTL with 90% Coverage	35838
95% UPL (t)	32328	95% UPL (t)	35340
90% Percentile (z)	29800	90% Percentile (z)	31182
95% Percentile (z)	31861	95% Percentile (z)	34532
99% Percentile (z)	35726	99% Percentile (z)	41817

Gamma Distribution Test		Data Distribution Test
k star	13.02	Data appear Normal at 5% Significance Level
Theta Star	1731	
MLE of Mean	22532	
MLE of Standard Deviation	6245	
nu star	781	

		Nonparametric Statistics	
A-D Test Statistic	0.429		
5% A-D Critical Value	0.745	90% Percentile	28955
K-S Test Statistic	0.121	95% Percentile	29990
5% K-S Critical Value	0.16	99% Percentile	32788

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

90% Percentile	30814
95% Percentile	33690
99% Percentile	39540
95% WH Approx. Gamma UPL	33954
95% HW Approx. Gamma UPL	34251
95% WH Approx. Gamma UTL with 90% Coverage	34350
95% HW Approx. Gamma UTL with 90% Coverage	34668

95% UTL with 90% Coverage	30800
95% Percentile Bootstrap UTL with 90% Coverage	30800
95% BCA Bootstrap UTL with 90% Coverage	30800
95% UPL	32060
95% Chebyshev UPL	47663
Upper Threshold Limit Based upon IQR	40000

General Background Statistics for Data Sets with Non-Detects

User Selected Options

From File	Surface Soil.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

ANTIMONY

General Statistics

Number of Valid Data	32	Number of Detected Data	10
Number of Distinct Detected Data	7	Number of Non-Detect Data	22
Tolerance Factor	1.748	Percent Non-Detects	68.75%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.02	Minimum Detected	-3.912
Maximum Detected	0.08	Maximum Detected	-2.526
Mean of Detected	0.043	Mean of Detected	-3.213
SD of Detected	0.0169	SD of Detected	0.387
Minimum Non-Detect	0.01	Minimum Non-Detect	-4.605
Maximum Non-Detect	0.08	Maximum Non-Detect	-2.526

Data with Multiple Detection Limits	Single Detection Limit Scenario	
Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect with Single DL	31
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected with Single DL	1
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	96.88%

Background Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.929	Shapiro Wilk Test Statistic	0.98
5% Shapiro Wilk Critical Value	0.842	5% Shapiro Wilk Critical Value	0.842
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.025	Mean (Log Scale)	-3.889
SD	0.0168	SD (Log Scale)	0.644
95% UTL 90% Coverage	0.0544	95% UTL 90% Coverage	0.0631
95% UPL (t)	0.0539	95% UPL (t)	0.062
90% Percentile (z)	0.0465	90% Percentile (z)	0.0467
95% Percentile (z)	0.0526	95% Percentile (z)	0.059
99% Percentile (z)	0.0641	99% Percentile (z)	0.0916
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
		Mean in Original Scale	0.0244
		SD in Original Scale	0.0162
		Mean in Log Scale	-3.886
		SD in Log Scale	0.577
		95% UTL 90% Coverage	0.0563

95% UPL (t)	0.0554
90% Percentile (z)	0.043
95% Percentile (z)	0.053
99% Percentile (z)	0.0785

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	5.425
Theta Star	0.00793
nu star	108.5
A-D Test Statistic	0.212
5% A-D Critical Value	0.727
K-S Test Statistic	0.13
5% K-S Critical Value	0.267

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics with Extrapolated Data

Mean	0.0148
Median	1.0000E-6
SD	0.0218
k star	0.151
Theta star	0.0982
Nu star	9.643
95% Percentile of Chisquare (2k)	1.657
90% Percentile	0.0439
95% Percentile	0.0814
99% Percentile	0.19

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method

Mean	0.0281
SD	0.0141
SE of Mean	0.00274
95% KM UTL with 90% Coverage	0.0528
95% KM Chebyshev UPL	0.0905
95% KM UPL (t)	0.0524
90% Percentile (z)	0.0462
95% Percentile (z)	0.0513
99% Percentile (z)	0.0609

Gamma ROS Limits with Extrapolated Data

95% Wilson Hilferty (WH) Approx. Gamma UPL	0.0697
95% Hawkins Wixley (HW) Approx. Gamma UPL	0.0824
95% WH Approx. Gamma UTL with 90% Coverage	0.0719
95% HW Approx. Gamma UTL with 90% Coverage	0.0857

Note: DL/2 is not a recommended method.

General Background Statistics for Full Data Sets

User Selected Options

From File	UpperSand.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

ARSENIC

General Statistics

Total Number of Observations	34	Number of Distinct Observations	20
Tolerance Factor	1.732		

Raw Statistics		Log-Transformed Statistics	
Minimum	0.56	Minimum	-0.58
Maximum	8.8	Maximum	2.175
Second Largest	4.5	Second Largest	1.504
First Quartile	1.213	First Quartile	0.193
Median	1.5	Median	0.405
Third Quartile	1.888	Third Quartile	0.635
Mean	1.832	Mean	0.46
SD	1.416	SD	0.485
Coefficient of Variation	0.773		
Skewness	3.993		

Background Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.563	Shapiro Wilk Test Statistic	0.903
Shapiro Wilk Critical Value	0.933	Shapiro Wilk Critical Value	0.933
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% UTL with 90% Coverage	4.283	95% UTL with 90% Coverage	3.672
95% UPL (t)	4.263	95% UPL (t)	3.646
90% Percentile (z)	3.646	90% Percentile (z)	2.951
95% Percentile (z)	4.161	95% Percentile (z)	3.521
99% Percentile (z)	5.125	99% Percentile (z)	4.901

Gamma Distribution Test		Data Distribution Test
k star	3.298	Data do not follow a Discernable Distribution (0.05)
Theta Star	0.556	
MLE of Mean	1.832	
MLE of Standard Deviation	1.009	
nu star	224.3	
A-D Test Statistic	1.967	**Nonparametric Statistics**
5% A-D Critical Value	0.753	90% Percentile 2.52
K-S Test Statistic	0.213	95% Percentile 3.395
5% K-S Critical Value	0.152	99% Percentile 7.381

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution		95% UTL with 90% Coverage	4.5
90% Percentile	3.185	95% Percentile Bootstrap UTL with 90% Coverage	3.99
95% Percentile	3.743	95% BCA Bootstrap UTL with 90% Coverage	3.99
99% Percentile	4.947	95% UPL	5.575
		95% Chebyshev UPL	8.093
95% WH Approx. Gamma UPL	3.744	Upper Threshold Limit Based upon IQR	2.9
95% HW Approx. Gamma UPL	3.706		
95% WH Approx. Gamma UTL with 90% Coverage	3.766		
95% HW Approx. Gamma UTL with 90% Coverage	3.729		

General Background Statistics for Full Data Sets

User Selected Options

From File	Transition.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

ARSENIC

General Statistics

Total Number of Observations	30	Number of Distinct Observations	26
Tolerance Factor	1.777		

Raw Statistics		Log-Transformed Statistics	
Minimum	3.8	Minimum	1.335
Maximum	17.9	Maximum	2.885
Second Largest	15.1	Second Largest	2.715
First Quartile	6.088	First Quartile	1.806
Median	7.65	Median	2.035
Third Quartile	10.4	Third Quartile	2.341
Mean	8.397	Mean	2.048
SD	3.512	SD	0.404
Coefficient of Variation	0.418		
Skewness	0.99		

Background Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.922	Shapiro Wilk Test Statistic	0.977
Shapiro Wilk Critical Value	0.927	Shapiro Wilk Critical Value	0.927
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% UTL with 90% Coverage	14.64	95% UTL with 90% Coverage	15.91
95% UPL (t)	14.46	95% UPL (t)	15.59
90% Percentile (z)	12.9	90% Percentile (z)	13.02
95% Percentile (z)	14.17	95% Percentile (z)	15.08
99% Percentile (z)	16.57	99% Percentile (z)	19.86

Gamma Distribution Test		Data Distribution Test
k star	5.82	Data appear Gamma Distributed at 5% Significance Level
Theta Star	1.443	
MLE of Mean	8.397	
MLE of Standard Deviation	3.481	
nu star	349.2	
A-D Test Statistic	0.269	Nonparametric Statistics
5% A-D Critical Value	0.746	90% Percentile 13.08
K-S Test Statistic	0.117	95% Percentile 14.9
5% K-S Critical Value	0.16	99% Percentile 17.09

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution				
	90% Percentile	13.05	95% UTL with 90% Coverage	15.1
	95% Percentile	14.82	95% Percentile Bootstrap UTL with 90% Coverage	15.38
	99% Percentile	18.53	95% BCA Bootstrap UTL with 90% Coverage	15.1
			95% UPL	16.36
			95% Chebyshev UPL	23.96
	95% WH Approx. Gamma UPL	14.99	Upper Threshold Limit Based upon IQR	16.87
	95% HW Approx. Gamma UPL	15.11		
	95% WH Approx. Gamma UTL with 90% Coverage	15.24		
	95% HW Approx. Gamma UTL with 90% Coverage	15.38		

General Background Statistics for Full Data Sets

User Selected Options	
From File	UpperSand.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

BARIUM

General Statistics

Total Number of Observations	34	Number of Distinct Observations	26
Tolerance Factor	1.732		

Raw Statistics		Log-Transformed Statistics	
Minimum	5.7	Minimum	1.74
Maximum	16.1	Maximum	2.779
Second Largest	15.9	Second Largest	2.766
First Quartile	9.55	First Quartile	2.257
Median	10.23	Median	2.325
Third Quartile	11.3	Third Quartile	2.425
Mean	10.72	Mean	2.351
SD	2.278	SD	0.209
Coefficient of Variation	0.212		
Skewness	0.793		

Background Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.912	Shapiro Wilk Test Statistic	0.939
Shapiro Wilk Critical Value	0.933	Shapiro Wilk Critical Value	0.933
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% UTL with 90% Coverage	14.67	95% UTL with 90% Coverage	15.08
95% UPL (t)	14.64	95% UPL (t)	15.03
90% Percentile (z)	13.64	90% Percentile (z)	13.72
95% Percentile (z)	14.47	95% Percentile (z)	14.81
99% Percentile (z)	16.02	99% Percentile (z)	17.07
Gamma Distribution Test		Data Distribution Test	
k star	21.66	Data appear Lognormal at 5% Significance Level	
Theta Star	0.495		
MLE of Mean	10.72		
MLE of Standard Deviation	2.304		
nu star	1473		
A-D Test Statistic	0.971	Nonparametric Statistics	
5% A-D Critical Value	0.746	90% Percentile	14.23
K-S Test Statistic	0.159	95% Percentile	15.51
5% K-S Critical Value	0.151	99% Percentile	16.03

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution		95% UTL with 90% Coverage	15.9
90% Percentile	13.76	95% Percentile Bootstrap UTL with 90% Coverage	15.72
95% Percentile	14.77	95% BCA Bootstrap UTL with 90% Coverage	15.72
99% Percentile	16.8	95% UPL	15.95
		95% Chebyshev UPL	20.8
95% WH Approx. Gamma UPL	14.85	Upper Threshold Limit Based upon IQR	13.93
95% HW Approx. Gamma UPL	14.89		
95% WH Approx. Gamma UTL with 90% Coverage	14.89		
95% HW Approx. Gamma UTL with 90% Coverage	14.93		

General Background Statistics for Full Data Sets

User Selected Options

From File	Transition.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

BARIUM

General Statistics

Total Number of Observations	30	Number of Distinct Observations	30
Tolerance Factor	1.777		

Raw Statistics		Log-Transformed Statistics	
Minimum	24	Minimum	3.178
Maximum	102	Maximum	4.625
Second Largest	93.3	Second Largest	4.536
First Quartile	56.23	First Quartile	4.029
Median	68.5	Median	4.227
Third Quartile	84.98	Third Quartile	4.442
Mean	68.73	Mean	4.19
SD	18.17	SD	0.306
Coefficient of Variation	0.264		
Skewness	-0.323		

Background Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.973	Shapiro Wilk Test Statistic	0.909
Shapiro Wilk Critical Value	0.927	Shapiro Wilk Critical Value	0.927
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% UTL with 90% Coverage	101	95% UTL with 90% Coverage	113.7
95% UPL (t)	100.1	95% UPL (t)	112
90% Percentile (z)	92.02	90% Percentile (z)	97.71
95% Percentile (z)	98.62	95% Percentile (z)	109.2
99% Percentile (z)	111	99% Percentile (z)	134.5

Gamma Distribution Test		Data Distribution Test	
k star	11.33	Data appear Normal at 5% Significance Level	
Theta Star	6.068		
MLE of Mean	68.73		
MLE of Standard Deviation	20.42		
nu star	679.6		
A-D Test Statistic	0.461	**Nonparametric Statistics**	
5% A-D Critical Value	0.745	90% Percentile	89.1
K-S Test Statistic	0.115	95% Percentile	91.82
5% K-S Critical Value	0.16	99% Percentile	99.48

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution	
90% Percentile	95.86
95% Percentile	105.4
99% Percentile	124.9
95% WH Approx. Gamma UPL	106.3
95% HW Approx. Gamma UPL	107.5
95% WH Approx. Gamma UTL with 90% Coverage	107.6
95% HW Approx. Gamma UTL with 90% Coverage	108.9

95% UTL with 90% Coverage	93.3
95% Percentile Bootstrap UTL with 90% Coverage	94.17
95% BCA Bootstrap UTL with 90% Coverage	93.3
95% UPL	97.22
95% Chebyshev UPL	149.2
Upper Threshold Limit Based upon IQR	128.1

General Background Statistics for Full Data Sets

User Selected Options

From File	UpperSand.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

BERYLLIUM

General Statistics

Total Number of Observations	34	Number of Distinct Observations	22
Tolerance Factor	1.732		

Raw Statistics		Log-Transformed Statistics	
Minimum	0.19	Minimum	-1.661
Maximum	0.84	Maximum	-0.174
Second Largest	0.69	Second Largest	-0.371
First Quartile	0.243	First Quartile	-1.417
Median	0.31	Median	-1.171
Third Quartile	0.358	Third Quartile	-1.029
Mean	0.334	Mean	-1.161
SD	0.14	SD	0.35
Coefficient of Variation	0.417		
Skewness	2.009		

Background Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.805	Shapiro Wilk Test Statistic	0.933
Shapiro Wilk Critical Value	0.933	Shapiro Wilk Critical Value	0.933
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% UTL with 90% Coverage	0.576	95% UTL with 90% Coverage	0.574
95% UPL (t)	0.574	95% UPL (t)	0.571
90% Percentile (z)	0.513	90% Percentile (z)	0.491
95% Percentile (z)	0.564	95% Percentile (z)	0.557
99% Percentile (z)	0.659	99% Percentile (z)	0.707
Gamma Distribution Test		**Data Distribution Test**	
k star	7.102	Data appear Lognormal at 5% Significance Level	
Theta Star	0.0471		
MLE of Mean	0.334		
MLE of Standard Deviation	0.125		
nu star	483		
A-D Test Statistic	0.943	**Nonparametric Statistics**	
5% A-D Critical Value	0.748	90% Percentile	0.488
K-S Test Statistic	0.177	95% Percentile	0.573
5% K-S Critical Value	0.151	99% Percentile	0.791

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution				
90% Percentile	0.502	95% UTL with	90% Coverage	0.69
95% Percentile	0.564	95% Percentile Bootstrap UTL with	90% Coverage	0.69
99% Percentile	0.693	95% BCA Bootstrap UTL with	90% Coverage	0.636
		95% UPL		0.728
		95% Chebyshev UPL		0.952
95% WH Approx. Gamma UPL	0.568	Upper Threshold Limit Based upon IQR		0.53
95% HW Approx. Gamma UPL	0.568			
95% WH Approx. Gamma UTL with	90% Coverage	0.571		
95% HW Approx. Gamma UTL with	90% Coverage	0.571		

General Background Statistics for Full Data Sets

User Selected Options

From File	Transition.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

BERYLLIUM

General Statistics

Total Number of Observations	30	Number of Distinct Observations	20
Tolerance Factor	1.777		

Raw Statistics		Log-Transformed Statistics	
Minimum	0.3	Minimum	-1.204
Maximum	1.7	Maximum	0.531
Second Largest	1.5	Second Largest	0.405
First Quartile	0.75	First Quartile	-0.288
Median	0.95	Median	-0.0527
Third Quartile	1.1	Third Quartile	0.0953
Mean	0.974	Mean	-0.0859
SD	0.327	SD	0.365
Coefficient of Variation	0.336		
Skewness	0.365		

Background Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.969	Shapiro Wilk Test Statistic	0.953
Shapiro Wilk Critical Value	0.927	Shapiro Wilk Critical Value	0.927
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% UTL with 90% Coverage	1.555	95% UTL with 90% Coverage	1.756
95% UPL (t)	1.539	95% UPL (t)	1.724
90% Percentile (z)	1.393	90% Percentile (z)	1.465
95% Percentile (z)	1.512	95% Percentile (z)	1.673
99% Percentile (z)	1.735	99% Percentile (z)	2.146

Gamma Distribution Test		Data Distribution Test
k star	7.73	Data appear Normal at 5% Significance Level
Theta Star	0.126	
MLE of Mean	0.974	
MLE of Standard Deviation	0.35	
nu star	463.8	
A-D Test Statistic	0.258	**Nonparametric Statistics**
5% A-D Critical Value	0.746	90% Percentile 1.5
K-S Test Statistic	0.0836	95% Percentile 1.5
5% K-S Critical Value	0.16	99% Percentile 1.642

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

90% Percentile	1.441
95% Percentile	1.613
99% Percentile	1.968
95% WH Approx. Gamma UPL	1.629
95% HW Approx. Gamma UPL	1.648
95% WH Approx. Gamma UTL with 90% Coverage	1.653
95% HW Approx. Gamma UTL with 90% Coverage	1.674

95% UTL with 90% Coverage	1.5
95% Percentile Bootstrap UTL with 90% Coverage	1.52
95% BCA Bootstrap UTL with 90% Coverage	1.5
95% UPL	1.59
95% Chebyshev UPL	2.424
Upper Threshold Limit Based upon IQR	1.625

General Background Statistics for Data Sets with Non-Detects

User Selected Options

From File	UpperSand.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

CADMIUM

General Statistics

Number of Valid Data	34	Number of Detected Data	23
Number of Distinct Detected Data	4	Number of Non-Detect Data	11
Tolerance Factor	1.732	Percent Non-Detects	32.35%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.03	Minimum Detected	-3.507
Maximum Detected	0.07	Maximum Detected	-2.659
Mean of Detected	0.0357	Mean of Detected	-3.363
SD of Detected	0.00992	SD of Detected	0.231
Minimum Non-Detect	0.01	Minimum Non-Detect	-4.605
Maximum Non-Detect	0.02	Maximum Non-Detect	-3.912

Data with Multiple Detection Limits	Single Detection Limit Scenario	
Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect with Single DL	11
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected with Single DL	23
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	32.35%

Warning: There are only 4 Distinct Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set

the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

Background Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.635	Shapiro Wilk Test Statistic	0.676
5% Shapiro Wilk Critical Value	0.914	5% Shapiro Wilk Critical Value	0.914
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0263	Mean (Log Scale)	-3.916
SD	0.0161	SD (Log Scale)	0.852
95% UTL 90% Coverage	0.054	95% UTL 90% Coverage	0.0872
95% UPL (t)	0.0538	95% UPL (t)	0.0861
90% Percentile (z)	0.0468	90% Percentile (z)	0.0594
95% Percentile (z)	0.0527	95% Percentile (z)	0.0809
99% Percentile (z)	0.0636	99% Percentile (z)	0.145

Maximum Likelihood Estimate(MLE) Method	
Mean	0.0275
SD	0.0149
95% UTL with 90% Coverage	0.0533
95% UPL (t)	0.0531
90% Percentile (z)	0.0466
95% Percentile (z)	0.052
99% Percentile (z)	0.0621

Log ROS Method	
Mean in Original Scale	0.0309
SD in Original Scale	0.0108
95% UTL with 90% Coverage	0.0505
95% BCA UTL with 90% Coverage	0.04
95% Bootstrap (%) UTL with 90% Coverage	0.05
95% UPL (t)	0.0503
90% Percentile (z)	0.0439
95% Percentile (z)	0.0492
99% Percentile (z)	0.0608

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	15.26
Theta Star	0.00234
nu star	702
A-D Test Statistic	3.285
5% A-D Critical Value	0.742
K-S Test Statistic	0.385
5% K-S Critical Value	0.181

Data not Gamma Distributed at 5% Significance Level

Data Distribution Test with Detected Values Only

Data do not follow a Discernable Distribution (0.05)

Assuming Gamma Distribution

Gamma ROS Statistics with Extrapolated Data	
Mean	0.0268
Median	0.03
SD	0.0158
k star	0.605
Theta star	0.0443
Nu star	41.12
95% Percentile of Chisquare (2k)	4.34
90% Percentile	0.0695
95% Percentile	0.0961
99% Percentile	0.16

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.0338
SD	0.00841
SE of Mean	0.00147
95% KM UTL with 90% Coverage	0.0484
95% KM Chebyshev UPL	0.071
95% KM UPL (t)	0.0483
90% Percentile (z)	0.0446
95% Percentile (z)	0.0477
99% Percentile (z)	0.0534

Gamma ROS Limits with Extrapolated Data

95% Wilson Hilferty (WH) Approx. Gamma UPL	0.0872
95% Hawkins Wixley (HW) Approx. Gamma UPL	0.111
95% WH Approx. Gamma UTL with 90% Coverage	0.088
95% HW Approx. Gamma UTL with 90% Coverage	0.112

Note: DL/2 is not a recommended method.

General Background Statistics for Data Sets with Non-Detects

User Selected Options

From File	Transition.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

CADMIUM

General Statistics

Number of Valid Data	30	Number of Detected Data	29
Number of Distinct Detected Data	5	Number of Non-Detect Data	1
Tolerance Factor	1.777	Percent Non-Detects	3.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.03	Minimum Detected	-3.507
Maximum Detected	0.065	Maximum Detected	-2.733
Mean of Detected	0.0426	Mean of Detected	-3.183
SD of Detected	0.0102	SD of Detected	0.237
Minimum Non-Detect	0.02	Minimum Non-Detect	-3.912
Maximum Non-Detect	0.02	Maximum Non-Detect	-3.912

Background Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.875	Shapiro Wilk Test Statistic	0.881
5% Shapiro Wilk Critical Value	0.926	5% Shapiro Wilk Critical Value	0.926
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0415	Mean (Log Scale)	-3.231
SD	0.0117	SD (Log Scale)	0.349
95% UTL 90% Coverage	0.0623	95% UTL 90% Coverage	0.0734
95% UPL (t)	0.0617	95% UPL (t)	0.0722
90% Percentile (z)	0.0565	90% Percentile (z)	0.0618
95% Percentile (z)	0.0607	95% Percentile (z)	0.0701
99% Percentile (z)	0.0687	99% Percentile (z)	0.0889
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.0417	Mean in Original Scale	0.0419
SD	0.011	SD in Original Scale	0.0107
95% UTL with 90% Coverage	0.0613	95% UTL with 90% Coverage	0.064
		95% BCA UTL with 90% Coverage	0.06
		95% Bootstrap (%) UTL with 90% Coverage	0.0605
95% UPL (t)	0.0607	95% UPL (t)	0.0632
90% Percentile (z)	0.0558	90% Percentile (z)	0.0564
95% Percentile (z)	0.0598	95% Percentile (z)	0.0619
99% Percentile (z)	0.0673	99% Percentile (z)	0.0736

Gamma Distribution Test with Detected Values Only	
k star (bias corrected)	16.63
Theta Star	0.00256
nu star	964.5
A-D Test Statistic	1.424
5% A-D Critical Value	0.744
K-S Test Statistic	0.23
5% K-S Critical Value	0.162

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution	
Gamma ROS Statistics with Extrapolated Data	
Mean	0.0415
Median	0.04
SD	0.0117
k star	9.354
Theta star	0.00444
Nu star	561.2
95% Percentile of Chisquare (2k)	29.77
90% Percentile	0.0596
95% Percentile	0.066
99% Percentile	0.0794

Data Distribution Test with Detected Values Only

Data do not follow a Discernable Distribution (0.05)

Nonparametric Statistics	
Kaplan-Meier (KM) Method	
Mean	0.0422
SD	0.0101
SE of Mean	0.00188
95% KM UTL with 90% Coverage	0.0602
95% KM Chebyshev UPL	0.0871
95% KM UPL (t)	0.0597
90% Percentile (z)	0.0552
95% Percentile (z)	0.0588
99% Percentile (z)	0.0658
Gamma ROS Limits with Extrapolated Data	
95% Wilson Hilferty (WH) Approx. Gamma UPL	0.0666
95% Hawkins Wixley (HW) Approx. Gamma UPL	0.0677
95% WH Approx. Gamma UTL with 90% Coverage	0.0675
95% HW Approx. Gamma UTL with 90% Coverage	0.0687

Note: DL/2 is not a recommended method.

General Background Statistics for Data Sets with Non-Detects

User Selected Options

From File	MISC GROUPS.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

CALCIUM US

General Statistics

Total Number of Observations	17	Number of Distinct Observations	16
Tolerance Factor	2.002		

Raw Statistics		Log-Transformed Statistics	
Minimum	156	Minimum	5.05
Maximum	439	Maximum	6.084
Second Largest	398	Second Largest	5.986
First Quartile	256	First Quartile	5.545
Median	321	Median	5.771
Third Quartile	339	Third Quartile	5.826
Mean	300.5	Mean	5.668
SD	79.69	SD	0.294
Coefficient of Variation	0.265		
Skewness	-0.286		

Background Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.966	Shapiro Wilk Test Statistic	0.922
Shapiro Wilk Critical Value	0.892	Shapiro Wilk Critical Value	0.892
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% UTL with 90% Coverage	460	95% UTL with 90% Coverage	521.5
95% UPL (t)	443.6	95% UPL (t)	490.9
90% Percentile (z)	402.6	90% Percentile (z)	421.9
95% Percentile (z)	431.5	95% Percentile (z)	469.5
99% Percentile (z)	485.9	99% Percentile (z)	573.7
Gamma Distribution Test		**Data Distribution Test**	
k star	11.07	Data appear Normal at 5% Significance Level	
Theta Star	27.14		
MLE of Mean	300.5		
MLE of Standard Deviation	90.3		
nu star	376.5		
A-D Test Statistic	0.45	**Nonparametric Statistics**	
5% A-D Critical Value	0.738	90% Percentile	392.6
K-S Test Statistic	0.161	95% Percentile	406.2
5% K-S Critical Value	0.209	99% Percentile	432.4

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution	
90% Percentile	420.4
95% Percentile	462.8
99% Percentile	549.3
95% WH Approx. Gamma UPL	469.6
95% HW Approx. Gamma UPL	474.2
95% WH Approx. Gamma UTL with 90% Coverage	493.4
95% HW Approx. Gamma UTL with 90% Coverage	499.5

95% UTL with 90% Coverage	439
95% Percentile Bootstrap UTL with 90% Coverage	439
95% BCA Bootstrap UTL with 90% Coverage	414.4
95% UPL	439
95% Chebyshev UPL	657.9
Upper Threshold Limit Based upon IQR	463.5

General Background Statistics for Full Data Sets

User Selected Options

From File	MISC GROUPS.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

CALCIUM USUB_TS

General Statistics

Total Number of Observations	32	Number of Distinct Observations	32
Tolerance Factor	1.748		

Raw Statistics		Log-Transformed Statistics	
Minimum	466	Minimum	6.144
Maximum	1600	Maximum	7.378
Second Largest	1250	Second Largest	7.131
First Quartile	654.4	First Quartile	6.484
Median	730.8	Median	6.594
Third Quartile	859.8	Third Quartile	6.757
Mean	780.5	Mean	6.625
SD	229.7	SD	0.26
Coefficient of Variation	0.294		
Skewness	1.796		

Background Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.856	Shapiro Wilk Test Statistic	0.955
Shapiro Wilk Critical Value	0.93	Shapiro Wilk Critical Value	0.93
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% UTL with 90% Coverage	1182	95% UTL with 90% Coverage	1187
95% UPL (t)	1176	95% UPL (t)	1179
90% Percentile (z)	1075	90% Percentile (z)	1051
95% Percentile (z)	1158	95% Percentile (z)	1155
99% Percentile (z)	1315	99% Percentile (z)	1379

Gamma Distribution Test		Data Distribution Test	
k star	13.09	Data appear Lognormal at 5% Significance Level	
Theta Star	59.62		
MLE of Mean	780.5		
MLE of Standard Deviation	215.7		
nu star	837.9		
A-D Test Statistic	0.767	Nonparametric Statistics	
5% A-D Critical Value	0.746	90% Percentile	1072
K-S Test Statistic	0.162	95% Percentile	1173
5% K-S Critical Value	0.155	99% Percentile	1492

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

90% Percentile	1067
95% Percentile	1166
99% Percentile	1368
95% WH Approx. Gamma UPL	1173
95% HW Approx. Gamma UPL	1174
95% WH Approx. Gamma UTL with 90% Coverage	1180
95% HW Approx. Gamma UTL with 90% Coverage	1181
95% UTL with 90% Coverage	1250
95% Percentile Bootstrap UTL with 90% Coverage	1250
95% BCA Bootstrap UTL with 90% Coverage	1236
95% UPL	1373
95% Chebyshev UPL	1797
Upper Threshold Limit Based upon IQR	1168

General Background Statistics for Full Data Sets

User Selected Options

From File	MISC GROUPS.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

CALCIUM TSUB

General Statistics

Total Number of Observations	15	Number of Distinct Observations	15
Tolerance Factor	2.068		

Raw Statistics		Log-Transformed Statistics	
Minimum	1960	Minimum	7.581
Maximum	3260	Maximum	8.089
Second Largest	3040	Second Largest	8.02
First Quartile	2545	First Quartile	7.841
Median	2670	Median	7.89
Third Quartile	2913	Third Quartile	7.977
Mean	2671	Mean	7.883
SD	330.4	SD	0.129
Coefficient of Variation	0.124		
Skewness	-0.436		

Background Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.969	Shapiro Wilk Test Statistic	0.947
Shapiro Wilk Critical Value	0.881	Shapiro Wilk Critical Value	0.881
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% UTL with 90% Coverage	3354	95% UTL with 90% Coverage	3461
95% UPL (t)	3272	95% UPL (t)	3352
90% Percentile (z)	3094	90% Percentile (z)	3127
95% Percentile (z)	3214	95% Percentile (z)	3277
99% Percentile (z)	3440	99% Percentile (z)	3578

Gamma Distribution Test		Data Distribution Test
k star	53.29	Data appear Normal at 5% Significance Level
Theta Star	50.12	
MLE of Mean	2671	
MLE of Standard Deviation	365.9	
nu star	1599	

		Nonparametric Statistics	
A-D Test Statistic	0.355		
5% A-D Critical Value	0.734	90% Percentile	2992
K-S Test Statistic	0.199	95% Percentile	3106
5% K-S Critical Value	0.221	99% Percentile	3229

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

90% Percentile		3149
95% Percentile		3300
99% Percentile		3595
95% WH Approx. Gamma UPL		3321
95% HW Approx. Gamma UPL		3328
95% WH Approx. Gamma UTL with	90% Coverage	3419
95% HW Approx. Gamma UTL with	90% Coverage	3429
95% UTL with	90% Coverage	3260
95% Percentile Bootstrap UTL with	90% Coverage	3260
95% BCA Bootstrap UTL with	90% Coverage	3172
95% UPL		3260
95% Chebyshev UPL		4159
Upper Threshold Limit Based upon IQR		3464

General Background Statistics for Full Data Sets

User Selected Options	
From File	UpperSand.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

CHROMIUM

General Statistics

Total Number of Observations	34	Number of Distinct Observations	27
Tolerance Factor	1.732		

Raw Statistics		Log-Transformed Statistics	
Minimum	3.6	Minimum	1.281
Maximum	18.7	Maximum	2.929
Second Largest	15.3	Second Largest	2.728
First Quartile	6.3	First Quartile	1.841
Median	7.25	Median	1.981
Third Quartile	8	Third Quartile	2.079
Mean	7.626	Mean	1.981
SD	2.807	SD	0.308
Coefficient of Variation	0.368		
Skewness	2.429		

Background Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.77	Shapiro Wilk Test Statistic	0.931
Shapiro Wilk Critical Value	0.933	Shapiro Wilk Critical Value	0.933
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% UTL with 90% Coverage	12.49	95% UTL with 90% Coverage	12.36
95% UPL (t)	12.45	95% UPL (t)	12.31
90% Percentile (z)	11.22	90% Percentile (z)	10.76
95% Percentile (z)	12.24	95% Percentile (z)	12.03
99% Percentile (z)	14.16	99% Percentile (z)	14.84

Gamma Distribution Test		Data Distribution Test	
k star	9.224	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.827		
MLE of Mean	7.626		
MLE of Standard Deviation	2.511		
nu star	627.2		
A-D Test Statistic	1.155	Nonparametric Statistics	
5% A-D Critical Value	0.748	90% Percentile	9.67
K-S Test Statistic	0.163	95% Percentile	11.73
5% K-S Critical Value	0.151	99% Percentile	17.58

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution		95% UTL with 90% Coverage	15.3
90% Percentile	10.97	95% Percentile Bootstrap UTL with 90% Coverage	13.65
95% Percentile	12.17	95% BCA Bootstrap UTL with 90% Coverage	13.65
99% Percentile	14.65	95% UPL	16.15
		95% Chebyshev UPL	20.04
95% WH Approx. Gamma UPL	12.25	Upper Threshold Limit Based upon IQR	10.55
95% HW Approx. Gamma UPL	12.25		
95% WH Approx. Gamma UTL with 90% Coverage	12.29		
95% HW Approx. Gamma UTL with 90% Coverage	12.3		

General Background Statistics for Full Data Sets

User Selected Options	
From File	Transition.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

CHROMIUM

General Statistics

Total Number of Observations	30	Number of Distinct Observations	28
Tolerance Factor	1.777		

Raw Statistics		Log-Transformed Statistics	
Minimum	14.1	Minimum	2.646
Maximum	57.5	Maximum	4.052
Second Largest	57.3	Second Largest	4.048
First Quartile	32.08	First Quartile	3.468
Median	41.48	Median	3.725
Third Quartile	47.88	Third Quartile	3.868
Mean	39.67	Mean	3.635
SD	11.16	SD	0.324
Coefficient of Variation	0.281		
Skewness	-0.29		

Background Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.967	Shapiro Wilk Test Statistic	0.914
Shapiro Wilk Critical Value	0.927	Shapiro Wilk Critical Value	0.927
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% UTL with 90% Coverage	59.49	95% UTL with 90% Coverage	67.46
95% UPL (t)	58.94	95% UPL (t)	66.38
90% Percentile (z)	53.97	90% Percentile (z)	57.44
95% Percentile (z)	58.02	95% Percentile (z)	64.63
99% Percentile (z)	65.62	99% Percentile (z)	80.62

Gamma Distribution Test		Data Distribution Test	
k star	10.05	Data appear Normal at 5% Significance Level	
Theta Star	3.947		
MLE of Mean	39.67		
MLE of Standard Deviation	12.51		
nu star	603		
A-D Test Statistic	0.505	Nonparametric Statistics	
5% A-D Critical Value	0.745	90% Percentile	53.74
K-S Test Statistic	0.115	95% Percentile	56.27
5% K-S Critical Value	0.16	99% Percentile	57.44

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution			
90% Percentile	56.31	95% UTL with 90% Coverage	57.3
95% Percentile	62.24	95% Percentile Bootstrap UTL with 90% Coverage	57.3
99% Percentile	74.41	95% BCA Bootstrap UTL with 90% Coverage	57.32
		95% UPL	57.39
		95% Chebyshev UPL	89.1
95% WH Approx. Gamma UPL	62.81	Upper Threshold Limit Based upon IQR	71.58
95% HW Approx. Gamma UPL	63.56		
95% WH Approx. Gamma UTL with 90% Coverage	63.63		
95% HW Approx. Gamma UTL with 90% Coverage	64.43		

General Background Statistics for Full Data Sets

User Selected Options

From File	UpperSand.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

COBALT

General Statistics

Total Number of Observations	34	Number of Distinct Observations	22
Tolerance Factor	1.732		

Raw Statistics		Log-Transformed Statistics	
Minimum	0.55	Minimum	-0.598
Maximum	4.1	Maximum	1.411
Second Largest	4	Second Largest	1.386
First Quartile	2.225	First Quartile	0.8
Median	3.15	Median	1.147
Third Quartile	3.7	Third Quartile	1.308
Mean	2.921	Mean	0.993
SD	0.956	SD	0.457
Coefficient of Variation	0.327		
Skewness	-0.779		

Background Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.911	Shapiro Wilk Test Statistic	0.79
Shapiro Wilk Critical Value	0.933	Shapiro Wilk Critical Value	0.933
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% UTL with 90% Coverage	4.576	95% UTL with 90% Coverage	5.956
95% UPL (t)	4.562	95% UPL (t)	5.917
90% Percentile (z)	4.145	90% Percentile (z)	4.849
95% Percentile (z)	4.493	95% Percentile (z)	5.725
99% Percentile (z)	5.144	99% Percentile (z)	7.816

Gamma Distribution Test		Data Distribution Test	
k star	5.972	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	0.489		
MLE of Mean	2.921		
MLE of Standard Deviation	1.195		
nu star	406.1		
A-D Test Statistic	1.52	Nonparametric Statistics	
5% A-D Critical Value	0.749	90% Percentile	3.97
K-S Test Statistic	0.148	95% Percentile	4
5% K-S Critical Value	0.151	99% Percentile	4.067

Data follow Appx. Gamma Distribution at 5% Significance Level

Assuming Gamma Distribution				
90% Percentile	4.518	95% UTL with	90% Coverage	4
95% Percentile	5.123	95% Percentile Bootstrap UTL with	90% Coverage	4
99% Percentile	6.39	95% BCA Bootstrap UTL with	90% Coverage	4
		95% UPL		4.025
		95% Chebyshev UPL		7.148
95% WH Approx. Gamma UPL	5.177	Upper Threshold Limit Based upon IQR		5.913
95% HW Approx. Gamma UPL	5.317			
95% WH Approx. Gamma UTL with	90% Coverage	5.202		
95% HW Approx. Gamma UTL with	90% Coverage	5.344		

General Background Statistics for Full Data Sets

User Selected Options

From File	Transition.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

COBALT

General Statistics

Total Number of Observations	30	Number of Distinct Observations	26
Tolerance Factor	1.777		

Raw Statistics		Log-Transformed Statistics	
Minimum	3.7	Minimum	1.308
Maximum	27.1	Maximum	3.3
Second Largest	24.4	Second Largest	3.195
First Quartile	10.5	First Quartile	2.351
Median	13.15	Median	2.576
Third Quartile	16.4	Third Quartile	2.797
Mean	13.94	Mean	2.561
SD	5.189	SD	0.411
Coefficient of Variation	0.372		
Skewness	0.557		

Background Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.97	Shapiro Wilk Test Statistic	0.947
Shapiro Wilk Critical Value	0.927	Shapiro Wilk Critical Value	0.927
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% UTL with 90% Coverage	23.16	95% UTL with 90% Coverage	26.87
95% UPL (t)	22.9	95% UPL (t)	26.32
90% Percentile (z)	20.59	90% Percentile (z)	21.92
95% Percentile (z)	22.47	95% Percentile (z)	25.45
99% Percentile (z)	26.01	99% Percentile (z)	33.67

Gamma Distribution Test		Data Distribution Test
k star	6.265	Data appear Normal at 5% Significance Level
Theta Star	2.225	
MLE of Mean	13.94	
MLE of Standard Deviation	5.569	
nu star	375.9	

		Nonparametric Statistics	
A-D Test Statistic	0.27		
5% A-D Critical Value	0.746	90% Percentile	20.8
K-S Test Statistic	0.0894	95% Percentile	22.78
5% K-S Critical Value	0.16	99% Percentile	26.32

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

90% Percentile	21.38
95% Percentile	24.18
99% Percentile	30.03
95% WH Approx. Gamma UPL	24.46
95% HW Approx. Gamma UPL	24.82
95% WH Approx. Gamma UTL with 90% Coverage	24.85
95% HW Approx. Gamma UTL with 90% Coverage	25.24

95% UTL with 90% Coverage	24.4
95% Percentile Bootstrap UTL with 90% Coverage	24.67
95% BCA Bootstrap UTL with 90% Coverage	24.4
95% UPL	25.62
95% Chebyshev UPL	36.93
Upper Threshold Limit Based upon IQR	25.25

General Background Statistics for Data Sets with Non-Detects

User Selected Options	
From File	UpperSand.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

COPPER

General Statistics

Number of Valid Data	34	Number of Detected Data	32
Number of Distinct Detected Data	23	Number of Non-Detect Data	2
Tolerance Factor	1.732	Percent Non-Detects	5.88%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	3.4	Minimum Detected	1.224
Maximum Detected	6.8	Maximum Detected	1.917
Mean of Detected	5.227	Mean of Detected	1.64
SD of Detected	0.849	SD of Detected	0.171
Minimum Non-Detect	1.5	Minimum Non-Detect	0.405
Maximum Non-Detect	3.2	Maximum Non-Detect	1.163

Data with Multiple Detection Limits	Single Detection Limit Scenario	
Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect with Single DL	2
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected with Single DL	32
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	5.88%

Background Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.967	Shapiro Wilk Test Statistic	0.944
5% Shapiro Wilk Critical Value	0.93	5% Shapiro Wilk Critical Value	0.93
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	4.988	Mean (Log Scale)	1.549
SD	1.275	SD (Log Scale)	0.416
95% UTL 90% Coverage	7.195	95% UTL 90% Coverage	9.672
95% UPL (t)	7.177	95% UPL (t)	9.614
90% Percentile (z)	6.622	90% Percentile (z)	8.021
95% Percentile (z)	7.085	95% Percentile (z)	9.33
99% Percentile (z)	7.953	99% Percentile (z)	12.39
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	5.085	Mean in Original Scale	5.124
SD	0.993	SD in Original Scale	0.923
95% UTL with 90% Coverage	6.804	95% UTL with 90% Coverage	7.006
		95% BCA UTL with 90% Coverage	6.67
		95% Bootstrap (%) UTL with 90% Coverage	6.67

95% UPL (t)	6.79
90% Percentile (z)	6.357
95% Percentile (z)	6.718
99% Percentile (z)	7.395

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	33.39
Theta Star	0.157
nu star	2137
A-D Test Statistic	0.508
5% A-D Critical Value	0.745
K-S Test Statistic	0.135
5% K-S Critical Value	0.155

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics with Extrapolated Data

Mean	5.054
Median	5.25
SD	1.082
k star	16.55
Theta star	0.305
Nu star	1125
95% Percentile of Chisquare (2k)	47.52
90% Percentile	6.696
95% Percentile	7.255
99% Percentile	8.382

95% UPL (t)	6.987
90% Percentile (z)	6.431
95% Percentile (z)	6.892
99% Percentile (z)	7.847

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method

Mean	5.119
SD	0.918
SE of Mean	0.16
95% KM UTL with 90% Coverage	6.708
95% KM Chebyshev UPL	9.178
95% KM UPL (t)	6.695
90% Percentile (z)	6.295
95% Percentile (z)	6.629
99% Percentile (z)	7.254

Gamma ROS Limits with Extrapolated Data

95% Wilson Hilferty (WH) Approx. Gamma UPL	7.298
95% Hawkins Wixley (HW) Approx. Gamma UPL	7.368
95% WH Approx. Gamma UTL with 90% Coverage	7.321
95% HW Approx. Gamma UTL with 90% Coverage	7.391

Note: DL/2 is not a recommended method.

General Background Statistics for Full Data Sets

User Selected Options

From File	Transition.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

COPPER

General Statistics

Total Number of Observations	30	Number of Distinct Observations	30
Tolerance Factor	1.777		

Raw Statistics		Log-Transformed Statistics	
Minimum	8.6	Minimum	2.152
Maximum	38.5	Maximum	3.651
Second Largest	36.1	Second Largest	3.586
First Quartile	17.08	First Quartile	2.837
Median	23.65	Median	3.163
Third Quartile	29.88	Third Quartile	3.397
Mean	23.66	Mean	3.1
SD	8.148	SD	0.376
Coefficient of Variation	0.344		
Skewness	0.126		

Background Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.969	Shapiro Wilk Test Statistic	0.961
Shapiro Wilk Critical Value	0.927	Shapiro Wilk Critical Value	0.927
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% UTL with 90% Coverage	38.13	95% UTL with 90% Coverage	43.31
95% UPL (t)	37.73	95% UPL (t)	42.51
90% Percentile (z)	34.1	90% Percentile (z)	35.94
95% Percentile (z)	37.06	95% Percentile (z)	41.21
99% Percentile (z)	42.61	99% Percentile (z)	53.25

Gamma Distribution Test		Data Distribution Test
k star	7.226	Data appear Normal at 5% Significance Level
Theta Star	3.274	
MLE of Mean	23.66	
MLE of Standard Deviation	8.8	
nu star	433.6	
A-D Test Statistic	0.223	Nonparametric Statistics
5% A-D Critical Value	0.746	90% Percentile 35.63
K-S Test Statistic	0.077	95% Percentile 36.01
5% K-S Critical Value	0.16	99% Percentile 37.8

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution			
90% Percentile	35.4	95% UTL with 90% Coverage	36.1
95% Percentile	39.74	95% Percentile Bootstrap UTL with 90% Coverage	36.16
99% Percentile	48.76	95% BCA Bootstrap UTL with 90% Coverage	36.16
		95% UPL	37.18
		95% Chebyshev UPL	59.76
95% WH Approx. Gamma UPL	40.19	Upper Threshold Limit Based upon IQR	49.08
95% HW Approx. Gamma UPL	40.67		
95% WH Approx. Gamma UTL with 90% Coverage	40.8		
95% HW Approx. Gamma UTL with 90% Coverage	41.32		

General Background Statistics for Full Data Sets

User Selected Options

From File	UpperSand.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

IRON

General Statistics

Total Number of Observations	34	Number of Distinct Observations	34
Tolerance Factor	1.732		

Raw Statistics		Log-Transformed Statistics	
Minimum	2230	Minimum	7.71
Maximum	16900	Maximum	9.735
Second Largest	14400	Second Largest	9.575
First Quartile	6488	First Quartile	8.778
Median	7023	Median	8.857
Third Quartile	7645	Third Quartile	8.942
Mean	7489	Mean	8.872
SD	2533	SD	0.322
Coefficient of Variation	0.338		
Skewness	2		

Background Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.788	Shapiro Wilk Test Statistic	0.855
Shapiro Wilk Critical Value	0.933	Shapiro Wilk Critical Value	0.933
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% UTL with 90% Coverage	11875	95% UTL with 90% Coverage	12446
95% UPL (t)	11838	95% UPL (t)	12388
90% Percentile (z)	10735	90% Percentile (z)	10768
95% Percentile (z)	11655	95% Percentile (z)	12103
99% Percentile (z)	13382	99% Percentile (z)	15071

Gamma Distribution Test		Data Distribution Test	
k star	9.438	Data do not follow a Discernable Distribution (0.05)	
Theta Star	793.5		
MLE of Mean	7489		
MLE of Standard Deviation	2438		
nu star	641.8		
A-D Test Statistic	1.91	**Nonparametric Statistics**	
5% A-D Critical Value	0.748	90% Percentile	9361
K-S Test Statistic	0.208	95% Percentile	11930
5% K-S Critical Value	0.151	99% Percentile	16075

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution		
90% Percentile		10733
95% Percentile		11897
99% Percentile		14290
95% WH Approx. Gamma UPL		11971
95% HW Approx. Gamma UPL		12043
95% WH Approx. Gamma UTL with	90% Coverage	12017
95% HW Approx. Gamma UTL with	90% Coverage	12092
95% UTL with	90% Coverage	14400
95% Percentile Bootstrap UTL with	90% Coverage	14400
95% BCA Bootstrap UTL with	90% Coverage	13260
95% UPL		15025
95% Chebyshev UPL		18691
Upper Threshold Limit Based upon IQR		9381

General Background Statistics for Full Data Sets

User Selected Options	
From File	Transition.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

IRON

General Statistics

Total Number of Observations	30	Number of Distinct Observations	29
Tolerance Factor	1.777		

Raw Statistics		Log-Transformed Statistics	
Minimum	10500	Minimum	9.259
Maximum	46800	Maximum	10.75
Second Largest	44300	Second Largest	10.7
First Quartile	25975	First Quartile	10.16
Median	32250	Median	10.38
Third Quartile	37025	Third Quartile	10.52
Mean	31425	Mean	10.31
SD	8591	SD	0.317
Coefficient of Variation	0.273		
Skewness	-0.223		

Background Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.979	Shapiro Wilk Test Statistic	0.913
Shapiro Wilk Critical Value	0.927	Shapiro Wilk Critical Value	0.927
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% UTL with 90% Coverage	46690	95% UTL with 90% Coverage	52834
95% UPL (t)	46263	95% UPL (t)	52008
90% Percentile (z)	42434	90% Percentile (z)	45164
95% Percentile (z)	45555	95% Percentile (z)	50670
99% Percentile (z)	51410	99% Percentile (z)	62871

Gamma Distribution Test		Data Distribution Test	
k star	10.62	Data appear Normal at 5% Significance Level	
Theta Star	2958		
MLE of Mean	31425		
MLE of Standard Deviation	9641		
nu star	637.5		
A-D Test Statistic	0.377	Nonparametric Statistics	
5% A-D Critical Value	0.745	90% Percentile	43200
K-S Test Statistic	0.105	95% Percentile	44210
5% K-S Critical Value	0.16	99% Percentile	46075

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

90% Percentile	44239
95% Percentile	48779
99% Percentile	58077
95% WH Approx. Gamma UPL	49201
95% HW Approx. Gamma UPL	49780
95% WH Approx. Gamma UTL with 90% Coverage	49827
95% HW Approx. Gamma UTL with 90% Coverage	50447
95% UTL with 90% Coverage	44300
95% Percentile Bootstrap UTL with 90% Coverage	44370
95% BCA Bootstrap UTL with 90% Coverage	44550
95% UPL	45425
95% Chebyshev UPL	69490
Upper Threshold Limit Based upon IQR	53600

General Background Statistics for Full Data Sets

User Selected Options	
From File	MISC GROUPS.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

LEAD USUB

General Statistics

Total Number of Observations	17	Number of Distinct Observations	13
Tolerance Factor	2.002		

Raw Statistics		Log-Transformed Statistics	
Minimum	2.1	Minimum	0.742
Maximum	3.7	Maximum	1.308
Second Largest	3.2	Second Largest	1.163
First Quartile	2.5	First Quartile	0.916
Median	2.75	Median	1.012
Third Quartile	2.9	Third Quartile	1.065
Mean	2.721	Mean	0.992
SD	0.384	SD	0.139
Coefficient of Variation	0.141		
Skewness	0.726		

Background Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.952	Shapiro Wilk Test Statistic	0.973
Shapiro Wilk Critical Value	0.892	Shapiro Wilk Critical Value	0.892
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% UTL with 90% Coverage	3.49	95% UTL with 90% Coverage	3.558
95% UPL (t)	3.411	95% UPL (t)	3.458
90% Percentile (z)	3.213	90% Percentile (z)	3.22
95% Percentile (z)	3.353	95% Percentile (z)	3.386
99% Percentile (z)	3.615	99% Percentile (z)	3.721
Gamma Distribution Test		**Data Distribution Test**	
k star	45.31	Data appear Normal at 5% Significance Level	
Theta Star	0.06		
MLE of Mean	2.721		
MLE of Standard Deviation	0.404		
nu star	1540		
A-D Test Statistic	0.26	**Nonparametric Statistics**	
5% A-D Critical Value	0.737	90% Percentile	3.08
K-S Test Statistic	0.124	95% Percentile	3.3
5% K-S Critical Value	0.208	99% Percentile	3.62

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution			
90% Percentile	3.25	95% UTL with 90% Coverage	3.7
95% Percentile	3.418	95% Percentile Bootstrap UTL with 90% Coverage	3.7
99% Percentile	3.748	95% BCA Bootstrap UTL with 90% Coverage	3.7
		95% UPL	3.7
		95% Chebyshev UPL	4.445
95% WH Approx. Gamma UPL	3.439	Upper Threshold Limit Based upon IQR	3.5
95% HW Approx. Gamma UPL	3.443		
95% WH Approx. Gamma UTL with 90% Coverage	3.53		
95% HW Approx. Gamma UTL with 90% Coverage	3.537		

LEAD OTHER

General Statistics

Total Number of Observations	47	Number of Distinct Observations	40
Tolerance Factor	1.653		

Raw Statistics		Log-Transformed Statistics	
Minimum	2.7	Minimum	0.993
Maximum	19	Maximum	2.944
Second Largest	18.7	Second Largest	2.929
First Quartile	6.325	First Quartile	1.843
Median	11.1	Median	2.407
Third Quartile	13.55	Third Quartile	2.606
Mean	10.6	Mean	2.26
SD	4.383	SD	0.48
Coefficient of Variation	0.413		
Skewness	0.0287		

Background Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.951	Shapiro Wilk Test Statistic	0.925
Shapiro Wilk Critical Value	0.946	Shapiro Wilk Critical Value	0.946
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% UTL with 90% Coverage	17.85	95% UTL with 90% Coverage	21.2
95% UPL (t)	18.04	95% UPL (t)	21.65
90% Percentile (z)	16.22	90% Percentile (z)	17.74
95% Percentile (z)	17.81	95% Percentile (z)	21.12
99% Percentile (z)	20.8	99% Percentile (z)	29.29

Gamma Distribution Test		Data Distribution Test
k star	4.81	Data appear Normal at 5% Significance Level
Theta Star	2.204	
MLE of Mean	10.6	
MLE of Standard Deviation	4.834	
nu star	452.2	

A-D Test Statistic	0.922	Nonparametric Statistics	
5% A-D Critical Value	0.753	90% Percentile	15.86
K-S Test Statistic	0.145	95% Percentile	17.47
5% K-S Critical Value	0.13	99% Percentile	18.86
Data not Gamma Distributed at 5% Significance Level			
Assuming Gamma Distribution		95% UTL with 90% Coverage	17.5
90% Percentile	17.08	95% Percentile Bootstrap UTL with 90% Coverage	17.5
95% Percentile	19.6	95% BCA Bootstrap UTL with 90% Coverage	17.5
99% Percentile	24.94	95% UPL	18.22
		95% Chebyshev UPL	29.91
95% WH Approx. Gamma UPL	19.79	Upper Threshold Limit Based upon IQR	24.39
95% HW Approx. Gamma UPL	20.16		
95% WH Approx. Gamma UTL with 90% Coverage	19.48		
95% HW Approx. Gamma UTL with 90% Coverage	19.82		

General Background Statistics for Full Data Sets

User Selected Options	
From File	UpperSand.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

MAGNESIUM

General Statistics

Total Number of Observations	34	Number of Distinct Observations	32
Tolerance Factor	1.732		

Raw Statistics		Log-Transformed Statistics	
Minimum	356	Minimum	5.875
Maximum	1910	Maximum	7.555
Second Largest	1900	Second Largest	7.55
First Quartile	1105	First Quartile	7.008
Median	1315	Median	7.181
Third Quartile	1608	Third Quartile	7.382
Mean	1300	Mean	7.112
SD	380.4	SD	0.383
Coefficient of Variation	0.293		
Skewness	-0.726		

Background Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.948	Shapiro Wilk Test Statistic	0.823
Shapiro Wilk Critical Value	0.933	Shapiro Wilk Critical Value	0.933
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% UTL with 90% Coverage	1959	95% UTL with 90% Coverage	2380
95% UPL (t)	1953	95% UPL (t)	2367
90% Percentile (z)	1788	90% Percentile (z)	2003
95% Percentile (z)	1926	95% Percentile (z)	2302
99% Percentile (z)	2185	99% Percentile (z)	2988

Gamma Distribution Test		Data Distribution Test	
k star	8.028	Data appear Normal at 5% Significance Level	
Theta Star	161.9		
MLE of Mean	1300		
MLE of Standard Deviation	458.8		
nu star	545.9		
A-D Test Statistic	1.195	Nonparametric Statistics	
5% A-D Critical Value	0.748	90% Percentile	1665
K-S Test Statistic	0.128	95% Percentile	1816
5% K-S Critical Value	0.151	99% Percentile	1907

Data follow Appx. Gamma Distribution at 5% Significance Level

Assuming Gamma Distribution

90% Percentile	1912
95% Percentile	2135
99% Percentile	2597
95% WH Approx. Gamma UPL	2154
95% HW Approx. Gamma UPL	2197
95% WH Approx. Gamma UTL with 90% Coverage	2163
95% HW Approx. Gamma UTL with 90% Coverage	2206

95% UTL with 90% Coverage	1900
95% Percentile Bootstrap UTL with 90% Coverage	1861
95% BCA Bootstrap UTL with 90% Coverage	1861
95% UPL	1903
95% Chebyshev UPL	2982
Upper Threshold Limit Based upon IQR	2361

General Background Statistics for Full Data Sets

User Selected Options

From File	Transition.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

MAGNESIUM

General Statistics

Total Number of Observations	30	Number of Distinct Observations	29
Tolerance Factor	1.777		

Raw Statistics		Log-Transformed Statistics	
Minimum	2080	Minimum	7.64
Maximum	11600	Maximum	9.359
Second Largest	11400	Second Largest	9.341
First Quartile	5738	First Quartile	8.655
Median	7250	Median	8.889
Third Quartile	9460	Third Quartile	9.155
Mean	7320	Mean	8.835
SD	2421	SD	0.386
Coefficient of Variation	0.331		
Skewness	-0.08		

Background Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.975	Shapiro Wilk Test Statistic	0.925
Shapiro Wilk Critical Value	0.927	Shapiro Wilk Critical Value	0.927
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% UTL with 90% Coverage	11621	95% UTL with 90% Coverage	13631
95% UPL (t)	11501	95% UPL (t)	13372
90% Percentile (z)	10422	90% Percentile (z)	11261
95% Percentile (z)	11302	95% Percentile (z)	12954
99% Percentile (z)	12951	99% Percentile (z)	16848

Gamma Distribution Test		Data Distribution Test	
k star	7.262	Data appear Normal at 5% Significance Level	
Theta Star	1008		
MLE of Mean	7320		
MLE of Standard Deviation	2716		
nu star	435.7		
A-D Test Statistic	0.356	**Nonparametric Statistics**	
5% A-D Critical Value	0.746	90% Percentile	10222
K-S Test Statistic	0.0976	95% Percentile	10957
5% K-S Critical Value	0.16	99% Percentile	11542

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

90% Percentile	10945
95% Percentile	12284
99% Percentile	15068
95% WH Approx. Gamma UPL	12421
95% HW Approx. Gamma UPL	12612
95% WH Approx. Gamma UTL with 90% Coverage	12608
95% HW Approx. Gamma UTL with 90% Coverage	12812

95% UTL with 90% Coverage	11400
95% Percentile Bootstrap UTL with 90% Coverage	11400
95% BCA Bootstrap UTL with 90% Coverage	11400
95% UPL	11490
95% Chebyshev UPL	18046
Upper Threshold Limit Based upon IQR	15044

General Background Statistics for Full Data Sets

User Selected Options	
From File	UpperSand.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

MANGANESE

General Statistics

Total Number of Observations	34	Number of Distinct Observations	33
Tolerance Factor	1.732		

Raw Statistics		Log-Transformed Statistics	
Minimum	24.2	Minimum	3.186
Maximum	265	Maximum	5.58
Second Largest	262	Second Largest	5.568
First Quartile	87.81	First Quartile	4.475
Median	168.5	Median	5.127
Third Quartile	206.5	Third Quartile	5.33
Mean	153.3	Mean	4.907
SD	66.46	SD	0.564
Coefficient of Variation	0.434		
Skewness	-0.186		

Background Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.951	Shapiro Wilk Test Statistic	0.885
Shapiro Wilk Critical Value	0.933	Shapiro Wilk Critical Value	0.933
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% UTL with 90% Coverage	268.4	95% UTL with 90% Coverage	358.9
95% UPL (t)	267.4	95% UPL (t)	356
90% Percentile (z)	238.5	90% Percentile (z)	278.5
95% Percentile (z)	262.6	95% Percentile (z)	341.8
99% Percentile (z)	307.9	99% Percentile (z)	502
Gamma Distribution Test		**Data Distribution Test**	
k star	3.79	Data appear Normal at 5% Significance Level	
Theta Star	40.45		
MLE of Mean	153.3		
MLE of Standard Deviation	78.74		
nu star	257.7		
A-D Test Statistic	0.976	**Nonparametric Statistics**	
5% A-D Critical Value	0.752	90% Percentile	230.4
K-S Test Statistic	0.158	95% Percentile	254.9
5% K-S Critical Value	0.152	99% Percentile	264

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution		95% UTL with 90% Coverage	262
90% Percentile	258.9	95% Percentile Bootstrap UTL with 90% Coverage	258.7
95% Percentile	301.5	95% BCA Bootstrap UTL with 90% Coverage	258.7
99% Percentile	392.7	95% UPL	262.8
		95% Chebyshev UPL	447.2
95% WH Approx. Gamma UPL	306.1	Upper Threshold Limit Based upon IQR	384.5
95% HW Approx. Gamma UPL	315.2		
95% WH Approx. Gamma UTL with 90% Coverage	307.9		
95% HW Approx. Gamma UTL with 90% Coverage	317.2		

General Background Statistics for Full Data Sets

User Selected Options

From File	Transition.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

MANGANESE

General Statistics

Total Number of Observations	30	Number of Distinct Observations	29
Tolerance Factor	1.777		

Raw Statistics		Log-Transformed Statistics	
Minimum	122	Minimum	4.804
Maximum	1210	Maximum	7.098
Second Largest	918	Second Largest	6.822
First Quartile	361	First Quartile	5.889
Median	468	Median	6.148
Third Quartile	665.5	Third Quartile	6.5
Mean	527.5	Mean	6.163
SD	235.9	SD	0.489
Coefficient of Variation	0.447		
Skewness	0.779		

Background Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.958	Shapiro Wilk Test Statistic	0.962
Shapiro Wilk Critical Value	0.927	Shapiro Wilk Critical Value	0.927
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% UTL with 90% Coverage	946.7	95% UTL with 90% Coverage	1133
95% UPL (t)	934.9	95% UPL (t)	1106
90% Percentile (z)	829.8	90% Percentile (z)	889.3
95% Percentile (z)	915.5	95% Percentile (z)	1062
99% Percentile (z)	1076	99% Percentile (z)	1483

Gamma Distribution Test		Data Distribution Test	
k star	4.458	Data appear Normal at 5% Significance Level	
Theta Star	118.3		
MLE of Mean	527.5		
MLE of Standard Deviation	249.8		
nu star	267.5		
A-D Test Statistic	0.219	Nonparametric Statistics	
5% A-D Critical Value	0.747	90% Percentile	802.3
K-S Test Statistic	0.0772	95% Percentile	867.2
5% K-S Critical Value	0.16	99% Percentile	1125

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution		95% UTL with 90% Coverage	918
90% Percentile	862.2	95% Percentile Bootstrap UTL with 90% Coverage	947.2
95% Percentile	994	95% BCA Bootstrap UTL with 90% Coverage	918
99% Percentile	1274	95% UPL	1049
		95% Chebyshev UPL	1573
95% WH Approx. Gamma UPL	1008	Upper Threshold Limit Based upon IQR	1122
95% HW Approx. Gamma UPL	1027		
95% WH Approx. Gamma UTL with 90% Coverage	1027		
95% HW Approx. Gamma UTL with 90% Coverage	1047		

General Background Statistics for Data Sets with Non-Detects

User Selected Options

From File	Surface Soil.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

MERCURY

General Statistics

Number of Valid Data	32	Number of Detected Data	27
Number of Distinct Detected Data	12	Number of Non-Detect Data	5
Tolerance Factor	1.748	Percent Non-Detects	15.63%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.01	Minimum Detected	-4.605
Maximum Detected	0.09	Maximum Detected	-2.408
Mean of Detected	0.0361	Mean of Detected	-3.523
SD of Detected	0.0224	SD of Detected	0.671
Minimum Non-Detect	0.01	Minimum Non-Detect	-4.605
Maximum Non-Detect	0.01	Maximum Non-Detect	-4.605

Background Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.908	Shapiro Wilk Test Statistic	0.931
5% Shapiro Wilk Critical Value	0.923	5% Shapiro Wilk Critical Value	0.923
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0313	Mean (Log Scale)	-3.8
SD	0.0235	SD (Log Scale)	0.898
95% UTL 90% Coverage	0.0724	95% UTL 90% Coverage	0.108
95% UPL (t)	0.0717	95% UPL (t)	0.105
90% Percentile (z)	0.0614	90% Percentile (z)	0.0707
95% Percentile (z)	0.0699	95% Percentile (z)	0.098
99% Percentile (z)	0.086	99% Percentile (z)	0.181
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	0.0297	Mean in Original Scale	0.0315
SD	0.0255	SD in Original Scale	0.0232
95% UTL with 90% Coverage	0.0743	95% UTL with 90% Coverage	0.101
		95% BCA UTL with 90% Coverage	0.07
		95% Bootstrap (%) UTL with 90% Coverage	0.08
95% UPL (t)	0.0736	95% UPL (t)	0.0988
90% Percentile (z)	0.0624	90% Percentile (z)	0.0682
95% Percentile (z)	0.0717	95% Percentile (z)	0.0926
99% Percentile (z)	0.0891	99% Percentile (z)	0.164

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	2.368
Theta Star	0.0152
nu star	127.9
A-D Test Statistic	0.59
5% A-D Critical Value	0.753
K-S Test Statistic	0.189
5% K-S Critical Value	0.17

Data follow Appx. Gamma Distribution at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics with Extrapolated Data

Mean	0.0305
Median	0.02
SD	0.0245
k star	0.384
Theta star	0.0793
Nu star	24.6
95% Percentile of Chisquare (2k)	3.238
90% Percentile	0.0867
95% Percentile	0.128
99% Percentile	0.234

Data Distribution Test with Detected Values Only

Data follow Appr. Gamma Distribution at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method

Mean	0.032
SD	0.0223
SE of Mean	0.00402
95% KM UTL with 90% Coverage	0.0711
95% KM Chebyshev UPL	0.131
95% KM UPL (t)	0.0705
90% Percentile (z)	0.0606
95% Percentile (z)	0.0687
99% Percentile (z)	0.084

Gamma ROS Limits with Extrapolated Data

95% Wilson Hilferty (WH) Approx. Gamma UPL	0.119
95% Hawkins Wixley (HW) Approx. Gamma UPL	0.157
95% WH Approx. Gamma UTL with 90% Coverage	0.121
95% HW Approx. Gamma UTL with 90% Coverage	0.161

Note: DL/2 is not a recommended method.

General Background Statistics for Full Data Sets

User Selected Options

From File	UpperSand.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

NICKEL

General Statistics

Total Number of Observations	34	Number of Distinct Observations	29
Tolerance Factor	1.732		

Raw Statistics		Log-Transformed Statistics	
Minimum	1.3	Minimum	0.262
Maximum	9.6	Maximum	2.262
Second Largest	9.4	Second Largest	2.241
First Quartile	5.45	First Quartile	1.695
Median	6.625	Median	1.891
Third Quartile	7.8	Third Quartile	2.054
Mean	6.46	Mean	1.801
SD	1.947	SD	0.411
Coefficient of Variation	0.301		
Skewness	-0.715		

Background Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.959	Shapiro Wilk Test Statistic	0.811
Shapiro Wilk Critical Value	0.933	Shapiro Wilk Critical Value	0.933
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% UTL with 90% Coverage	9.832	95% UTL with 90% Coverage	12.35
95% UPL (t)	9.804	95% UPL (t)	12.27
90% Percentile (z)	8.956	90% Percentile (z)	10.26
95% Percentile (z)	9.663	95% Percentile (z)	11.91
99% Percentile (z)	10.99	99% Percentile (z)	15.77

Gamma Distribution Test		Data Distribution Test
k star	7.246	Data appear Normal at 5% Significance Level
Theta Star	0.892	
MLE of Mean	6.46	
MLE of Standard Deviation	2.4	
nu star	492.7	
A-D Test Statistic	1.164	**Nonparametric Statistics**
5% A-D Critical Value	0.748	90% Percentile 8.75
K-S Test Statistic	0.149	95% Percentile 9.27
5% K-S Critical Value	0.151	99% Percentile 9.534

Data follow Appx. Gamma Distribution at 5% Significance Level

Assuming Gamma Distribution			
90% Percentile	9.663	95% UTL with 90% Coverage	9.4
95% Percentile	10.85	95% Percentile Bootstrap UTL with 90% Coverage	9.34
99% Percentile	13.31	95% BCA Bootstrap UTL with 90% Coverage	9.34
		95% UPL	9.45
		95% Chebyshev UPL	15.07
95% WH Approx. Gamma UPL	10.94	Upper Threshold Limit Based upon IQR	11.33
95% HW Approx. Gamma UPL	11.2		
95% WH Approx. Gamma UTL with 90% Coverage	10.99		
95% HW Approx. Gamma UTL with 90% Coverage	11.25		

General Background Statistics for Full Data Sets

User Selected Options

From File	Transition.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

NICKEL

General Statistics

Total Number of Observations	30	Number of Distinct Observations	30
Tolerance Factor	1.777		

Raw Statistics		Log-Transformed Statistics	
Minimum	10	Minimum	2.303
Maximum	50.4	Maximum	3.92
Second Largest	50	Second Largest	3.912
First Quartile	24.43	First Quartile	3.196
Median	30.7	Median	3.424
Third Quartile	41.48	Third Quartile	3.725
Mean	32.19	Mean	3.412
SD	10.68	SD	0.369
Coefficient of Variation	0.332		
Skewness	0.106		

Background Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.953	Shapiro Wilk Test Statistic	0.932
Shapiro Wilk Critical Value	0.927	Shapiro Wilk Critical Value	0.927
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% UTL with 90% Coverage	51.18	95% UTL with 90% Coverage	58.44
95% UPL (t)	50.64	95% UPL (t)	57.37
90% Percentile (z)	45.88	90% Percentile (z)	48.66
95% Percentile (z)	49.76	95% Percentile (z)	55.65
99% Percentile (z)	57.04	99% Percentile (z)	71.58

Gamma Distribution Test		Data Distribution Test
k star	7.641	Data appear Normal at 5% Significance Level
Theta Star	4.213	
MLE of Mean	32.19	
MLE of Standard Deviation	11.65	
nu star	458.5	
A-D Test Statistic	0.454	**Nonparametric Statistics**
5% A-D Critical Value	0.746	90% Percentile 47.16
K-S Test Statistic	0.11	95% Percentile 48.94
5% K-S Critical Value	0.16	99% Percentile 50.28

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution		95% UTL with 90% Coverage	50
90% Percentile	47.73	95% Percentile Bootstrap UTL with 90% Coverage	50.04
95% Percentile	53.43	95% BCA Bootstrap UTL with 90% Coverage	50.04
99% Percentile	65.26	95% UPL	50.18
		95% Chebyshev UPL	79.53
95% WH Approx. Gamma UPL	54.01	Upper Threshold Limit Based upon IQR	67.05
95% HW Approx. Gamma UPL	54.69		
95% WH Approx. Gamma UTL with 90% Coverage	54.8		
95% HW Approx. Gamma UTL with 90% Coverage	55.54		

General Background Statistics for Full Data Sets

User Selected Options	
From File	UpperSand.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

POTASSIUM

General Statistics

Total Number of Observations	34	Number of Distinct Observations	33
Tolerance Factor	1.732		

Raw Statistics		Log-Transformed Statistics	
Minimum	194	Minimum	5.268
Maximum	1230	Maximum	7.115
Second Largest	851	Second Largest	6.746
First Quartile	358.3	First Quartile	5.881
Median	516.5	Median	6.247
Third Quartile	702	Third Quartile	6.553
Mean	537.3	Mean	6.189
SD	234.5	SD	0.46
Coefficient of Variation	0.436		
Skewness	0.706		

Background Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.951	Shapiro Wilk Test Statistic	0.966
Shapiro Wilk Critical Value	0.933	Shapiro Wilk Critical Value	0.933
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% UTL with 90% Coverage	943.3	95% UTL with 90% Coverage	1082
95% UPL (t)	939.9	95% UPL (t)	1075
90% Percentile (z)	837.8	90% Percentile (z)	879.6
95% Percentile (z)	923	95% Percentile (z)	1040
99% Percentile (z)	1083	99% Percentile (z)	1423

Gamma Distribution Test		Data Distribution Test	
k star	4.854	Data appear Normal at 5% Significance Level	
Theta Star	110.7		
MLE of Mean	537.3		
MLE of Standard Deviation	243.9		
nu star	330.1		
A-D Test Statistic	0.245	Nonparametric Statistics	
5% A-D Critical Value	0.749	90% Percentile	831.8
K-S Test Statistic	0.0737	95% Percentile	845.8
5% K-S Critical Value	0.151	99% Percentile	1105

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

90% Percentile	863.9
95% Percentile	991
99% Percentile	1260
95% WH Approx. Gamma UPL	1003
95% HW Approx. Gamma UPL	1018
95% WH Approx. Gamma UTL with 90% Coverage	1009
95% HW Approx. Gamma UTL with 90% Coverage	1023

95% UTL with 90% Coverage	851
95% Percentile Bootstrap UTL with 90% Coverage	851
95% BCA Bootstrap UTL with 90% Coverage	851
95% UPL	945.8
95% Chebyshev UPL	1574
Upper Threshold Limit Based upon IQR	1218

General Background Statistics for Full Data Sets

User Selected Options	
From File	Transition.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

POTASSIUM

General Statistics

Total Number of Observations	30	Number of Distinct Observations	29
Tolerance Factor	1.777		

Raw Statistics		Log-Transformed Statistics	
Minimum	1050	Minimum	6.957
Maximum	6370	Maximum	8.759
Second Largest	6110	Second Largest	8.718
First Quartile	2925	First Quartile	7.981
Median	3990	Median	8.292
Third Quartile	5170	Third Quartile	8.55
Mean	3875	Mean	8.175
SD	1491	SD	0.454
Coefficient of Variation	0.385		
Skewness	-0.0476		

Background Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.963	Shapiro Wilk Test Statistic	0.927
Shapiro Wilk Critical Value	0.927	Shapiro Wilk Critical Value	0.927
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% UTL with 90% Coverage	6524	95% UTL with 90% Coverage	7958
95% UPL (t)	6450	95% UPL (t)	7780
90% Percentile (z)	5785	90% Percentile (z)	6354
95% Percentile (z)	6327	95% Percentile (z)	7494
99% Percentile (z)	7343	99% Percentile (z)	10214

Gamma Distribution Test		Data Distribution Test
k star	5.301	Data appear Normal at 5% Significance Level
Theta Star	730.9	
MLE of Mean	3875	
MLE of Standard Deviation	1683	
nu star	318.1	
A-D Test Statistic	0.419	Nonparametric Statistics
5% A-D Critical Value	0.746	90% Percentile 5798
K-S Test Statistic	0.111	95% Percentile 6043
5% K-S Critical Value	0.16	99% Percentile 6295

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution	
90% Percentile	6126
95% Percentile	6992
99% Percentile	8816
95% WH Approx. Gamma UPL	7090
95% HW Approx. Gamma UPL	7226
95% WH Approx. Gamma UTL with 90% Coverage	7212
95% HW Approx. Gamma UTL with 90% Coverage	7359

95% UTL with 90% Coverage	6110
95% Percentile Bootstrap UTL with 90% Coverage	6136
95% BCA Bootstrap UTL with 90% Coverage	6110
95% UPL	6227
95% Chebyshev UPL	10481
Upper Threshold Limit Based upon IQR	8538

General Background Statistics for Data Sets with Non-Detects

User Selected Options	
From File	MISC GROUPS.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

SELENIUM TS

General Statistics

Number of Valid Data	15	Number of Detected Data	6
Number of Distinct Detected Data	6	Number of Non-Detect Data	9
Tolerance Factor	2.068	Percent Non-Detects	60.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.493	Minimum Detected	-0.708
Maximum Detected	1.3	Maximum Detected	0.262
Mean of Detected	0.792	Mean of Detected	-0.292
SD of Detected	0.309	SD of Detected	0.371
Minimum Non-Detect	0.26	Minimum Non-Detect	-1.347
Maximum Non-Detect	0.7	Maximum Non-Detect	-0.357

Data with Multiple Detection Limits	Single Detection Limit Scenario	
Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect with Single DL	12
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected with Single DL	3
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	80.00%

Warning: There are only 6 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set

the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

Background Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.899	Shapiro Wilk Test Statistic	0.936
5% Shapiro Wilk Critical Value	0.788	5% Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.473	Mean (Log Scale)	-0.951
SD	0.331	SD (Log Scale)	0.652
95% UTL 90% Coverage	1.158	95% UTL 90% Coverage	1.49
95% UPL (t)	1.076	95% UPL (t)	1.266
90% Percentile (z)	0.898	90% Percentile (z)	0.892
95% Percentile (z)	1.018	95% Percentile (z)	1.13
99% Percentile (z)	1.244	99% Percentile (z)	1.763

Maximum Likelihood Estimate(MLE) Method	
Mean	1.066
SD	0.209
95% UTL with 90% Coverage	1.499
95% UPL (t)	1.447
90% Percentile (z)	1.334
95% Percentile (z)	1.41
99% Percentile (z)	1.553

Log ROS Method	
Mean in Original Scale	0.514
SD in Original Scale	0.302
95% UTL with 90% Coverage	1.255
95% BCA UTL with 90% Coverage	1.18
95% Bootstrap (%) UTL with 90% Coverage	1.3
95% UPL (t)	1.11
90% Percentile (z)	0.852
95% Percentile (z)	1.019
99% Percentile (z)	1.425

Gamma Distribution Test with Detected Values Only	
k star (bias corrected)	4.413
Theta Star	0.179
nu star	52.95
A-D Test Statistic	0.328
5% A-D Critical Value	0.698
K-S Test Statistic	0.26
5% K-S Critical Value	0.333

Data appear Gamma Distributed at 5% Significance Level

Data Distribution Test with Detected Values Only
Data appear Normal at 5% Significance Level

Assuming Gamma Distribution	
Gamma ROS Statistics with Extrapolated Data	
Mean	0.351
Median	0.115
SD	0.422
k star	0.168
Theta star	2.095
Nu star	5.031
95% Percentile of Chisquare (2k)	1.804
90% Percentile	1.055
95% Percentile	1.889
99% Percentile	4.259

Nonparametric Statistics	
Kaplan-Meier (KM) Method	
Mean	0.617
SD	0.229
SE of Mean	0.0652
95% KM UTL with 90% Coverage	1.091
95% KM Chebyshev UPL	1.65
95% KM UPL (t)	1.034
90% Percentile (z)	0.911
95% Percentile (z)	0.994
99% Percentile (z)	1.151
Gamma ROS Limits with Extrapolated Data	
95% Wilson Hilferty (WH) Approx. Gamma UPL	1.973
95% Hawkins Wixley (HW) Approx. Gamma UPL	2.75
95% WH Approx. Gamma UTL with 90% Coverage	2.518
95% HW Approx. Gamma UTL with 90% Coverage	3.775

Note: DL/2 is not a recommended method.

General Background Statistics for Data Sets with Non-Detects

User Selected Options	
From File	MISC GROUPS.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

SILVER

General Statistics

Number of Valid Data	64	Number of Detected Data	22
Number of Distinct Detected Data	17	Number of Non-Detect Data	42
Tolerance Factor	1.593	Percent Non-Detects	65.63%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.06	Minimum Detected	-2.813
Maximum Detected	1.6	Maximum Detected	0.47
Mean of Detected	0.302	Mean of Detected	-1.529
SD of Detected	0.335	SD of Detected	0.755
Minimum Non-Detect	0.05	Minimum Non-Detect	-2.996
Maximum Non-Detect	0.17	Maximum Non-Detect	-1.772

Data with Multiple Detection Limits	Single Detection Limit Scenario	
Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect with Single DL	52
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected with Single DL	12
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	81.25%

Background Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.617	Shapiro Wilk Test Statistic	0.936
5% Shapiro Wilk Critical Value	0.911	5% Shapiro Wilk Critical Value	0.911
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.134	Mean (Log Scale)	-2.599
SD	0.23	SD (Log Scale)	0.953
95% UTL 90% Coverage	0.5	95% UTL 90% Coverage	0.339
95% UPL (t)	0.521	95% UPL (t)	0.369
90% Percentile (z)	0.429	90% Percentile (z)	0.252
95% Percentile (z)	0.512	95% Percentile (z)	0.356
99% Percentile (z)	0.669	99% Percentile (z)	0.681
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	-0.405	Mean in Original Scale	0.123
SD	0.622	SD in Original Scale	0.234
95% UTL with 90% Coverage	0.586	95% UTL with 90% Coverage	0.38
		95% BCA UTL with 90% Coverage	0.431
		95% Bootstrap (%) UTL with 90% Coverage	0.44

95% UPL (t)	0.642
90% Percentile (z)	0.393
95% Percentile (z)	0.619
99% Percentile (z)	1.043

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	1.458
Theta Star	0.207
nu star	64.17
A-D Test Statistic	1.199
5% A-D Critical Value	0.758
K-S Test Statistic	0.25
5% K-S Critical Value	0.188

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics with Extrapolated Data

Mean	0.104
Median	1.0000E-6
SD	0.242
k star	0.115
Theta star	0.904
Nu star	14.7
95% Percentile of Chisquare (2k)	1.317
90% Percentile	0.29
95% Percentile	0.596
99% Percentile	1.538

95% UPL (t)	0.425
90% Percentile (z)	0.256
95% Percentile (z)	0.406
99% Percentile (z)	0.959

Data Distribution Test with Detected Values Only

Data appear Lognormal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method

Mean	0.145
SD	0.223
SE of Mean	0.0286
95% KM UTL with 90% Coverage	0.501
95% KM Chebyshev UPL	1.127
95% KM UPL (t)	0.521
90% Percentile (z)	0.431
95% Percentile (z)	0.513
99% Percentile (z)	0.665

Gamma ROS Limits with Extrapolated Data

95% Wilson Hilferty (WH) Approx. Gamma UPL	0.406
95% Hawkins Wixley (HW) Approx. Gamma UPL	0.433
95% WH Approx. Gamma UTL with 90% Coverage	0.362
95% HW Approx. Gamma UTL with 90% Coverage	0.374

Note: DL/2 is not a recommended method.

General Background Statistics for Data Sets with Non-Detects

User Selected Options

From File	UpperSand.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

SODIUM

General Statistics

Number of Valid Data	34	Number of Detected Data	22
Number of Distinct Detected Data	21	Number of Non-Detect Data	12
Tolerance Factor	1.732	Percent Non-Detects	35.29%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	26.3	Minimum Detected	3.27
Maximum Detected	69.2	Maximum Detected	4.237
Mean of Detected	40.54	Mean of Detected	3.675
SD of Detected	9.989	SD of Detected	0.236
Minimum Non-Detect	40.4	Minimum Non-Detect	3.699
Maximum Non-Detect	80.1	Maximum Non-Detect	4.383

Data with Multiple Detection Limits

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Single Detection Limit Scenario

Number treated as Non-Detect with Single DL	34
Number treated as Detected with Single DL	0
Single DL Non-Detect Percentage	100.00%

Background Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.93	Shapiro Wilk Test Statistic	0.971
5% Shapiro Wilk Critical Value	0.911	5% Shapiro Wilk Critical Value	0.911
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	36.27	Mean (Log Scale)	3.554
SD	10.36	SD (Log Scale)	0.273
95% UTL 90% Coverage	54.2	95% UTL 90% Coverage	56.09
95% UPL (t)	54.05	95% UPL (t)	55.86
90% Percentile (z)	49.54	90% Percentile (z)	49.6
95% Percentile (z)	53.31	95% Percentile (z)	54.77
99% Percentile (z)	60.36	99% Percentile (z)	65.97
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
		Mean in Original Scale	39.38
		SD in Original Scale	8.185
		Mean in Log Scale	3.654
		SD in Log Scale	0.192
		95% UTL 90% Coverage	53.93

95% UPL (t)	53.78
90% Percentile (z)	49.46
95% Percentile (z)	53.04
99% Percentile (z)	60.47

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	16.06
Theta Star	2.525
nu star	706.6
A-D Test Statistic	0.281
5% A-D Critical Value	0.741
K-S Test Statistic	0.112
5% K-S Critical Value	0.185

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics with Extrapolated Data

Mean	40.54
Median	41.59
SD	8.069
k star	25.35
Theta star	1.599
Nu star	1724
95% Percentile of Chisquare (2k)	68.32
90% Percentile	51.14
95% Percentile	54.63
99% Percentile	61.59

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method

Mean	39.5
SD	9.103
SE of Mean	1.831
95% KM UTL with 90% Coverage	55.26
95% KM Chebyshev UPL	79.76
95% KM UPL (t)	55.13
90% Percentile (z)	51.17
95% Percentile (z)	54.47
99% Percentile (z)	60.68

Gamma ROS Limits with Extrapolated Data

95% Wilson Hilferty (WH) Approx. Gamma UPL	54.87
95% Hawkins Wixley (HW) Approx. Gamma UPL	54.97
95% WH Approx. Gamma UTL with 90% Coverage	55.01
95% HW Approx. Gamma UTL with 90% Coverage	55.11

Note: DL/2 is not a recommended method.

General Background Statistics for Full Data Sets

User Selected Options

From File	UpperSand.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

VANADIUM

General Statistics

Total Number of Observations	34	Number of Distinct Observations	30
Tolerance Factor	1.732		

Raw Statistics		Log-Transformed Statistics	
Minimum	7.5	Minimum	2.015
Maximum	32.6	Maximum	3.484
Second Largest	26.3	Second Largest	3.27
First Quartile	10.2	First Quartile	2.322
Median	11.85	Median	2.472
Third Quartile	13.4	Third Quartile	2.595
Mean	13.15	Mean	2.525
SD	4.988	SD	0.306
Coefficient of Variation	0.379		
Skewness	2.429		

Background Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.759	Shapiro Wilk Test Statistic	0.914
Shapiro Wilk Critical Value	0.933	Shapiro Wilk Critical Value	0.933
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% UTL with 90% Coverage	21.78	95% UTL with 90% Coverage	21.21
95% UPL (t)	21.71	95% UPL (t)	21.12
90% Percentile (z)	19.54	90% Percentile (z)	18.48
95% Percentile (z)	21.35	95% Percentile (z)	20.66
99% Percentile (z)	24.75	99% Percentile (z)	25.45

Gamma Distribution Test		Data Distribution Test	
k star	9.021	Data do not follow a Discernable Distribution (0.05)	
Theta Star	1.457		
MLE of Mean	13.15		
MLE of Standard Deviation	4.377		
nu star	613.4		
A-D Test Statistic	1.353	Nonparametric Statistics	
5% A-D Critical Value	0.748	90% Percentile	17.4
K-S Test Statistic	0.201	95% Percentile	21.82
5% K-S Critical Value	0.151	99% Percentile	30.52

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution			
90% Percentile	18.97	95% UTL with 90% Coverage	26.3
95% Percentile	21.07	95% Percentile Bootstrap UTL with 90% Coverage	24.23
99% Percentile	25.4	95% BCA Bootstrap UTL with 90% Coverage	24.23
		95% UPL	27.88
		95% Chebyshev UPL	35.21
95% WH Approx. Gamma UPL	21.2	Upper Threshold Limit Based upon IQR	18.2
95% HW Approx. Gamma UPL	21.17		
95% WH Approx. Gamma UTL with 90% Coverage	21.28		
95% HW Approx. Gamma UTL with 90% Coverage	21.25		

General Background Statistics for Full Data Sets

User Selected Options

From File	Transition.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

VANADIUM

General Statistics

Total Number of Observations	30	Number of Distinct Observations	30
Tolerance Factor	1.777		

Raw Statistics		Log-Transformed Statistics	
Minimum	19.1	Minimum	2.95
Maximum	68.7	Maximum	4.23
Second Largest	67	Second Largest	4.205
First Quartile	42.34	First Quartile	3.745
Median	52.45	Median	3.96
Third Quartile	59.86	Third Quartile	4.092
Mean	50.14	Mean	3.88
SD	12.08	SD	0.284
Coefficient of Variation	0.241		
Skewness	-0.675		

Background Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.956	Shapiro Wilk Test Statistic	0.884
Shapiro Wilk Critical Value	0.927	Shapiro Wilk Critical Value	0.927
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% UTL with 90% Coverage	71.6	95% UTL with 90% Coverage	80.26
95% UPL (t)	71	95% UPL (t)	79.13
90% Percentile (z)	65.62	90% Percentile (z)	69.72
95% Percentile (z)	70.01	95% Percentile (z)	77.3
99% Percentile (z)	78.24	99% Percentile (z)	93.81

Gamma Distribution Test		Data Distribution Test	
k star	13.21	Data appear Normal at 5% Significance Level	
Theta Star	3.797		
MLE of Mean	50.14		
MLE of Standard Deviation	13.8		
nu star	792.4		
A-D Test Statistic	0.75	Nonparametric Statistics	
5% A-D Critical Value	0.745	90% Percentile	62.91
K-S Test Statistic	0.151	95% Percentile	65.2
5% K-S Critical Value	0.16	99% Percentile	68.21

Data follow Appx. Gamma Distribution at 5% Significance Level

Assuming Gamma Distribution			
90% Percentile	68.44	95% UTL with 90% Coverage	67
95% Percentile	74.78	95% Percentile Bootstrap UTL with 90% Coverage	67.17
99% Percentile	87.68	95% BCA Bootstrap UTL with 90% Coverage	67
		95% UPL	67.77
		95% Chebyshev UPL	103.7
95% WH Approx. Gamma UPL	75.36	Upper Threshold Limit Based upon IQR	86.15
95% HW Approx. Gamma UPL	76.16		
95% WH Approx. Gamma UTL with 90% Coverage	76.24		
95% HW Approx. Gamma UTL with 90% Coverage	77.09		

General Background Statistics for Full Data Sets

User Selected Options	
From File	UpperSand.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

ZINC

General Statistics

Total Number of Observations	34	Number of Distinct Observations	30
Tolerance Factor	1.732		

Raw Statistics		Log-Transformed Statistics	
Minimum	3.5	Minimum	1.253
Maximum	16.1	Maximum	2.779
Second Largest	15.3	Second Largest	2.728
First Quartile	11.74	First Quartile	2.463
Median	12.98	Median	2.563
Third Quartile	14.48	Third Quartile	2.672
Mean	12.79	Mean	2.521
SD	2.443	SD	0.269
Coefficient of Variation	0.191		
Skewness	-1.822		

Background Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.863	Shapiro Wilk Test Statistic	0.671
Shapiro Wilk Critical Value	0.933	Shapiro Wilk Critical Value	0.933
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% UTL with 90% Coverage	17.02	95% UTL with 90% Coverage	19.82
95% UPL (t)	16.98	95% UPL (t)	19.74
90% Percentile (z)	15.92	90% Percentile (z)	17.56
95% Percentile (z)	16.81	95% Percentile (z)	19.36
99% Percentile (z)	18.47	99% Percentile (z)	23.25
Gamma Distribution Test		**Data Distribution Test**	
k star	16.97	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.753		
MLE of Mean	12.79		
MLE of Standard Deviation	3.104		
nu star	1154		
A-D Test Statistic	2.04	**Nonparametric Statistics**	
5% A-D Critical Value	0.746	90% Percentile	15.14
K-S Test Statistic	0.168	95% Percentile	15.3
5% K-S Critical Value	0.151	99% Percentile	15.84

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution			
90% Percentile	16.89	95% UTL with 90% Coverage	15.3
95% Percentile	18.28	95% Percentile Bootstrap UTL with 90% Coverage	15.3
99% Percentile	21.09	95% BCA Bootstrap UTL with 90% Coverage	15.3
		95% UPL	15.5
		95% Chebyshev UPL	23.59
95% WH Approx. Gamma UPL	18.37	Upper Threshold Limit Based upon IQR	18.58
95% HW Approx. Gamma UPL	18.65		
95% WH Approx. Gamma UTL with 90% Coverage	18.42		
95% HW Approx. Gamma UTL with 90% Coverage	18.71		

General Background Statistics for Full Data Sets

User Selected Options

From File	Transition.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

ZINC

General Statistics

Total Number of Observations	30	Number of Distinct Observations	27
Tolerance Factor	1.777		

Raw Statistics		Log-Transformed Statistics	
Minimum	21.7	Minimum	3.077
Maximum	96.6	Maximum	4.571
Second Largest	90.4	Second Largest	4.504
First Quartile	54.35	First Quartile	3.995
Median	63.68	Median	4.153
Third Quartile	80.35	Third Quartile	4.386
Mean	64.78	Mean	4.128
SD	17.47	SD	0.318
Coefficient of Variation	0.27		
Skewness	-0.386		

Background Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.98	Shapiro Wilk Test Statistic	0.903
Shapiro Wilk Critical Value	0.927	Shapiro Wilk Critical Value	0.927
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% UTL with 90% Coverage	95.82	95% UTL with 90% Coverage	109.3
95% UPL (t)	94.95	95% UPL (t)	107.5
90% Percentile (z)	87.17	90% Percentile (z)	93.32
95% Percentile (z)	93.51	95% Percentile (z)	104.8
99% Percentile (z)	105.4	99% Percentile (z)	130.2

Gamma Distribution Test		Data Distribution Test	
k star	10.63	Data appear Normal at 5% Significance Level	
Theta Star	6.096		
MLE of Mean	64.78		
MLE of Standard Deviation	19.87		
nu star	637.6		
A-D Test Statistic	0.458	Nonparametric Statistics	
5% A-D Critical Value	0.745	90% Percentile	83.71
K-S Test Statistic	0.0961	95% Percentile	88.65
5% K-S Critical Value	0.16	99% Percentile	94.8

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

90% Percentile	91.2
95% Percentile	100.6
99% Percentile	119.7
95% WH Approx. Gamma UPL	101.4
95% HW Approx. Gamma UPL	102.7
95% WH Approx. Gamma UTL with 90% Coverage	102.7
95% HW Approx. Gamma UTL with 90% Coverage	104.1

95% UTL with 90% Coverage	90.4
95% Percentile Bootstrap UTL with 90% Coverage	91.02
95% BCA Bootstrap UTL with 90% Coverage	90.4
95% UPL	93.19
95% Chebyshev UPL	142.2
Upper Threshold Limit Based upon IQR	119.4

General Background Statistics for Data Sets with Non-Detects

User Selected Options	
From File	MISC GROUPS.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

44DDD US

General Statistics

Number of Valid Data	17	Number of Detected Data	3
Number of Distinct Detected Data	3	Number of Non-Detect Data	14

Warning: Data set has only 3 Detected Values.

This is not enough to compute meaningful and reliable test statistics and estimates.

No statistics will be produced!

Tolerance Factor	2.002	Percent Non-Detects	82.35%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.93	Minimum Detected	-0.0726
Maximum Detected	1.1	Maximum Detected	0.0953
Mean of Detected	1.01	Mean of Detected	0.00758
SD of Detected	0.0854	SD of Detected	0.0842
Minimum Non-Detect	0.44	Minimum Non-Detect	-0.821
Maximum Non-Detect	0.58	Maximum Non-Detect	-0.545

Data with Multiple Detection Limits	Single Detection Limit Scenario	
Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect with Single DL	14
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected with Single DL	3
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	82.35%

Warning: There are only 3 Distinct Detected Values in this data set

The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.

Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.

However, results obtained using 4 to 9 distinct values may not be reliable.

It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

Background Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.99	Shapiro Wilk Test Statistic	0.994
5% Shapiro Wilk Critical Value	0.767	5% Shapiro Wilk Critical Value	0.767
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.377	Mean (Log Scale)	-1.174

SD	0.304
95% UTL 90% Coverage	0.986
95% UPL (t)	0.924
90% Percentile (z)	0.767
95% Percentile (z)	0.877
99% Percentile (z)	1.085

SD (Log Scale)	0.571
95% UTL 90% Coverage	0.969
95% UPL (t)	0.862
90% Percentile (z)	0.642
95% Percentile (z)	0.79
99% Percentile (z)	1.166

Maximum Likelihood Estimate(MLE) Method	
Mean	0.612
SD	0.419
95% UTL with 90% Coverage	1.452
95% UPL (t)	1.366
90% Percentile (z)	1.15
95% Percentile (z)	1.302
99% Percentile (z)	1.588

Log ROS Method	
Mean in Original Scale	0.704
SD in Original Scale	0.162
95% UTL with 90% Coverage	1.046
95% BCA UTL with 90% Coverage	1.1
95% Bootstrap (%) UTL with 90% Coverage	1.1
95% UPL (t)	1.002
90% Percentile (z)	0.9
95% Percentile (z)	0.971
99% Percentile (z)	1.12

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	N/A
Theta Star	N/A
nu star	N/A
A-D Test Statistic	N/A
5% A-D Critical Value	N/A
K-S Test Statistic	N/A
5% K-S Critical Value	N/A

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics with Extrapolated Data	
Mean	N/A
Median	N/A
SD	N/A
k star	N/A
Theta star	N/A
Nu star	N/A
95% Percentile of Chisquare (2k)	N/A
90% Percentile	N/A
95% Percentile	N/A
99% Percentile	N/A

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	0.944
SD	0.0423
SE of Mean	0.0126
95% KM UTL with 90% Coverage	1.029
95% KM Chebyshev UPL	1.134
95% KM UPL (t)	1.02
90% Percentile (z)	0.998
95% Percentile (z)	1.014
99% Percentile (z)	1.043

Gamma ROS Limits with Extrapolated Data

95% Wilson Hilferty (WH) Approx. Gamma UPL	N/A
95% Hawkins Wixley (HW) Approx. Gamma UPL	N/A
95% WH Approx. Gamma UTL with 90% Coverage	N/A
95% HW Approx. Gamma UTL with 90% Coverage	N/A

Note: DL/2 is not a recommended method.

General Background Statistics for Data Sets with Non-Detects

User Selected Options	
From File	Surface Soil.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

4,4'-DDE

General Statistics

Number of Valid Data	32	Number of Detected Data	19
Number of Distinct Detected Data	15	Number of Non-Detect Data	13
Tolerance Factor	1.748	Percent Non-Detects	40.63%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.355	Minimum Detected	-1.036
Maximum Detected	3.6	Maximum Detected	1.281
Mean of Detected	0.897	Mean of Detected	-0.253
SD of Detected	0.695	SD of Detected	0.479
Minimum Non-Detect	0.4	Minimum Non-Detect	-0.916
Maximum Non-Detect	2	Maximum Non-Detect	0.693

Data with Multiple Detection Limits	Single Detection Limit Scenario	
Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect with Single DL	31
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected with Single DL	1
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	96.88%

Background Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.542	Shapiro Wilk Test Statistic	0.834
5% Shapiro Wilk Critical Value	0.901	5% Shapiro Wilk Critical Value	0.901
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.649	Mean (Log Scale)	-0.708
SD	0.626	SD (Log Scale)	0.717
95% UTL 90% Coverage	1.743	95% UTL 90% Coverage	1.727
95% UPL (t)	1.726	95% UPL (t)	1.694
90% Percentile (z)	1.451	90% Percentile (z)	1.235
95% Percentile (z)	1.678	95% Percentile (z)	1.603
99% Percentile (z)	2.104	99% Percentile (z)	2.614
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
		Mean in Original Scale	0.664
		SD in Original Scale	0.604
		Mean in Log Scale	-0.619
		SD in Log Scale	0.595
		95% UTL 90% Coverage	1.523

95% UPL (t)	1.499
90% Percentile (z)	1.154
95% Percentile (z)	1.432
99% Percentile (z)	2.149

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	3.089
Theta Star	0.29
nu star	117.4
A-D Test Statistic	1.64
5% A-D Critical Value	0.746
K-S Test Statistic	0.226
5% K-S Critical Value	0.2

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics with Extrapolated Data

Mean	0.552
Median	0.57
SD	0.684
k star	0.176
Theta star	3.136
Nu star	11.27
95% Percentile of Chisquare (2k)	1.873
90% Percentile	1.664
95% Percentile	2.937
99% Percentile	6.519

Data Distribution Test with Detected Values Only

Data do not follow a Discernable Distribution (0.05)

Nonparametric Statistics

Kaplan-Meier (KM) Method

Mean	0.684
SD	0.585
SE of Mean	0.107
95% KM UTL with 90% Coverage	1.706
95% KM Chebyshev UPL	3.272
95% KM UPL (t)	1.691
90% Percentile (z)	1.433
95% Percentile (z)	1.646
99% Percentile (z)	2.044

Gamma ROS Limits with Extrapolated Data

95% Wilson Hilferty (WH) Approx. Gamma UPL	2.658
95% Hawkins Wixley (HW) Approx. Gamma UPL	3.673
95% WH Approx. Gamma UTL with 90% Coverage	2.729
95% HW Approx. Gamma UTL with 90% Coverage	3.8

Note: DL/2 is not a recommended method.

General Background Statistics for Data Sets with Non-Detects

User Selected Options	
From File	MISC GROUPS.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

44DDT US

General Statistics

Number of Valid Data	17	Number of Detected Data	7
Number of Distinct Detected Data	6	Number of Non-Detect Data	10
Tolerance Factor	2.002	Percent Non-Detects	58.82%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.8	Minimum Detected	-0.223
Maximum Detected	3.4	Maximum Detected	1.224
Mean of Detected	1.529	Mean of Detected	0.325
SD of Detected	0.86	SD of Detected	0.449
Minimum Non-Detect	0.45	Minimum Non-Detect	-0.799
Maximum Non-Detect	0.56	Maximum Non-Detect	-0.58

Data with Multiple Detection Limits	Single Detection Limit Scenario	
Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect with Single DL	10
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected with Single DL	7
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	58.82%

Warning: There are only 7 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set

the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

Background Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.719	Shapiro Wilk Test Statistic	0.871
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.771	Mean (Log Scale)	-0.705
SD	0.839	SD (Log Scale)	0.931
95% UTL 90% Coverage	2.451	95% UTL 90% Coverage	3.19
95% UPL (t)	2.279	95% UPL (t)	2.634
90% Percentile (z)	1.847	90% Percentile (z)	1.631
95% Percentile (z)	2.151	95% Percentile (z)	2.287
99% Percentile (z)	2.723	99% Percentile (z)	4.315

Maximum Likelihood Estimate(MLE) Method	
Mean	0.243
SD	1.371
95% UTL with 90% Coverage	2.987
95% UPL (t)	2.705
90% Percentile (z)	1.999
95% Percentile (z)	2.497
99% Percentile (z)	3.432

Log ROS Method	
Mean in Original Scale	0.843
SD in Original Scale	0.795
95% UTL with 90% Coverage	2.912
95% BCA UTL with 90% Coverage	2.32
95% Bootstrap (%) UTL with 90% Coverage	3.4
95% UPL (t)	2.484
90% Percentile (z)	1.668
95% Percentile (z)	2.209
99% Percentile (z)	3.743

Gamma Distribution Test with Detected Values Only	
k star (bias corrected)	3.055
Theta Star	0.5
nu star	42.77
A-D Test Statistic	0.679
5% A-D Critical Value	0.71
K-S Test Statistic	0.297
5% K-S Critical Value	0.313

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution	
Gamma ROS Statistics with Extrapolated Data	
Mean	0.629
Median	1.0000E-6
SD	0.937
k star	0.127
Theta star	4.945
Nu star	4.327
95% Percentile of Chisquare (2k)	1.441
90% Percentile	1.81
95% Percentile	3.563
99% Percentile	8.836

Data Distribution Test with Detected Values Only
Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics	
Kaplan-Meier (KM) Method	
Mean	1.1
SD	0.624
SE of Mean	0.163
95% KM UTL with 90% Coverage	2.349
95% KM Chebyshev UPL	3.899
95% KM UPL (t)	2.221
90% Percentile (z)	1.9
95% Percentile (z)	2.126
99% Percentile (z)	2.552
Gamma ROS Limits with Extrapolated Data	
95% Wilson Hilferty (WH) Approx. Gamma UPL	3.413
95% Hawkins Wixley (HW) Approx. Gamma UPL	4.34
95% WH Approx. Gamma UTL with 90% Coverage	4.285
95% HW Approx. Gamma UTL with 90% Coverage	5.846

Note: DL/2 is not a recommended method.

General Background Statistics for Data Sets with Non-Detects

User Selected Options

From File	Surface Soil.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

ANTHRACENE

General Statistics

Number of Valid Data	32	Number of Detected Data	6
Number of Distinct Detected Data	5	Number of Non-Detect Data	26
Tolerance Factor	1.748	Percent Non-Detects	81.25%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	2	Minimum Detected	0.693
Maximum Detected	8	Maximum Detected	2.079
Mean of Detected	4.667	Mean of Detected	1.401
SD of Detected	2.503	SD of Detected	0.6
Minimum Non-Detect	1	Minimum Non-Detect	0
Maximum Non-Detect	2	Maximum Non-Detect	0.693

Data with Multiple Detection Limits	Single Detection Limit Scenario	
Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect with Single DL	26
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected with Single DL	6
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	81.25%

Warning: There are only 6 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set

the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

Background Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.913	Shapiro Wilk Test Statistic	0.884
5% Shapiro Wilk Critical Value	0.788	5% Shapiro Wilk Critical Value	0.788
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1.539	Mean (Log Scale)	0.0588
SD	1.841	SD (Log Scale)	0.759
95% UTL 90% Coverage	4.757	95% UTL 90% Coverage	4.001
95% UPL (t)	4.708	95% UPL (t)	3.921
90% Percentile (z)	3.898	90% Percentile (z)	2.807
95% Percentile (z)	4.566	95% Percentile (z)	3.699
99% Percentile (z)	5.821	99% Percentile (z)	6.206

Maximum Likelihood Estimate(MLE) Method	
Mean	-2.344
SD	4.891
95% UTL with 90% Coverage	6.206
95% UPL (t)	6.076
90% Percentile (z)	3.923
95% Percentile (z)	5.7
99% Percentile (z)	9.033

Log ROS Method	
Mean in Original Scale	1.218
SD in Original Scale	1.99
95% UTL with 90% Coverage	5.704
95% BCA UTL with 90% Coverage	6.8
95% Bootstrap (%) UTL with 90% Coverage	7
95% UPL (t)	5.487
90% Percentile (z)	2.888
95% Percentile (z)	4.905
99% Percentile (z)	13.25

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	1.986
Theta Star	2.35
nu star	23.83
A-D Test Statistic	0.359
5% A-D Critical Value	0.7
K-S Test Statistic	0.229
5% K-S Critical Value	0.334

Data appear Gamma Distributed at 5% Significance Level

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	2.5
SD	1.436
SE of Mean	0.278
95% KM UTL with 90% Coverage	5.011
95% KM Chebyshev UPL	8.857
95% KM UPL (t)	4.973
90% Percentile (z)	4.34
95% Percentile (z)	4.862
99% Percentile (z)	5.841

Assuming Gamma Distribution

Gamma ROS Statistics with Extrapolated Data	
Mean	0.875
Median	1.0000E-6
SD	2.106
k star	0.0909
Theta star	9.625
Nu star	5.818
95% Percentile of Chisquare (2k)	1.059
90% Percentile	2.23
95% Percentile	5.097
99% Percentile	14.57

Gamma ROS Limits with Extrapolated Data

95% Wilson Hilferty (WH) Approx. Gamma UPL	2.949
95% Hawkins Wixley (HW) Approx. Gamma UPL	2.537
95% WH Approx. Gamma UTL with 90% Coverage	3.058
95% HW Approx. Gamma UTL with 90% Coverage	2.659

Note: DL/2 is not a recommended method.

General Background Statistics for Data Sets with Non-Detects

User Selected Options

From File	Surface Soil.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

BENZO(A)ANTHRACENE

General Statistics

Number of Valid Data	32	Number of Detected Data	15
Number of Distinct Detected Data	11	Number of Non-Detect Data	17
Tolerance Factor	1.748	Percent Non-Detects	53.13%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	2	Minimum Detected	0.693
Maximum Detected	24	Maximum Detected	3.178
Mean of Detected	7.817	Mean of Detected	1.648
SD of Detected	7.735	SD of Detected	0.911
Minimum Non-Detect	2	Minimum Non-Detect	0.693
Maximum Non-Detect	3	Maximum Non-Detect	1.099

Data with Multiple Detection Limits	Single Detection Limit Scenario	
Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect with Single DL	22
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected with Single DL	10
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	68.75%

Background Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.752	Shapiro Wilk Test Statistic	0.878
5% Shapiro Wilk Critical Value	0.881	5% Shapiro Wilk Critical Value	0.881
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	4.219	Mean (Log Scale)	0.792
SD	6.23	SD (Log Scale)	1.024
95% UTL 90% Coverage	15.11	95% UTL 90% Coverage	13.22
95% UPL (t)	14.95	95% UPL (t)	12.87
90% Percentile (z)	12.2	90% Percentile (z)	8.198
95% Percentile (z)	14.47	95% Percentile (z)	11.89
99% Percentile (z)	18.71	99% Percentile (z)	23.89
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	-3.689	Mean in Original Scale	3.953
SD	13.02	SD in Original Scale	6.378
95% UTL with 90% Coverage	19.08	95% UTL with 90% Coverage	20.31
		95% BCA UTL with 90% Coverage	22.5
		95% Bootstrap (%) UTL with 90% Coverage	23

95% UPL (t)	18.73
90% Percentile (z)	13
95% Percentile (z)	17.73
99% Percentile (z)	26.61

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	1.137
Theta Star	6.873
nu star	34.12

A-D Test Statistic	0.88
5% A-D Critical Value	0.756
K-S Test Statistic	0.175
5% K-S Critical Value	0.226

Data follow Appx. Gamma Distribution at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics with Extrapolated Data

Mean	3.664
Median	1.0000E-6
SD	6.536
k star	0.114
Theta star	32.12
Nu star	7.3
95% Percentile of Chisquare (2k)	1.31
90% Percentile	10.23
95% Percentile	21.03
99% Percentile	54.45

95% UPL (t)	19.49
90% Percentile (z)	9.858
95% Percentile (z)	17.3
99% Percentile (z)	49.7

Data Distribution Test with Detected Values Only

Data follow Appr. Gamma Distribution at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method

Mean	4.727
SD	5.882
SE of Mean	1.076
95% KM UTL with 90% Coverage	15.01
95% KM Chebyshev UPL	30.76
95% KM UPL (t)	14.85
90% Percentile (z)	12.27
95% Percentile (z)	14.4
99% Percentile (z)	18.41

Gamma ROS Limits with Extrapolated Data

95% Wilson Hilferty (WH) Approx. Gamma UPL	16.9
95% Hawkins Wixley (HW) Approx. Gamma UPL	20.72
95% WH Approx. Gamma UTL with 90% Coverage	17.42
95% HW Approx. Gamma UTL with 90% Coverage	21.57

Note: DL/2 is not a recommended method.

General Background Statistics for Data Sets with Non-Detects

User Selected Options

From File	Surface Soil.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

BENZO(A)PYRENE

General Statistics

Number of Valid Data	32	Number of Detected Data	9
Number of Distinct Detected Data	9	Number of Non-Detect Data	23
Tolerance Factor	1.748	Percent Non-Detects	71.88%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	4	Minimum Detected	1.386
Maximum Detected	30	Maximum Detected	3.401
Mean of Detected	14.22	Mean of Detected	2.444
SD of Detected	9.628	SD of Detected	0.7
Minimum Non-Detect	3	Minimum Non-Detect	1.099
Maximum Non-Detect	5	Maximum Non-Detect	1.609

Data with Multiple Detection Limits	Single Detection Limit Scenario	
Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect with Single DL	24
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected with Single DL	8
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	75.00%

Warning: There are only 9 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

Background Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.876	Shapiro Wilk Test Statistic	0.955
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	5.453	Mean (Log Scale)	1.19
SD	7.417	SD (Log Scale)	0.876
95% UTL 90% Coverage	18.42	95% UTL 90% Coverage	15.2
95% UPL (t)	18.22	95% UPL (t)	14.85
90% Percentile (z)	14.96	90% Percentile (z)	10.1
95% Percentile (z)	17.65	95% Percentile (z)	13.88
99% Percentile (z)	22.71	99% Percentile (z)	25.21

Maximum Likelihood Estimate(MLE) Method	
Mean	-6.984
SD	17.72
95% UTL with 90% Coverage	24
95% UPL (t)	23.53
90% Percentile (z)	15.73
95% Percentile (z)	22.17
99% Percentile (z)	34.24

Log ROS Method	
Mean in Original Scale	4.9
SD in Original Scale	7.731
95% UTL with 90% Coverage	24.39
95% BCA UTL with 90% Coverage	27.2
95% Bootstrap (%) UTL with 90% Coverage	28
95% UPL (t)	23.43
90% Percentile (z)	12.1
95% Percentile (z)	20.88
99% Percentile (z)	58.1

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	1.755
Theta Star	8.105
nu star	31.59
A-D Test Statistic	0.298
5% A-D Critical Value	0.728
K-S Test Statistic	0.178
5% K-S Critical Value	0.282

Data appear Gamma Distributed at 5% Significance Level

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics with Extrapolated Data	
Mean	4
Median	1.0000E-6
SD	8.132
k star	0.0921
Theta star	43.43
Nu star	5.894
95% Percentile of Chisquare (2k)	1.073
90% Percentile	10.26
95% Percentile	23.3
99% Percentile	66.19

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	6.875
SD	6.656
SE of Mean	1.248
95% KM UTL with 90% Coverage	18.51
95% KM Chebyshev UPL	36.34
95% KM UPL (t)	18.33
90% Percentile (z)	15.4
95% Percentile (z)	17.82
99% Percentile (z)	22.36

Gamma ROS Limits with Extrapolated Data

95% Wilson Hilferty (WH) Approx. Gamma UPL	16.2
95% Hawkins Wixley (HW) Approx. Gamma UPL	16.65
95% WH Approx. Gamma UTL with 90% Coverage	16.76
95% HW Approx. Gamma UTL with 90% Coverage	17.41

Note: DL/2 is not a recommended method.

General Background Statistics for Data Sets with Non-Detects

User Selected Options	
From File	Surface Soil.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

BENZO(B)FLUORANTHENE

General Statistics

Number of Valid Data	32	Number of Detected Data	9
Number of Distinct Detected Data	9	Number of Non-Detect Data	23
Tolerance Factor	1.748	Percent Non-Detects	71.88%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	3.25	Minimum Detected	1.179
Maximum Detected	53	Maximum Detected	3.97
Mean of Detected	22.03	Mean of Detected	2.695
SD of Detected	19.22	SD of Detected	1.005
Minimum Non-Detect	2	Minimum Non-Detect	0.693
Maximum Non-Detect	4	Maximum Non-Detect	1.386

Data with Multiple Detection Limits	Single Detection Limit Scenario	
Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect with Single DL	24
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected with Single DL	8
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	75.00%

Warning: There are only 9 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

Background Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.838	Shapiro Wilk Test Statistic	0.932
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	7.203	Mean (Log Scale)	0.989
SD	13.57	SD (Log Scale)	1.209
95% UTL 90% Coverage	30.93	95% UTL 90% Coverage	22.25
95% UPL (t)	30.57	95% UPL (t)	21.55
90% Percentile (z)	24.59	90% Percentile (z)	12.66
95% Percentile (z)	29.52	95% Percentile (z)	19.63
99% Percentile (z)	38.77	99% Percentile (z)	44.74

Maximum Likelihood Estimate(MLE) Method	
Mean	-19.73
SD	34.91
95% UTL with 90% Coverage	41.3
95% UPL (t)	40.37
90% Percentile (z)	25
95% Percentile (z)	37.68
99% Percentile (z)	61.47

Log ROS Method	
Mean in Original Scale	6.732
SD in Original Scale	13.79
95% UTL with 90% Coverage	40.16
95% BCA UTL with 90% Coverage	49.3
95% Bootstrap (%) UTL with 90% Coverage	51
95% UPL (t)	38.01
90% Percentile (z)	15.31
95% Percentile (z)	32.42
99% Percentile (z)	132.5

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	1.008
Theta Star	21.85
nu star	18.15
A-D Test Statistic	0.333
5% A-D Critical Value	0.736
K-S Test Statistic	0.168
5% K-S Critical Value	0.285

Data appear Gamma Distributed at 5% Significance Level

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics with Extrapolated Data	
Mean	6.195
Median	1.0000E-6
SD	14.02
k star	0.09
Theta star	68.87
Nu star	5.757
95% Percentile of Chisquare (2k)	1.048
90% Percentile	15.7
95% Percentile	36.09
99% Percentile	103.7

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	8.531
SD	12.79
SE of Mean	2.398
95% KM UTL with 90% Coverage	30.89
95% KM Chebyshev UPL	65.15
95% KM UPL (t)	30.55
90% Percentile (z)	24.92
95% Percentile (z)	29.57
99% Percentile (z)	38.29

Gamma ROS Limits with Extrapolated Data

95% Wilson Hilferty (WH) Approx. Gamma UPL	23.88
95% Hawkins Wixley (HW) Approx. Gamma UPL	23.84
95% WH Approx. Gamma UTL with 90% Coverage	24.71
95% HW Approx. Gamma UTL with 90% Coverage	24.94

Note: DL/2 is not a recommended method.

General Background Statistics for Data Sets with Non-Detects

User Selected Options

From File	Surface Soil.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

BENZO(G,H,I)PERYLENE

General Statistics

Number of Valid Data	32	Number of Detected Data	13
Number of Distinct Detected Data	10	Number of Non-Detect Data	19
Tolerance Factor	1.748	Percent Non-Detects	59.38%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	2	Minimum Detected	0.693
Maximum Detected	26	Maximum Detected	3.258
Mean of Detected	8.019	Mean of Detected	1.844
SD of Detected	6.265	SD of Detected	0.719
Minimum Non-Detect	2	Minimum Non-Detect	0.693
Maximum Non-Detect	3	Maximum Non-Detect	1.099

Data with Multiple Detection Limits	Single Detection Limit Scenario	
Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect with Single DL	21
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected with Single DL	11
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	65.63%

Background Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.787	Shapiro Wilk Test Statistic	0.962
5% Shapiro Wilk Critical Value	0.866	5% Shapiro Wilk Critical Value	0.866
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	3.945	Mean (Log Scale)	0.825
SD	5.191	SD (Log Scale)	0.978
95% UTL 90% Coverage	13.02	95% UTL 90% Coverage	12.61
95% UPL (t)	12.88	95% UPL (t)	12.29
90% Percentile (z)	10.6	90% Percentile (z)	7.989
95% Percentile (z)	12.48	95% Percentile (z)	11.4
99% Percentile (z)	16.02	99% Percentile (z)	22.19
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	-1.254	Mean in Original Scale	3.817
SD	9.918	SD in Original Scale	5.28
95% UTL with 90% Coverage	16.09	95% UTL with 90% Coverage	17.01
		95% BCA UTL with 90% Coverage	11.8
		95% Bootstrap (%) UTL with 90% Coverage	11.8

95% UPL (t)	15.82
90% Percentile (z)	11.46
95% Percentile (z)	15.06
99% Percentile (z)	21.82

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	1.788
Theta Star	4.484
nu star	46.49
A-D Test Statistic	0.308
5% A-D Critical Value	0.742
K-S Test Statistic	0.133
5% K-S Critical Value	0.239

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics with Extrapolated Data

Mean	3.258
Median	1.0000E-6
SD	5.586
k star	0.107
Theta star	30.55
Nu star	6.826
95% Percentile of Chisquare (2k)	1.232
90% Percentile	8.89
95% Percentile	18.82
99% Percentile	50.1

95% UPL (t)	16.44
90% Percentile (z)	9.306
95% Percentile (z)	14.88
99% Percentile (z)	35.89

Data Distribution Test with Detected Values Only

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method

Mean	4.448
SD	4.842
SE of Mean	0.891
95% KM UTL with 90% Coverage	12.91
95% KM Chebyshev UPL	25.88
95% KM UPL (t)	12.79
90% Percentile (z)	10.65
95% Percentile (z)	12.41
99% Percentile (z)	15.71

Gamma ROS Limits with Extrapolated Data

95% Wilson Hilferty (WH) Approx. Gamma UPL	15.14
95% Hawkins Wixley (HW) Approx. Gamma UPL	18.15
95% WH Approx. Gamma UTL with 90% Coverage	15.63
95% HW Approx. Gamma UTL with 90% Coverage	18.92

Note: DL/2 is not a recommended method.

General Background Statistics for Data Sets with Non-Detects

User Selected Options	
From File	Surface Soil.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

BENZO(K)FLUORANTHENE

General Statistics

Number of Valid Data	32	Number of Detected Data	7
Number of Distinct Detected Data	6	Number of Non-Detect Data	25
Tolerance Factor	1.748	Percent Non-Detects	78.13%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	5	Minimum Detected	1.609
Maximum Detected	14	Maximum Detected	2.639
Mean of Detected	10.57	Mean of Detected	2.293
SD of Detected	3.599	SD of Detected	0.415
Minimum Non-Detect	3	Minimum Non-Detect	1.099
Maximum Non-Detect	5	Maximum Non-Detect	1.609

Data with Multiple Detection Limits	Single Detection Limit Scenario	
Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect with Single DL	25
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected with Single DL	7
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	78.13%

Warning: There are only 7 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set

the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

Background Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.826	Shapiro Wilk Test Statistic	0.783
5% Shapiro Wilk Critical Value	0.803	5% Shapiro Wilk Critical Value	0.803
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	3.75	Mean (Log Scale)	0.969
SD	4.002	SD (Log Scale)	0.747
95% UTL 90% Coverage	10.75	95% UTL 90% Coverage	9.736
95% UPL (t)	10.64	95% UPL (t)	9.544
90% Percentile (z)	8.879	90% Percentile (z)	6.869
95% Percentile (z)	10.33	95% Percentile (z)	9.011
99% Percentile (z)	13.06	99% Percentile (z)	15

Maximum Likelihood Estimate(MLE) Method	
Mean	-1.758
SD	8.933
95% UTL with 90% Coverage	13.86
95% UPL (t)	13.62
90% Percentile (z)	9.69
95% Percentile (z)	12.93
99% Percentile (z)	19.02

Log ROS Method	
Mean in Original Scale	4.339
SD in Original Scale	3.889
95% UTL with 90% Coverage	13.06
95% BCA UTL with 90% Coverage	13
95% Bootstrap (%) UTL with 90% Coverage	13
95% UPL (t)	12.78
90% Percentile (z)	8.902
95% Percentile (z)	11.99
99% Percentile (z)	20.98

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	4.592
Theta Star	2.302
nu star	64.29
A-D Test Statistic	0.79
5% A-D Critical Value	0.709
K-S Test Statistic	0.306
5% K-S Critical Value	0.312

Data follow Appx. Gamma Distribution at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics with Extrapolated Data	
Mean	2.349
Median	1.0000E-6
SD	4.7
k star	0.0916
Theta star	25.64
Nu star	5.863
95% Percentile of Chisquare (2k)	1.067
90% Percentile	6.008
95% Percentile	13.68
99% Percentile	38.96

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	6.219
SD	2.781
SE of Mean	0.531
95% KM UTL with 90% Coverage	11.08
95% KM Chebyshev UPL	18.53
95% KM UPL (t)	11.01
90% Percentile (z)	9.783
95% Percentile (z)	10.79
99% Percentile (z)	12.69

Gamma ROS Limits with Extrapolated Data

95% Wilson Hilferty (WH) Approx. Gamma UPL	9.113
95% Hawkins Wixley (HW) Approx. Gamma UPL	8.892
95% WH Approx. Gamma UTL with 90% Coverage	9.435
95% HW Approx. Gamma UTL with 90% Coverage	9.307

Note: DL/2 is not a recommended method.

General Background Statistics for Data Sets with Non-Detects

User Selected Options	
From File	Surface Soil.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

CHRYSENE

General Statistics

Number of Valid Data	32	Number of Detected Data	19
Number of Distinct Detected Data	12	Number of Non-Detect Data	13
Tolerance Factor	1.748	Percent Non-Detects	40.63%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1.5	Minimum Detected	0.405
Maximum Detected	39	Maximum Detected	3.664
Mean of Detected	9.526	Mean of Detected	1.697
SD of Detected	11.5	SD of Detected	1.032
Minimum Non-Detect	2	Minimum Non-Detect	0.693
Maximum Non-Detect	2	Maximum Non-Detect	0.693

Background Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.698	Shapiro Wilk Test Statistic	0.885
5% Shapiro Wilk Critical Value	0.901	5% Shapiro Wilk Critical Value	0.901
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	6.063	Mean (Log Scale)	1.007
SD	9.739	SD (Log Scale)	1.155
95% UTL 90% Coverage	23.09	95% UTL 90% Coverage	20.64
95% UPL (t)	22.83	95% UPL (t)	20.02
90% Percentile (z)	18.54	90% Percentile (z)	12.04
95% Percentile (z)	22.08	95% Percentile (z)	18.31
99% Percentile (z)	28.72	99% Percentile (z)	40.25
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.524	Mean in Original Scale	5.951
SD	13.99	SD in Original Scale	9.804
95% UTL with 90% Coverage	25.99	95% UTL with 90% Coverage	27.53
		95% BCA UTL with 90% Coverage	34.1
		95% Bootstrap (%) UTL with 90% Coverage	35
95% UPL (t)	25.61	95% UPL (t)	26.49
90% Percentile (z)	19.45	90% Percentile (z)	14.01
95% Percentile (z)	24.54	95% Percentile (z)	23.7
99% Percentile (z)	34.07	99% Percentile (z)	63.53

Gamma Distribution Test with Detected Values Only	
k star (bias corrected)	0.904
Theta Star	10.54
nu star	34.34
A-D Test Statistic	1.325
5% A-D Critical Value	0.768
K-S Test Statistic	0.263
5% K-S Critical Value	0.204

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution	
Gamma ROS Statistics with Extrapolated Data	
Mean	5.656
Median	2
SD	9.967
k star	0.134
Theta star	42.32
Nu star	8.554
95% Percentile of Chisquare (2k)	1.502
90% Percentile	16.44
95% Percentile	31.78
99% Percentile	77.39

Data Distribution Test with Detected Values Only
Data do not follow a Discernable Distribution (0.05)

Nonparametric Statistics	
Kaplan-Meier (KM) Method	
Mean	6.266
SD	9.481
SE of Mean	1.722
95% KM UTL with 90% Coverage	22.84
95% KM Chebyshev UPL	48.23
95% KM UPL (t)	22.59
90% Percentile (z)	18.42
95% Percentile (z)	21.86
99% Percentile (z)	28.32
Gamma ROS Limits with Extrapolated Data	
95% Wilson Hilferty (WH) Approx. Gamma UPL	25.97
95% Hawkins Wixley (HW) Approx. Gamma UPL	33.22
95% WH Approx. Gamma UTL with 90% Coverage	26.72
95% HW Approx. Gamma UTL with 90% Coverage	34.48

Note: DL/2 is not a recommended method.

General Background Statistics for Data Sets with Non-Detects

User Selected Options

From File	Surface Soil.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

DIBENZO(A,H)ANTHRACENE

General Statistics

Number of Valid Data	32	Number of Detected Data	5
Number of Distinct Detected Data	4	Number of Non-Detect Data	27
Tolerance Factor	1.748	Percent Non-Detects	84.38%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	5	Minimum Detected	1.609
Maximum Detected	14	Maximum Detected	2.639
Mean of Detected	8.8	Mean of Detected	2.079
SD of Detected	4.324	SD of Detected	0.484
Minimum Non-Detect	2	Minimum Non-Detect	0.693
Maximum Non-Detect	3	Maximum Non-Detect	1.099

Data with Multiple Detection Limits	Single Detection Limit Scenario	
Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect with Single DL	27
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected with Single DL	5
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	84.38%

Warning: There are only 4 Distinct Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set

the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

Background Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.787	Shapiro Wilk Test Statistic	0.811
5% Shapiro Wilk Critical Value	0.762	5% Shapiro Wilk Critical Value	0.762
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.234	Mean (Log Scale)	0.338
SD	3.265	SD (Log Scale)	0.784
95% UTL 90% Coverage	7.943	95% UTL 90% Coverage	5.523
95% UPL (t)	7.856	95% UPL (t)	5.409
90% Percentile (z)	6.419	90% Percentile (z)	3.83
95% Percentile (z)	7.605	95% Percentile (z)	5.092
99% Percentile (z)	9.83	99% Percentile (z)	8.691

Maximum Likelihood Estimate(MLE) Method	
Mean	-7.44
SD	10.45
95% UTL with 90% Coverage	10.83
95% UPL (t)	10.55
90% Percentile (z)	5.949
95% Percentile (z)	9.745
99% Percentile (z)	16.86

Log ROS Method	
Mean in Original Scale	2.282
SD in Original Scale	3.357
95% UTL with 90% Coverage	10.03
95% BCA UTL with 90% Coverage	12.3
95% Bootstrap (%) UTL with 90% Coverage	12.3
95% UPL (t)	9.686
90% Percentile (z)	5.467
95% Percentile (z)	8.765
99% Percentile (z)	21.24

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	2.295
Theta Star	3.834
nu star	22.95
A-D Test Statistic	0.651
5% A-D Critical Value	0.681
K-S Test Statistic	0.355
5% K-S Critical Value	0.358

Data appear Gamma Distributed at 5% Significance Level

Data Distribution Test with Detected Values Only

Data appear Normal at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics with Extrapolated Data	
Mean	1.375
Median	1.0000E-6
SD	3.599
k star	0.0864
Theta star	15.91
Nu star	5.533
95% Percentile of Chisquare (2k)	1.007
90% Percentile	3.412
95% Percentile	8.012
99% Percentile	23.46

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	5.594
SD	2.059
SE of Mean	0.407
95% KM UTL with 90% Coverage	9.194
95% KM Chebyshev UPL	14.71
95% KM UPL (t)	9.14
90% Percentile (z)	8.233
95% Percentile (z)	8.981
99% Percentile (z)	10.38

Gamma ROS Limits with Extrapolated Data

95% Wilson Hilferty (WH) Approx. Gamma UPL	4.236
95% Hawkins Wixley (HW) Approx. Gamma UPL	3.354
95% WH Approx. Gamma UTL with 90% Coverage	4.395
95% HW Approx. Gamma UTL with 90% Coverage	3.519

Note: DL/2 is not a recommended method.

General Background Statistics for Data Sets with Non-Detects

User Selected Options

From File	MISC GROUPS.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

FLUORANTHENE US

General Statistics

Number of Valid Data	17	Number of Detected Data	15
Number of Distinct Detected Data	11	Number of Non-Detect Data	2
Tolerance Factor	2.002	Percent Non-Detects	11.76%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	2	Minimum Detected	0.693
Maximum Detected	65	Maximum Detected	4.174
Mean of Detected	16.93	Mean of Detected	2.097
SD of Detected	21.92	SD of Detected	1.235
Minimum Non-Detect	2	Minimum Non-Detect	0.693
Maximum Non-Detect	2	Maximum Non-Detect	0.693

Background Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.698	Shapiro Wilk Test Statistic	0.894
5% Shapiro Wilk Critical Value	0.881	5% Shapiro Wilk Critical Value	0.881
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	15.06	Mean (Log Scale)	1.851
SD	21.17	SD (Log Scale)	1.349
95% UTL 90% Coverage	57.45	95% UTL 90% Coverage	94.76
95% UPL (t)	53.1	95% UPL (t)	71.81
90% Percentile (z)	42.19	90% Percentile (z)	35.85
95% Percentile (z)	49.89	95% Percentile (z)	58.53
99% Percentile (z)	64.32	99% Percentile (z)	146.8
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	13.5	Mean in Original Scale	15
SD	22.35	SD in Original Scale	21.22
95% UTL with 90% Coverage	58.25	95% UTL with 90% Coverage	118.5
		95% BCA UTL with 90% Coverage	65
		95% Bootstrap (%) UTL with 90% Coverage	65
95% UPL (t)	53.66	95% UPL (t)	86.92
90% Percentile (z)	42.15	90% Percentile (z)	39.98
95% Percentile (z)	50.27	95% Percentile (z)	69.15
99% Percentile (z)	65.5	99% Percentile (z)	193.3

Gamma Distribution Test with Detected Values Only	
k star (bias corrected)	0.692
Theta Star	24.47
nu star	20.76
A-D Test Statistic	0.935
5% A-D Critical Value	0.772
K-S Test Statistic	0.231
5% K-S Critical Value	0.23
Data not Gamma Distributed at 5% Significance Level	

Assuming Gamma Distribution	
Gamma ROS Statistics with Extrapolated Data	
Mean	14.94
Median	4
SD	21.26
k star	0.271
Theta star	55.19
Nu star	9.205
95% Percentile of Chisquare (2k)	2.558
90% Percentile	44.55
95% Percentile	70.59
99% Percentile	139.2

Data Distribution Test with Detected Values Only
Data appear Lognormal at 5% Significance Level

Nonparametric Statistics	
Kaplan-Meier (KM) Method	
Mean	15.18
SD	20.46
SE of Mean	5.137
95% KM UTL with 90% Coverage	56.14
95% KM Chebyshev UPL	107
95% KM UPL (t)	51.94
90% Percentile (z)	41.4
95% Percentile (z)	48.84
99% Percentile (z)	62.78
Gamma ROS Limits with Extrapolated Data	
95% Wilson Hilferty (WH) Approx. Gamma UPL	64.67
95% Hawkins Wixley (HW) Approx. Gamma UPL	79.82
95% WH Approx. Gamma UTL with 90% Coverage	76.89
95% HW Approx. Gamma UTL with 90% Coverage	98.69

Note: DL/2 is not a recommended method.

General Background Statistics for Data Sets with Non-Detects

User Selected Options

From File	MISC GROUPS.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

FLUORANTHENE TS

General Statistics

Number of Valid Data	15	Number of Detected Data	10
Number of Distinct Detected Data	5	Number of Non-Detect Data	5
Tolerance Factor	2.068	Percent Non-Detects	33.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	3	Minimum Detected	1.099
Maximum Detected	28	Maximum Detected	3.332
Mean of Detected	6.9	Mean of Detected	1.667
SD of Detected	7.505	SD of Detected	0.642
Minimum Non-Detect	2	Minimum Non-Detect	0.693
Maximum Non-Detect	2	Maximum Non-Detect	0.693

Background Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.508	Shapiro Wilk Test Statistic	0.739
5% Shapiro Wilk Critical Value	0.842	5% Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	4.933	Mean (Log Scale)	1.112
SD	6.67	SD (Log Scale)	0.963
95% UTL 90% Coverage	18.73	95% UTL 90% Coverage	22.25
95% UPL (t)	17.07	95% UPL (t)	17.51
90% Percentile (z)	13.48	90% Percentile (z)	10.43
95% Percentile (z)	15.91	95% Percentile (z)	14.8
99% Percentile (z)	20.45	99% Percentile (z)	28.53
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	3.199	Mean in Original Scale	5.025
SD	8.296	SD in Original Scale	6.618
95% UTL with 90% Coverage	20.36	95% UTL with 90% Coverage	21.21
		95% BCA UTL with 90% Coverage	6
		95% Bootstrap (%) UTL with 90% Coverage	28
95% UPL (t)	18.29	95% UPL (t)	16.91
90% Percentile (z)	13.83	90% Percentile (z)	10.38
95% Percentile (z)	16.85	95% Percentile (z)	14.44
99% Percentile (z)	22.5	99% Percentile (z)	26.82

Gamma Distribution Test with Detected Values Only	
k star (bias corrected)	1.497
Theta Star	4.609
nu star	29.94
A-D Test Statistic	1.483
5% A-D Critical Value	0.735
K-S Test Statistic	0.383
5% K-S Critical Value	0.27
Data not Gamma Distributed at 5% Significance Level	

Assuming Gamma Distribution	
Gamma ROS Statistics with Extrapolated Data	
Mean	4.6
Median	4
SD	6.895
k star	0.167
Theta star	27.61
Nu star	4.998
95% Percentile of Chisquare (2k)	1.794
90% Percentile	13.8
95% Percentile	24.77
99% Percentile	55.95

Data Distribution Test with Detected Values Only
Data do not follow a Discernable Distribution (0.05)

Nonparametric Statistics	
Kaplan-Meier (KM) Method	
Mean	5.6
SD	6.097
SE of Mean	1.659
95% KM UTL with 90% Coverage	18.21
95% KM Chebyshev UPL	33.05
95% KM UPL (t)	16.69
90% Percentile (z)	13.41
95% Percentile (z)	15.63
99% Percentile (z)	19.78
Gamma ROS Limits with Extrapolated Data	
95% Wilson Hilferty (WH) Approx. Gamma UPL	24.55
95% Hawkins Wixley (HW) Approx. Gamma UPL	35.09
95% WH Approx. Gamma UTL with 90% Coverage	30.99
95% HW Approx. Gamma UTL with 90% Coverage	47.5

Note: DL/2 is not a recommended method.

General Background Statistics for Data Sets with Non-Detects

User Selected Options

From File	Surface Soil.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

INDENO(1,2,3-CD)PYRENE

General Statistics

Number of Valid Data	32	Number of Detected Data	16
Number of Distinct Detected Data	11	Number of Non-Detect Data	16
Tolerance Factor	1.748	Percent Non-Detects	50.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	2	Minimum Detected	0.693
Maximum Detected	42	Maximum Detected	3.738
Mean of Detected	12.41	Mean of Detected	1.965
SD of Detected	13.72	SD of Detected	1.083
Minimum Non-Detect	2	Minimum Non-Detect	0.693
Maximum Non-Detect	3	Maximum Non-Detect	1.099

Data with Multiple Detection Limits

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Single Detection Limit Scenario

Number treated as Non-Detect with Single DL	20
Number treated as Detected with Single DL	12
Single DL Non-Detect Percentage	62.50%

Background Statistics

Normal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.747
5% Shapiro Wilk Critical Value	0.887

Data not Normal at 5% Significance Level

Lognormal Distribution Test with Detected Values Only

Shapiro Wilk Test Statistic	0.899
5% Shapiro Wilk Critical Value	0.887

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

DL/2 Substitution Method	
Mean	6.742
SD	11.14
95% UTL 90% Coverage	26.22
95% UPL (t)	25.93
90% Percentile (z)	21.02
95% Percentile (z)	25.07
99% Percentile (z)	32.66

Maximum Likelihood Estimate(MLE) Method	
Mean	-4.763
SD	21.27
95% UTL with 90% Coverage	32.43

Assuming Lognormal Distribution

DL/2 Substitution Method	
Mean (Log Scale)	1.015
SD (Log Scale)	1.229
95% UTL 90% Coverage	23.63
95% UPL (t)	22.88
90% Percentile (z)	13.32
95% Percentile (z)	20.81
99% Percentile (z)	48.07

Log ROS Method	
Mean in Original Scale	6.471
SD in Original Scale	11.29
95% UTL with 90% Coverage	37.52
95% BCA UTL with 90% Coverage	38.1
95% Bootstrap (%) UTL with 90% Coverage	38.1

95% UPL (t)	31.86
90% Percentile (z)	22.5
95% Percentile (z)	30.22
99% Percentile (z)	44.72

95% UPL (t)	35.79
90% Percentile (z)	16.33
95% Percentile (z)	31.2
99% Percentile (z)	105.1

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.886
Theta Star	14.01
nu star	28.34
A-D Test Statistic	0.851
5% A-D Critical Value	0.763
K-S Test Statistic	0.201
5% K-S Critical Value	0.221

Data follow Appx. Gamma Distribution at 5% Significance Level

Data Distribution Test with Detected Values Only

Data follow Appr. Gamma Distribution at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	7.205
SD	10.73
SE of Mean	1.96
95% KM UTL with 90% Coverage	25.97
95% KM Chebyshev UPL	54.72
95% KM UPL (t)	25.69
90% Percentile (z)	20.96
95% Percentile (z)	24.86
99% Percentile (z)	32.18

Assuming Gamma Distribution

Gamma ROS Statistics with Extrapolated Data	
Mean	6.203
Median	1
SD	11.43
k star	0.115
Theta star	53.8
Nu star	7.379
95% Percentile of Chisquare (2k)	1.322
90% Percentile	17.37
95% Percentile	35.57
99% Percentile	91.67

Gamma ROS Limits with Extrapolated Data

95% Wilson Hilferty (WH) Approx. Gamma UPL	28.17
95% Hawkins Wixley (HW) Approx. Gamma UPL	34.51
95% WH Approx. Gamma UTL with 90% Coverage	29.04
95% HW Approx. Gamma UTL with 90% Coverage	35.9

Note: DL/2 is not a recommended method.

General Background Statistics for Data Sets with Non-Detects

User Selected Options

From File	MISC GROUPS.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

PHENANTHRENE US

General Statistics

Number of Valid Data	17	Number of Detected Data	12
Number of Distinct Detected Data	9	Number of Non-Detect Data	5
Tolerance Factor	2.002	Percent Non-Detects	29.41%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	2	Minimum Detected	0.693
Maximum Detected	34	Maximum Detected	3.526
Mean of Detected	11.42	Mean of Detected	1.946
SD of Detected	11.9	SD of Detected	1.03
Minimum Non-Detect	2	Minimum Non-Detect	0.693
Maximum Non-Detect	2	Maximum Non-Detect	0.693

Background Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.759	Shapiro Wilk Test Statistic	0.908
5% Shapiro Wilk Critical Value	0.859	5% Shapiro Wilk Critical Value	0.859
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	8.353	Mean (Log Scale)	1.373
SD	11.01	SD (Log Scale)	1.251
95% UTL 90% Coverage	30.4	95% UTL 90% Coverage	48.29
95% UPL (t)	28.13	95% UPL (t)	37.35
90% Percentile (z)	22.46	90% Percentile (z)	19.61
95% Percentile (z)	26.46	95% Percentile (z)	30.9
99% Percentile (z)	33.97	99% Percentile (z)	72.46
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	5.859	Mean in Original Scale	8.24
SD	13.49	SD in Original Scale	11.09
95% UTL with 90% Coverage	32.87	95% UTL with 90% Coverage	67.64
		95% BCA UTL with 90% Coverage	34
		95% Bootstrap (%) UTL with 90% Coverage	34
95% UPL (t)	30.1	95% UPL (t)	49.59
90% Percentile (z)	23.15	90% Percentile (z)	22.78
95% Percentile (z)	28.05	95% Percentile (z)	39.44
99% Percentile (z)	37.25	99% Percentile (z)	110.4

Gamma Distribution Test with Detected Values Only	
k star (bias corrected)	0.925
Theta Star	12.34
nu star	22.21
A-D Test Statistic	0.655
5% A-D Critical Value	0.753
K-S Test Statistic	0.183
5% K-S Critical Value	0.251
Data appear Gamma Distributed at 5% Significance Level	
Assuming Gamma Distribution	
Gamma ROS Statistics with Extrapolated Data	
Mean	8.059
Median	3
SD	11.23
k star	0.171
Theta star	47.26
Nu star	5.798
95% Percentile of Chisquare (2k)	1.827
90% Percentile	24.22
95% Percentile	43.17
99% Percentile	96.8

Data Distribution Test with Detected Values Only	
Data appear Gamma Distributed at 5% Significance Level	
Nonparametric Statistics	
Kaplan-Meier (KM) Method	
Mean	8.647
SD	10.49
SE of Mean	2.657
95% KM UTL with 90% Coverage	29.64
95% KM Chebyshev UPL	55.69
95% KM UPL (t)	27.49
90% Percentile (z)	22.09
95% Percentile (z)	25.9
99% Percentile (z)	33.05
Gamma ROS Limits with Extrapolated Data	
95% Wilson Hilferty (WH) Approx. Gamma UPL	40.8
95% Hawkins Wixley (HW) Approx. Gamma UPL	55.93
95% WH Approx. Gamma UTL with 90% Coverage	49.54
95% HW Approx. Gamma UTL with 90% Coverage	71.8

Note: DL/2 is not a recommended method.

General Background Statistics for Data Sets with Non-Detects

User Selected Options

From File	MISC GROUPS.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

PHENANTHRENE TS

General Statistics

Number of Valid Data	15	Number of Detected Data	6
Number of Distinct Detected Data	4	Number of Non-Detect Data	9
Tolerance Factor	2.068	Percent Non-Detects	60.00%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	2	Minimum Detected	0.693
Maximum Detected	15	Maximum Detected	2.708
Mean of Detected	4.75	Mean of Detected	1.269
SD of Detected	5.037	SD of Detected	0.723
Minimum Non-Detect	2	Minimum Non-Detect	0.693
Maximum Non-Detect	3	Maximum Non-Detect	1.099

Data with Multiple Detection Limits	Single Detection Limit Scenario	
Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect with Single DL	11
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected with Single DL	4
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	73.33%

Warning: There are only 4 Distinct Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

Background Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.57	Shapiro Wilk Test Statistic	0.694
5% Shapiro Wilk Critical Value	0.788	5% Shapiro Wilk Critical Value	0.788
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.533	Mean (Log Scale)	0.535
SD	3.548	SD (Log Scale)	0.763
95% UTL 90% Coverage	9.871	95% UTL 90% Coverage	8.27
95% UPL (t)	8.987	95% UPL (t)	6.839
90% Percentile (z)	7.08	90% Percentile (z)	4.538
95% Percentile (z)	8.369	95% Percentile (z)	5.988
99% Percentile (z)	10.79	99% Percentile (z)	10.07

Maximum Likelihood Estimate(MLE) Method	
Mean	-2.048
SD	7.152
95% UTL with 90% Coverage	12.74
95% UPL (t)	10.96
90% Percentile (z)	7.117
95% Percentile (z)	9.715
99% Percentile (z)	14.59

Log ROS Method	
Mean in Original Scale	2.273
SD in Original Scale	3.676
95% UTL with 90% Coverage	12.59
95% BCA UTL with 90% Coverage	3
95% Bootstrap (%) UTL with 90% Coverage	15
95% UPL (t)	9.426
90% Percentile (z)	5.042
95% Percentile (z)	7.696
99% Percentile (z)	17.01

Gamma Distribution Test with Detected Values Only	
k star (bias corrected)	1.05
Theta Star	4.523
nu star	12.6
A-D Test Statistic	1.2
5% A-D Critical Value	0.705
K-S Test Statistic	0.463
5% K-S Critical Value	0.336
Data not Gamma Distributed at 5% Significance Level	

Data Distribution Test with Detected Values Only
Data do not follow a Discernable Distribution (0.05)

Assuming Gamma Distribution	
Gamma ROS Statistics with Extrapolated Data	
Mean	1.9
Median	1.0000E-6
SD	3.855
k star	0.122
Theta star	15.59
Nu star	3.657
95% Percentile of Chisquare (2k)	1.388
90% Percentile	5.406
95% Percentile	10.82
99% Percentile	27.28

Nonparametric Statistics	
Kaplan-Meier (KM) Method	
Mean	3.103
SD	3.204
SE of Mean	0.906
95% KM UTL with 90% Coverage	9.73
95% KM Chebyshev UPL	17.53
95% KM UPL (t)	8.932
90% Percentile (z)	7.21
95% Percentile (z)	8.374
99% Percentile (z)	10.56
Gamma ROS Limits with Extrapolated Data	
95% Wilson Hilferty (WH) Approx. Gamma UPL	9.943
95% Hawkins Wixley (HW) Approx. Gamma UPL	12.25
95% WH Approx. Gamma UTL with 90% Coverage	13.11
95% HW Approx. Gamma UTL with 90% Coverage	17.59

Note: DL/2 is not a recommended method.

General Background Statistics for Data Sets with Non-Detects

User Selected Options	
From File	MISC GROUPS.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

PYRENE US

General Statistics

Number of Valid Data	17	Number of Detected Data	13
Number of Distinct Detected Data	9	Number of Non-Detect Data	4
Tolerance Factor	2.002	Percent Non-Detects	23.53%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	2	Minimum Detected	0.693
Maximum Detected	64	Maximum Detected	4.159
Mean of Detected	19.92	Mean of Detected	2.289
SD of Detected	23.73	SD of Detected	1.255
Minimum Non-Detect	2	Minimum Non-Detect	0.693
Maximum Non-Detect	3	Maximum Non-Detect	1.099

Data with Multiple Detection Limits	Single Detection Limit Scenario	
Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect with Single DL	5
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected with Single DL	12
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	29.41%

Background Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.724	Shapiro Wilk Test Statistic	0.887
5% Shapiro Wilk Critical Value	0.866	5% Shapiro Wilk Critical Value	0.866
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	15.53	Mean (Log Scale)	1.798
SD	22.12	SD (Log Scale)	1.423
95% UTL 90% Coverage	59.81	95% UTL 90% Coverage	104.2
95% UPL (t)	55.26	95% UPL (t)	77.77
90% Percentile (z)	43.87	90% Percentile (z)	37.38
95% Percentile (z)	51.91	95% Percentile (z)	62.68
99% Percentile (z)	66.98	99% Percentile (z)	165.3
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	10.35	Mean in Original Scale	15.38
SD	27.17	SD in Original Scale	22.22
95% UTL with 90% Coverage	64.74	95% UTL with 90% Coverage	141.4
		95% BCA UTL with 90% Coverage	64
		95% Bootstrap (%) UTL with 90% Coverage	64

95% UPL (t)	59.16
90% Percentile (z)	45.17
95% Percentile (z)	55.04
99% Percentile (z)	73.55

95% UPL (t)	100.5
90% Percentile (z)	42.66
95% Percentile (z)	78.08
99% Percentile (z)	242.6

Gamma Distribution Test with Detected Values Only

k star (bias corrected)	0.697
Theta Star	28.59
nu star	18.12
A-D Test Statistic	0.833
5% A-D Critical Value	0.766
K-S Test Statistic	0.204
5% K-S Critical Value	0.245

Data follow Appx. Gamma Distribution at 5% Significance Level

Assuming Gamma Distribution

Gamma ROS Statistics with Extrapolated Data	
Mean	15.24
Median	4
SD	22.32
k star	0.185
Theta star	82.19
Nu star	6.302
95% Percentile of Chisquare (2k)	1.947
90% Percentile	46.01
95% Percentile	80.03
99% Percentile	174.9

Data Distribution Test with Detected Values Only

Data follow Appr. Gamma Distribution at 5% Significance Level

Nonparametric Statistics

Kaplan-Meier (KM) Method	
Mean	15.71
SD	21.34
SE of Mean	5.387
95% KM UTL with 90% Coverage	58.43
95% KM Chebyshev UPL	111.4
95% KM UPL (t)	54.04
90% Percentile (z)	43.05
95% Percentile (z)	50.81
99% Percentile (z)	65.35

Gamma ROS Limits with Extrapolated Data

95% Wilson Hilferty (WH) Approx. Gamma UPL	73.87
95% Hawkins Wixley (HW) Approx. Gamma UPL	97.38
95% WH Approx. Gamma UTL with 90% Coverage	89.42
95% HW Approx. Gamma UTL with 90% Coverage	124.1

Note: DL/2 is not a recommended method.

General Background Statistics for Data Sets with Non-Detects

User Selected Options	
From File	MISC GROUPS.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

PYRENE TS

General Statistics

Number of Valid Data	15	Number of Detected Data	8
Number of Distinct Detected Data	7	Number of Non-Detect Data	7
Tolerance Factor	2.068	Percent Non-Detects	46.67%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	3	Minimum Detected	1.099
Maximum Detected	26	Maximum Detected	3.258
Mean of Detected	7.094	Mean of Detected	1.682
SD of Detected	7.697	SD of Detected	0.673
Minimum Non-Detect	2	Minimum Non-Detect	0.693
Maximum Non-Detect	3	Maximum Non-Detect	1.099

Data with Multiple Detection Limits	Single Detection Limit Scenario	
Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect with Single DL	7
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected with Single DL	8
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	46.67%

Warning: There are only 8 Detected Values in this data

Note: It should be noted that even though bootstrap may be performed on this data set

the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

Background Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.537	Shapiro Wilk Test Statistic	0.733
5% Shapiro Wilk Critical Value	0.818	5% Shapiro Wilk Critical Value	0.818
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	4.45	Mean (Log Scale)	1.059
SD	6.18	SD (Log Scale)	0.843
95% UTL 90% Coverage	17.23	95% UTL 90% Coverage	16.5
95% UPL (t)	15.69	95% UPL (t)	13.37
90% Percentile (z)	12.37	90% Percentile (z)	8.499
95% Percentile (z)	14.62	95% Percentile (z)	11.55
99% Percentile (z)	18.83	99% Percentile (z)	20.52

Maximum Likelihood Estimate(MLE) Method	
Mean	1.771
SD	8.581
95% UTL with 90% Coverage	19.52
95% UPL (t)	17.38
90% Percentile (z)	12.77
95% Percentile (z)	15.89
99% Percentile (z)	21.73

Log ROS Method	
Mean in Original Scale	4.27
SD in Original Scale	6.283
95% UTL with 90% Coverage	21.61
95% BCA UTL with 90% Coverage	18
95% Bootstrap (%) UTL with 90% Coverage	26
95% UPL (t)	16.58
90% Percentile (z)	9.359
95% Percentile (z)	13.78
99% Percentile (z)	28.46

Gamma Distribution Test with Detected Values Only	
k star (bias corrected)	1.303
Theta Star	5.444
nu star	20.85
A-D Test Statistic	1.318
5% A-D Critical Value	0.724
K-S Test Statistic	0.369
5% K-S Critical Value	0.298
Data not Gamma Distributed at 5% Significance Level	

Data Distribution Test with Detected Values Only
Data do not follow a Discernable Distribution (0.05)

Assuming Gamma Distribution	
Gamma ROS Statistics with Extrapolated Data	
Mean	3.783
Median	3
SD	6.561
k star	0.137
Theta star	27.6
Nu star	4.113
95% Percentile of Chisquare (2k)	1.534
90% Percentile	11.05
95% Percentile	21.17
99% Percentile	51.08

Nonparametric Statistics	
Kaplan-Meier (KM) Method	
Mean	5.183
SD	5.641
SE of Mean	1.557
95% KM UTL with 90% Coverage	16.85
95% KM Chebyshev	30.58
95% KM UPL (t)	15.44
90% Percentile (z)	12.41
95% Percentile (z)	14.46
99% Percentile (z)	18.31
Gamma ROS Limits with Extrapolated Data	
95% Wilson Hilferty (WH) Approx. Gamma UPL	20.86
95% Hawkins Wixley (HW) Approx. Gamma UPL	28.44
95% WH Approx. Gamma UTL with 90% Coverage	26.94
95% HW Approx. Gamma UTL with 90% Coverage	39.74

Note: DL/2 is not a recommended method.

General Background Statistics for Full Data Sets

User Selected Options

From File	WorkSheet.wst
Full Precision	OFF
Confidence Coefficient	95%
Coverage	90%
Different or Future K Values	1
Number of Bootstrap Operations	2000

TOC SURFACE

General Statistics

Total Number of Observations	32	Number of Distinct Observations	25
Tolerance Factor	1.748		

Raw Statistics		Log-Transformed Statistics	
Minimum	1900	Minimum	7.55
Maximum	34000	Maximum	10.43
Second Largest	30000	Second Largest	10.31
First Quartile	10075	First Quartile	9.218
Median	15750	Median	9.663
Third Quartile	21875	Third Quartile	9.993
Mean	16881	Mean	9.595
SD	8104	SD	0.592
Coefficient of Variation	0.48		
Skewness	0.368		

Background Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.959	Shapiro Wilk Test Statistic	0.914
Shapiro Wilk Critical Value	0.93	Shapiro Wilk Critical Value	0.93
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% UTL with 90% Coverage	31051	95% UTL with 90% Coverage	41354
95% UPL (t)	30836	95% UPL (t)	40708
90% Percentile (z)	27268	90% Percentile (z)	31367
95% Percentile (z)	30212	95% Percentile (z)	38895
99% Percentile (z)	35735	99% Percentile (z)	58226

Gamma Distribution Test		Data Distribution Test
k star	3.42	Data appear Normal at 5% Significance Level
Theta Star	4936	
MLE of Mean	16881	
MLE of Standard Deviation	9129	
nu star	218.9	

		Nonparametric Statistics	
A-D Test Statistic	0.28		
5% A-D Critical Value	0.751	90% Percentile	28000
K-S Test Statistic	0.0942	95% Percentile	29450
5% K-S Critical Value	0.156	99% Percentile	32760

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution			
90% Percentile	29122	95% UTL with 90% Coverage	30000
95% Percentile	34142	95% Percentile Bootstrap UTL with 90% Coverage	30000
99% Percentile	44950	95% BCA Bootstrap UTL with 90% Coverage	29700
		95% UPL	31400
		95% Chebyshev UPL	52756
95% WH Approx. Gamma UPL	34661	Upper Threshold Limit Based upon IQR	39575
95% HW Approx. Gamma UPL	35686		
95% WH Approx. Gamma UTL with 90% Coverage	35040		
95% HW Approx. Gamma UTL with 90% Coverage	36109		

TOC SUBSURFACE

General Statistics

Total Number of Observations	32	Number of Distinct Observations	27
Tolerance Factor	1.748		

Raw Statistics		Log-Transformed Statistics	
Minimum	295	Minimum	5.687
Maximum	6700	Maximum	8.81
Second Largest	5400	Second Largest	8.594
First Quartile	530	First Quartile	6.273
Median	950	Median	6.855
Third Quartile	1725	Third Quartile	7.453
Mean	1426	Mean	6.9
SD	1439	SD	0.839
Coefficient of Variation	1.009		
Skewness	2.373		

Background Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.723	Shapiro Wilk Test Statistic	0.956
Shapiro Wilk Critical Value	0.93	Shapiro Wilk Critical Value	0.93
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% UTL with 90% Coverage	3943	95% UTL with 90% Coverage	4301
95% UPL (t)	3905	95% UPL (t)	4206
90% Percentile (z)	3271	90% Percentile (z)	2908
95% Percentile (z)	3794	95% Percentile (z)	3944
99% Percentile (z)	4775	99% Percentile (z)	6984
Gamma Distribution Test		Data Distribution Test	
k star	1.403	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1017		
MLE of Mean	1426		
MLE of Standard Deviation	1204		
nu star	89.78		

A-D Test Statistic	0.737	Nonparametric Statistics	
5% A-D Critical Value	0.764	90% Percentile	2690
K-S Test Statistic	0.122	95% Percentile	4190
5% K-S Critical Value	0.158	99% Percentile	6297

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution		95% UTL with 90% Coverage	5400
90% Percentile	3021	95% Percentile Bootstrap UTL with 90% Coverage	5180
95% Percentile	3800	95% BCA Bootstrap UTL with 90% Coverage	5180
99% Percentile	5567	95% UPL	5855
		95% Chebyshev UPL	7798
95% WH Approx. Gamma UPL	3837	Upper Threshold Limit Based upon IQR	3518
95% HW Approx. Gamma UPL	3887		
95% WH Approx. Gamma UTL with 90% Coverage	3897		
95% HW Approx. Gamma UTL with 90% Coverage	3953		

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Data Sets with Non-Detects								
2			User Selected Options									
3			From File	WorkSheet.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	4,4'-DDD											
12												
13				General Statistics								
14				Number of Valid Data	32			Number of Detected Data	3			
15				Number of Distinct Detected Data	3			Number of Non-Detect Data	29			
16				Warning: Data set has only 3 Detected Values.								
17				This is not enough to compute meaningful and reliable test statistics and estimates.								
18				No statistics will be produced!								
19												
20				Tolerance Factor	1.748			Percent Non-Detects	90.63%			
21				Number of Missing Values	31							
22												
23				Raw Statistics				Log-transformed Statistics				
24				Minimum Detected	0.93			Minimum Detected	-0.0726			
25				Maximum Detected	1.1			Maximum Detected	0.0953			
26				Mean of Detected	1.01			Mean of Detected	0.00758			
27				SD of Detected	0.0854			SD of Detected	0.0842			
28				Minimum Non-Detect	0.44			Minimum Non-Detect	-0.821			
29				Maximum Non-Detect	2.3			Maximum Non-Detect	0.833			
30												
31				Data with Multiple Detection Limits				Single Detection Limit Scenario				
32				Note: Data have multiple DLs - Use of KM Method is recommended				Number treated as Non-Detect with Single DL	32			
33				For all methods (except KM, DL/2, and ROS Methods),				Number treated as Detected with Single DL	0			
34				Observations < Largest ND are treated as NDs				Single DL Non-Detect Percentage	100.00%			
35												
36												
37				Warning: There are only 3 Distinct Detected Values in this data set								
38				The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.								
39				Those methods will return a 'N/A' value on your output display!								
40												
41				It is necessary to have 4 or more Distinct Values for bootstrap methods.								
42				However, results obtained using 4 to 9 distinct values may not be reliable.								
43				It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.								
44												
45				Background Statistics								
46				Normal Distribution Test with Detected Values Only				Lognormal Distribution Test with Detected Values Only				
47				Shapiro Wilk Test Statistic	0.99			Shapiro Wilk Test Statistic	0.994			
48				5% Shapiro Wilk Critical Value	0.767			5% Shapiro Wilk Critical Value	0.767			
49				Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level				
50												
51				Assuming Normal Distribution				Assuming Lognormal Distribution				
52				DL/2 Substitution Method				DL/2 Substitution Method				
53				Mean	0.358			Mean (Log Scale)	-1.177			
54				SD	0.267			SD (Log Scale)	0.48			
55				95% UTL 90% Coverage	0.825			95% UTL 90% Coverage	0.713			

	A	B	C	D	E	F	G	H	I	J	K	L
56					95% UPL (t)	0.818					95% UPL (t)	0.703
57					90% Percentile (z)	0.7					90% Percentile (z)	0.57
58					95% Percentile (z)	0.797					95% Percentile (z)	0.678
59					99% Percentile (z)	0.979					99% Percentile (z)	0.94
60												
61				Maximum Likelihood Estimate(MLE) Method		N/A					Log ROS Method	
62											Mean in Original Scale	0.605
63											SD in Original Scale	0.152
64											Mean in Log Scale	-0.527
65											SD in Log Scale	0.218
66											95% UTL 90% Coverage	0.864
67											95% UPL (t)	0.859
68											90% Percentile (z)	0.78
69											95% Percentile (z)	0.845
70											99% Percentile (z)	0.98
71												
72				Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only		
73					k star (bias corrected)	N/A				Data appear Normal at 5% Significance Level		
74					Theta Star	N/A						
75					nu star	N/A						
76												
77					A-D Test Statistic	N/A				Nonparametric Statistics		
78					5% A-D Critical Value	N/A					Kaplan-Meier (KM) Method	
79					K-S Test Statistic	N/A					Mean	0.938
80					5% K-S Critical Value	N/A					SD	0.0321
81				Data not Gamma Distributed at 5% Significance Level							SE of Mean	0.00706
82											95% KM UTL with 90% Coverage	0.994
83				Assuming Gamma Distribution							95% KM Chebyshev UPL	1.08
84					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	0.993
85					Mean	N/A					90% Percentile (z)	0.979
86					Median	N/A					95% Percentile (z)	0.991
87					SD	N/A					99% Percentile (z)	1.012
88					k star	N/A						
89					Theta star	N/A				Gamma ROS Limits with Extrapolated Data		
90					Nu star	N/A					95% Wilson Hilferty (WH) Approx. Gamma UPL	N/A
91					95% Percentile of Chisquare (2k)	N/A					95% Hawkins Wixley (HW) Approx. Gamma UPL	N/A
92											95% WH Approx. Gamma UTL with 90% Coverage	N/A
93					90% Percentile	N/A					95% HW Approx. Gamma UTL with 90% Coverage	N/A
94					95% Percentile	N/A						
95					99% Percentile	N/A						
96												
97	Note: DL/2 is not a recommended method.											
98												
99												
100	4,4'-DDE											
101												
102					General Statistics							
103					Number of Valid Data	32					Number of Detected Data	19
104					Number of Distinct Detected Data	15					Number of Non-Detect Data	13
105					Tolerance Factor	1.748					Percent Non-Detects	40.63%
106					Number of Missing Values	31						
107												
108				Raw Statistics						Log-transformed Statistics		
109					Minimum Detected	0.355					Minimum Detected	-1.036
110					Maximum Detected	3.6					Maximum Detected	1.281

	A	B	C	D	E	F	G	H	I	J	K	L
111					Mean of Detected	0.897					Mean of Detected	-0.253
112					SD of Detected	0.695					SD of Detected	0.479
113					Minimum Non-Detect	0.4					Minimum Non-Detect	-0.916
114					Maximum Non-Detect	2					Maximum Non-Detect	0.693
115												
116				Data with Multiple Detection Limits						Single Detection Limit Scenario		
117				Note: Data have multiple DLs - Use of KM Method is recommended							Number treated as Non-Detect with Single DL	31
118				For all methods (except KM, DL/2, and ROS Methods),							Number treated as Detected with Single DL	1
119				Observations < Largest ND are treated as NDs							Single DL Non-Detect Percentage	96.88%
120												
121					Background Statistics							
122				Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only		
123					Shapiro Wilk Test Statistic	0.542					Shapiro Wilk Test Statistic	0.834
124					5% Shapiro Wilk Critical Value	0.901					5% Shapiro Wilk Critical Value	0.901
125				Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level		
126												
127				Assuming Normal Distribution						Assuming Lognormal Distribution		
128					DL/2 Substitution Method						DL/2 Substitution Method	
129					Mean	0.649					Mean (Log Scale)	-0.708
130					SD	0.626					SD (Log Scale)	0.717
131					95% UTL 90% Coverage	1.743					95% UTL 90% Coverage	1.727
132					95% UPL (t)	1.726					95% UPL (t)	1.694
133					90% Percentile (z)	1.451					90% Percentile (z)	1.235
134					95% Percentile (z)	1.678					95% Percentile (z)	1.603
135					99% Percentile (z)	2.104					99% Percentile (z)	2.614
136												
137					Maximum Likelihood Estimate(MLE) Method	N/A					Log ROS Method	
138											Mean in Original Scale	0.664
139											SD in Original Scale	0.604
140											Mean in Log Scale	-0.619
141											SD in Log Scale	0.595
142											95% UTL 90% Coverage	1.523
143											95% UPL (t)	1.499
144											90% Percentile (z)	1.154
145											95% Percentile (z)	1.432
146											99% Percentile (z)	2.149
147												
148				Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only		
149					k star (bias corrected)	3.089				Data do not follow a Discernable Distribution (0.05)		
150					Theta Star	0.29						
151					nu star	117.4						
152												
153					A-D Test Statistic	1.64				Nonparametric Statistics		
154					5% A-D Critical Value	0.746					Kaplan-Meier (KM) Method	
155					K-S Test Statistic	0.226					Mean	0.684
156					5% K-S Critical Value	0.2					SD	0.585
157				Data not Gamma Distributed at 5% Significance Level							SE of Mean	0.107
158											95% KM UTL with 90% Coverage	1.706
159				Assuming Gamma Distribution							95% KM Chebyshev UPL	3.272
160					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	1.691
161					Mean	0.552					90% Percentile (z)	1.433
162					Median	0.57					95% Percentile (z)	1.646
163					SD	0.684					99% Percentile (z)	2.044
164					k star	0.176						
165					Theta star	3.136				Gamma ROS Limits with Extrapolated Data		

	A	B	C	D	E	F	G	H	I	J	K	L
166					Nu star	11.27			95% Wilson Hilferty (WH) Approx. Gamma UPL			2.658
167					95% Percentile of Chisquare (2k)	1.873			95% Hawkins Wixley (HW) Approx. Gamma UPL			3.673
168									95% WH Approx. Gamma UTL with		90% Coverage	2.729
169					90% Percentile	1.664			95% HW Approx. Gamma UTL with		90% Coverage	3.8
170					95% Percentile	2.937						
171					99% Percentile	6.519						
172												
173	Note: DL/2 is not a recommended method.											
174												
175												
176	4,4'-DDT											
177												
178					General Statistics							
179					Number of Valid Data	32			Number of Detected Data			8
180					Number of Distinct Detected Data	7			Number of Non-Detect Data			24
181					Tolerance Factor	1.748			Percent Non-Detects			75.00%
182					Number of Missing Values	31						
183												
184					Raw Statistics				Log-transformed Statistics			
185					Minimum Detected	0.8			Minimum Detected			-0.223
186					Maximum Detected	3.4			Maximum Detected			1.224
187					Mean of Detected	1.725			Mean of Detected			0.426
188					SD of Detected	0.971			SD of Detected			0.504
189					Minimum Non-Detect	0.45			Minimum Non-Detect			-0.799
190					Maximum Non-Detect	0.63			Maximum Non-Detect			-0.462
191												
192					Data with Multiple Detection Limits				Single Detection Limit Scenario			
193	Note: Data have multiple DLs - Use of KM Method is recommended								Number treated as Non-Detect with Single DL			24
194	For all methods (except KM, DL/2, and ROS Methods),								Number treated as Detected with Single DL			8
195	Observations < Largest ND are treated as NDs								Single DL Non-Detect Percentage			75.00%
196												
197												
198					Warning: There are only 8 Detected Values in this data							
199					Note: It should be noted that even though bootstrap may be performed on this data set							
200					the resulting calculations may not be reliable enough to draw conclusions							
201												
202					It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.							
203												
204					Background Statistics							
205					Normal Distribution Test with Detected Values Only				Lognormal Distribution Test with Detected Values Only			
206					Shapiro Wilk Test Statistic	0.785			Shapiro Wilk Test Statistic			0.883
207					5% Shapiro Wilk Critical Value	0.818			5% Shapiro Wilk Critical Value			0.818
208					Data not Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level			
209												
210					Assuming Normal Distribution				Assuming Lognormal Distribution			
211					DL/2 Substitution Method				DL/2 Substitution Method			
212					Mean	0.629			Mean (Log Scale)			-0.897
213					SD	0.792			SD (Log Scale)			0.817
214					95% UTL 90% Coverage	2.013			95% UTL 90% Coverage			1.7
215					95% UPL (t)	1.992			95% UPL (t)			1.664
216					90% Percentile (z)	1.643			90% Percentile (z)			1.161
217					95% Percentile (z)	1.931			95% Percentile (z)			1.562
218					99% Percentile (z)	2.47			99% Percentile (z)			2.726
219												
220					Maximum Likelihood Estimate(MLE) Method				Log ROS Method			

	A	B	C	D	E	F	G	H	I	J	K	L
221					Mean	-0.612				Mean in Original Scale		0.611
222					SD	1.839				SD in Original Scale		0.804
223				95% UTL with	90% Coverage	2.604				95% UTL with	90% Coverage	1.911
224										95% BCA UTL with	90% Coverage	2.92
225										95% Bootstrap (%) UTL with	90% Coverage	2.95
226					95% UPL (t)	2.555					95% UPL (t)	1.863
227					90% Percentile (z)	1.746					90% Percentile (z)	1.222
228					95% Percentile (z)	2.414					95% Percentile (z)	1.73
229					99% Percentile (z)	3.667					99% Percentile (z)	3.324
230												
231				Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only		
232					k star (bias corrected)	2.794				Data appear Gamma Distributed at 5% Significance Level		
233					Theta Star	0.617						
234					nu star	44.71						
235												
236					A-D Test Statistic	0.68				Nonparametric Statistics		
237					5% A-D Critical Value	0.719					Kaplan-Meier (KM) Method	
238					K-S Test Statistic	0.28					Mean	1.031
239					5% K-S Critical Value	0.295					SD	0.605
240				Data appear Gamma Distributed at 5% Significance Level							SE of Mean	0.114
241											95% KM UTL with	90% Coverage	2.09
242				Assuming Gamma Distribution							95% KM Chebyshev UPL	3.711
243				Gamma ROS Statistics with Extrapolated Data							95% KM UPL (t)	2.074
244					Mean	0.431					90% Percentile (z)	1.807
245					Median	0.000001					95% Percentile (z)	2.027
246					SD	0.888					99% Percentile (z)	2.44
247					k star	0.1						
248					Theta star	4.3				Gamma ROS Limits with Extrapolated Data		
249					Nu star	6.418				95% Wilson Hilferty (WH) Approx. Gamma UPL		1.693
250					95% Percentile of Chisquare (2k)	1.164				95% Hawkins Wixley (HW) Approx. Gamma UPL		1.671
251										95% WH Approx. Gamma UTL with	90% Coverage	1.752
252					90% Percentile	1.149				95% HW Approx. Gamma UTL with	90% Coverage	1.748
253					95% Percentile	2.503						
254					99% Percentile	6.841						
255												
256	Note: DL/2 is not a recommended method.											
257												
258												
259	ACENAPHTHENE											
260												
261				General Statistics								
262					Number of Valid Data	64				Number of Detected Data		0
263					Number of Distinct Detected Data	0				Number of Non-Detect Data		64
264												
265				Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!								
266				Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!								
267				The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).								
268												
269				The data set for variable ACENAPHTHENE was not processed!								
270												
271												
272												
273	ACENAPHTHYLENE											
274												
275				General Statistics								

	A	B	C	D	E	F	G	H	I	J	K	L
276					Number of Valid Data	64				Number of Detected Data		2
277					Number of Distinct Detected Data	1				Number of Non-Detect Data		62
278												
279	Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!											
280	It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).											
281												
282	The data set for variable ACENAPHTHYLENE was not processed!											
283												
284												
285												
286	ANTHRACENE											
287												
288	General Statistics											
289					Number of Valid Data	64				Number of Detected Data		6
290					Number of Distinct Detected Data	5				Number of Non-Detect Data		58
291					Tolerance Factor	1.593				Percent Non-Detects		90.63%
292												
293	Raw Statistics						Log-transformed Statistics					
294					Minimum Detected	2				Minimum Detected		0.693
295					Maximum Detected	8				Maximum Detected		2.079
296					Mean of Detected	4.667				Mean of Detected		1.401
297					SD of Detected	2.503				SD of Detected		0.6
298					Minimum Non-Detect	1				Minimum Non-Detect		0
299					Maximum Non-Detect	2				Maximum Non-Detect		0.693
300												
301	Data with Multiple Detection Limits						Single Detection Limit Scenario					
302	Note: Data have multiple DLs - Use of KM Method is recommended									Number treated as Non-Detect with Single DL		58
303	For all methods (except KM, DL/2, and ROS Methods),									Number treated as Detected with Single DL		6
304	Observations < Largest ND are treated as NDs									Single DL Non-Detect Percentage		90.63%
305												
306												
307	Warning: There are only 6 Detected Values in this data											
308	Note: It should be noted that even though bootstrap may be performed on this data set											
309	the resulting calculations may not be reliable enough to draw conclusions											
310												
311	It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.											
312												
313	Background Statistics											
314	Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only					
315					Shapiro Wilk Test Statistic	0.913				Shapiro Wilk Test Statistic		0.884
316					5% Shapiro Wilk Critical Value	0.788				5% Shapiro Wilk Critical Value		0.788
317	Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level					
318												
319	Assuming Normal Distribution						Assuming Lognormal Distribution					
320					DL/2 Substitution Method					DL/2 Substitution Method		
321					Mean	1.082				Mean (Log Scale)		-0.231
322					SD	1.379				SD (Log Scale)		0.644
323					95% UTL 90% Coverage	3.279				95% UTL 90% Coverage		2.214
324					95% UPL (t)	3.403				95% UPL (t)		2.346
325					90% Percentile (z)	2.85				90% Percentile (z)		1.812
326					95% Percentile (z)	3.351				95% Percentile (z)		2.29
327					99% Percentile (z)	4.291				99% Percentile (z)		3.552
328												
329					Maximum Likelihood Estimate(MLE) Method					Log ROS Method		
330					Mean	-5.488				Mean in Original Scale		0.683

	A–E	F	G–K	L
331	SD	5.683	SD in Original Scale	1.506
332	95% UTL with 90% Coverage	3.563	95% UTL with 90% Coverage	2.609
333			95% BCA UTL with 90% Coverage	3.4
334			95% Bootstrap (%) UTL with 90% Coverage	3.4
335	95% UPL (t)	4.074	95% UPL (t)	3.05
336	90% Percentile (z)	1.796	90% Percentile (z)	1.518
337	95% Percentile (z)	3.86	95% Percentile (z)	2.857
338	99% Percentile (z)	7.734	99% Percentile (z)	9.356
339				
340	**Gamma Distribution Test with Detected Values Only**		**Data Distribution Test with Detected Values Only**	
341	k star (bias corrected)	1.986	Data appear Normal at 5% Significance Level	
342	Theta Star	2.35		
343	nu star	23.83		
344				
345	A-D Test Statistic	0.359	**Nonparametric Statistics**	
346	5% A-D Critical Value	0.7	Kaplan-Meier (KM) Method	
347	K-S Test Statistic	0.229	Mean	2.25
348	5% K-S Critical Value	0.334	SD	1.046
349	Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.143
350			95% KM UTL with 90% Coverage	3.916
351	**Assuming Gamma Distribution**		95% KM Chebyshev UPL	6.844
352	Gamma ROS Statistics with Extrapolated Data		95% KM UPL (t)	4.009
353	Mean	0.438	90% Percentile (z)	3.59
354	Median	0.000001	95% Percentile (z)	3.97
355	SD	1.542	99% Percentile (z)	4.683
356	k star	0.0799		
357	Theta star	5.476	**Gamma ROS Limits with Extrapolated Data**	
358	Nu star	10.23	95% Wilson Hilferty (WH) Approx. Gamma UPL	0.917
359	95% Percentile of Chisquare (2k)	0.929	95% Hawkins Wixley (HW) Approx. Gamma UPL	0.554
360			95% WH Approx. Gamma UTL with 90% Coverage	0.8
361	90% Percentile	1.037	95% HW Approx. Gamma UTL with 90% Coverage	0.464
362	95% Percentile	2.544		
363	99% Percentile	7.753		
364				
365	Note: DL/2 is not a recommended method.			
366				
367				
368	ANTIMONY			
369				
370	**General Statistics**			
371	Number of Valid Data	64	Number of Detected Data	22
372	Number of Distinct Detected Data	7	Number of Non-Detect Data	42
373	Tolerance Factor	1.593	Percent Non-Detects	65.63%
374				
375	**Raw Statistics**		**Log-transformed Statistics**	
376	Minimum Detected	0.02	Minimum Detected	-3.912
377	Maximum Detected	0.08	Maximum Detected	-2.526
378	Mean of Detected	0.0405	Mean of Detected	-3.26
379	SD of Detected	0.0135	SD of Detected	0.332
380	Minimum Non-Detect	0.01	Minimum Non-Detect	-4.605
381	Maximum Non-Detect	0.08	Maximum Non-Detect	-2.526
382				
383	**Data with Multiple Detection Limits**		**Single Detection Limit Scenario**	
384	Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect with Single DL	63
385	For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected with Single DL	1

	A	B	C	D	E	F	G	H	I	J	K	L
386	Observations < Largest ND are treated as NDs										Single DL Non-Detect Percentage	98.44%
387												
388					Background Statistics							
389				Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only		
390					Shapiro Wilk Test Statistic	0.898					Shapiro Wilk Test Statistic	0.933
391					5% Shapiro Wilk Critical Value	0.911					5% Shapiro Wilk Critical Value	0.911
392				Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
393												
394				Assuming Normal Distribution						Assuming Lognormal Distribution		
395					DL/2 Substitution Method						DL/2 Substitution Method	
396					Mean	0.0239					Mean (Log Scale)	-3.954
397					SD	0.0161					SD (Log Scale)	0.676
398					95% UTL 90% Coverage	0.0495					95% UTL 90% Coverage	0.0563
399					95% UPL (t)	0.051					95% UPL (t)	0.0598
400					90% Percentile (z)	0.0445					90% Percentile (z)	0.0456
401					95% Percentile (z)	0.0504					95% Percentile (z)	0.0583
402					99% Percentile (z)	0.0614					99% Percentile (z)	0.0924
403												
404					Maximum Likelihood Estimate(MLE) Method	N/A					Log ROS Method	
405											Mean in Original Scale	0.0255
406											SD in Original Scale	0.0141
407											Mean in Log Scale	-3.801
408											SD in Log Scale	0.509
409											95% UTL 90% Coverage	0.0503
410											95% UPL (t)	0.0527
411											90% Percentile (z)	0.0429
412											95% Percentile (z)	0.0517
413											99% Percentile (z)	0.0731
414												
415				Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only		
416					k star (bias corrected)	8.476				Data appear Gamma Distributed at 5% Significance Level		
417					Theta Star	0.00477						
418					nu star	372.9						
419												
420					A-D Test Statistic	0.664				Nonparametric Statistics		
421					5% A-D Critical Value	0.744					Kaplan-Meier (KM) Method	
422					K-S Test Statistic	0.149					Mean	0.0279
423					5% K-S Critical Value	0.185					SD	0.0126
424				Data appear Gamma Distributed at 5% Significance Level							SE of Mean	0.00169
425											95% KM UTL with 90% Coverage	0.048
426				Assuming Gamma Distribution							95% KM Chebyshev UPL	0.0834
427					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	0.0491
428					Mean	0.0158					90% Percentile (z)	0.0441
429					Median	0.00113					95% Percentile (z)	0.0487
430					SD	0.0204					99% Percentile (z)	0.0573
431					k star	0.167						
432					Theta star	0.0951				Gamma ROS Limits with Extrapolated Data		
433					Nu star	21.32					95% Wilson Hilferty (WH) Approx. Gamma UPL	0.0724
434					95% Percentile of Chisquare (2k)	1.794					95% Hawkins Wixley (HW) Approx. Gamma UPL	0.0886
435											95% WH Approx. Gamma UTL with 90% Coverage	0.0653
436					90% Percentile	0.0475					95% HW Approx. Gamma UTL with 90% Coverage	0.0777
437					95% Percentile	0.0853						
438					99% Percentile	0.193						
439												
440	Note: DL/2 is not a recommended method.											

	A	B	C	D	E	F	G	H	I	J	K	L
441												
442												
443	BENZO(A)ANTHRACENE											
444												
445					General Statistics							
446					Number of Valid Data	64				Number of Detected Data		16
447					Number of Distinct Detected Data	11				Number of Non-Detect Data		48
448					Tolerance Factor	1.593				Percent Non-Detects		75.00%
449												
450				Raw Statistics						Log-transformed Statistics		
451					Minimum Detected	2				Minimum Detected		0.693
452					Maximum Detected	24				Maximum Detected		3.178
453					Mean of Detected	7.453				Mean of Detected		1.588
454					SD of Detected	7.613				SD of Detected		0.912
455					Minimum Non-Detect	2				Minimum Non-Detect		0.693
456					Maximum Non-Detect	3				Maximum Non-Detect		1.099
457												
458				Data with Multiple Detection Limits						Single Detection Limit Scenario		
459				Note: Data have multiple DLs - Use of KM Method is recommended						Number treated as Non-Detect with Single DL		54
460				For all methods (except KM, DL/2, and ROS Methods),						Number treated as Detected with Single DL		10
461				Observations < Largest ND are treated as NDs						Single DL Non-Detect Percentage		84.38%
462												
463					Background Statistics							
464				Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only		
465					Shapiro Wilk Test Statistic	0.733				Shapiro Wilk Test Statistic		0.86
466					5% Shapiro Wilk Critical Value	0.887				5% Shapiro Wilk Critical Value		0.887
467				Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level		
468												
469				Assuming Normal Distribution						Assuming Lognormal Distribution		
470					DL/2 Substitution Method					DL/2 Substitution Method		
471					Mean	2.625				Mean (Log Scale)		0.407
472					SD	4.658				SD (Log Scale)		0.821
473					95% UTL 90% Coverage	10.04				95% UTL 90% Coverage		5.552
474					95% UPL (t)	10.46				95% UPL (t)		5.976
475					90% Percentile (z)	8.594				90% Percentile (z)		4.301
476					95% Percentile (z)	10.29				95% Percentile (z)		5.795
477					99% Percentile (z)	13.46				99% Percentile (z)		10.14
478												
479					Maximum Likelihood Estimate(MLE) Method					Log ROS Method		
480					Mean	-12.76				Mean in Original Scale		2.116
481					SD	15.47				SD in Original Scale		4.851
482					95% UTL with 90% Coverage	11.88				95% UTL with 90% Coverage		8.699
483										95% BCA UTL with 90% Coverage		9.9
484										95% Bootstrap (%) UTL with 90% Coverage		12
485					95% UPL (t)	13.27				95% UPL (t)		10.36
486					90% Percentile (z)	7.069				90% Percentile (z)		4.745
487					95% Percentile (z)	12.69				95% Percentile (z)		9.632
488					99% Percentile (z)	23.24				99% Percentile (z)		36.35
489												
490				Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only		
491					k star (bias corrected)	1.123				Data follow Appr. Gamma Distribution at 5% Significance Level		
492					Theta Star	6.639						
493					nu star	35.93						
494												
495					A-D Test Statistic	1.067				Nonparametric Statistics		

	A	B	C	D	E	F	G	H	I	J	K	L
496					5% A-D Critical Value	0.758					Kaplan-Meier (KM) Method	
497					K-S Test Statistic	0.177					Mean	3.363
498					5% K-S Critical Value	0.22					SD	4.377
499			Data follow Appx. Gamma Distribution at 5% Significance Level								SE of Mean	0.565
500										95% KM UTL with	90% Coverage	10.33
501			Assuming Gamma Distribution								95% KM Chebyshev UPL	22.59
502				Gamma ROS Statistics with Extrapolated Data							95% KM UPL (t)	10.73
503					Mean	1.863					90% Percentile (z)	8.973
504					Median	0.000001					95% Percentile (z)	10.56
505					SD	4.937					99% Percentile (z)	13.55
506					k star	0.0856						
507					Theta star	21.76			Gamma ROS Limits with Extrapolated Data			
508					Nu star	10.96					95% Wilson Hilferty (WH) Approx. Gamma UPL	6.168
509					95% Percentile of Chisquare (2k)	0.998					95% Hawkins Wixley (HW) Approx. Gamma UPL	5.668
510											95% WH Approx. Gamma UTL with 90% Coverage	5.453
511					90% Percentile	4.6					95% HW Approx. Gamma UTL with 90% Coverage	4.826
512					95% Percentile	10.86						
513					99% Percentile	31.94						
514												
515	Note: DL/2 is not a recommended method.											
516												
517												
518	BENZO(A)PYRENE											
519												
520					General Statistics							
521					Number of Valid Data	64					Number of Detected Data	9
522					Number of Distinct Detected Data	9					Number of Non-Detect Data	55
523					Tolerance Factor	1.593					Percent Non-Detects	85.94%
524												
525				Raw Statistics						Log-transformed Statistics		
526					Minimum Detected	4					Minimum Detected	1.386
527					Maximum Detected	30					Maximum Detected	3.401
528					Mean of Detected	14.22					Mean of Detected	2.444
529					SD of Detected	9.628					SD of Detected	0.7
530					Minimum Non-Detect	3					Minimum Non-Detect	1.099
531					Maximum Non-Detect	5					Maximum Non-Detect	1.609
532												
533				Data with Multiple Detection Limits						Single Detection Limit Scenario		
534				Note: Data have multiple DLs - Use of KM Method is recommended							Number treated as Non-Detect with Single DL	56
535				For all methods (except KM, DL/2, and ROS Methods),							Number treated as Detected with Single DL	8
536				Observations < Largest ND are treated as NDs							Single DL Non-Detect Percentage	87.50%
537												
538												
539					Warning: There are only 9 Detected Values in this data							
540					Note: It should be noted that even though bootstrap may be performed on this data set							
541					the resulting calculations may not be reliable enough to draw conclusions							
542												
543					It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.							
544												
545					Background Statistics							
546				Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only		
547					Shapiro Wilk Test Statistic	0.876					Shapiro Wilk Test Statistic	0.955
548					5% Shapiro Wilk Critical Value	0.829					5% Shapiro Wilk Critical Value	0.829
549					Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level	
550												

	A	B	C	D	E	F	G	H	I	J	K	L
551	**Assuming Normal Distribution**						**Assuming Lognormal Distribution**					
552					DL/2 Substitution Method						DL/2 Substitution Method	
553					Mean	3.641					Mean (Log Scale)	0.892
554					SD	5.517					SD (Log Scale)	0.691
555				95% UTL	90% Coverage	12.43				95% UTL	90% Coverage	7.332
556					95% UPL (t)	12.92					95% UPL (t)	7.801
557					90% Percentile (z)	10.71					90% Percentile (z)	5.915
558					95% Percentile (z)	12.71					95% Percentile (z)	7.601
559					99% Percentile (z)	16.47					99% Percentile (z)	12.17
560												
561			Maximum Likelihood Estimate(MLE) Method								Log ROS Method	
562					Mean	-19.17					Mean in Original Scale	2.68
563					SD	21.02					SD in Original Scale	5.887
564				95% UTL with	90% Coverage	14.32				95% UTL with	90% Coverage	10.5
565										95% BCA UTL with	90% Coverage	12.8
566									95% Bootstrap (%) UTL with		90% Coverage	14
567					95% UPL (t)	16.2					95% UPL (t)	12.35
568					90% Percentile (z)	7.777					90% Percentile (z)	5.983
569					95% Percentile (z)	15.42					95% Percentile (z)	11.54
570					99% Percentile (z)	29.74					99% Percentile (z)	39.57
571												
572	**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**					
573					k star (bias corrected)	1.755	Data appear Normal at 5% Significance Level					
574					Theta Star	8.105						
575					nu star	31.59						
576												
577					A-D Test Statistic	0.298	**Nonparametric Statistics**					
578					5% A-D Critical Value	0.728					Kaplan-Meier (KM) Method	
579					K-S Test Statistic	0.178					Mean	5.438
580					5% K-S Critical Value	0.282					SD	4.921
581	Data appear Gamma Distributed at 5% Significance Level										SE of Mean	0.652
582										95% KM UTL with	90% Coverage	13.27
583	**Assuming Gamma Distribution**										95% KM Chebyshev UPL	27.05
584			Gamma ROS Statistics with Extrapolated Data								95% KM UPL (t)	13.72
585					Mean	2					90% Percentile (z)	11.74
586					Median	0.000001					95% Percentile (z)	13.53
587					SD	6.05					99% Percentile (z)	16.89
588					k star	0.0765						
589					Theta star	26.14	**Gamma ROS Limits with Extrapolated Data**					
590					Nu star	9.792				95% Wilson Hilferty (WH) Approx. Gamma UPL		5.176
591					95% Percentile of Chisquare (2k)	0.887				95% Hawkins Wixley (HW) Approx. Gamma UPL		3.728
592										95% WH Approx. Gamma UTL with	90% Coverage	4.536
593					90% Percentile	4.605				95% HW Approx. Gamma UTL with	90% Coverage	3.137
594					95% Percentile	11.6						
595					99% Percentile	36.17						
596												
597	Note: DL/2 is not a recommended method.											
598												
599												
600	BENZO(B)FLUORANTHENE											
601												
602	**General Statistics**											
603					Number of Valid Data	64					Number of Detected Data	9
604					Number of Distinct Detected Data	9					Number of Non-Detect Data	55
605					Tolerance Factor	1.593					Percent Non-Detects	85.94%

	A	B	C	D	E	F	G	H	I	J	K	L
606												
607	**Raw Statistics**						**Log-transformed Statistics**					
608					Minimum Detected	3.25					Minimum Detected	1.179
609					Maximum Detected	53					Maximum Detected	3.97
610					Mean of Detected	22.03					Mean of Detected	2.695
611					SD of Detected	19.22					SD of Detected	1.005
612					Minimum Non-Detect	2					Minimum Non-Detect	0.693
613					Maximum Non-Detect	4					Maximum Non-Detect	1.386
614												
615	**Data with Multiple Detection Limits**						**Single Detection Limit Scenario**					
616	Note: Data have multiple DLs - Use of KM Method is recommended										Number treated as Non-Detect with Single DL	56
617	For all methods (except KM, DL/2, and ROS Methods),										Number treated as Detected with Single DL	8
618	Observations < Largest ND are treated as NDs										Single DL Non-Detect Percentage	87.50%
619												
620												
621	**Warning: There are only 9 Detected Values in this data**											
622	**Note: It should be noted that even though bootstrap may be performed on this data set**											
623	**the resulting calculations may not be reliable enough to draw conclusions**											
624												
625	**It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.**											
626												
627	**Background Statistics**											
628	**Normal Distribution Test with Detected Values Only**						**Lognormal Distribution Test with Detected Values Only**					
629					Shapiro Wilk Test Statistic	0.838					Shapiro Wilk Test Statistic	0.932
630					5% Shapiro Wilk Critical Value	0.829					5% Shapiro Wilk Critical Value	0.829
631	Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level					
632												
633	**Assuming Normal Distribution**						**Assuming Lognormal Distribution**					
634					DL/2 Substitution Method						DL/2 Substitution Method	
635					Mean	4.258					Mean (Log Scale)	0.621
636					SD	9.972					SD (Log Scale)	0.936
637					95% UTL 90% Coverage	20.14					95% UTL 90% Coverage	8.263
638					95% UPL (t)	21.03					95% UPL (t)	8.987
639					90% Percentile (z)	17.04					90% Percentile (z)	6.176
640					95% Percentile (z)	20.66					95% Percentile (z)	8.677
641					99% Percentile (z)	27.46					99% Percentile (z)	16.42
642												
643					Maximum Likelihood Estimate(MLE) Method						Log ROS Method	
644					Mean	-43.5					Mean in Original Scale	3.493
645					SD	41.26					SD in Original Scale	10.22
646					95% UTL with 90% Coverage	22.21					95% UTL with 90% Coverage	12.85
647											95% BCA UTL with 90% Coverage	17
648											95% Bootstrap (%) UTL with 90% Coverage	17
649					95% UPL (t)	25.92					95% UPL (t)	16.11
650					90% Percentile (z)	9.38					90% Percentile (z)	5.868
651					95% Percentile (z)	24.37					95% Percentile (z)	14.66
652					99% Percentile (z)	52.49					99% Percentile (z)	81.61
653												
654	**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**					
655					k star (bias corrected)	1.008	Data appear Normal at 5% Significance Level					
656					Theta Star	21.85						
657					nu star	18.15						
658												
659					A-D Test Statistic	0.333	**Nonparametric Statistics**					
660					5% A-D Critical Value	0.736					Kaplan-Meier (KM) Method	

	A	B	C	D	E	F	G	H	I	J	K	L
661					K-S Test Statistic	0.168					Mean	5.891
662					5% K-S Critical Value	0.285					SD	9.422
663	Data appear Gamma Distributed at 5% Significance Level										SE of Mean	1.249
664										95% KM UTL with	90% Coverage	20.9
665			Assuming Gamma Distribution								95% KM Chebyshev UPL	47.28
666				Gamma ROS Statistics with Extrapolated Data							95% KM UPL (t)	21.74
667					Mean	3.098					90% Percentile (z)	17.97
668					Median	0.000001					95% Percentile (z)	21.39
669					SD	10.32					99% Percentile (z)	27.81
670					k star	0.0746						
671					Theta star	41.53			Gamma ROS Limits with Extrapolated Data			
672					Nu star	9.548				95% Wilson Hilferty (WH) Approx. Gamma UPL		7.59
673					95% Percentile of Chisquare (2k)	0.864				95% Hawkins Wixley (HW) Approx. Gamma UPL		5.305
674										95% WH Approx. Gamma UTL with	90% Coverage	6.646
675					90% Percentile	7.009				95% HW Approx. Gamma UTL with	90% Coverage	4.46
676					95% Percentile	17.93						
677					99% Percentile	56.69						
678												
679	Note: DL/2 is not a recommended method.											
680												
681												
682	BENZO(G,H,I)PERYLENE											
683												
684					General Statistics							
685					Number of Valid Data	64					Number of Detected Data	13
686					Number of Distinct Detected Data	10					Number of Non-Detect Data	51
687					Tolerance Factor	1.593					Percent Non-Detects	79.69%
688												
689			Raw Statistics							Log-transformed Statistics		
690					Minimum Detected	2					Minimum Detected	0.693
691					Maximum Detected	26					Maximum Detected	3.258
692					Mean of Detected	8.019					Mean of Detected	1.844
693					SD of Detected	6.265					SD of Detected	0.719
694					Minimum Non-Detect	2					Minimum Non-Detect	0.693
695					Maximum Non-Detect	3					Maximum Non-Detect	1.099
696												
697			Data with Multiple Detection Limits							Single Detection Limit Scenario		
698	Note: Data have multiple DLs - Use of KM Method is recommended										Number treated as Non-Detect with Single DL	53
699	For all methods (except KM, DL/2, and ROS Methods),										Number treated as Detected with Single DL	11
700	Observations < Largest ND are treated as NDs										Single DL Non-Detect Percentage	82.81%
701												
702					Background Statistics							
703			Normal Distribution Test with Detected Values Only							Lognormal Distribution Test with Detected Values Only		
704					Shapiro Wilk Test Statistic	0.787					Shapiro Wilk Test Statistic	0.962
705					5% Shapiro Wilk Critical Value	0.866					5% Shapiro Wilk Critical Value	0.866
706			Data not Normal at 5% Significance Level							Data appear Lognormal at 5% Significance Level		
707												
708			Assuming Normal Distribution							Assuming Lognormal Distribution		
709					DL/2 Substitution Method						DL/2 Substitution Method	
710					Mean	2.473					Mean (Log Scale)	0.413
711					SD	3.932					SD (Log Scale)	0.802
712					95% UTL	90% Coverage 8.735					95% UTL	90% Coverage 5.419
713					95% UPL (t)	9.089					95% UPL (t)	5.824
714					90% Percentile (z)	7.512					90% Percentile (z)	4.223
715					95% Percentile (z)	8.941					95% Percentile (z)	5.651

	A–E	F	G–K	L
716	99% Percentile (z)	11.62	99% Percentile (z)	9.761
717				
718	Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
719	Mean	-8.372	Mean in Original Scale	2.113
720	SD	11.9	SD in Original Scale	4.096
721	95% UTL with 90% Coverage	10.59	95% UTL with 90% Coverage	8.343
722			95% BCA UTL with 90% Coverage	9.4
723			95% Bootstrap (%) UTL with 90% Coverage	9.4
724	95% UPL (t)	11.66	95% UPL (t)	9.659
725	90% Percentile (z)	6.884	90% Percentile (z)	5.025
726	95% Percentile (z)	11.21	95% Percentile (z)	9.085
727	99% Percentile (z)	19.32	99% Percentile (z)	27.59
728				
729	**Gamma Distribution Test with Detected Values Only**		**Data Distribution Test with Detected Values Only**	
730	k star (bias corrected)	1.788	Data appear Gamma Distributed at 5% Significance Level	
731	Theta Star	4.484		
732	nu star	46.49		
733				
734	A-D Test Statistic	0.308	**Nonparametric Statistics**	
735	5% A-D Critical Value	0.742	Kaplan-Meier (KM) Method	
736	K-S Test Statistic	0.133	Mean	3.223
737	5% K-S Critical Value	0.239	SD	3.636
738	Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.473
739			95% KM UTL with 90% Coverage	9.014
740	**Assuming Gamma Distribution**		95% KM Chebyshev UPL	19.2
741	Gamma ROS Statistics with Extrapolated Data		95% KM UPL (t)	9.341
742	Mean	1.629	90% Percentile (z)	7.883
743	Median	0.000001	95% Percentile (z)	9.205
744	SD	4.249	99% Percentile (z)	11.68
745	k star	0.0824		
746	Theta star	19.78	**Gamma ROS Limits with Extrapolated Data**	
747	Nu star	10.54	95% Wilson Hilferty (WH) Approx. Gamma UPL	5.143
748	95% Percentile of Chisquare (2k)	0.959	95% Hawkins Wixley (HW) Approx. Gamma UPL	4.419
749			95% WH Approx. Gamma UTL with 90% Coverage	4.533
750	90% Percentile	3.932	95% HW Approx. Gamma UTL with 90% Coverage	3.746
751	95% Percentile	9.483		
752	99% Percentile	28.45		
753				
754	Note: DL/2 is not a recommended method.			
755				
756				
757	**BENZO(K)FLUORANTHENE**			
758				
759	**General Statistics**			
760	Number of Valid Data	64	Number of Detected Data	7
761	Number of Distinct Detected Data	6	Number of Non-Detect Data	57
762	Tolerance Factor	1.593	Percent Non-Detects	89.06%
763				
764	**Raw Statistics**		**Log-transformed Statistics**	
765	Minimum Detected	5	Minimum Detected	1.609
766	Maximum Detected	14	Maximum Detected	2.639
767	Mean of Detected	10.57	Mean of Detected	2.293
768	SD of Detected	3.599	SD of Detected	0.415
769	Minimum Non-Detect	3	Minimum Non-Detect	1.099
770	Maximum Non-Detect	5	Maximum Non-Detect	1.609

	A	B	C	D	E	F	G	H	I	J	K	L
771												
772	Data with Multiple Detection Limits						Single Detection Limit Scenario					
773	Note: Data have multiple DLs - Use of KM Method is recommended										Number treated as Non-Detect with Single DL	57
774	For all methods (except KM, DL/2, and ROS Methods),										Number treated as Detected with Single DL	7
775	Observations < Largest ND are treated as NDs										Single DL Non-Detect Percentage	89.06%
776												
777												
778	Warning: There are only 7 Detected Values in this data											
779	Note: It should be noted that even though bootstrap may be performed on this data set											
780	the resulting calculations may not be reliable enough to draw conclusions											
781												
782	It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.											
783												
784	Background Statistics											
785	Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only					
786					Shapiro Wilk Test Statistic	0.826					Shapiro Wilk Test Statistic	0.783
787					5% Shapiro Wilk Critical Value	0.803					5% Shapiro Wilk Critical Value	0.803
788	Data appear Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level					
789												
790	Assuming Normal Distribution						Assuming Lognormal Distribution					
791					DL/2 Substitution Method						DL/2 Substitution Method	
792					Mean	2.773					Mean (Log Scale)	0.773
793					SD	2.98					SD (Log Scale)	0.569
794					95% UTL 90% Coverage	7.519					95% UTL 90% Coverage	5.363
795					95% UPL (t)	7.787					95% UPL (t)	5.644
796					90% Percentile (z)	6.592					90% Percentile (z)	4.492
797					95% Percentile (z)	7.675					95% Percentile (z)	5.525
798					99% Percentile (z)	9.706					99% Percentile (z)	8.144
799												
800					Maximum Likelihood Estimate(MLE) Method						Log ROS Method	
801					Mean	-8.072					Mean in Original Scale	2.841
802					SD	10.72					SD in Original Scale	3.215
803					95% UTL with 90% Coverage	9.004					95% UTL with 90% Coverage	8.365
804											95% BCA UTL with 90% Coverage	11.7
805											95% Bootstrap (%) UTL with 90% Coverage	12
806					95% UPL (t)	9.967					95% UPL (t)	9.132
807					90% Percentile (z)	5.669					90% Percentile (z)	6.175
808					95% Percentile (z)	9.565					95% Percentile (z)	8.803
809					99% Percentile (z)	16.87					99% Percentile (z)	17.12
810												
811	Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only					
812					k star (bias corrected)	4.592	Data appear Normal at 5% Significance Level					
813					Theta Star	2.302						
814					nu star	64.29						
815												
816					A-D Test Statistic	0.79	Nonparametric Statistics					
817					5% A-D Critical Value	0.709					Kaplan-Meier (KM) Method	
818					K-S Test Statistic	0.306					Mean	5.609
819					5% K-S Critical Value	0.312					SD	2.059
820	Data follow Appx. Gamma Distribution at 5% Significance Level										SE of Mean	0.278
821											95% KM UTL with 90% Coverage	8.888
822	Assuming Gamma Distribution										95% KM Chebyshev UPL	14.65
823					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	9.073
824					Mean	1.177					90% Percentile (z)	8.248
825					Median	0.000001					95% Percentile (z)	8.996

	A	B	C	D	E	F	G	H	I	J	K	L
826					SD	3.503					99% Percentile (z)	10.4
827					k star	0.0776						
828					Theta star	15.16			**Gamma ROS Limits with Extrapolated Data**			
829					Nu star	9.936					95% Wilson Hilferty (WH) Approx. Gamma UPL	2.893
830					95% Percentile of Chisquare (2k)	0.901					95% Hawkins Wixley (HW) Approx. Gamma UPL	1.98
831											95% WH Approx. Gamma UTL with 90% Coverage	2.532
832					90% Percentile	2.736					95% HW Approx. Gamma UTL with 90% Coverage	1.663
833					95% Percentile	6.832						
834					99% Percentile	21.14						
835												
836	Note: DL/2 is not a recommended method.											
837												
838												
839	**CADMIUM**											
840												
841					**General Statistics**							
842					Number of Valid Data	64					Number of Detected Data	52
843					Number of Distinct Detected Data	6					Number of Non-Detect Data	12
844					Tolerance Factor	1.593					Percent Non-Detects	18.75%
845												
846				**Raw Statistics**						**Log-transformed Statistics**		
847					Minimum Detected	0.03					Minimum Detected	-3.507
848					Maximum Detected	0.07					Maximum Detected	-2.659
849					Mean of Detected	0.0395					Mean of Detected	-3.263
850					SD of Detected	0.0106					SD of Detected	0.249
851					Minimum Non-Detect	0.01					Minimum Non-Detect	-4.605
852					Maximum Non-Detect	0.02					Maximum Non-Detect	-3.912
853												
854				**Data with Multiple Detection Limits**						**Single Detection Limit Scenario**		
855				Note: Data have multiple DLs - Use of KM Method is recommended							Number treated as Non-Detect with Single DL	12
856				For all methods (except KM, DL/2, and ROS Methods),							Number treated as Detected with Single DL	52
857				Observations < Largest ND are treated as NDs							Single DL Non-Detect Percentage	18.75%
858												
859					**Background Statistics**							
860				**Normal Distribution Test with Detected Values Only**						**Lognormal Distribution Test with Detected Values Only**		
861					Lilliefors Test Statistic	0.239					Lilliefors Test Statistic	0.259
862					5% Lilliefors Critical Value	0.123					5% Lilliefors Critical Value	0.123
863				Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level		
864												
865				**Assuming Normal Distribution**						**Assuming Lognormal Distribution**		
866					DL/2 Substitution Method						DL/2 Substitution Method	
867					Mean	0.0334					Mean (Log Scale)	-3.595
868					SD	0.016					SD (Log Scale)	0.745
869					95% UTL 90% Coverage	0.0589					95% UTL 90% Coverage	0.09
870					95% UPL (t)	0.0603					95% UPL (t)	0.0962
871					90% Percentile (z)	0.0539					90% Percentile (z)	0.0714
872					95% Percentile (z)	0.0597					95% Percentile (z)	0.0936
873					99% Percentile (z)	0.0707					99% Percentile (z)	0.155
874												
875					Maximum Likelihood Estimate(MLE) Method						Log ROS Method	
876					Mean	0.0344					Mean in Original Scale	0.0363
877					SD	0.0145					SD in Original Scale	0.0117
878					95% UTL with 90% Coverage	0.0575					95% UTL with 90% Coverage	0.0569
879											95% BCA UTL with 90% Coverage	0.047
880											95% Bootstrap (%) UTL with 90% Coverage	0.06

	A	B	C	D	E	F	G	H	I	J	K	L
881					95% UPL (t)	0.0588					95% UPL (t)	0.0585
882					90% Percentile (z)	0.053					90% Percentile (z)	0.0516
883					95% Percentile (z)	0.0582					95% Percentile (z)	0.0578
884					99% Percentile (z)	0.0681					99% Percentile (z)	0.0715
885												
886				Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only		
887					k star (bias corrected)	14.98				Data do not follow a Discernable Distribution (0.05)		
888					Theta Star	0.00264						
889					nu star	1558						
890												
891					A-D Test Statistic	3.519				Nonparametric Statistics		
892					5% A-D Critical Value	0.749					Kaplan-Meier (KM) Method	
893					K-S Test Statistic	0.256					Mean	0.0377
894					5% K-S Critical Value	0.123					SD	0.0102
895				Data not Gamma Distributed at 5% Significance Level							SE of Mean	0.00128
896											95% KM UTL with 90% Coverage	0.0539
897				Assuming Gamma Distribution							95% KM Chebyshev UPL	0.0823
898					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	0.0548
899					Mean	0.0336					90% Percentile (z)	0.0507
900					Median	0.03					95% Percentile (z)	0.0544
901					SD	0.0158					99% Percentile (z)	0.0614
902					k star	0.996						
903					Theta star	0.0338				Gamma ROS Limits with Extrapolated Data		
904					Nu star	127.5					95% Wilson Hilferty (WH) Approx. Gamma UPL	0.0889
905					95% Percentile of Chisquare (2k)	5.978					95% Hawkins Wixley (HW) Approx. Gamma UPL	0.107
906											95% WH Approx. Gamma UTL with 90% Coverage	0.0844
907					90% Percentile	0.0775					95% HW Approx. Gamma UTL with 90% Coverage	0.101
908					95% Percentile	0.101						
909					99% Percentile	0.155						
910												
911	Note: DL/2 is not a recommended method.											
912												
913												
914	CHRYSENE											
915												
916					General Statistics							
917					Number of Valid Data	64					Number of Detected Data	19
918					Number of Distinct Detected Data	12					Number of Non-Detect Data	45
919					Tolerance Factor	1.593					Percent Non-Detects	70.31%
920												
921				Raw Statistics						Log-transformed Statistics		
922					Minimum Detected	1.5					Minimum Detected	0.405
923					Maximum Detected	39					Maximum Detected	3.664
924					Mean of Detected	9.526					Mean of Detected	1.697
925					SD of Detected	11.5					SD of Detected	1.032
926					Minimum Non-Detect	2					Minimum Non-Detect	0.693
927					Maximum Non-Detect	2					Maximum Non-Detect	0.693
928												
929												
930					Background Statistics							
931				Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only		
932					Shapiro Wilk Test Statistic	0.698					Shapiro Wilk Test Statistic	0.885
933					5% Shapiro Wilk Critical Value	0.901					5% Shapiro Wilk Critical Value	0.901
934				Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level		
935												

	A	B	C	D	E	F	G	H	I	J	K	L
936	**Assuming Normal Distribution**						**Assuming Lognormal Distribution**					
937					DL/2 Substitution Method						DL/2 Substitution Method	
938					Mean	3.531					Mean (Log Scale)	0.504
939					SD	7.293					SD (Log Scale)	0.956
940				95% UTL	90% Coverage	15.15				95% UTL	90% Coverage	7.589
941					95% UPL (t)	15.8					95% UPL (t)	8.269
942					90% Percentile (z)	12.88					90% Percentile (z)	5.636
943					95% Percentile (z)	15.53					95% Percentile (z)	7.978
944					99% Percentile (z)	20.5					99% Percentile (z)	15.31
945												
946			Maximum Likelihood Estimate(MLE) Method								Log ROS Method	
947					Mean	-8.697					Mean in Original Scale	3.286
948					SD	16.65					SD in Original Scale	7.396
949				95% UTL with	90% Coverage	17.82				95% UTL with	90% Coverage	11.71
950										95% BCA UTL with	90% Coverage	17
951										95% Bootstrap (%) UTL with	90% Coverage	17
952					95% UPL (t)	19.32					95% UPL (t)	13.57
953					90% Percentile (z)	12.64					90% Percentile (z)	7.031
954					95% Percentile (z)	18.69					95% Percentile (z)	12.76
955					99% Percentile (z)	30.04					99% Percentile (z)	39
956												
957	**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**					
958					k star (bias corrected)	0.904	Data do not follow a Discernable Distribution (0.05)					
959					Theta Star	10.54						
960					nu star	34.34						
961												
962					A-D Test Statistic	1.325	**Nonparametric Statistics**					
963					5% A-D Critical Value	0.768					Kaplan-Meier (KM) Method	
964					K-S Test Statistic	0.263					Mean	3.883
965					5% K-S Critical Value	0.204					SD	7.115
966	Data not Gamma Distributed at 5% Significance Level										SE of Mean	0.914
967										95% KM UTL with	90% Coverage	15.21
968	**Assuming Gamma Distribution**										95% KM Chebyshev UPL	35.14
969			Gamma ROS Statistics with Extrapolated Data								95% KM UPL (t)	15.85
970					Mean	2.93					90% Percentile (z)	13
971					Median	0.000001					95% Percentile (z)	15.59
972					SD	7.525					99% Percentile (z)	20.43
973					k star	0.0941						
974					Theta star	31.15	**Gamma ROS Limits with Extrapolated Data**					
975					Nu star	12.04				95% Wilson Hilferty (WH) Approx. Gamma UPL		10.74
976					95% Percentile of Chisquare (2k)	1.095				95% Hawkins Wixley (HW) Approx. Gamma UPL		11.17
977										95% WH Approx. Gamma UTL with	90% Coverage	9.556
978					90% Percentile	7.59				95% HW Approx. Gamma UTL with	90% Coverage	9.6
979					95% Percentile	17.05						
980					99% Percentile	47.98						
981												
982	Note: DL/2 is not a recommended method.											
983												
984												
985	COPPER											
986												
987					**General Statistics**							
988					Number of Valid Data	64					Number of Detected Data	62
989					Number of Distinct Detected Data	53					Number of Non-Detect Data	2
990					Tolerance Factor	1.593					Percent Non-Detects	3.13%

	A	B	C	D	E	F	G	H	I	J	K	L
991												
992	**Raw Statistics**						**Log-transformed Statistics**					
993					Minimum Detected	3.4					Minimum Detected	1.224
994					Maximum Detected	38.5					Maximum Detected	3.651
995					Mean of Detected	14.14					Mean of Detected	2.346
996					SD of Detected	10.87					SD of Detected	0.789
997					Minimum Non-Detect	1.5					Minimum Non-Detect	0.405
998					Maximum Non-Detect	3.2					Maximum Non-Detect	1.163
999												
1000	**Data with Multiple Detection Limits**						**Single Detection Limit Scenario**					
1001	Note: Data have multiple DLs - Use of KM Method is recommended										Number treated as Non-Detect with Single DL	2
1002	For all methods (except KM, DL/2, and ROS Methods),										Number treated as Detected with Single DL	62
1003	Observations < Largest ND are treated as NDs										Single DL Non-Detect Percentage	3.13%
1004												
1005	**Background Statistics**											
1006	**Normal Distribution Test with Detected Values Only**						**Lognormal Distribution Test with Detected Values Only**					
1007					Lilliefors Test Statistic	0.266					Lilliefors Test Statistic	0.223
1008					5% Lilliefors Critical Value	0.113					5% Lilliefors Critical Value	0.113
1009	Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level					
1010												
1011	**Assuming Normal Distribution**						**Assuming Lognormal Distribution**					
1012					DL/2 Substitution Method						DL/2 Substitution Method	
1013					Mean	13.74					Mean (Log Scale)	2.276
1014					SD	10.93					SD (Log Scale)	0.874
1015					95% UTL 90% Coverage	31.15					95% UTL 90% Coverage	39.18
1016					95% UPL (t)	32.13					95% UPL (t)	42.38
1017					90% Percentile (z)	27.75					90% Percentile (z)	29.85
1018					95% Percentile (z)	31.72					95% Percentile (z)	41.01
1019					99% Percentile (z)	39.18					99% Percentile (z)	74.41
1020												
1021					Maximum Likelihood Estimate(MLE) Method						Log ROS Method	
1022					Mean	13.62					Mean in Original Scale	13.75
1023					SD	11.05					SD in Original Scale	10.92
1024					95% UTL with 90% Coverage	31.21					95% UTL with 90% Coverage	37.73
1025											95% BCA UTL with 90% Coverage	35.09
1026											95% Bootstrap (%) UTL with 90% Coverage	35.3
1027					95% UPL (t)	32.2					95% UPL (t)	40.69
1028					90% Percentile (z)	27.77					90% Percentile (z)	29.03
1029					95% Percentile (z)	31.78					95% Percentile (z)	39.43
1030					99% Percentile (z)	39.31					99% Percentile (z)	70.02
1031												
1032	**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**					
1033					k star (bias corrected)	1.723	Data do not follow a Discernable Distribution (0.05)					
1034					Theta Star	8.207						
1035					nu star	213.7						
1036												
1037					A-D Test Statistic	3.588	**Nonparametric Statistics**					
1038					5% A-D Critical Value	0.765					Kaplan-Meier (KM) Method	
1039					K-S Test Statistic	0.246					Mean	13.81
1040					5% K-S Critical Value	0.115					SD	10.77
1041	Data not Gamma Distributed at 5% Significance Level										SE of Mean	1.358
1042											95% KM UTL with 90% Coverage	30.97
1043	**Assuming Gamma Distribution**										95% KM Chebyshev UPL	61.14
1044					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	31.93
1045					Mean	13.7					90% Percentile (z)	27.62

	A	B	C	D	E	F	G	H	I	J	K	L
1046					Median	6.65					95% Percentile (z)	31.53
1047					SD	10.98					99% Percentile (z)	38.87
1048					k star	0.743						
1049					Theta star	18.44			Gamma ROS Limits with Extrapolated Data			
1050					Nu star	95.12			95% Wilson Hilferty (WH) Approx. Gamma UPL			39.22
1051				95% Percentile of Chisquare (2k)		4.951			95% Hawkins Wixley (HW) Approx. Gamma UPL			44.68
1052									95% WH Approx. Gamma UTL with		90% Coverage	37.04
1053					90% Percentile	33.91			95% HW Approx. Gamma UTL with		90% Coverage	41.77
1054					95% Percentile	45.64						
1055					99% Percentile	73.51						
1056												
1057	Note: DL/2 is not a recommended method.											
1058												
1059												
1060	DIBENZO(A,H)ANTHRACENE											
1061												
1062					General Statistics							
1063					Number of Valid Data	64					Number of Detected Data	5
1064					Number of Distinct Detected Data	4					Number of Non-Detect Data	59
1065					Tolerance Factor	1.593					Percent Non-Detects	92.19%
1066												
1067				Raw Statistics					Log-transformed Statistics			
1068					Minimum Detected	5					Minimum Detected	1.609
1069					Maximum Detected	14					Maximum Detected	2.639
1070					Mean of Detected	8.8					Mean of Detected	2.079
1071					SD of Detected	4.324					SD of Detected	0.484
1072					Minimum Non-Detect	2					Minimum Non-Detect	0.693
1073					Maximum Non-Detect	3					Maximum Non-Detect	1.099
1074												
1075				Data with Multiple Detection Limits					Single Detection Limit Scenario			
1076	Note: Data have multiple DLs - Use of KM Method is recommended								Number treated as Non-Detect with Single DL			59
1077	For all methods (except KM, DL/2, and ROS Methods),								Number treated as Detected with Single DL			5
1078	Observations < Largest ND are treated as NDs								Single DL Non-Detect Percentage			92.19%
1079												
1080												
1081					Warning: There are only 4 Distinct Detected Values in this data							
1082					Note: It should be noted that even though bootstrap may be performed on this data set							
1083					the resulting calculations may not be reliable enough to draw conclusions							
1084												
1085					It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.							
1086												
1087					Background Statistics							
1088				Normal Distribution Test with Detected Values Only					Lognormal Distribution Test with Detected Values Only			
1089					Shapiro Wilk Test Statistic	0.787					Shapiro Wilk Test Statistic	0.811
1090					5% Shapiro Wilk Critical Value	0.762					5% Shapiro Wilk Critical Value	0.762
1091					Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level			
1092												
1093				Assuming Normal Distribution					Assuming Lognormal Distribution			
1094					DL/2 Substitution Method						DL/2 Substitution Method	
1095					Mean	1.617					Mean (Log Scale)	0.169
1096					SD	2.373					SD (Log Scale)	0.576
1097					95% UTL 90% Coverage	5.397					95% UTL 90% Coverage	2.962
1098					95% UPL (t)	5.61					95% UPL (t)	3.12
1099					90% Percentile (z)	4.659					90% Percentile (z)	2.477
1100					95% Percentile (z)	5.521					95% Percentile (z)	3.053

	A	B	C	D	E	F	G	H	I	J	K	L
1101					99% Percentile (z)	7.138					99% Percentile (z)	4.52
1102												
1103				Maximum Likelihood Estimate(MLE) Method							Log ROS Method	
1104					Mean	-14.19					Mean in Original Scale	1.338
1105					SD	12.18					SD in Original Scale	2.571
1106				95% UTL with	90% Coverage	5.205					95% UTL with 90% Coverage	5.07
1107											95% BCA UTL with 90% Coverage	5.7
1108											95% Bootstrap (%) UTL with 90% Coverage	5.7
1109					95% UPL (t)	6.299					95% UPL (t)	5.817
1110					90% Percentile (z)	1.418					90% Percentile (z)	3.15
1111					95% Percentile (z)	5.842					95% Percentile (z)	5.492
1112					99% Percentile (z)	14.14					99% Percentile (z)	15.58
1113												
1114				Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only		
1115					k star (bias corrected)	2.295				Data appear Normal at 5% Significance Level		
1116					Theta Star	3.834						
1117					nu star	22.95						
1118												
1119					A-D Test Statistic	0.651				Nonparametric Statistics		
1120					5% A-D Critical Value	0.681					Kaplan-Meier (KM) Method	
1121					K-S Test Statistic	0.355					Mean	5.297
1122					5% K-S Critical Value	0.358					SD	1.486
1123				Data appear Gamma Distributed at 5% Significance Level							SE of Mean	0.208
1124											95% KM UTL with 90% Coverage	7.664
1125				Assuming Gamma Distribution							95% KM Chebyshev UPL	11.83
1126				Gamma ROS Statistics with Extrapolated Data							95% KM UPL (t)	7.797
1127					Mean	0.688					90% Percentile (z)	7.201
1128					Median	0.000001					95% Percentile (z)	7.741
1129					SD	2.618					99% Percentile (z)	8.754
1130					k star	0.0766						
1131					Theta star	8.973				Gamma ROS Limits with Extrapolated Data		
1132					Nu star	9.807					95% Wilson Hilferty (WH) Approx. Gamma UPL	1.306
1133					95% Percentile of Chisquare (2k)	0.889					95% Hawkins Wixley (HW) Approx. Gamma UPL	0.722
1134											95% WH Approx. Gamma UTL with 90% Coverage	1.137
1135					90% Percentile	1.585					95% HW Approx. Gamma UTL with 90% Coverage	0.603
1136					95% Percentile	3.988						
1137					99% Percentile	12.43						
1138												
1139	Note: DL/2 is not a recommended method.											
1140												
1141												
1142	ENDOSULFAN II											
1143												
1144				General Statistics								
1145				Number of Valid Data		32				Number of Detected Data		0
1146				Number of Distinct Detected Data		0				Number of Non-Detect Data		32
1147												
1148	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
1149	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
1150	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
1151												
1152	The data set for variable ENDOSULFAN II was not processed!											
1153												
1154												
1155												

	A	B	C	D	E	F	G	H	I	J	K	L
1156	FLUORANTHENE											
1157												
1158						General Statistics						
1159					Number of Valid Data	64					Number of Detected Data	26
1160					Number of Distinct Detected Data	13					Number of Non-Detect Data	38
1161					Tolerance Factor	1.593					Percent Non-Detects	59.38%
1162												
1163					Raw Statistics						Log-transformed Statistics	
1164					Minimum Detected	2					Minimum Detected	0.693
1165					Maximum Detected	65					Maximum Detected	4.174
1166					Mean of Detected	12.5					Mean of Detected	1.878
1167					SD of Detected	17.83					SD of Detected	1.051
1168					Minimum Non-Detect	2					Minimum Non-Detect	0.693
1169					Maximum Non-Detect	2					Maximum Non-Detect	0.693
1170												
1171												
1172						Background Statistics						
1173					Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only	
1174					Shapiro Wilk Test Statistic	0.61					Shapiro Wilk Test Statistic	0.868
1175					5% Shapiro Wilk Critical Value	0.92					5% Shapiro Wilk Critical Value	0.92
1176					Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level	
1177												
1178					Assuming Normal Distribution						Assuming Lognormal Distribution	
1179					DL/2 Substitution Method						DL/2 Substitution Method	
1180					Mean	5.672					Mean (Log Scale)	0.763
1181					SD	12.59					SD (Log Scale)	1.141
1182					95% UTL 90% Coverage	25.73					95% UTL 90% Coverage	13.21
1183					95% UPL (t)	26.86					95% UPL (t)	14.63
1184					90% Percentile (z)	21.81					90% Percentile (z)	9.259
1185					95% Percentile (z)	26.39					95% Percentile (z)	14.02
1186					99% Percentile (z)	34.97					99% Percentile (z)	30.51
1187												
1188					Maximum Likelihood Estimate(MLE) Method						Log ROS Method	
1189					Mean	-6.402					Mean in Original Scale	5.357
1190					SD	22.46					SD in Original Scale	12.72
1191					95% UTL with 90% Coverage	29.36					95% UTL with 90% Coverage	22.07
1192											95% BCA UTL with 90% Coverage	25
1193											95% Bootstrap (%) UTL with 90% Coverage	28
1194					95% UPL (t)	31.38					95% UPL (t)	26.29
1195					90% Percentile (z)	22.38					90% Percentile (z)	12.04
1196					95% Percentile (z)	30.53					95% Percentile (z)	24.43
1197					99% Percentile (z)	45.84					99% Percentile (z)	92.21
1198												
1199					Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only	
1200					k star (bias corrected)	0.824					Data do not follow a Discernable Distribution (0.05)	
1201					Theta Star	15.17						
1202					nu star	42.83						
1203												
1204					A-D Test Statistic	2.244					Nonparametric Statistics	
1205					5% A-D Critical Value	0.778					Kaplan-Meier (KM) Method	
1206					K-S Test Statistic	0.291					Mean	6.266
1207					5% K-S Critical Value	0.177					SD	12.28
1208					Data not Gamma Distributed at 5% Significance Level						SE of Mean	1.566
1209											95% KM UTL with 90% Coverage	25.82
1210					Assuming Gamma Distribution						95% KM Chebyshev UPL	60.21

	A	B	C	D	E	F	G	H	I	J	K	L
1211				Gamma ROS Statistics with Extrapolated Data							95% KM UPL (t)	26.93
1212					Mean	5.078					90% Percentile (z)	22
1213					Median	0.000001					95% Percentile (z)	26.47
1214					SD	12.83					99% Percentile (z)	34.84
1215					k star	0.0968						
1216					Theta star	52.44			**Gamma ROS Limits with Extrapolated Data**			
1217					Nu star	12.4			95% Wilson Hilferty (WH) Approx. Gamma UPL			19.31
1218					95% Percentile of Chisquare (2k)	1.126			95% Hawkins Wixley (HW) Approx. Gamma UPL			21.07
1219									95% WH Approx. Gamma UTL with		90% Coverage	17.24
1220					90% Percentile	13.33			95% HW Approx. Gamma UTL with		90% Coverage	18.18
1221					95% Percentile	29.52						
1222					99% Percentile	81.97						
1223												
1224	Note: DL/2 is not a recommended method.											
1225												
1226												
1227	FLUORENE											
1228												
1229					**General Statistics**							
1230					Number of Valid Data	64					Number of Detected Data	0
1231					Number of Distinct Detected Data	0					Number of Non-Detect Data	64
1232												
1233					Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!							
1234					Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!							
1235					The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).							
1236												
1237					The data set for variable FLUORENE was not processed!							
1238												
1239												
1240												
1241	GAMMA-BHC (LINDANE)											
1242												
1243					**General Statistics**							
1244					Number of Valid Data	32					Number of Detected Data	1
1245					Number of Distinct Detected Data	1					Number of Non-Detect Data	31
1246												
1247					Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!							
1248					It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).							
1249												
1250					The data set for variable GAMMA-BHC (LINDANE) was not processed!							
1251												
1252												
1253												
1254	INDENO(1,2,3-CD)PYRENE											
1255												
1256					**General Statistics**							
1257					Number of Valid Data	64					Number of Detected Data	16
1258					Number of Distinct Detected Data	11					Number of Non-Detect Data	48
1259					Tolerance Factor	1.593					Percent Non-Detects	75.00%
1260												
1261					**Raw Statistics**				**Log-transformed Statistics**			
1262					Minimum Detected	2					Minimum Detected	0.693
1263					Maximum Detected	42					Maximum Detected	3.738
1264					Mean of Detected	12.41					Mean of Detected	1.965
1265					SD of Detected	13.72					SD of Detected	1.083

	A–E	F	G–K	L
1266	Minimum Non-Detect	2	Minimum Non-Detect	0.693
1267	Maximum Non-Detect	3	Maximum Non-Detect	1.099
1268				
1269	**Data with Multiple Detection Limits**		**Single Detection Limit Scenario**	
1270	Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect with Single DL	52
1271	For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected with Single DL	12
1272	Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	81.25%
1273				
1274	**Background Statistics**			
1275	**Normal Distribution Test with Detected Values Only**		**Lognormal Distribution Test with Detected Values Only**	
1276	Shapiro Wilk Test Statistic	0.747	Shapiro Wilk Test Statistic	0.899
1277	5% Shapiro Wilk Critical Value	0.887	5% Shapiro Wilk Critical Value	0.887
1278	Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
1279				
1280	**Assuming Normal Distribution**		**Assuming Lognormal Distribution**	
1281	DL/2 Substitution Method		DL/2 Substitution Method	
1282	Mean	3.871	Mean (Log Scale)	0.507
1283	SD	8.335	SD (Log Scale)	1.002
1284	95% UTL 90% Coverage	17.14	95% UTL 90% Coverage	8.193
1285	95% UPL (t)	17.89	95% UPL (t)	8.965
1286	90% Percentile (z)	14.55	90% Percentile (z)	5.999
1287	95% Percentile (z)	17.58	95% Percentile (z)	8.634
1288	99% Percentile (z)	23.26	99% Percentile (z)	17.09
1289				
1290	Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
1291	Mean	-19.99	Mean in Original Scale	3.345
1292	SD	25.45	SD in Original Scale	8.527
1293	95% UTL with 90% Coverage	20.55	95% UTL with 90% Coverage	14.05
1294			95% BCA UTL with 90% Coverage	21.2
1295			95% Bootstrap (%) UTL with 90% Coverage	21.2
1296	95% UPL (t)	22.83	95% UPL (t)	17.31
1297	90% Percentile (z)	12.63	90% Percentile (z)	6.832
1298	95% Percentile (z)	21.88	95% Percentile (z)	15.86
1299	99% Percentile (z)	39.22	99% Percentile (z)	77.03
1300				
1301	**Gamma Distribution Test with Detected Values Only**		**Data Distribution Test with Detected Values Only**	
1302	k star (bias corrected)	0.886	Data follow Appr. Gamma Distribution at 5% Significance Level	
1303	Theta Star	14.01		
1304	nu star	28.34		
1305				
1306	A-D Test Statistic	0.851	**Nonparametric Statistics**	
1307	5% A-D Critical Value	0.763	Kaplan-Meier (KM) Method	
1308	K-S Test Statistic	0.201	Mean	4.602
1309	5% K-S Critical Value	0.221	SD	8.024
1310	Data follow Appx. Gamma Distribution at 5% Significance Level		SE of Mean	1.036
1311			95% KM UTL with 90% Coverage	17.38
1312	**Assuming Gamma Distribution**		95% KM Chebyshev UPL	39.85
1313	Gamma ROS Statistics with Extrapolated Data		95% KM UPL (t)	18.1
1314	Mean	3.102	90% Percentile (z)	14.89
1315	Median	0.000001	95% Percentile (z)	17.8
1316	SD	8.608	99% Percentile (z)	23.27
1317	k star	0.0831		
1318	Theta star	37.33	**Gamma ROS Limits with Extrapolated Data**	
1319	Nu star	10.63	95% Wilson Hilferty (WH) Approx. Gamma UPL	9.913
1320	95% Percentile of Chisquare (2k)	0.967	95% Hawkins Wixley (HW) Approx. Gamma UPL	8.918

	A	B	C	D	E	F	G	H	I	J	K	L
1321									95% WH Approx. Gamma UTL with		90% Coverage	8.758
1322					90% Percentile	7.525			95% HW Approx. Gamma UTL with		90% Coverage	7.588
1323					95% Percentile	18.06						
1324					99% Percentile	53.95						
1325												
1326	Note: DL/2 is not a recommended method.											
1327												
1328												
1329	MERCURY											
1330												
1331					General Statistics							
1332					Number of Valid Data	64				Number of Detected Data		27
1333					Number of Distinct Detected Data	12				Number of Non-Detect Data		37
1334					Tolerance Factor	1.593				Percent Non-Detects		57.81%
1335												
1336				Raw Statistics						Log-transformed Statistics		
1337					Minimum Detected	0.01				Minimum Detected		-4.605
1338					Maximum Detected	0.09				Maximum Detected		-2.408
1339					Mean of Detected	0.0361				Mean of Detected		-3.523
1340					SD of Detected	0.0224				SD of Detected		0.671
1341					Minimum Non-Detect	0.01				Minimum Non-Detect		-4.605
1342					Maximum Non-Detect	0.01				Maximum Non-Detect		-4.605
1343												
1344												
1345					Background Statistics							
1346				Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only		
1347					Shapiro Wilk Test Statistic	0.908				Shapiro Wilk Test Statistic		0.931
1348					5% Shapiro Wilk Critical Value	0.923				5% Shapiro Wilk Critical Value		0.923
1349				Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
1350												
1351				Assuming Normal Distribution						Assuming Lognormal Distribution		
1352					DL/2 Substitution Method					DL/2 Substitution Method		
1353					Mean	0.0181				Mean (Log Scale)		-4.549
1354					SD	0.0211				SD (Log Scale)		0.983
1355					95% UTL 90% Coverage	0.0518				95% UTL 90% Coverage		0.0506
1356					95% UPL (t)	0.0537				95% UPL (t)		0.0553
1357					90% Percentile (z)	0.0452				90% Percentile (z)		0.0373
1358					95% Percentile (z)	0.0529				95% Percentile (z)		0.0533
1359					99% Percentile (z)	0.0673				99% Percentile (z)		0.104
1360												
1361					Maximum Likelihood Estimate(MLE) Method					Log ROS Method		
1362					Mean	0.0022				Mean in Original Scale		0.0184
1363					SD	0.037				SD in Original Scale		0.0211
1364					95% UTL with 90% Coverage	0.0611				95% UTL with 90% Coverage		0.0642
1365										95% BCA UTL with 90% Coverage		0.05
1366										95% Bootstrap (%) UTL with 90% Coverage		0.06
1367					95% UPL (t)	0.0645				95% UPL (t)		0.0715
1368					90% Percentile (z)	0.0496				90% Percentile (z)		0.0444
1369					95% Percentile (z)	0.0631				95% Percentile (z)		0.0684
1370					99% Percentile (z)	0.0883				99% Percentile (z)		0.153
1371												
1372				Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only		
1373					k star (bias corrected)	2.368				Data follow Appr. Gamma Distribution at 5% Significance Level		
1374					Theta Star	0.0152						
1375					nu star	127.9						

	A	B	C	D	E	F	G	H	I	J	K	L
1376												
1377					A-D Test Statistic	0.59			Nonparametric Statistics			
1378					5% A-D Critical Value	0.753					Kaplan-Meier (KM) Method	
1379					K-S Test Statistic	0.189					Mean	0.021
1380					5% K-S Critical Value	0.17					SD	0.0192
1381			Data follow Appx. Gamma Distribution at 5% Significance Level								SE of Mean	0.00245
1382										95% KM UTL with	90% Coverage	0.0517
1383			Assuming Gamma Distribution								95% KM Chebyshev UPL	0.106
1384				Gamma ROS Statistics with Extrapolated Data							95% KM UPL (t)	0.0534
1385					Mean	0.0152					90% Percentile (z)	0.0457
1386					Median	0.000001					95% Percentile (z)	0.0527
1387					SD	0.023					99% Percentile (z)	0.0658
1388					k star	0.149						
1389					Theta star	0.102			Gamma ROS Limits with Extrapolated Data			
1390					Nu star	19.13					95% Wilson Hilferty (WH) Approx. Gamma UPL	0.0672
1391					95% Percentile of Chisquare (2k)	1.647					95% Hawkins Wixley (HW) Approx. Gamma UPL	0.0785
1392											95% WH Approx. Gamma UTL with 90% Coverage	0.0604
1393					90% Percentile	0.0452					95% HW Approx. Gamma UTL with 90% Coverage	0.0685
1394					95% Percentile	0.0839						
1395					99% Percentile	0.196						
1396												
1397	Note: DL/2 is not a recommended method.											
1398												
1399												
1400	NAPHTHALENE											
1401												
1402					General Statistics							
1403					Number of Valid Data	64					Number of Detected Data	0
1404					Number of Distinct Detected Data	0					Number of Non-Detect Data	64
1405												
1406				Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!								
1407				Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!								
1408				The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).								
1409												
1410				The data set for variable NAPHTHALENE was not processed!								
1411												
1412												
1413												
1414	PHENANTHRENE											
1415												
1416					General Statistics							
1417					Number of Valid Data	64					Number of Detected Data	18
1418					Number of Distinct Detected Data	11					Number of Non-Detect Data	46
1419					Tolerance Factor	1.593					Percent Non-Detects	71.88%
1420												
1421					Raw Statistics				Log-transformed Statistics			
1422					Minimum Detected	2					Minimum Detected	0.693
1423					Maximum Detected	34					Maximum Detected	3.526
1424					Mean of Detected	9.194					Mean of Detected	1.72
1425					SD of Detected	10.46					SD of Detected	0.974
1426					Minimum Non-Detect	2					Minimum Non-Detect	0.693
1427					Maximum Non-Detect	3					Maximum Non-Detect	1.099
1428												
1429					Data with Multiple Detection Limits				Single Detection Limit Scenario			
1430				Note: Data have multiple DLs - Use of KM Method is recommended							Number treated as Non-Detect with Single DL	50

	A	B	C	D	E	F	G	H	I	J	K	L
1431	For all methods (except KM, DL/2, and ROS Methods),										Number treated as Detected with Single DL	14
1432	Observations < Largest ND are treated as NDs										Single DL Non-Detect Percentage	78.13%
1433												
1434					Background Statistics							
1435				Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only		
1436					Shapiro Wilk Test Statistic	0.704					Shapiro Wilk Test Statistic	0.863
1437					5% Shapiro Wilk Critical Value	0.897					5% Shapiro Wilk Critical Value	0.897
1438				Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level		
1439												
1440				Assuming Normal Distribution						Assuming Lognormal Distribution		
1441					DL/2 Substitution Method						DL/2 Substitution Method	
1442					Mean	3.313					Mean (Log Scale)	0.49
1443					SD	6.581					SD (Log Scale)	0.927
1444					95% UTL 90% Coverage	13.79					95% UTL 90% Coverage	7.147
1445					95% UPL (t)	14.38					95% UPL (t)	7.768
1446					90% Percentile (z)	11.75					90% Percentile (z)	5.357
1447					95% Percentile (z)	14.14					95% Percentile (z)	7.502
1448					99% Percentile (z)	18.62					99% Percentile (z)	14.11
1449												
1450					Maximum Likelihood Estimate(MLE) Method						Log ROS Method	
1451					Mean	-11.05					Mean in Original Scale	2.846
1452					SD	17.25					SD in Original Scale	6.758
1453					95% UTL with 90% Coverage	16.42					95% UTL with 90% Coverage	11.92
1454											95% BCA UTL with 90% Coverage	13.8
1455											95% Bootstrap (%) UTL with 90% Coverage	15
1456					95% UPL (t)	17.97					95% UPL (t)	14.31
1457					90% Percentile (z)	11.06					90% Percentile (z)	6.331
1458					95% Percentile (z)	17.32					95% Percentile (z)	13.26
1459					99% Percentile (z)	29.08					99% Percentile (z)	53.09
1460												
1461				Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only		
1462					k star (bias corrected)	0.988				Data do not follow a Discernable Distribution (0.05)		
1463					Theta Star	9.31						
1464					nu star	35.55						
1465												
1466					A-D Test Statistic	1.348				Nonparametric Statistics		
1467					5% A-D Critical Value	0.764					Kaplan-Meier (KM) Method	
1468					K-S Test Statistic	0.25					Mean	4.024
1469					5% K-S Critical Value	0.209					SD	6.289
1470				Data not Gamma Distributed at 5% Significance Level							SE of Mean	0.809
1471											95% KM UTL with 90% Coverage	14.04
1472				Assuming Gamma Distribution							95% KM Chebyshev UPL	31.65
1473					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	14.6
1474					Mean	2.586					90% Percentile (z)	12.08
1475					Median	0.000001					95% Percentile (z)	14.37
1476					SD	6.849					99% Percentile (z)	18.65
1477					k star	0.0869						
1478					Theta star	29.77				Gamma ROS Limits with Extrapolated Data		
1479					Nu star	11.12					95% Wilson Hilferty (WH) Approx. Gamma UPL	8.84
1480					95% Percentile of Chisquare (2k)	1.012					95% Hawkins Wixley (HW) Approx. Gamma UPL	8.46
1481											95% WH Approx. Gamma UTL with 90% Coverage	7.831
1482					90% Percentile	6.435					95% HW Approx. Gamma UTL with 90% Coverage	7.223
1483					95% Percentile	15.07						
1484					99% Percentile	44.03						
1485												

	A	B	C	D	E	F	G	H	I	J	K	L
1486	Note: DL/2 is not a recommended method.											
1487												
1488												
1489	PYRENE											
1490												
1491					General Statistics							
1492					Number of Valid Data	64				Number of Detected Data		21
1493					Number of Distinct Detected Data	13				Number of Non-Detect Data		43
1494					Tolerance Factor	1.593				Percent Non-Detects		67.19%
1495												
1496				Raw Statistics						Log-transformed Statistics		
1497					Minimum Detected	2				Minimum Detected		0.693
1498					Maximum Detected	64				Maximum Detected		4.159
1499					Mean of Detected	15.04				Mean of Detected		2.058
1500					SD of Detected	19.99				SD of Detected		1.093
1501					Minimum Non-Detect	2				Minimum Non-Detect		0.693
1502					Maximum Non-Detect	3				Maximum Non-Detect		1.099
1503												
1504				Data with Multiple Detection Limits						Single Detection Limit Scenario		
1505				Note: Data have multiple DLs - Use of KM Method is recommended						Number treated as Non-Detect with Single DL		44
1506				For all methods (except KM, DL/2, and ROS Methods),						Number treated as Detected with Single DL		20
1507				Observations < Largest ND are treated as NDs						Single DL Non-Detect Percentage		68.75%
1508												
1509					Background Statistics							
1510				Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only		
1511					Shapiro Wilk Test Statistic	0.648				Shapiro Wilk Test Statistic		0.859
1512					5% Shapiro Wilk Critical Value	0.908				5% Shapiro Wilk Critical Value		0.908
1513				Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level		
1514												
1515				Assuming Normal Distribution						Assuming Lognormal Distribution		
1516					DL/2 Substitution Method					DL/2 Substitution Method		
1517					Mean	5.746				Mean (Log Scale)		0.789
1518					SD	13.03				SD (Log Scale)		1.098
1519					95% UTL 90% Coverage	26.49				95% UTL 90% Coverage		12.65
1520					95% UPL (t)	27.66				95% UPL (t)		13.96
1521					90% Percentile (z)	22.44				90% Percentile (z)		8.988
1522					95% Percentile (z)	27.17				95% Percentile (z)		13.39
1523					99% Percentile (z)	36.05				99% Percentile (z)		28.3
1524												
1525					Maximum Likelihood Estimate(MLE) Method					Log ROS Method		
1526					Mean	-12.75				Mean in Original Scale		5.226
1527					SD	27.41				SD in Original Scale		13.22
1528					95% UTL with 90% Coverage	30.9				95% UTL with 90% Coverage		21.13
1529										95% BCA UTL with 90% Coverage		26
1530										95% Bootstrap (%) UTL with 90% Coverage		26
1531					95% UPL (t)	33.36				95% UPL (t)		25.6
1532					90% Percentile (z)	22.38				90% Percentile (z)		10.86
1533					95% Percentile (z)	32.34				95% Percentile (z)		23.63
1534					99% Percentile (z)	51.02				99% Percentile (z)		101.6
1535												
1536				Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only		
1537					k star (bias corrected)	0.8				Data do not follow a Discernable Distribution (0.05)		
1538					Theta Star	18.8						
1539					nu star	33.59						
1540												

	A	B	C	D	E	F	G	H	I	J	K	L
1541					A-D Test Statistic	1.843	Nonparametric Statistics					
1542					5% A-D Critical Value	0.775					Kaplan-Meier (KM) Method	
1543					K-S Test Statistic	0.273					Mean	6.277
1544					5% K-S Critical Value	0.196					SD	12.74
1545	Data not Gamma Distributed at 5% Significance Level										SE of Mean	1.632
1546										95% KM UTL with	90% Coverage	26.57
1547			Assuming Gamma Distribution								95% KM Chebyshev UPL	62.24
1548				Gamma ROS Statistics with Extrapolated Data							95% KM UPL (t)	27.71
1549					Mean	4.934					90% Percentile (z)	22.6
1550					Median	0.000001					95% Percentile (z)	27.23
1551					SD	13.32					99% Percentile (z)	35.91
1552					k star	0.0882						
1553					Theta star	55.96	Gamma ROS Limits with Extrapolated Data					
1554					Nu star	11.29				95% Wilson Hilferty (WH) Approx. Gamma UPL		17.26
1555					95% Percentile of Chisquare (2k)	1.027				95% Hawkins Wixley (HW) Approx. Gamma UPL		17.23
1556										95% WH Approx. Gamma UTL with	90% Coverage	15.33
1557					90% Percentile	12.37				95% HW Approx. Gamma UTL with	90% Coverage	14.76
1558					95% Percentile	28.75						
1559					99% Percentile	83.39						
1560												
1561	Note: DL/2 is not a recommended method.											
1562												
1563												
1564	SELENIUM											
1565												
1566					General Statistics							
1567					Number of Valid Data	64					Number of Detected Data	6
1568					Number of Distinct Detected Data	6					Number of Non-Detect Data	58
1569					Tolerance Factor	1.593					Percent Non-Detects	90.63%
1570												
1571				Raw Statistics						Log-transformed Statistics		
1572					Minimum Detected	0.493					Minimum Detected	-0.708
1573					Maximum Detected	1.3					Maximum Detected	0.262
1574					Mean of Detected	0.792					Mean of Detected	-0.292
1575					SD of Detected	0.309					SD of Detected	0.371
1576					Minimum Non-Detect	0.11					Minimum Non-Detect	-2.207
1577					Maximum Non-Detect	1					Maximum Non-Detect	0
1578												
1579			Data with Multiple Detection Limits							Single Detection Limit Scenario		
1580	Note: Data have multiple DLs - Use of KM Method is recommended										Number treated as Non-Detect with Single DL	62
1581	For all methods (except KM, DL/2, and ROS Methods),										Number treated as Detected with Single DL	2
1582	Observations < Largest ND are treated as NDs										Single DL Non-Detect Percentage	96.88%
1583												
1584												
1585					Warning: There are only 6 Detected Values in this data							
1586					Note: It should be noted that even though bootstrap may be performed on this data set							
1587					the resulting calculations may not be reliable enough to draw conclusions							
1588												
1589					It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.							
1590												
1591					Background Statistics							
1592				Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only		
1593					Shapiro Wilk Test Statistic	0.899					Shapiro Wilk Test Statistic	0.936
1594					5% Shapiro Wilk Critical Value	0.788					5% Shapiro Wilk Critical Value	0.788
1595					Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level	

	A	B	C	D	E	F	G	H	I	J	K	L
1596												
1597	**Assuming Normal Distribution**						**Assuming Lognormal Distribution**					
1598					DL/2 Substitution Method						DL/2 Substitution Method	
1599					Mean	0.24					Mean (Log Scale)	-1.685
1600					SD	0.219					SD (Log Scale)	0.682
1601				95% UTL	90% Coverage	0.589				95% UTL	90% Coverage	0.55
1602					95% UPL (t)	0.609					95% UPL (t)	0.584
1603					90% Percentile (z)	0.521					90% Percentile (z)	0.445
1604					95% Percentile (z)	0.601					95% Percentile (z)	0.57
1605					99% Percentile (z)	0.75					99% Percentile (z)	0.907
1606												
1607				Maximum Likelihood Estimate(MLE) Method		N/A					Log ROS Method	
1608											Mean in Original Scale	0.186
1609											SD in Original Scale	0.218
1610											Mean in Log Scale	-1.964
1611											SD in Log Scale	0.626
1612										95% UTL	90% Coverage	0.38
1613											95% UPL (t)	0.402
1614											90% Percentile (z)	0.313
1615											95% Percentile (z)	0.393
1616											99% Percentile (z)	0.602
1617												
1618	**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**					
1619					k star (bias corrected)	4.413	Data appear Normal at 5% Significance Level					
1620					Theta Star	0.179						
1621					nu star	52.95						
1622												
1623					A-D Test Statistic	0.328	**Nonparametric Statistics**					
1624					5% A-D Critical Value	0.698					Kaplan-Meier (KM) Method	
1625					K-S Test Statistic	0.26					Mean	0.521
1626					5% K-S Critical Value	0.333					SD	0.123
1627	Data appear Gamma Distributed at 5% Significance Level										SE of Mean	0.0169
1628										95% KM UTL with	90% Coverage	0.717
1629	**Assuming Gamma Distribution**										95% KM Chebyshev UPL	1.061
1630			Gamma ROS Statistics with Extrapolated Data								95% KM UPL (t)	0.728
1631					Mean	0.0743					90% Percentile (z)	0.679
1632					Median	0.000001					95% Percentile (z)	0.723
1633					SD	0.248					99% Percentile (z)	0.807
1634					k star	0.09						
1635					Theta star	0.826	**Gamma ROS Limits with Extrapolated Data**					
1636					Nu star	11.51					95% Wilson Hilferty (WH) Approx. Gamma UPL	0.161
1637					95% Percentile of Chisquare (2k)	1.048					95% Hawkins Wixley (HW) Approx. Gamma UPL	0.101
1638											95% WH Approx. Gamma UTL with 90% Coverage	0.141
1639					90% Percentile	0.188					95% HW Approx. Gamma UTL with 90% Coverage	0.0848
1640					95% Percentile	0.433						
1641					99% Percentile	1.243						
1642												
1643	Note: DL/2 is not a recommended method.											
1644												
1645												
1646	SILVER											
1647												
1648					**General Statistics**							
1649					Number of Valid Data	64					Number of Detected Data	22
1650					Number of Distinct Detected Data	17					Number of Non-Detect Data	42

	A	B	C	D	E	F	G	H	I	J	K	L
1651					Tolerance Factor	1.593				Percent Non-Detects		65.63%
1652												
1653				Raw Statistics						Log-transformed Statistics		
1654					Minimum Detected	0.06				Minimum Detected		-2.813
1655					Maximum Detected	1.6				Maximum Detected		0.47
1656					Mean of Detected	0.302				Mean of Detected		-1.529
1657					SD of Detected	0.335				SD of Detected		0.755
1658					Minimum Non-Detect	0.05				Minimum Non-Detect		-2.996
1659					Maximum Non-Detect	0.17				Maximum Non-Detect		-1.772
1660												
1661				Data with Multiple Detection Limits						Single Detection Limit Scenario		
1662	Note: Data have multiple DLs - Use of KM Method is recommended									Number treated as Non-Detect with Single DL		52
1663	For all methods (except KM, DL/2, and ROS Methods),									Number treated as Detected with Single DL		12
1664	Observations < Largest ND are treated as NDs									Single DL Non-Detect Percentage		81.25%
1665												
1666					Background Statistics							
1667				Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only		
1668					Shapiro Wilk Test Statistic	0.617				Shapiro Wilk Test Statistic		0.936
1669					5% Shapiro Wilk Critical Value	0.911				5% Shapiro Wilk Critical Value		0.911
1670				Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
1671												
1672				Assuming Normal Distribution						Assuming Lognormal Distribution		
1673					DL/2 Substitution Method					DL/2 Substitution Method		
1674					Mean	0.134				Mean (Log Scale)		-2.599
1675					SD	0.23				SD (Log Scale)		0.953
1676					95% UTL 90% Coverage	0.5				95% UTL 90% Coverage		0.339
1677					95% UPL (t)	0.521				95% UPL (t)		0.369
1678					90% Percentile (z)	0.429				90% Percentile (z)		0.252
1679					95% Percentile (z)	0.512				95% Percentile (z)		0.356
1680					99% Percentile (z)	0.669				99% Percentile (z)		0.681
1681												
1682					Maximum Likelihood Estimate(MLE) Method					Log ROS Method		
1683					Mean	-0.405				Mean in Original Scale		0.123
1684					SD	0.622				SD in Original Scale		0.234
1685					95% UTL with 90% Coverage	0.586				95% UTL with 90% Coverage		0.38
1686										95% BCA UTL with 90% Coverage		0.431
1687										95% Bootstrap (%) UTL with 90% Coverage		0.44
1688					95% UPL (t)	0.642				95% UPL (t)		0.425
1689					90% Percentile (z)	0.393				90% Percentile (z)		0.256
1690					95% Percentile (z)	0.619				95% Percentile (z)		0.406
1691					99% Percentile (z)	1.043				99% Percentile (z)		0.959
1692												
1693				Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only		
1694					k star (bias corrected)	1.458				Data appear Lognormal at 5% Significance Level		
1695					Theta Star	0.207						
1696					nu star	64.17						
1697												
1698					A-D Test Statistic	1.199				Nonparametric Statistics		
1699					5% A-D Critical Value	0.758				Kaplan-Meier (KM) Method		
1700					K-S Test Statistic	0.25				Mean		0.145
1701					5% K-S Critical Value	0.188				SD		0.223
1702				Data not Gamma Distributed at 5% Significance Level						SE of Mean		0.0286
1703										95% KM UTL with 90% Coverage		0.501
1704				Assuming Gamma Distribution						95% KM Chebyshev UPL		1.127
1705					Gamma ROS Statistics with Extrapolated Data					95% KM UPL (t)		0.521

	A	B	C	D	E	F	G	H	I	J	K	L
1706					Mean	0.104				90% Percentile (z)		0.431
1707					Median	0.000001				95% Percentile (z)		0.513
1708					SD	0.242				99% Percentile (z)		0.665
1709					k star	0.115						
1710					Theta star	0.904			**Gamma ROS Limits with Extrapolated Data**			
1711					Nu star	14.7			95% Wilson Hilferty (WH) Approx. Gamma UPL			0.406
1712					95% Percentile of Chisquare (2k)	1.317			95% Hawkins Wixley (HW) Approx. Gamma UPL			0.433
1713									95% WH Approx. Gamma UTL with		90% Coverage	0.362
1714					90% Percentile	0.29			95% HW Approx. Gamma UTL with		90% Coverage	0.374
1715					95% Percentile	0.596						
1716					99% Percentile	1.538						
1717												
1718	Note: DL/2 is not a recommended method.											
1719												
1720												
1721	**SODIUM**											
1722												
1723					**General Statistics**							
1724					Number of Valid Data	64				Number of Detected Data		23
1725					Number of Distinct Detected Data	22				Number of Non-Detect Data		41
1726					Tolerance Factor	1.593				Percent Non-Detects		64.06%
1727												
1728				**Raw Statistics**					**Log-transformed Statistics**			
1729					Minimum Detected	26.3				Minimum Detected		3.27
1730					Maximum Detected	281				Maximum Detected		5.638
1731					Mean of Detected	51				Mean of Detected		3.761
1732					SD of Detected	51.08				SD of Detected		0.47
1733					Minimum Non-Detect	40.4				Minimum Non-Detect		3.699
1734					Maximum Non-Detect	289				Maximum Non-Detect		5.666
1735												
1736				**Data with Multiple Detection Limits**					**Single Detection Limit Scenario**			
1737				Note: Data have multiple DLs - Use of KM Method is recommended						Number treated as Non-Detect with Single DL		64
1738				For all methods (except KM, DL/2, and ROS Methods),						Number treated as Detected with Single DL		0
1739				Observations < Largest ND are treated as NDs						Single DL Non-Detect Percentage		100.00%
1740												
1741					**Background Statistics**							
1742				**Normal Distribution Test with Detected Values Only**					**Lognormal Distribution Test with Detected Values Only**			
1743					Shapiro Wilk Test Statistic	0.378				Shapiro Wilk Test Statistic		0.685
1744					5% Shapiro Wilk Critical Value	0.914				5% Shapiro Wilk Critical Value		0.914
1745				Data not Normal at 5% Significance Level					Data not Lognormal at 5% Significance Level			
1746												
1747				**Assuming Normal Distribution**					**Assuming Lognormal Distribution**			
1748					DL/2 Substitution Method					DL/2 Substitution Method		
1749					Mean	62.82				Mean (Log Scale)		3.966
1750					SD	43.34				SD (Log Scale)		0.57
1751					95% UTL 90% Coverage	131.8				95% UTL 90% Coverage		130.7
1752					95% UPL (t)	135.7				95% UPL (t)		137.6
1753					90% Percentile (z)	118.4				90% Percentile (z)		109.5
1754					95% Percentile (z)	134.1				95% Percentile (z)		134.7
1755					99% Percentile (z)	163.6				99% Percentile (z)		198.5
1756												
1757					Maximum Likelihood Estimate(MLE) Method	N/A				Log ROS Method		
1758										Mean in Original Scale		43.61
1759										SD in Original Scale		30.74
1760										Mean in Log Scale		3.705

1761											SD in Log Scale	0.285
1762											95% UTL 90% Coverage	63.95
1763											95% UPL (t)	65.61
1764											90% Percentile (z)	58.53
1765											95% Percentile (z)	64.91
1766											99% Percentile (z)	78.8
1767												
1768	**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**					
1769					k star (bias corrected)	2.704	Data do not follow a Discernable Distribution (0.05)					
1770					Theta Star	18.86						
1771					nu star	124.4						
1772												
1773					A-D Test Statistic	3.142	**Nonparametric Statistics**					
1774					5% A-D Critical Value	0.75					Kaplan-Meier (KM) Method	
1775					K-S Test Statistic	0.312					Mean	43.33
1776					5% K-S Critical Value	0.183					SD	31.51
1777	Data not Gamma Distributed at 5% Significance Level										SE of Mean	4.285
1778											95% KM UTL with 90% Coverage	93.51
1779	**Assuming Gamma Distribution**										95% KM Chebyshev UPL	181.7
1780					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	96.34
1781					Mean	50.77					90% Percentile (z)	83.71
1782					Median	51.28					95% Percentile (z)	95.16
1783					SD	30.37					99% Percentile (z)	116.6
1784					k star	7.602						
1785					Theta star	6.679	**Gamma ROS Limits with Extrapolated Data**					
1786					Nu star	973.1					95% Wilson Hilferty (WH) Approx. Gamma UPL	83.53
1787					95% Percentile of Chisquare (2k)	25.26					95% Hawkins Wixley (HW) Approx. Gamma UPL	82.03
1788											95% WH Approx. Gamma UTL with 90% Coverage	81.32
1789					90% Percentile	75.34					95% HW Approx. Gamma UTL with 90% Coverage	79.87
1790					95% Percentile	84.36						
1791					99% Percentile	103.1						
1792												
1793	Note: DL/2 is not a recommended method.											
1794												
1795												
1796	THALLIUM											
1797												
1798	**General Statistics**											
1799					Number of Valid Data	64					Number of Detected Data	0
1800					Number of Distinct Detected Data	0					Number of Non-Detect Data	64
1801												
1802	Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!											
1803	Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!											
1804	The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).											
1805												
1806	The data set for variable THALLIUM was not processed!											
1807												
1808												
1809												
1810	TOTAL ORGANIC CARBON											
1811												
1812	**General Statistics**											
1813					Total Number of Observations	64					Number of Distinct Observations	51
1814					Tolerance Factor	1.593						
1815												

	A	B	C	D	E	F	G	H	I	J	K	L
1816	**Raw Statistics**						**Log-Transformed Statistics**					
1817					Minimum	295					Minimum	5.687
1818					Maximum	34000					Maximum	10.43
1819					Second Largest	30000					Second Largest	10.31
1820					First Quartile	975					First Quartile	6.881
1821					Median	5800					Median	8.663
1822					Third Quartile	15375					Third Quartile	9.64
1823					Mean	9154					Mean	8.248
1824					SD	9695					SD	1.537
1825					Coefficient of Variation	1.059						
1826					Skewness	0.928						
1827												
1828	**Background Statistics**											
1829	**Normal Distribution Test**						**Lognormal Distribution Test**					
1830					Lilliefors Test Statistic	0.216					Lilliefors Test Statistic	0.154
1831					Lilliefors Critical Value	0.111					Lilliefors Critical Value	0.111
1832	Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level					
1833												
1834	**Assuming Normal Distribution**						**Assuming Lognormal Distribution**					
1835					95% UTL with 90% Coverage	24594					95% UTL with 90% Coverage	44147
1836					95% UPL (t)	25465					95% UPL (t)	50682
1837					90% Percentile (z)	21579					90% Percentile (z)	27372
1838					95% Percentile (z)	25101					95% Percentile (z)	47840
1839					99% Percentile (z)	31709					99% Percentile (z)	136356
1840												
1841	**Gamma Distribution Test**						**Data Distribution Test**					
1842					k star	0.67	Data do not follow a Discernable Distribution (0.05)					
1843					Theta Star	13657						
1844					MLE of Mean	9154						
1845					MLE of Standard Deviation	11181						
1846					nu star	85.79						
1847												
1848					A-D Test Statistic	1.821	**Nonparametric Statistics**					
1849					5% A-D Critical Value	0.798					90% Percentile	25800
1850					K-S Test Statistic	0.166					95% Percentile	28000
1851					5% K-S Critical Value	0.116					99% Percentile	31480
1852	Data not Gamma Distributed at 5% Significance Level											
1853												
1854	**Assuming Gamma Distribution**										95% UTL with 90% Coverage	28000
1855					90% Percentile	23212					95% Percentile Bootstrap UTL with 90% Coverage	28000
1856					95% Percentile	31649					95% BCA Bootstrap UTL with 90% Coverage	28000
1857					99% Percentile	51862					95% UPL	28750
1858											95% Chebyshev UPL	51744
1859					95% WH Approx. Gamma UPL	31376					Upper Threshold Limit Based upon IQR	36975
1860					95% HW Approx. Gamma UPL	33732						
1861					95% WH Approx. Gamma UTL with 90% Coverage	29214						
1862					95% HW Approx. Gamma UTL with 90% Coverage	31089						
1863												
1864												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	WorkSheet.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	ALUMINUM											
12												
13						General Statistics						
14						Total Number of Observations	64			Number of Distinct Observations	61	
15						Tolerance Factor	1.593					
16												
17						Raw Statistics				Log-Transformed Statistics		
18						Minimum	3350			Minimum	8.117	
19						Maximum	33600			Maximum	10.42	
20						Second Largest	30800			Second Largest	10.34	
21						First Quartile	5670			First Quartile	8.642	
22						Median	11750			Median	9.368	
23						Third Quartile	21625			Third Quartile	9.982	
24						Mean	14321			Mean	9.332	
25						SD	9126			SD	0.727	
26						Coefficient of Variation	0.637					
27						Skewness	0.394					
28												
29						Background Statistics						
30						Normal Distribution Test				Lognormal Distribution Test		
31						Lilliefors Test Statistic	0.183			Lilliefors Test Statistic	0.147	
32						Lilliefors Critical Value	0.111			Lilliefors Critical Value	0.111	
33						Data not Normal at 5% Significance Level				Data not Lognormal at 5% Significance Level		
34												
35						Assuming Normal Distribution				Assuming Lognormal Distribution		
36						95% UTL with 90% Coverage	28855			95% UTL with 90% Coverage	35966	
37						95% UPL (t)	29675			95% UPL (t)	38394	
38						90% Percentile (z)	26017			90% Percentile (z)	28684	
39						95% Percentile (z)	29332			95% Percentile (z)	37360	
40						99% Percentile (z)	35552			99% Percentile (z)	61331	
41												
42						Gamma Distribution Test				Data Distribution Test		
43						k star	2.162			Data do not follow a Discernable Distribution (0.05)		
44						Theta Star	6624					
45						MLE of Mean	14321					
46						MLE of Standard Deviation	9740					
47						nu star	276.7					
48												
49						A-D Test Statistic	1.967			Nonparametric Statistics		
50						5% A-D Critical Value	0.762			90% Percentile	27180	
51						K-S Test Statistic	0.133			95% Percentile	28868	
52						5% K-S Critical Value	0.113			99% Percentile	31836	
53						Data not Gamma Distributed at 5% Significance Level						
54												
55						Assuming Gamma Distribution				95% UTL with 90% Coverage	28950	

	A	B	C	D	E	F	G	H	I	J	K	L
56					90% Percentile	27350				95% Percentile Bootstrap UTL with	90% Coverage	28785
57					95% Percentile	33149				95% BCA Bootstrap UTL with	90% Coverage	28785
58					99% Percentile	45951					95% UPL	28988
59											95% Chebyshev UPL	54411
60					95% WH Approx. Gamma UPL	33502					Upper Threshold Limit Based upon IQR	45558
61					95% HW Approx. Gamma UPL	34408						
62				95% WH Approx. Gamma UTL with	90% Coverage	32001						
63				95% HW Approx. Gamma UTL with	90% Coverage	32743						
64												
65												
66												
67	ARSENIC											
68												
69					General Statistics							
70					Total Number of Observations	64					Number of Distinct Observations	46
71					Tolerance Factor	1.593						
72												
73				Raw Statistics						Log-Transformed Statistics		
74					Minimum	0.56					Minimum	-0.58
75					Maximum	17.9					Maximum	2.885
76					Second Largest	15.1					Second Largest	2.715
77					First Quartile	1.5					First Quartile	0.405
78					Median	3.3					Median	1.182
79					Third Quartile	7.575					Third Quartile	2.025
80					Mean	4.909					Mean	1.205
81					SD	4.199					SD	0.915
82					Coefficient of Variation	0.855						
83					Skewness	1.091						
84												
85					Background Statistics							
86				Normal Distribution Test						Lognormal Distribution Test		
87					Lilliefors Test Statistic	0.217					Lilliefors Test Statistic	0.162
88					Lilliefors Critical Value	0.111					Lilliefors Critical Value	0.111
89				Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level		
90												
91				Assuming Normal Distribution						Assuming Lognormal Distribution		
92					95% UTL with	90% Coverage 11.6					95% UTL with	90% Coverage 14.31
93					95% UPL (t)	11.97					95% UPL (t)	15.54
94					90% Percentile (z)	10.29					90% Percentile (z)	10.77
95					95% Percentile (z)	11.82					95% Percentile (z)	15.02
96					99% Percentile (z)	14.68					99% Percentile (z)	28.01
97												
98				Gamma Distribution Test						Data Distribution Test		
99					k star	1.38				Data do not follow a Discernable Distribution (0.05)		
100					Theta Star	3.557						
101					MLE of Mean	4.909						
102					MLE of Standard Deviation	4.179						
103					nu star	176.7						
104												
105					A-D Test Statistic	2.025				Nonparametric Statistics		
106					5% A-D Critical Value	0.77					90% Percentile	10.67
107					K-S Test Statistic	0.193					95% Percentile	12.8
108					5% K-S Critical Value	0.114					99% Percentile	16.14
109				Data not Gamma Distributed at 5% Significance Level								
110												

	A	B	C	D	E	F	G	H	I	J	K	L
111	Assuming Gamma Distribution						95% UTL with 90% Coverage					12.9
112					90% Percentile	10.44	95% Percentile Bootstrap UTL with 90% Coverage					12.69
113					95% Percentile	13.15	95% BCA Bootstrap UTL with 90% Coverage					12.69
114					99% Percentile	19.31					95% UPL	14.21
115											95% Chebyshev UPL	23.35
116					95% WH Approx. Gamma UPL	13.22	Upper Threshold Limit Based upon IQR					16.69
117					95% HW Approx. Gamma UPL	13.61						
118				95% WH Approx. Gamma UTL with	90% Coverage	12.51						
119				95% HW Approx. Gamma UTL with	90% Coverage	12.82						
120												
121												
122												
123	BARIUM											
124												
125	General Statistics											
126					Total Number of Observations	64	Number of Distinct Observations					56
127					Tolerance Factor	1.593						
128												
129	Raw Statistics						Log-Transformed Statistics					
130					Minimum	5.7					Minimum	1.74
131					Maximum	102					Maximum	4.625
132					Second Largest	93.3					Second Largest	4.536
133					First Quartile	10.14					First Quartile	2.316
134					Median	15.6					Median	2.747
135					Third Quartile	66.28					Third Quartile	4.194
136					Mean	37.91					Mean	3.213
137					SD	31.72					SD	0.96
138					Coefficient of Variation	0.837						
139					Skewness	0.521						
140												
141	Background Statistics											
142	Normal Distribution Test						Lognormal Distribution Test					
143					Lilliefors Test Statistic	0.285					Lilliefors Test Statistic	0.216
144					Lilliefors Critical Value	0.111					Lilliefors Critical Value	0.111
145	Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level					
146												
147	Assuming Normal Distribution						Assuming Lognormal Distribution					
148				95% UTL with	90% Coverage	88.43				95% UTL with	90% Coverage	114.6
149					95% UPL (t)	91.28					95% UPL (t)	124.9
150					90% Percentile (z)	78.56					90% Percentile (z)	85.04
151					95% Percentile (z)	90.08					95% Percentile (z)	120.5
152					99% Percentile (z)	111.7					99% Percentile (z)	231.8
153												
154	Gamma Distribution Test						Data Distribution Test					
155					k star	1.274	Data do not follow a Discernable Distribution (0.05)					
156					Theta Star	29.75						
157					MLE of Mean	37.91						
158					MLE of Standard Deviation	33.59						
159					nu star	163.1						
160												
161					A-D Test Statistic	5.114	Nonparametric Statistics					
162					5% A-D Critical Value	0.773					90% Percentile	85.56
163					K-S Test Statistic	0.242					95% Percentile	88.94
164					5% K-S Critical Value	0.114					99% Percentile	96.52
165	Data not Gamma Distributed at 5% Significance Level											

	A	B	C	D	E	F	G	H	I	J	K	L
166												
167				Assuming Gamma Distribution						95% UTL with	90% Coverage	89
168					90% Percentile	82.23				95% Percentile Bootstrap UTL with	90% Coverage	89
169					95% Percentile	104.4				95% BCA Bootstrap UTL with	90% Coverage	88.88
170					99% Percentile	154.9					95% UPL	89.75
171											95% Chebyshev UPL	177.2
172					95% WH Approx. Gamma UPL	105.2				Upper Threshold Limit Based upon IQR		150.5
173					95% HW Approx. Gamma UPL	108.7						
174				95% WH Approx. Gamma UTL with	90% Coverage	99.46						
175				95% HW Approx. Gamma UTL with	90% Coverage	102.2						
176												
177												
178												
179	BERYLLIUM											
180												
181					General Statistics							
182					Total Number of Observations	64				Number of Distinct Observations		40
183					Tolerance Factor	1.593						
184												
185				Raw Statistics						Log-Transformed Statistics		
186					Minimum	0.19					Minimum	-1.661
187					Maximum	1.7					Maximum	0.531
188					Second Largest	1.5					Second Largest	0.405
189					First Quartile	0.3					First Quartile	-1.204
190					Median	0.505					Median	-0.683
191					Third Quartile	0.878					Third Quartile	-0.131
192					Mean	0.634					Mean	-0.657
193					SD	0.404					SD	0.647
194					Coefficient of Variation	0.637						
195					Skewness	0.837						
196												
197					Background Statistics							
198				Normal Distribution Test						Lognormal Distribution Test		
199					Lilliefors Test Statistic	0.181					Lilliefors Test Statistic	0.147
200					Lilliefors Critical Value	0.111					Lilliefors Critical Value	0.111
201				Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level		
202												
203				Assuming Normal Distribution						Assuming Lognormal Distribution		
204					95% UTL with	90% Coverage	1.277				95% UTL with	90% Coverage	1.452
205					95% UPL (t)	1.313					95% UPL (t)	1.538
206					90% Percentile (z)	1.152					90% Percentile (z)	1.187
207					95% Percentile (z)	1.298					95% Percentile (z)	1.502
208					99% Percentile (z)	1.573					99% Percentile (z)	2.333
209												
210				Gamma Distribution Test						Data Distribution Test		
211					k star	2.52				Data do not follow a Discernable Distribution (0.05)		
212					Theta Star	0.252						
213					MLE of Mean	0.634						
214					MLE of Standard Deviation	0.4						
215					nu star	322.6						
216												
217					A-D Test Statistic	1.583				Nonparametric Statistics		
218					5% A-D Critical Value	0.76					90% Percentile	1.24
219					K-S Test Statistic	0.159					95% Percentile	1.47
220					5% K-S Critical Value	0.112					99% Percentile	1.574

	A	B	C	D	E	F	G	H	I	J	K	L
221	Data not Gamma Distributed at 5% Significance Level											
222												
223	Assuming Gamma Distribution						95% UTL with 90% Coverage					1.5
224					90% Percentile	1.169	95% Percentile Bootstrap UTL with 90% Coverage					1.44
225					95% Percentile	1.401	95% BCA Bootstrap UTL with 90% Coverage					1.44
226					99% Percentile	1.907					95% UPL	1.5
227											95% Chebyshev UPL	2.408
228				95% WH Approx. Gamma UPL		1.412	Upper Threshold Limit Based upon IQR					1.744
229				95% HW Approx. Gamma UPL		1.436						
230			95% WH Approx. Gamma UTL with 90% Coverage			1.352						
231			95% HW Approx. Gamma UTL with 90% Coverage			1.371						
232												
233												
234												
235	CALCIUM											
236												
237	General Statistics											
238			Total Number of Observations			64	Number of Distinct Observations					63
239			Tolerance Factor			1.593						
240												
241	Raw Statistics						Log-Transformed Statistics					
242			Minimum			156	Minimum					5.05
243			Maximum			3260	Maximum					8.089
244			Second Largest			3040	Second Largest					8.02
245			First Quartile			428.8	First Quartile					6.06
246			Median			711	Median					6.566
247			Third Quartile			1338	Third Quartile					7.193
248			Mean			1096	Mean					6.665
249			SD			929.4	SD					0.825
250			Coefficient of Variation			0.848						
251			Skewness			1.12						
252												
253	Background Statistics											
254	Normal Distribution Test						Lognormal Distribution Test					
255			Lilliefors Test Statistic			0.267	Lilliefors Test Statistic					0.12
256			Lilliefors Critical Value			0.111	Lilliefors Critical Value					0.111
257	Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level					
258												
259	Assuming Normal Distribution						Assuming Lognormal Distribution					
260			95% UTL with 90% Coverage			2576	95% UTL with 90% Coverage					2921
261			95% UPL (t)			2660	95% UPL (t)					3146
262			90% Percentile (z)			2287	90% Percentile (z)					2260
263			95% Percentile (z)			2625	95% Percentile (z)					3050
264			99% Percentile (z)			3258	99% Percentile (z)					5353
265												
266	Gamma Distribution Test						Data Distribution Test					
267			k star			1.577	Data do not follow a Discernable Distribution (0.05)					
268			Theta Star			695.1						
269			MLE of Mean			1096						
270			MLE of Standard Deviation			872.9						
271			nu star			201.8						
272												
273			A-D Test Statistic			2.433	Nonparametric Statistics					
274			5% A-D Critical Value			0.767	90% Percentile					2691
275			K-S Test Statistic			0.177	95% Percentile					2914

	A	B	C	D	E	F	G	H	I	J	K	L
276					5% K-S Critical Value	0.113					99% Percentile	3121
277		Data not Gamma Distributed at 5% Significance Level										
278												
279				Assuming Gamma Distribution						95% UTL with	90% Coverage	2915
280					90% Percentile	2256			95% Percentile Bootstrap UTL with		90% Coverage	2915
281					95% Percentile	2808			95% BCA Bootstrap UTL with		90% Coverage	2914
282					99% Percentile	4050					95% UPL	2919
283											95% Chebyshev UPL	5179
284					95% WH Approx. Gamma UPL	2814					Upper Threshold Limit Based upon IQR	2701
285					95% HW Approx. Gamma UPL	2867						
286				95% WH Approx. Gamma UTL with	90% Coverage	2671						
287				95% HW Approx. Gamma UTL with	90% Coverage	2711						
288												
289												
290												
291	CHROMIUM											
292												
293					General Statistics							
294					Total Number of Observations	64					Number of Distinct Observations	55
295					Tolerance Factor	1.593						
296												
297				Raw Statistics					Log-Transformed Statistics			
298					Minimum	3.6					Minimum	1.281
299					Maximum	57.5					Maximum	4.052
300					Second Largest	57.3					Second Largest	4.048
301					First Quartile	7.125					First Quartile	1.963
302					Median	11.95					Median	2.464
303					Third Quartile	39.64					Third Quartile	3.68
304					Mean	22.65					Mean	2.756
305					SD	17.92					SD	0.889
306					Coefficient of Variation	0.791						
307					Skewness	0.558						
308												
309					Background Statistics							
310				Normal Distribution Test					Lognormal Distribution Test			
311					Lilliefors Test Statistic	0.263					Lilliefors Test Statistic	0.203
312					Lilliefors Critical Value	0.111					Lilliefors Critical Value	0.111
313				Data not Normal at 5% Significance Level					Data not Lognormal at 5% Significance Level			
314												
315				Assuming Normal Distribution					Assuming Lognormal Distribution			
316					95% UTL with	90% Coverage	51.19				95% UTL with	90% Coverage	64.84
317					95% UPL (t)	52.8					95% UPL (t)	70.23
318					90% Percentile (z)	45.61					90% Percentile (z)	49.18
319					95% Percentile (z)	52.12					95% Percentile (z)	67.93
320					99% Percentile (z)	64.34					99% Percentile (z)	124.5
321												
322				Gamma Distribution Test					Data Distribution Test			
323					k star	1.46			Data do not follow a Discernable Distribution (0.05)			
324					Theta Star	15.51						
325					MLE of Mean	22.65						
326					MLE of Standard Deviation	18.74						
327					nu star	186.8						
328												
329					A-D Test Statistic	3.823			Nonparametric Statistics			
330					5% A-D Critical Value	0.769					90% Percentile	49.2

	A	B	C	D	E	F	G	H	I	J	K	L
331					K-S Test Statistic	0.232					95% Percentile	53.38
332					5% K-S Critical Value	0.113					99% Percentile	57.37
333		Data not Gamma Distributed at 5% Significance Level										
334												
335			Assuming Gamma Distribution								95% UTL with 90% Coverage	53.6
336					90% Percentile	47.51					95% Percentile Bootstrap UTL with 90% Coverage	53.6
337					95% Percentile	59.53					95% BCA Bootstrap UTL with 90% Coverage	53.15
338					99% Percentile	86.74					95% UPL	54.65
339											95% Chebyshev UPL	101.4
340					95% WH Approx. Gamma UPL	60.07					Upper Threshold Limit Based upon IQR	88.41
341					95% HW Approx. Gamma UPL	61.89						
342					95% WH Approx. Gamma UTL with 90% Coverage	56.93						
343					95% HW Approx. Gamma UTL with 90% Coverage	58.36						
344												
345												
346												
347	COBALT											
348												
349					General Statistics							
350					Total Number of Observations	64					Number of Distinct Observations	47
351					Tolerance Factor	1.593						
352												
353				Raw Statistics						Log-Transformed Statistics		
354					Minimum	0.55					Minimum	-0.598
355					Maximum	27.1					Maximum	3.3
356					Second Largest	24.4					Second Largest	3.195
357					First Quartile	3.05					First Quartile	1.115
358					Median	4					Median	1.386
359					Third Quartile	12.73					Third Quartile	2.544
360					Mean	8.085					Mean	1.728
361					SD	6.602					SD	0.899
362					Coefficient of Variation	0.817						
363					Skewness	0.949						
364												
365					Background Statistics							
366				Normal Distribution Test						Lognormal Distribution Test		
367					Lilliefors Test Statistic	0.274					Lilliefors Test Statistic	0.185
368					Lilliefors Critical Value	0.111					Lilliefors Critical Value	0.111
369				Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level		
370												
371				Assuming Normal Distribution						Assuming Lognormal Distribution		
372					95% UTL with 90% Coverage	18.6					95% UTL with 90% Coverage	23.58
373					95% UPL (t)	19.19					95% UPL (t)	25.56
374					90% Percentile (z)	16.55					90% Percentile (z)	17.82
375					95% Percentile (z)	18.94					95% Percentile (z)	24.71
376					99% Percentile (z)	23.44					99% Percentile (z)	45.61
377												
378				Gamma Distribution Test						Data Distribution Test		
379					k star	1.465				Data do not follow a Discernable Distribution (0.05)		
380					Theta Star	5.517						
381					MLE of Mean	8.085						
382					MLE of Standard Deviation	6.679						
383					nu star	187.6						
384												
385					A-D Test Statistic	2.141				Nonparametric Statistics		

	A	B	C	D	E	F	G	H	I	J	K	L
386					5% A-D Critical Value	0.769					90% Percentile	17.45
387					K-S Test Statistic	0.227					95% Percentile	20.52
388					5% K-S Critical Value	0.113					99% Percentile	25.4
389		Data not Gamma Distributed at 5% Significance Level										
390												
391			Assuming Gamma Distribution							95% UTL with	90% Coverage	20.8
392					90% Percentile	16.94			95% Percentile Bootstrap UTL with		90% Coverage	20.8
393					95% Percentile	21.23			95% BCA Bootstrap UTL with		90% Coverage	20.23
394					99% Percentile	30.91					95% UPL	20.8
395											95% Chebyshev UPL	37.08
396				95% WH Approx. Gamma UPL		21.35					Upper Threshold Limit Based upon IQR	27.24
397				95% HW Approx. Gamma UPL		22.02						
398			95% WH Approx. Gamma UTL with		90% Coverage	20.24						
399			95% HW Approx. Gamma UTL with		90% Coverage	20.77						
400												
401												
402												
403	IRON											
404												
405					General Statistics							
406					Total Number of Observations	64					Number of Distinct Observations	63
407					Tolerance Factor	1.593						
408												
409				Raw Statistics						Log-Transformed Statistics		
410					Minimum	2230					Minimum	7.71
411					Maximum	46800					Maximum	10.75
412					Second Largest	44300					Second Largest	10.7
413					First Quartile	6953					First Quartile	8.847
414					Median	10550					Median	9.264
415					Third Quartile	31600					Third Quartile	10.36
416					Mean	18709					Mean	9.547
417					SD	13501					SD	0.791
418					Coefficient of Variation	0.722						
419					Skewness	0.568						
420												
421					Background Statistics							
422				Normal Distribution Test						Lognormal Distribution Test		
423					Lilliefors Test Statistic	0.242					Lilliefors Test Statistic	0.201
424					Lilliefors Critical Value	0.111					Lilliefors Critical Value	0.111
425				Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level		
426												
427				Assuming Normal Distribution						Assuming Lognormal Distribution		
428					95% UTL with	90% Coverage	40210				95% UTL with	90% Coverage	49334
429					95% UPL (t)	41423					95% UPL (t)	52965
430					90% Percentile (z)	36011					90% Percentile (z)	38578
431					95% Percentile (z)	40916					95% Percentile (z)	51416
432					99% Percentile (z)	50117					99% Percentile (z)	88129
433												
434				Gamma Distribution Test						Data Distribution Test		
435					k star	1.798				Data do not follow a Discernable Distribution (0.05)		
436					Theta Star	10403						
437					MLE of Mean	18709						
438					MLE of Standard Deviation	13951						
439					nu star	230.2						
440												

	A	B	C	D	E	F	G	H	I	J	K	L
441					A-D Test Statistic	3.57	Nonparametric Statistics					
442					5% A-D Critical Value	0.765					90% Percentile	38040
443					K-S Test Statistic	0.217					95% Percentile	42815
444					5% K-S Critical Value	0.113					99% Percentile	45225
445		Data not Gamma Distributed at 5% Significance Level										
446												
447			Assuming Gamma Distribution							95% UTL with	90% Coverage	43100
448					90% Percentile	37314			95% Percentile Bootstrap UTL with		90% Coverage	42530
449					95% Percentile	45911			95% BCA Bootstrap UTL with		90% Coverage	42530
450					99% Percentile	65100					95% UPL	43850
451											95% Chebyshev UPL	78016
452					95% WH Approx. Gamma UPL	46331					Upper Threshold Limit Based upon IQR	68571
453					95% HW Approx. Gamma UPL	47532						
454				95% WH Approx. Gamma UTL with	90% Coverage	44100						
455				95% HW Approx. Gamma UTL with	90% Coverage	45055						
456												
457												
458												
459	LEAD											
460												
461					General Statistics							
462					Total Number of Observations	64					Number of Distinct Observations	52
463					Tolerance Factor	1.593						
464												
465				Raw Statistics						Log-Transformed Statistics		
466					Minimum	2.1					Minimum	0.742
467					Maximum	19					Maximum	2.944
468					Second Largest	18.7					Second Largest	2.929
469					First Quartile	3.15					First Quartile	1.147
470					Median	7.95					Median	2.073
471					Third Quartile	12.65					Third Quartile	2.538
472					Mean	8.509					Mean	1.923
473					SD	5.135					SD	0.702
474					Coefficient of Variation	0.604						
475					Skewness	0.333						
476												
477					Background Statistics							
478				Normal Distribution Test						Lognormal Distribution Test		
479					Lilliefors Test Statistic	0.144					Lilliefors Test Statistic	0.162
480					Lilliefors Critical Value	0.111					Lilliefors Critical Value	0.111
481				Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level		
482												
483				Assuming Normal Distribution						Assuming Lognormal Distribution		
484					95% UTL with	90% Coverage	16.69				95% UTL with	90% Coverage	20.92
485					95% UPL (t)	17.15					95% UPL (t)	22.28
486					90% Percentile (z)	15.09					90% Percentile (z)	16.82
487					95% Percentile (z)	16.96					95% Percentile (z)	21.7
488					99% Percentile (z)	20.46					99% Percentile (z)	35
489												
490				Gamma Distribution Test						Data Distribution Test		
491					k star	2.346				Data do not follow a Discernable Distribution (0.05)		
492					Theta Star	3.627						
493					MLE of Mean	8.509						
494					MLE of Standard Deviation	5.556						
495					nu star	300.2						

	A	B	C	D	E	F	G	H	I	J	K	L
496												
497					A-D Test Statistic	1.868				Nonparametric Statistics		
498					5% A-D Critical Value	0.761					90% Percentile	15.57
499					K-S Test Statistic	0.142					95% Percentile	17.21
500					5% K-S Critical Value	0.113					99% Percentile	18.81
501		Data not Gamma Distributed at 5% Significance Level										
502												
503				Assuming Gamma Distribution						95% UTL with	90% Coverage	17.4
504					90% Percentile	15.95			95% Percentile Bootstrap UTL with		90% Coverage	17.4
505					95% Percentile	19.21			95% BCA Bootstrap UTL with		90% Coverage	17.4
506					99% Percentile	26.37					95% UPL	17.48
507											95% Chebyshev UPL	31.07
508					95% WH Approx. Gamma UPL	19.41				Upper Threshold Limit Based upon IQR		26.9
509					95% HW Approx. Gamma UPL	19.95						
510				95% WH Approx. Gamma UTL with	90% Coverage	18.57						
511				95% HW Approx. Gamma UTL with	90% Coverage	19.01						
512												
513												
514												
515	MAGNESIUM											
516												
517					General Statistics							
518					Total Number of Observations	64				Number of Distinct Observations		61
519					Tolerance Factor	1.593						
520												
521				Raw Statistics						Log-Transformed Statistics		
522					Minimum	356					Minimum	5.875
523					Maximum	11600					Maximum	9.359
524					Second Largest	11400					Second Largest	9.341
525					First Quartile	1288					First Quartile	7.16
526					Median	1835					Median	7.514
527					Third Quartile	6725					Third Quartile	8.813
528					Mean	4122					Mean	7.92
529					SD	3456					SD	0.947
530					Coefficient of Variation	0.838						
531					Skewness	0.705						
532												
533					Background Statistics							
534				Normal Distribution Test						Lognormal Distribution Test		
535					Lilliefors Test Statistic	0.27					Lilliefors Test Statistic	0.183
536					Lilliefors Critical Value	0.111					Lilliefors Critical Value	0.111
537				Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level		
538												
539				Assuming Normal Distribution						Assuming Lognormal Distribution		
540					95% UTL with	90% Coverage	9625				95% UTL with	90% Coverage	12421
541					95% UPL (t)	9935					95% UPL (t)	13524
542					90% Percentile (z)	8550					90% Percentile (z)	9254
543					95% Percentile (z)	9806					95% Percentile (z)	13051
544					99% Percentile (z)	12161					99% Percentile (z)	24878
545												
546				Gamma Distribution Test						Data Distribution Test		
547					k star	1.325				Data do not follow a Discernable Distribution (0.05)		
548					Theta Star	3110						
549					MLE of Mean	4122						
550					MLE of Standard Deviation	3581						

	A	B	C	D	E	F	G	H	I	J	K	L
551					nu star	169.6						
552												
553					A-D Test Statistic	3.107	Nonparametric Statistics					
554					5% A-D Critical Value	0.771					90% Percentile	9723
555					K-S Test Statistic	0.223					95% Percentile	10161
556					5% K-S Critical Value	0.114					99% Percentile	11474
557		Data not Gamma Distributed at 5% Significance Level										
558												
559		Assuming Gamma Distribution								95% UTL with	90% Coverage	10200
560					90% Percentile	8854			95% Percentile Bootstrap UTL with		90% Coverage	10200
561					95% Percentile	11196			95% BCA Bootstrap UTL with		90% Coverage	10200
562					99% Percentile	16529					95% UPL	10361
563											95% Chebyshev UPL	19301
564					95% WH Approx. Gamma UPL	11270					Upper Threshold Limit Based upon IQR	14881
565					95% HW Approx. Gamma UPL	11643						
566					95% WH Approx. Gamma UTL with	90% Coverage 10660						
567					95% HW Approx. Gamma UTL with	90% Coverage 10954						
568												
569												
570												
571	MANGANESE											
572												
573					General Statistics							
574					Total Number of Observations	64					Number of Distinct Observations	61
575					Tolerance Factor	1.593						
576												
577					Raw Statistics		Log-Transformed Statistics					
578					Minimum	24.2					Minimum	3.186
579					Maximum	1210					Maximum	7.098
580					Second Largest	918					Second Largest	6.822
581					First Quartile	156.3					First Quartile	5.051
582					Median	227.3					Median	5.425
583					Third Quartile	452.3					Third Quartile	6.114
584					Mean	328.7					Mean	5.496
585					SD	251.7					SD	0.822
586					Coefficient of Variation	0.766						
587					Skewness	1.246						
588												
589					Background Statistics							
590					Normal Distribution Test		Lognormal Distribution Test					
591					Lilliefors Test Statistic	0.168					Lilliefors Test Statistic	0.0588
592					Lilliefors Critical Value	0.111					Lilliefors Critical Value	0.111
593		Data not Normal at 5% Significance Level					Data appear Lognormal at 5% Significance Level					
594												
595					Assuming Normal Distribution		Assuming Lognormal Distribution					
596					95% UTL with	90% Coverage 729.5				95% UTL with	90% Coverage	902.7
597					95% UPL (t)	752.1					95% UPL (t)	971.9
598					90% Percentile (z)	651.3					90% Percentile (z)	699
599					95% Percentile (z)	742.7					95% Percentile (z)	942.4
600					99% Percentile (z)	914.2					99% Percentile (z)	1650
601												
602					Gamma Distribution Test		Data Distribution Test					
603					k star	1.744	Data appear Gamma Distributed at 5% Significance Level					
604					Theta Star	188.5						
605					MLE of Mean	328.7						

	A	B	C	D	E	F	G	H	I	J	K	L
606					MLE of Standard Deviation	248.9						
607					nu star	223.2						
608												
609					A-D Test Statistic	0.48	Nonparametric Statistics					
610					5% A-D Critical Value	0.765					90% Percentile	677.4
611					K-S Test Statistic	0.1					95% Percentile	798.4
612					5% K-S Critical Value	0.113					99% Percentile	1026
613	Data appear Gamma Distributed at 5% Significance Level											
614												
615	Assuming Gamma Distribution									95% UTL with	90% Coverage	802
616					90% Percentile	660.4			95% Percentile Bootstrap UTL with		90% Coverage	796.9
617					95% Percentile	814.7			95% BCA Bootstrap UTL with		90% Coverage	794.8
618					99% Percentile	1160					95% UPL	804.3
619											95% Chebyshev UPL	1434
620					95% WH Approx. Gamma UPL	818.9					Upper Threshold Limit Based upon IQR	896.3
621					95% HW Approx. Gamma UPL	842.7						
622					95% WH Approx. Gamma UTL with 90% Coverage	779.1						
623					95% HW Approx. Gamma UTL with 90% Coverage	798.3						
624												
625												
626												
627	NICKEL											
628												
629					General Statistics							
630					Total Number of Observations	64					Number of Distinct Observations	59
631					Tolerance Factor	1.593						
632												
633				Raw Statistics						Log-Transformed Statistics		
634					Minimum	1.3					Minimum	0.262
635					Maximum	50.4					Maximum	3.92
636					Second Largest	50					Second Largest	3.912
637					First Quartile	6.55					First Quartile	1.879
638					Median	9.3					Median	2.23
639					Third Quartile	28.4					Third Quartile	3.346
640					Mean	18.52					Mean	2.556
641					SD	14.9					SD	0.899
642					Coefficient of Variation	0.804						
643					Skewness	0.75						
644												
645					Background Statistics							
646				Normal Distribution Test						Lognormal Distribution Test		
647					Lilliefors Test Statistic	0.263					Lilliefors Test Statistic	0.162
648					Lilliefors Critical Value	0.111					Lilliefors Critical Value	0.111
649				Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level		
650												
651				Assuming Normal Distribution						Assuming Lognormal Distribution		
652					95% UTL with 90% Coverage	42.25					95% UTL with 90% Coverage	53.89
653					95% UPL (t)	43.59					95% UPL (t)	58.42
654					90% Percentile (z)	37.62					90% Percentile (z)	40.75
655					95% Percentile (z)	43.03					95% Percentile (z)	56.49
656					99% Percentile (z)	53.19					99% Percentile (z)	104.2
657												
658				Gamma Distribution Test						Data Distribution Test		
659					k star	1.462				Data do not follow a Discernable Distribution (0.05)		
660					Theta Star	12.67						

	A	B	C	D	E	F	G	H	I	J	K	L
661					MLE of Mean	18.52						
662					MLE of Standard Deviation	15.32						
663					nu star	187.1						
664												
665					A-D Test Statistic	2.599			Nonparametric Statistics			
666					5% A-D Critical Value	0.769					90% Percentile	42.62
667					K-S Test Statistic	0.205					95% Percentile	46.74
668					5% K-S Critical Value	0.113					99% Percentile	50.15
669		Data not Gamma Distributed at 5% Significance Level										
670												
671			Assuming Gamma Distribution							95% UTL with	90% Coverage	47.1
672					90% Percentile	38.84				95% Percentile Bootstrap UTL with	90% Coverage	46.44
673					95% Percentile	48.67				95% BCA Bootstrap UTL with	90% Coverage	46.77
674					99% Percentile	70.89					95% UPL	47.51
675											95% Chebyshev UPL	83.98
676				95% WH Approx. Gamma UPL		49				Upper Threshold Limit Based upon IQR		61.18
677				95% HW Approx. Gamma UPL		50.54						
678			95% WH Approx. Gamma UTL with		90% Coverage	46.45						
679			95% HW Approx. Gamma UTL with		90% Coverage	47.67						
680												
681												
682												
683	POTASSIUM											
684												
685					General Statistics							
686					Total Number of Observations	64				Number of Distinct Observations		62
687					Tolerance Factor	1.593						
688												
689				Raw Statistics						Log-Transformed Statistics		
690					Minimum	194					Minimum	5.268
691					Maximum	6370					Maximum	8.759
692					Second Largest	6110					Second Largest	8.718
693					First Quartile	507.8					First Quartile	6.23
694					Median	847					Median	6.742
695					Third Quartile	3768					Third Quartile	8.234
696					Mean	2102					Mean	7.12
697					SD	1967					SD	1.097
698					Coefficient of Variation	0.936						
699					Skewness	0.791						
700												
701					Background Statistics							
702				Normal Distribution Test						Lognormal Distribution Test		
703					Lilliefors Test Statistic	0.253					Lilliefors Test Statistic	0.149
704					Lilliefors Critical Value	0.111					Lilliefors Critical Value	0.111
705				Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level		
706												
707				Assuming Normal Distribution						Assuming Lognormal Distribution		
708					95% UTL with	90% Coverage	5234				95% UTL with	90% Coverage	7092
709					95% UPL (t)	5411					95% UPL (t)	7826
710					90% Percentile (z)	4623					90% Percentile (z)	5042
711					95% Percentile (z)	5337					95% Percentile (z)	7510
712					99% Percentile (z)	6678					99% Percentile (z)	15859
713												
714				Gamma Distribution Test						Data Distribution Test		
715					k star	1.038				Data do not follow a Discernable Distribution (0.05)		

	A	B	C	D	E	F	G	H	I	J	K	L
716					Theta Star	2024						
717					MLE of Mean	2102						
718					MLE of Standard Deviation	2062						
719					nu star	132.9						
720												
721					A-D Test Statistic	2.482				Nonparametric Statistics		
722					5% A-D Critical Value	0.778					90% Percentile	5358
723					K-S Test Statistic	0.198					95% Percentile	5779
724					5% K-S Critical Value	0.114					99% Percentile	6206
725			Data not Gamma Distributed at 5% Significance Level									
726												
727				Assuming Gamma Distribution						95% UTL with	90% Coverage	5780
728					90% Percentile	4794			95% Percentile Bootstrap UTL with		90% Coverage	5780
729					95% Percentile	6213			95% BCA Bootstrap UTL with		90% Coverage	5779
730					99% Percentile	9497					95% UPL	5915
731											95% Chebyshev UPL	10743
732					95% WH Approx. Gamma UPL	6229					Upper Threshold Limit Based upon IQR	8657
733					95% HW Approx. Gamma UPL	6479						
734				95% WH Approx. Gamma UTL with	90% Coverage	5860						
735				95% HW Approx. Gamma UTL with	90% Coverage	6055						
736												
737												
738												
739	VANADIUM											
740												
741					General Statistics							
742					Total Number of Observations	64					Number of Distinct Observations	60
743					Tolerance Factor	1.593						
744												
745				Raw Statistics						Log-Transformed Statistics		
746					Minimum	7.5					Minimum	2.015
747					Maximum	68.7					Maximum	4.23
748					Second Largest	67					Second Largest	4.205
749					First Quartile	11.58					First Quartile	2.449
750					Median	19.25					Median	2.957
751					Third Quartile	51.93					Third Quartile	3.95
752					Mean	30.49					Mean	3.16
753					SD	20.65					SD	0.742
754					Coefficient of Variation	0.677						
755					Skewness	0.436						
756												
757					Background Statistics							
758				Normal Distribution Test						Lognormal Distribution Test		
759					Lilliefors Test Statistic	0.22					Lilliefors Test Statistic	0.189
760					Lilliefors Critical Value	0.111					Lilliefors Critical Value	0.111
761				Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level		
762												
763				Assuming Normal Distribution						Assuming Lognormal Distribution		
764					95% UTL with	90% Coverage	63.37				95% UTL with	90% Coverage	76.9
765					95% UPL (t)	65.23					95% UPL (t)	82.2
766					90% Percentile (z)	56.95					90% Percentile (z)	61.04
767					95% Percentile (z)	64.45					95% Percentile (z)	79.94
768					99% Percentile (z)	78.53					99% Percentile (z)	132.6
769												
770				Gamma Distribution Test						Data Distribution Test		

	A	B	C	D	E	F	G	H	I	J	K	L
771					k star	2.007	Data do not follow a Discernable Distribution (0.05)					
772					Theta Star	15.19						
773					MLE of Mean	30.49						
774					MLE of Standard Deviation	21.52						
775					nu star	257						
776												
777					A-D Test Statistic	3.532	Nonparametric Statistics					
778					5% A-D Critical Value	0.763					90% Percentile	60.8
779					K-S Test Statistic	0.204					95% Percentile	62.89
780					5% K-S Critical Value	0.113					99% Percentile	67.63
781		Data not Gamma Distributed at 5% Significance Level										
782												
783		Assuming Gamma Distribution								95% UTL with	90% Coverage	62.9
784					90% Percentile	59.24				95% Percentile Bootstrap UTL with	90% Coverage	62.9
785					95% Percentile	72.23				95% BCA Bootstrap UTL with	90% Coverage	62.9
786					99% Percentile	101					95% UPL	62.98
787											95% Chebyshev UPL	121.2
788					95% WH Approx. Gamma UPL	72.96					Upper Threshold Limit Based upon IQR	112.5
789					95% HW Approx. Gamma UPL	74.71						
790				95% WH Approx. Gamma UTL with	90% Coverage	69.59						
791				95% HW Approx. Gamma UTL with	90% Coverage	70.99						
792												
793												
794												
795	ZINC											
796												
797					General Statistics							
798					Total Number of Observations	64					Number of Distinct Observations	57
799					Tolerance Factor	1.593						
800												
801		Raw Statistics					Log-Transformed Statistics					
802					Minimum	3.5					Minimum	1.253
803					Maximum	96.6					Maximum	4.571
804					Second Largest	90.4					Second Largest	4.504
805					First Quartile	12.89					First Quartile	2.556
806					Median	15.3					Median	2.728
807					Third Quartile	61.49					Third Quartile	4.119
808					Mean	37.16					Mean	3.274
809					SD	28.77					SD	0.859
810					Coefficient of Variation	0.774						
811					Skewness	0.552						
812												
813					Background Statistics							
814		Normal Distribution Test					Lognormal Distribution Test					
815					Lilliefors Test Statistic	0.299					Lilliefors Test Statistic	0.253
816					Lilliefors Critical Value	0.111					Lilliefors Critical Value	0.111
817		Data not Normal at 5% Significance Level					Data not Lognormal at 5% Significance Level					
818												
819		Assuming Normal Distribution					Assuming Lognormal Distribution					
820					95% UTL with	90% Coverage	82.97				95% UTL with	90% Coverage	103.8
821					95% UPL (t)	85.56					95% UPL (t)	112.1
822					90% Percentile (z)	74.02					90% Percentile (z)	79.44
823					95% Percentile (z)	84.48					95% Percentile (z)	108.5
824					99% Percentile (z)	104.1					99% Percentile (z)	194.9
825												

	A	B	C	D	E	F	G	H	I	J	K	L
826				Gamma Distribution Test					Data Distribution Test			
827					k star	1.548			Data do not follow a Discernable Distribution (0.05)			
828					Theta Star	24						
829					MLE of Mean	37.16						
830					MLE of Standard Deviation	29.86						
831					nu star	198.2						
832												
833					A-D Test Statistic	4.658			Nonparametric Statistics			
834					5% A-D Critical Value	0.768					90% Percentile	80.6
835					K-S Test Statistic	0.275					95% Percentile	83.24
836					5% K-S Critical Value	0.113					99% Percentile	92.69
837				Data not Gamma Distributed at 5% Significance Level								
838												
839				Assuming Gamma Distribution							95% UTL with 90% Coverage	83.4
840					90% Percentile	76.84					95% Percentile Bootstrap UTL with 90% Coverage	83.07
841					95% Percentile	95.78					95% BCA Bootstrap UTL with 90% Coverage	83.07
842					99% Percentile	138.5					95% UPL	85.73
843											95% Chebyshev UPL	163.5
844					95% WH Approx. Gamma UPL	96.6					Upper Threshold Limit Based upon IQR	134.4
845					95% HW Approx. Gamma UPL	99.35						
846					95% WH Approx. Gamma UTL with 90% Coverage	91.67						
847					95% HW Approx. Gamma UTL with 90% Coverage	93.83						
848												
849												

A.1.6 SOIL GEOCHEMICAL ANALYSIS

APPENDIX A.1.6 GEOCHEMICAL ANALYSIS

As discussed in Appendix A.1.5, if site-wide comparisons cannot be used, then the alternative is to perform a separate comparison of each site sample to background using individual comparison tests. Two types of individual comparison tests will be available, either comparison to UPLs or geochemical comparisons. The UPLs for NAS Brunswick are presented in Appendix A.1.5 while the geochemical comparisons are discussed below. It is anticipated that geochemical prediction limits will be useful and feasible for metals in soil, as samples of this medium will represent large background populations that encompass variability extending across geologic subtypes.

A.1.6.1 Regression

The metals found to be statistically equivalent in all Upper Sand soil types and statistically equivalent in all Transition soil types (see discussion in Appendix A.1.4) were used in the geochemical evaluation. Prediction limits were calculated for trace metals that were detected in every sample and that were highly correlated with aluminum and iron because aluminum and iron commonly appear in high concentrations in soil and are chemically associated with trace metals through chemical sequestration and other mechanisms. A correlation coefficient greater than or equal to 0.70 was used to define highly correlated. The correlation matrices for aluminum and iron in Upper Sand soils and Transition soils are presented in Tables A.1.6.1 and A.1.6.2 respectively. For the Upper Sand soils, antimony, beryllium, chromium, iron, and vanadium are highly correlated with aluminum, whereas aluminum, antimony, beryllium, chromium, and vanadium are highly correlated with iron. For Transition soils, barium, beryllium, chromium, iron, vanadium, and zinc are highly correlated with aluminum, whereas aluminum, arsenic, barium, beryllium, chromium, cobalt, copper, manganese, nickel, vanadium, and zinc are highly correlated with iron.

For those chemicals that were highly correlated with aluminum or iron, a scatter plot of a trace metal (on the y-axis) against a reference metal, iron or aluminum (x-axis), a linear regression, with the associated 95 percent UPL, were computed. These scatterplots with associated regression line and 95 UPL are presented below. UPLs define the expected range for observed background soil concentrations. When this linear regression and the associated prediction limits are superimposed on a scatter plot of site data, any site samples falling outside the prediction limits are subject to further scrutiny. They may belong to the 5 percent of the background population lying outside of the background-derived prediction envelope, or they may represent contamination.

The assumptions for the regression model are that the data are linear and that the residuals are normal and exhibit constant variance. Linearity can be examined by looking for a linear relationship on a scatter plot of the variables in the regression. The normality of the residuals can be examined by looking at a normal (Q-Q) plot, any departures from linearity indicate possible non-normality. The constant variance of the residuals can be examined by looking at a plot of the fitted values versus the residuals. Any pattern in the data indicates non-constant variance. The regression will be robust to slight departures from normality because the sample size is greater than 30. Normal Q-Q plots of the residuals and the fitted values versus the residuals are presented after the linear regression plots. Based on the regression plots it can be seen that linear relationships exist between all the chemicals. From the normal Q-Q plots and fitted versus residuals plots it can be seen that with the exception of the Upper Sand plots of antimony and aluminum and antimony and iron, the normal Q-Q plots are approximately linear and there are no patterns in the fitted values versus residuals. For antimony and aluminum and antimony and iron there appears to be some slight departure from constant variance. Note that this is a slight departure and could be due to the limited sample size. Therefore, it is recommended that the Upper Prediction envelope for antimony and aluminum and antimony and iron be used for comparing site to background values.

A.1.6.2 Factor Analysis

Factor analysis can be interpreted as a mathematical method that attempts to reproduce an entire data set of sample results by extracting certain common factors, each of which is represented by a linear combination of the different variables (in this case metals concentrations) (Malinowski, 1991, and Sharaf, 1986). This is analogous to each sample being composed of a combination of various amounts from each mineral (factor) component, although the extracted factors may or may not actually represent pure mineral components because other properties, such as cation exchange capacity of clays or organic carbon content, may simultaneously enhance the concentration of several metals to give the appearance of co-varying levels with constant relative proportions. There is no scientific answer to the sample size requirement for FA; however, there are multiple rules of thumb on sample size with most rules agreeing that the sample size should be at least 50. The number of factors to keep in the FA model are determined by evaluating three criteria:

- Kaiser's Rule: Factors having eigen values greater than one should be retained.
- Examination of Scree Plot: Retain factors with eigen values in the sharp descent of the line before leveling effect occurs.
- Retain as many factors as will account for a specified total variance (at least 70 percent).

The metals that were detected in most samples were included in the FA for surface soil and for subsurface soil. For surface soil and subsurface soil, only one factor was retained in the FA model. For surface soil, two factors had eigen values greater than one; however, only one accounted for more than 70 percent of the total variance. Also, there was leveling off of the line on the Skree Plot after the first factor. For subsurface soil, only one factor had an eigen value greater than one, accounting for 97 percent of the total variance. There was also leveling off of the line on the Skree Plot after the first factor. Factors can be used to classify the relationships between the variables. Since there is only one factor the meaningfulness of the relationship described by the FA is questionable. Therefore, based on the limited sample size and the number of factors in the FA models, it is recommended that the linear regression approach discussed above be used to characterize the geochemical relationships.

Table A.1.6.1
Correlation Matrix for Trace Metals in Upper Sand Soils
Naval Air Station, Brunswick, Maine

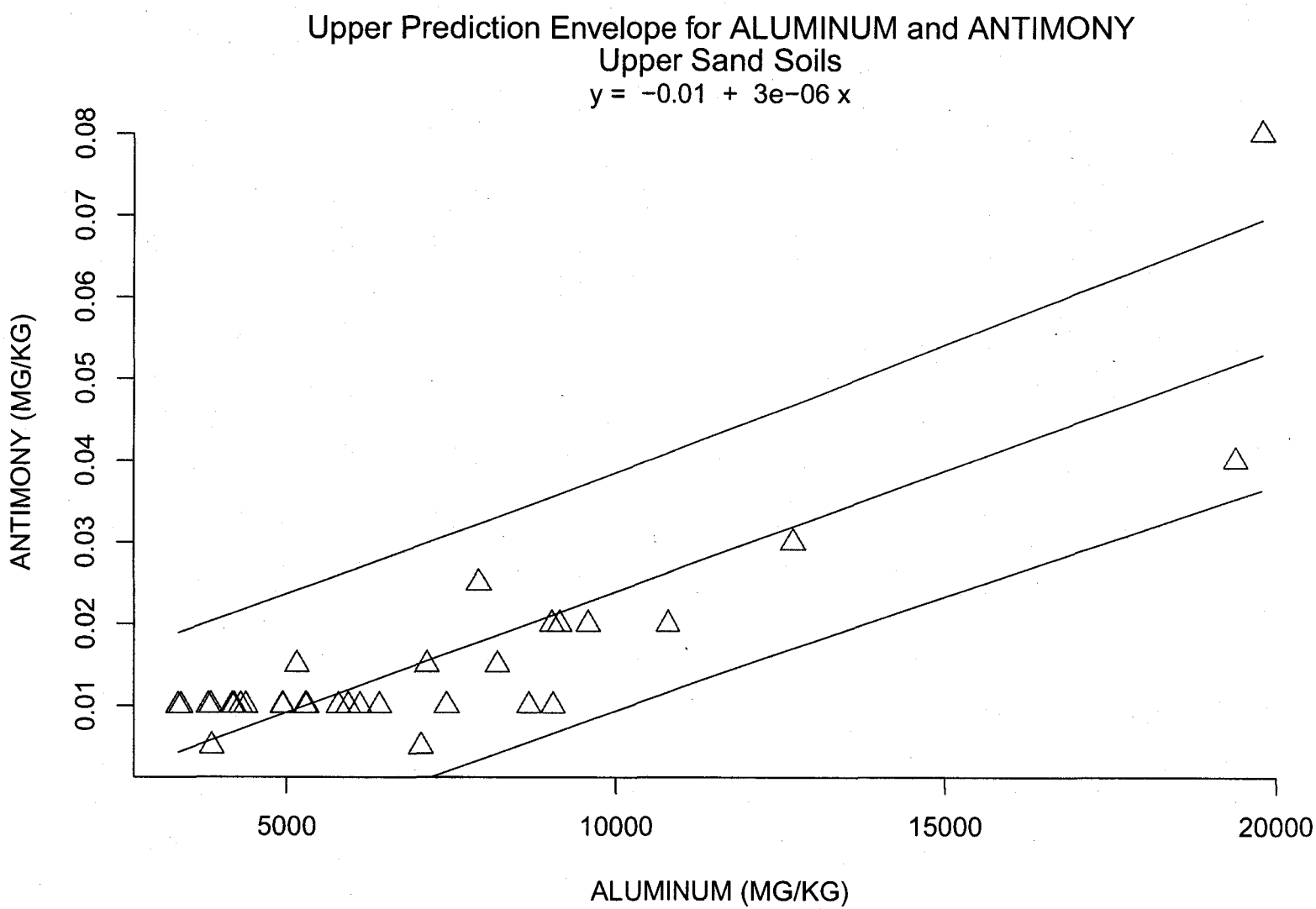
Parameter	Al	Sb	As	Ba	Be	Cd	Cr	Co	Cu	Fe	Mn	Ni	V	Zn
Al	1.00	**0.86**	0.18	0.20	**0.70**	0.51	**0.91**	-0.38	-0.47	**0.90**	-0.33	-0.39	**0.94**	0.11
Sb	**0.86**	1.00	0.27	0.29	0.47	0.65	**0.73**	-0.47	-0.51	**0.75**	-0.34	-0.46	**0.76**	-0.09
As	0.18	0.27	1.00	-0.06	0.15	0.40	0.02	-0.44	-0.14	0.09	-0.13	-0.49	0.12	-0.14
Ba	0.20	0.29	-0.06	1.00	0.30	0.31	0.31	0.16	0.14	0.31	0.12	0.18	0.28	0.49
Be	**0.70**	0.47	0.15	0.30	1.00	0.20	**0.76**	-0.28	-0.16	**0.72**	-0.30	-0.23	**0.79**	0.22
Cd	0.51	0.65	0.40	0.31	0.20	1.00	0.31	-0.05	-0.12	0.42	0.26	-0.19	0.39	0.06
Cr	**0.91**	**0.73**	0.02	0.31	**0.76**	0.31	1.00	-0.22	-0.30	**0.96**	-0.33	-0.16	**0.97**	0.24
Co	-0.38	-0.47	-0.44	0.16	-0.28	-0.05	-0.22	1.00	**0.77**	-0.14	**0.72**	**0.88**	-0.32	0.55
Cu	-0.47	-0.51	-0.14	0.14	-0.16	-0.12	-0.30	**0.77**	1.00	-0.17	0.67	**0.78**	-0.37	0.59
Fe	**0.90**	**0.75**	0.09	0.31	**0.72**	0.42	**0.96**	-0.14	-0.17	1.00	-0.20	-0.12	**0.96**	0.32
Mn	-0.33	-0.34	-0.13	0.12	-0.30	0.26	-0.33	**0.72**	0.67	-0.20	1.00	0.68	-0.35	0.43
Ni	-0.39	-0.46	-0.49	0.18	-0.23	-0.19	-0.16	**0.88**	**0.78**	-0.12	0.68	1.00	-0.29	0.52
V	**0.94**	**0.76**	0.12	0.28	**0.79**	0.39	**0.97**	-0.32	-0.37	**0.96**	-0.35	-0.29	1.00	0.19
Zn	0.11	-0.09	-0.14	0.49	0.22	0.06	0.24	0.55	0.59	0.32	0.43	0.52	0.19	1.00

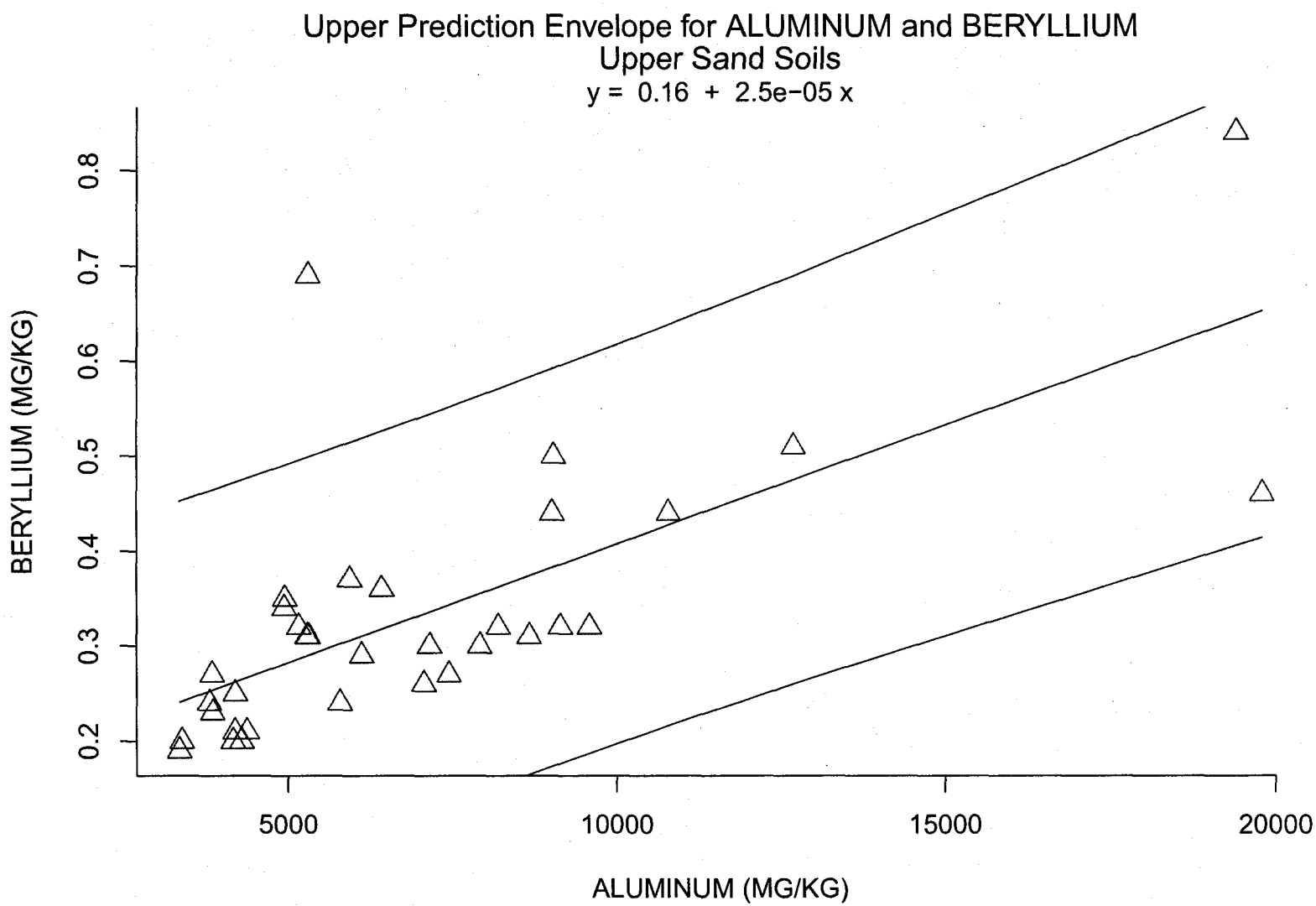
Shaded cells indicate a high correlation (greater than or equal to 0.70).

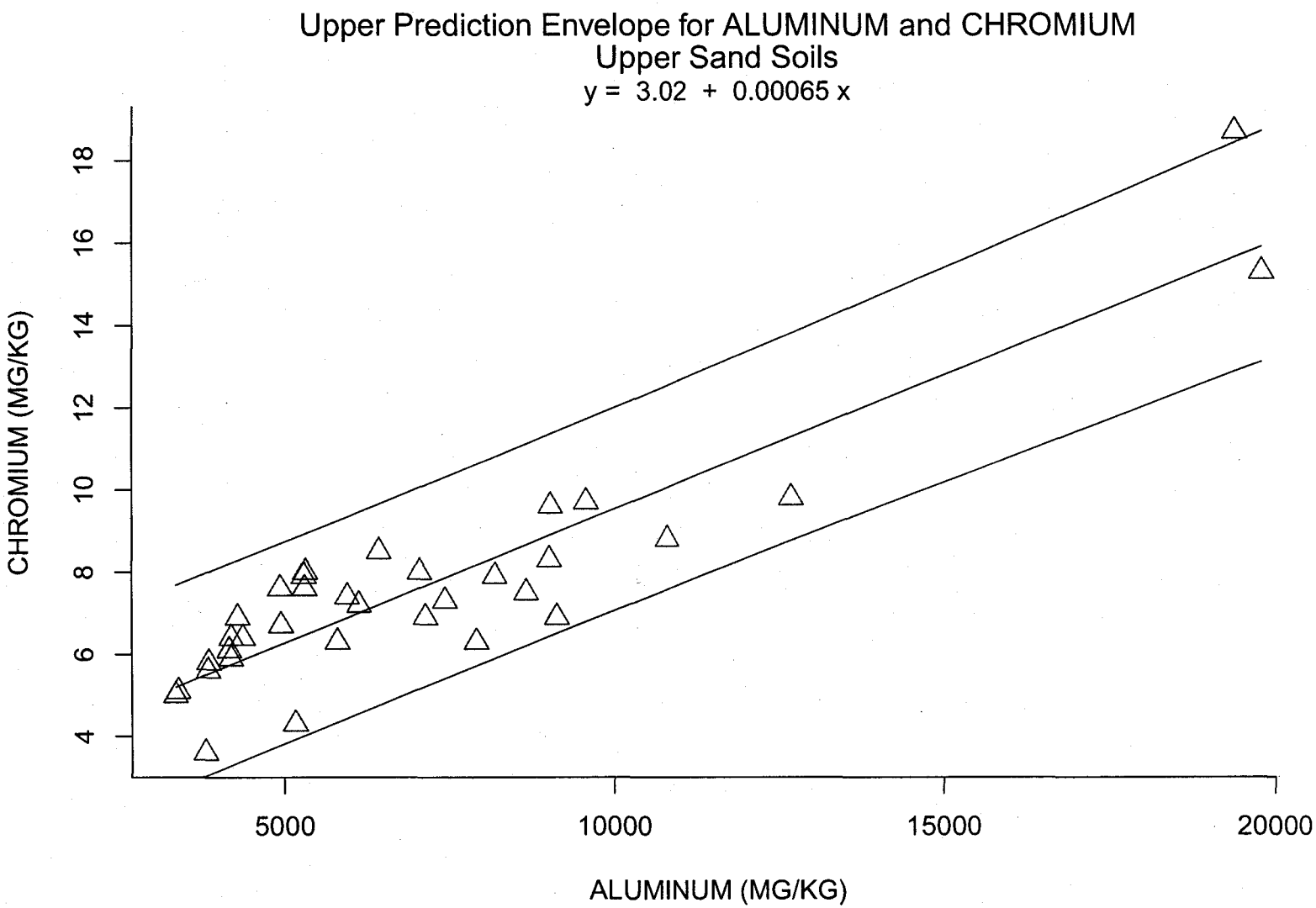
Table A.1.6.2
Correlation Matrix for Trace Metals in Transition Soils
Naval Air Station, Brunswick, Maine

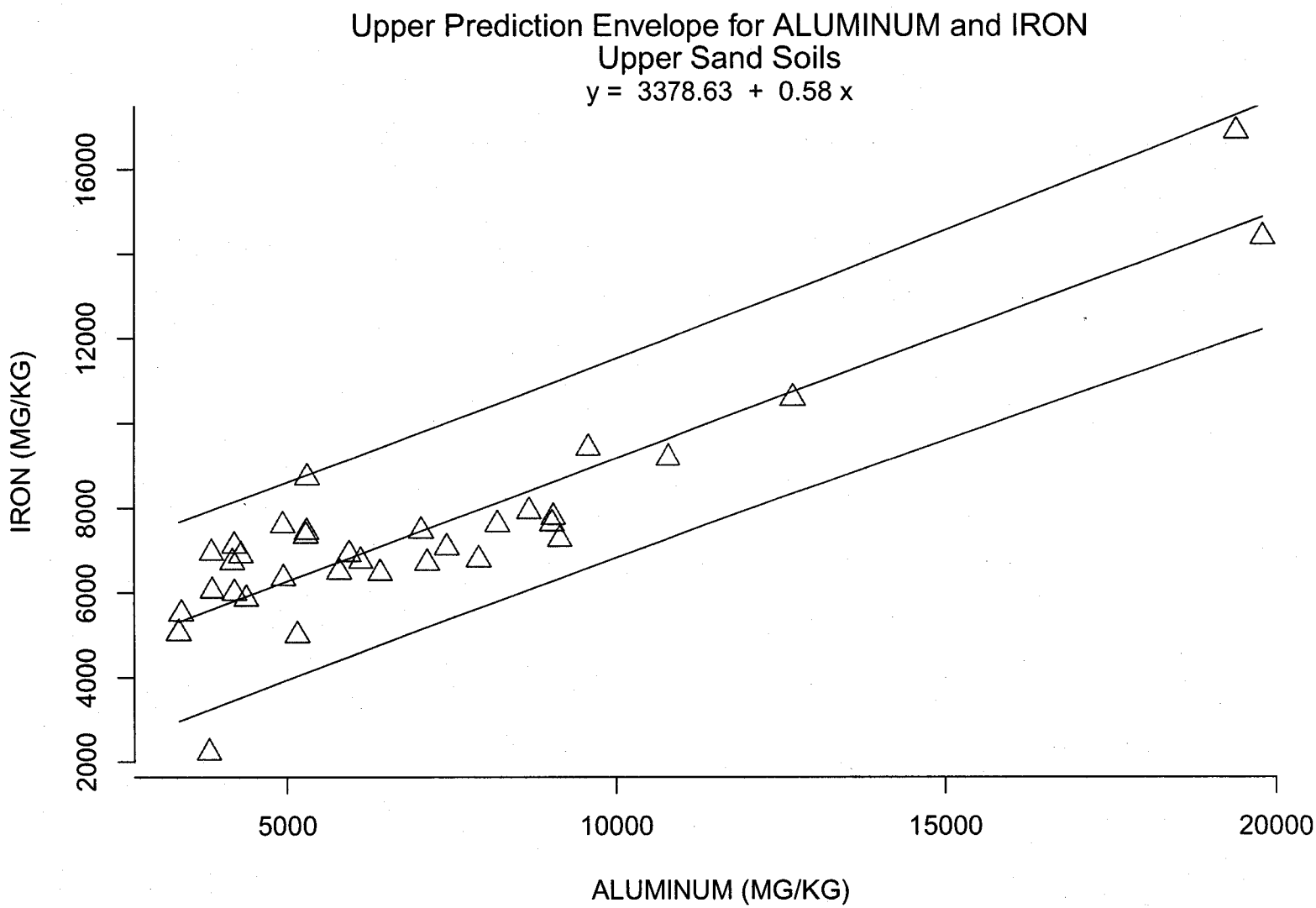
Parameter	Al	Sb	As	Ba	Be	Cd	Cr	Co	Cu	Fe	Mn	Ni	V	Zn
Al	1.00	0.53	0.51	0.92	0.80	0.54	0.87	0.70	0.47	0.86	0.69	0.68	0.90	0.88
Sb	0.53	1.00	0.44	0.66	0.42	0.31	0.65	0.55	0.55	0.63	0.56	0.58	0.65	0.62
As	0.51	0.44	1.00	0.67	0.53	0.50	0.78	0.67	0.79	0.75	0.73	0.84	0.72	0.73
Ba	0.92	0.66	0.67	1.00	0.82	0.50	0.95	0.84	0.72	0.94	0.85	0.85	0.94	0.92
Be	0.80	0.42	0.53	0.82	1.00	0.45	0.77	0.75	0.58	0.73	0.76	0.71	0.74	0.79
Cd	0.54	0.31	0.50	0.50	0.45	1.00	0.59	0.50	0.44	0.50	0.43	0.56	0.52	0.66
Cr	0.87	0.65	0.78	0.95	0.77	0.59	1.00	0.88	0.82	0.96	0.88	0.94	0.97	0.95
Co	0.70	0.55	0.67	0.84	0.75	0.50	0.88	1.00	0.83	0.82	0.95	0.90	0.78	0.85
Cu	0.47	0.55	0.79	0.72	0.58	0.44	0.82	0.83	1.00	0.72	0.81	0.94	0.70	0.76
Fe	0.86	0.63	0.75	0.94	0.73	0.50	0.96	0.82	0.72	1.00	0.86	0.87	0.96	0.88
Mn	0.69	0.56	0.73	0.85	0.76	0.43	0.88	0.95	0.81	0.86	1.00	0.89	0.80	0.83
Ni	0.68	0.58	0.84	0.85	0.71	0.56	0.94	0.90	0.94	0.87	0.89	1.00	0.86	0.89
V	0.90	0.65	0.72	0.94	0.74	0.52	0.97	0.78	0.70	0.96	0.80	0.86	1.00	0.91
Zn	0.88	0.62	0.73	0.92	0.79	0.66	0.95	0.85	0.76	0.88	0.83	0.89	0.91	1.00

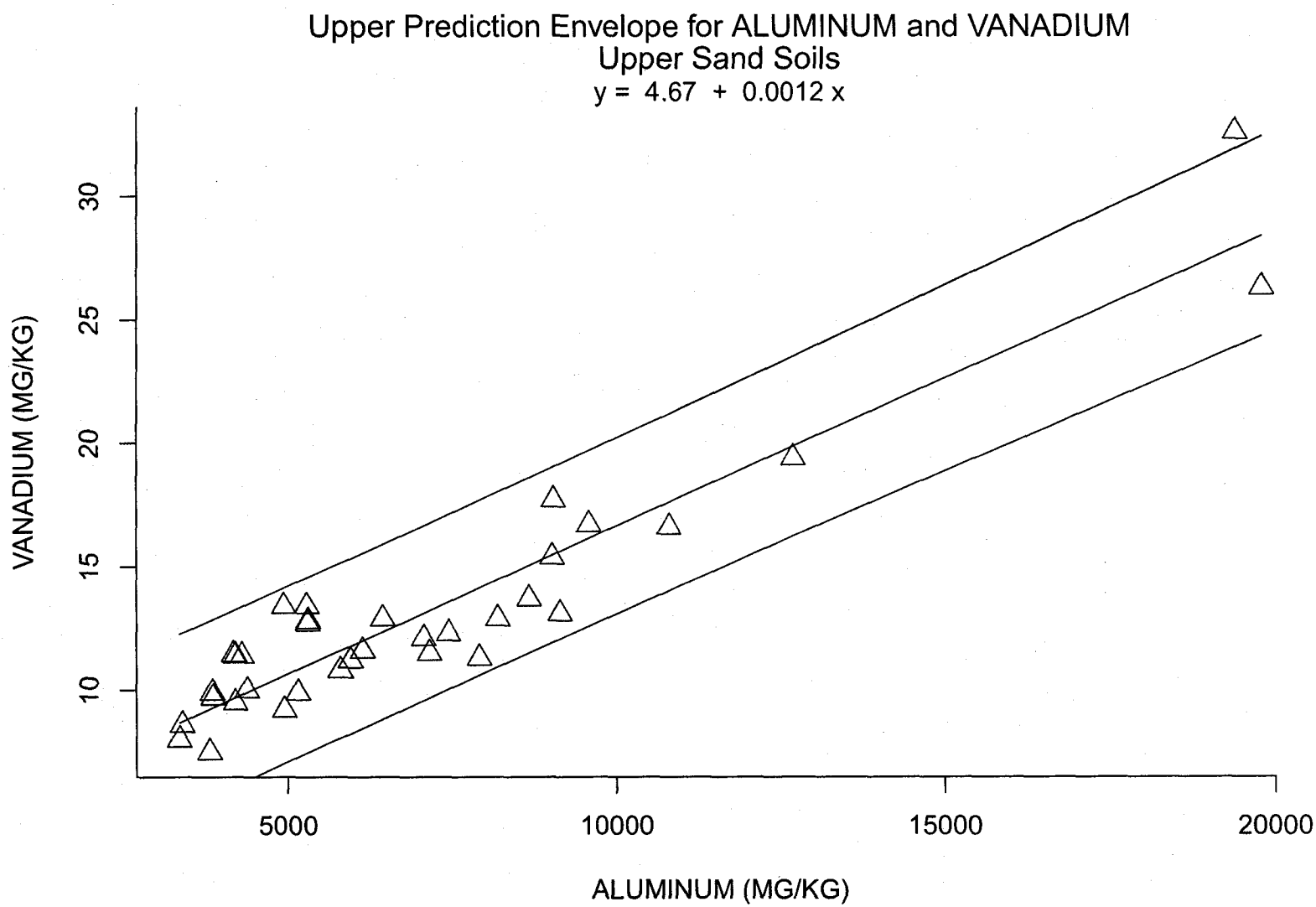
Shaded cells indicate a high correlation (greater than or equal to 0.70).


Upper Prediction Envelope for ALUMINUM and ANTIMONY
Upper Sand Soils
y = −0.01 + 3e−06 x
ANTIMONY (MG/KG)
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
5000
10000
15000
20000
ALUMINUM (MG/KG)

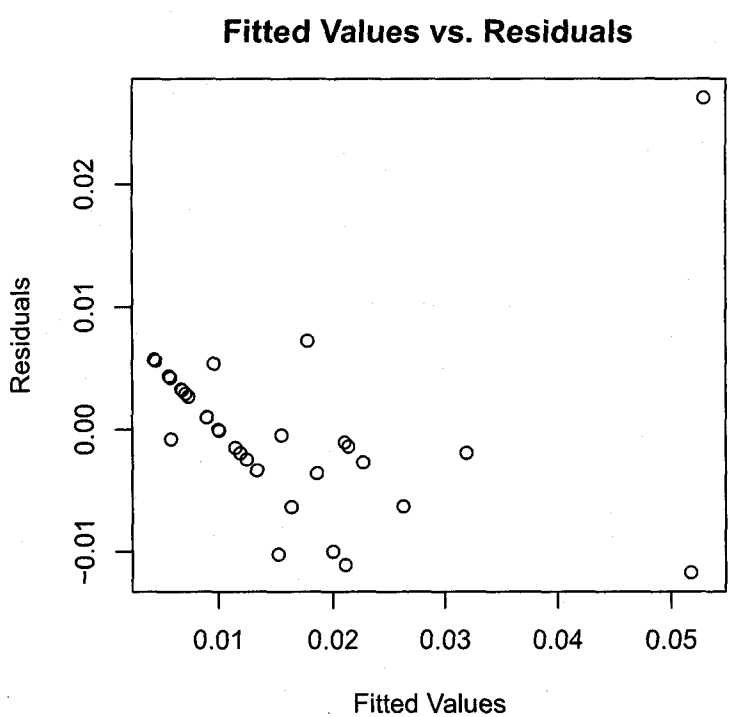

Upper Prediction Envelope for ALUMINUM and BERYLLIUM
Upper Sand Soils
y = 0.16 + 2.5e-05 x
BERYLLIUM (MG/KG)
0.2
0.3
0.4
0.5
0.6
0.7
0.8
5000
10000
15000
20000
ALUMINUM (MG/KG)

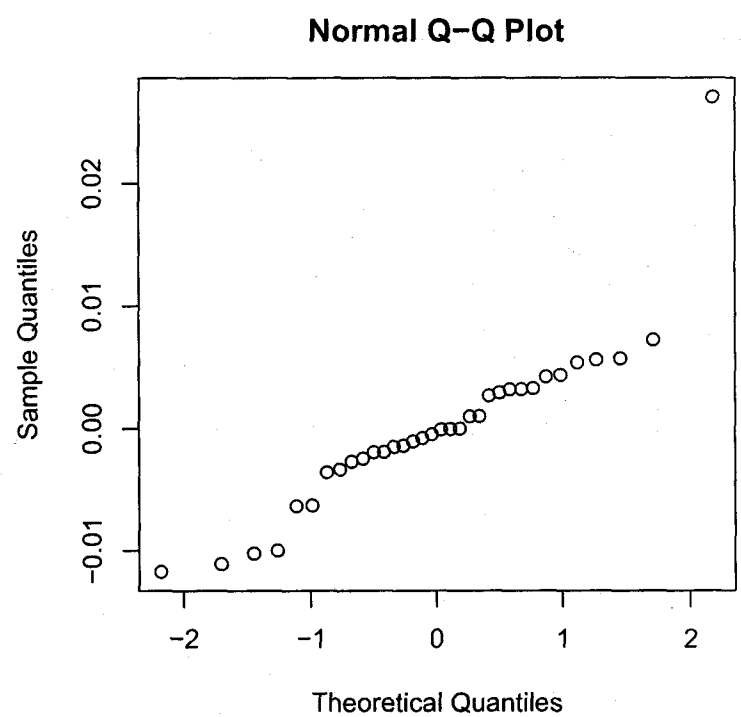

Upper Prediction Envelope for ALUMINUM and CHROMIUM
Upper Sand Soils
y = 3.02 + 0.00065 x
CHROMIUM (MG/KG)
4
6
8
10
12
14
16
18
5000
10000
15000
20000
ALUMINUM (MG/KG)


Upper Prediction Envelope for ALUMINUM and IRON
Upper Sand Soils
y = 3378.63 + 0.58 x
IRON (MG/KG)
2000
4000
6000
8000
12000
16000
5000
10000
15000
20000
ALUMINUM (MG/KG)

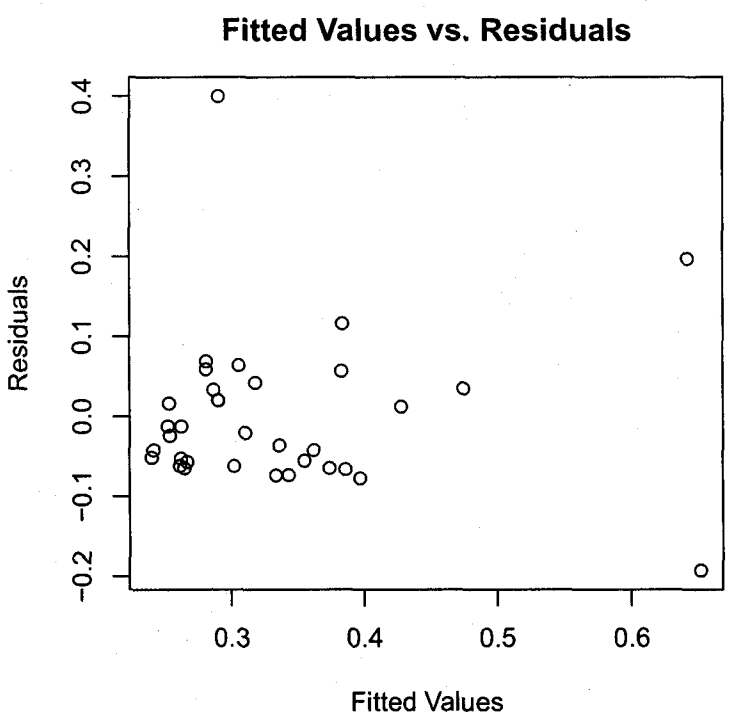

Upper Prediction Envelope for ALUMINUM and VANADIUM
Upper Sand Soils
y = 4.67 + 0.0012 x
VANADIUM (MG/KG)
10
15
20
25
30
5000
10000
15000
20000
ALUMINUM (MG/KG)

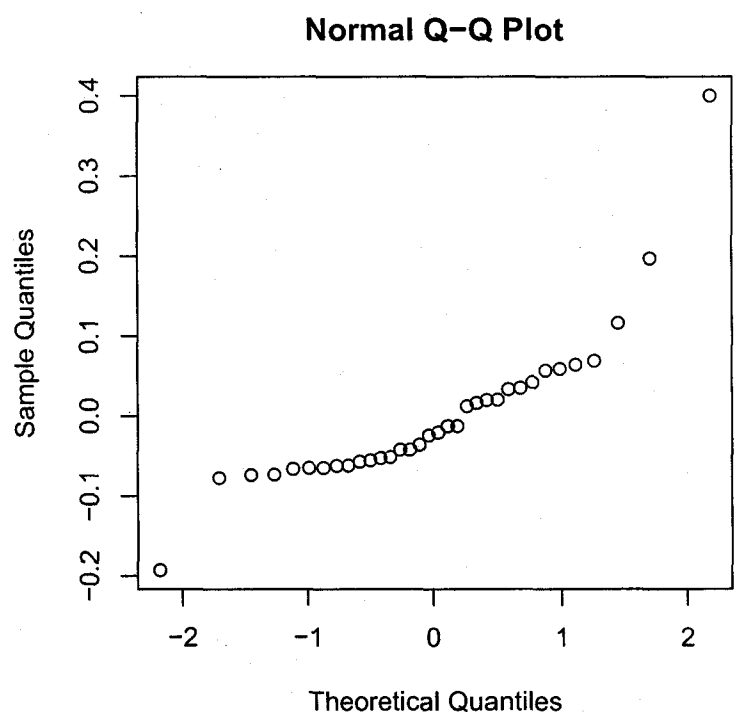
Regression Assumptions
Upper Sand
Aluminum and ANTIMONY



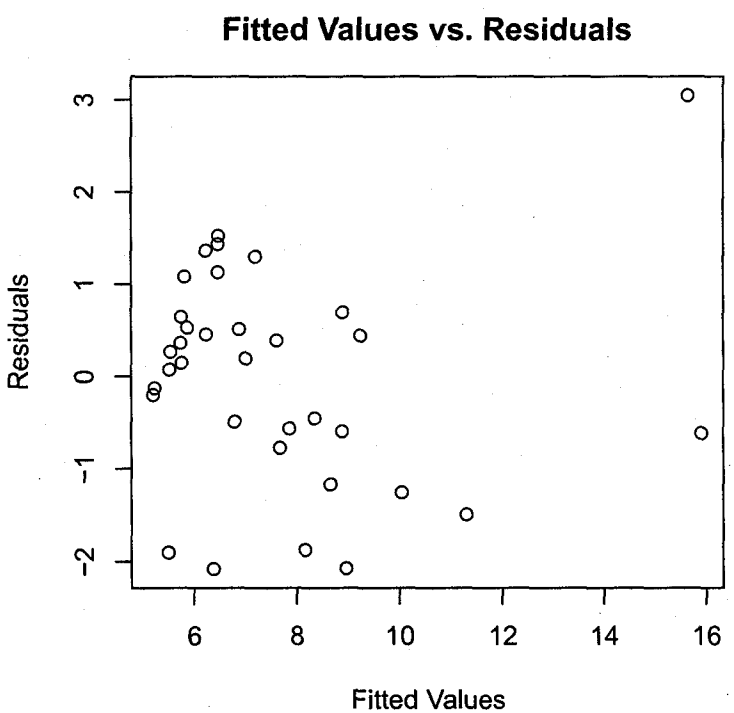


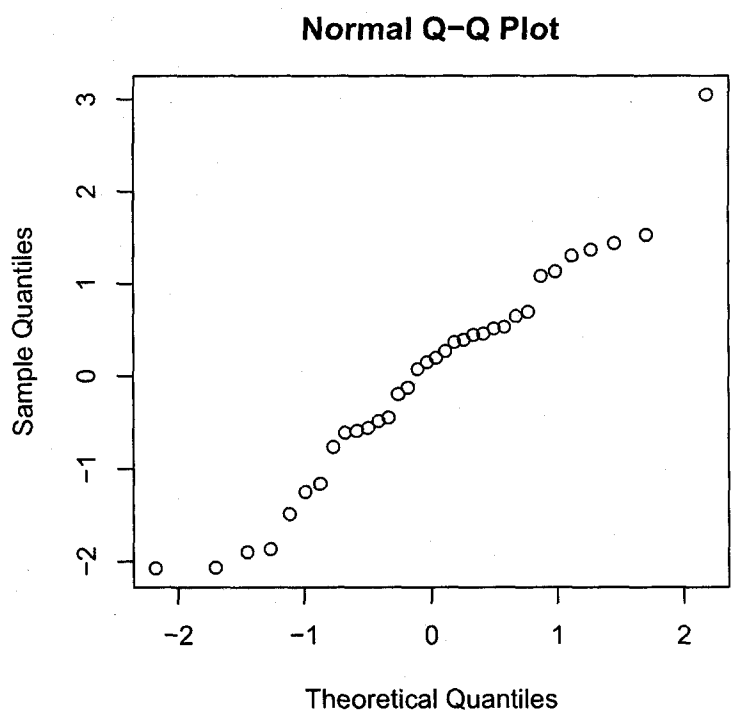
Regression Assumptions
Upper Sand
Aluminum and BERYLLIUM



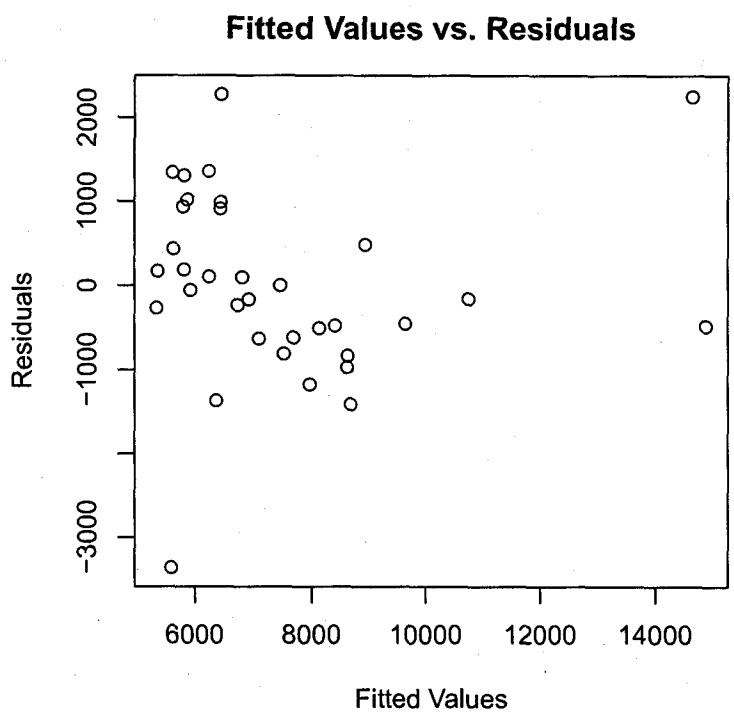


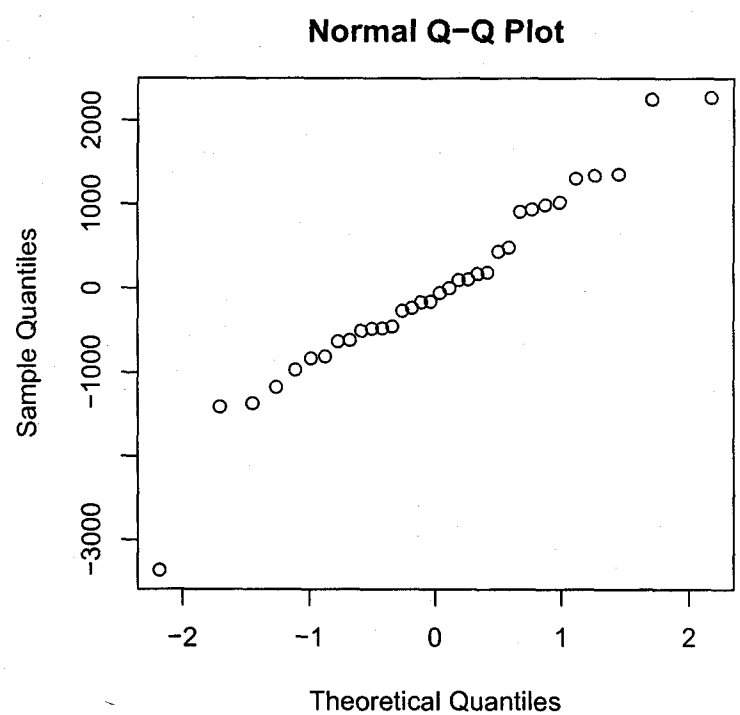
Regression Assumptions
Upper Sand
Aluminum and CHROMIUM



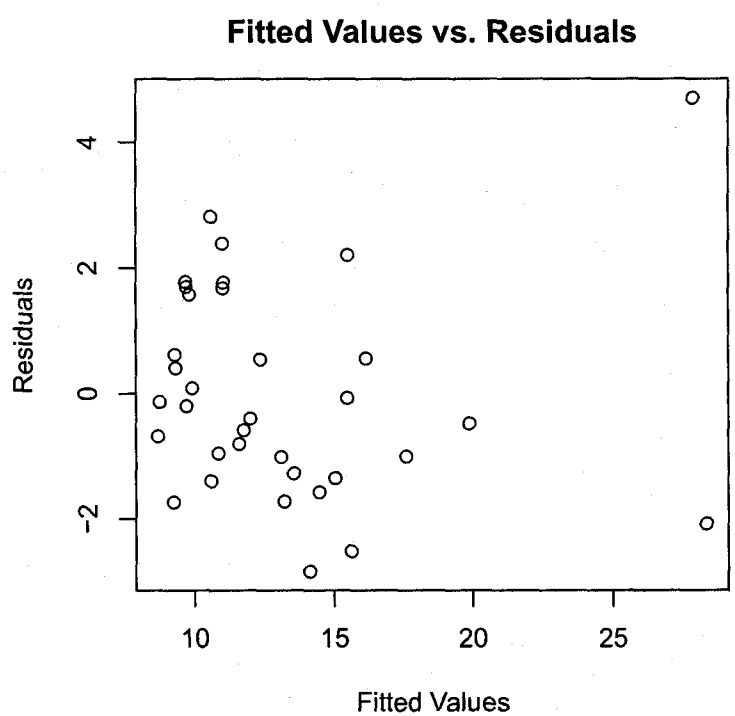


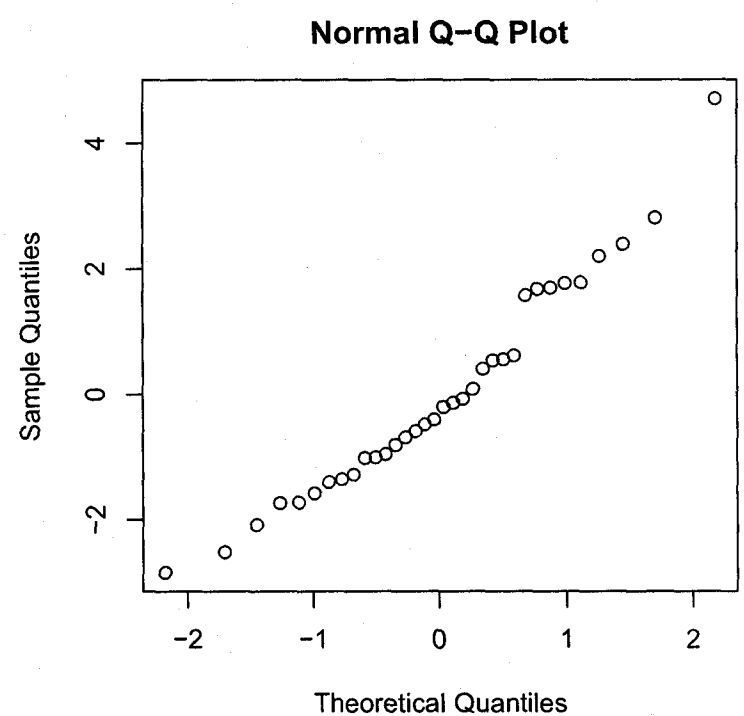
Regression Assumptions
Upper Sand
Aluminum and IRON

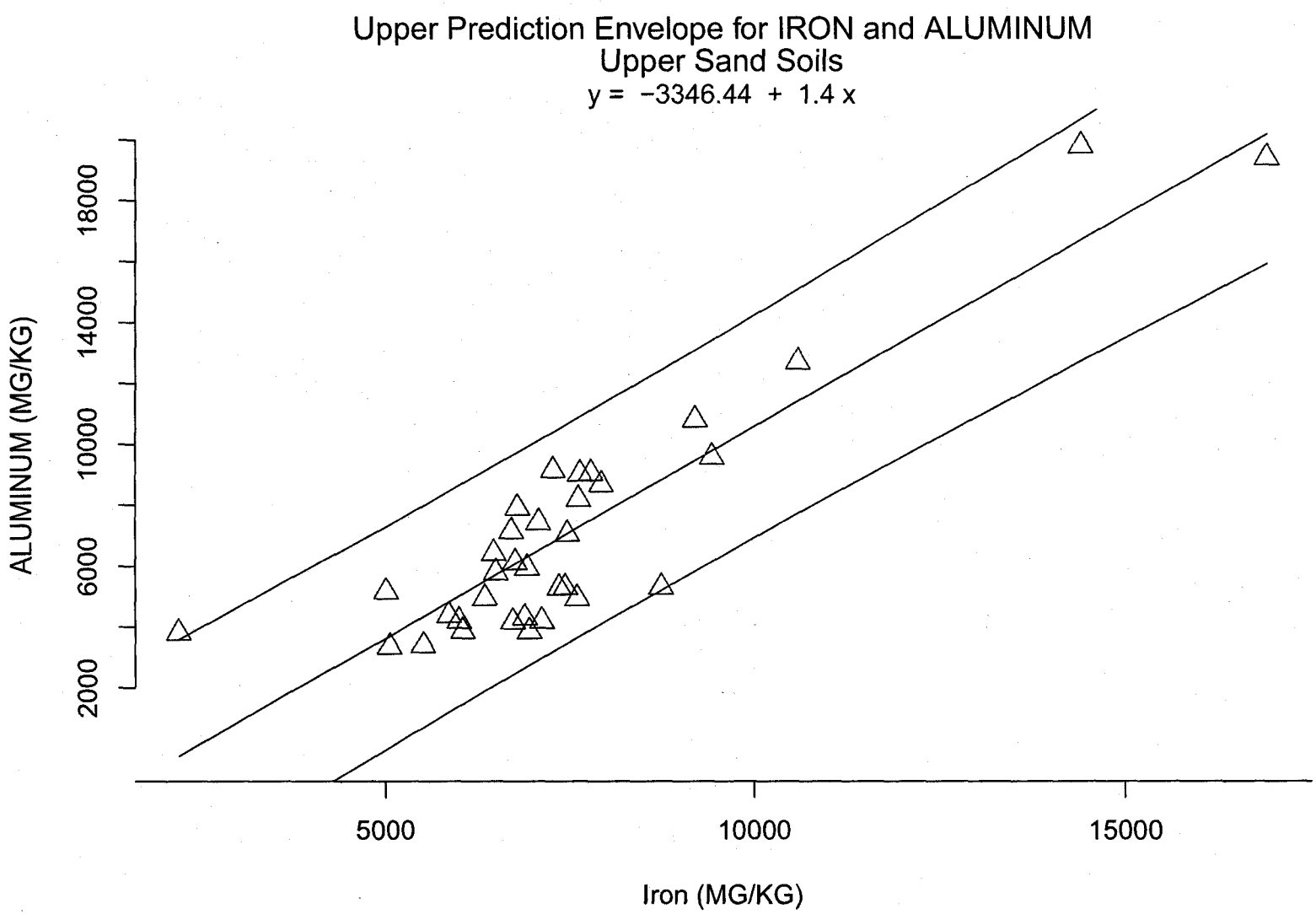


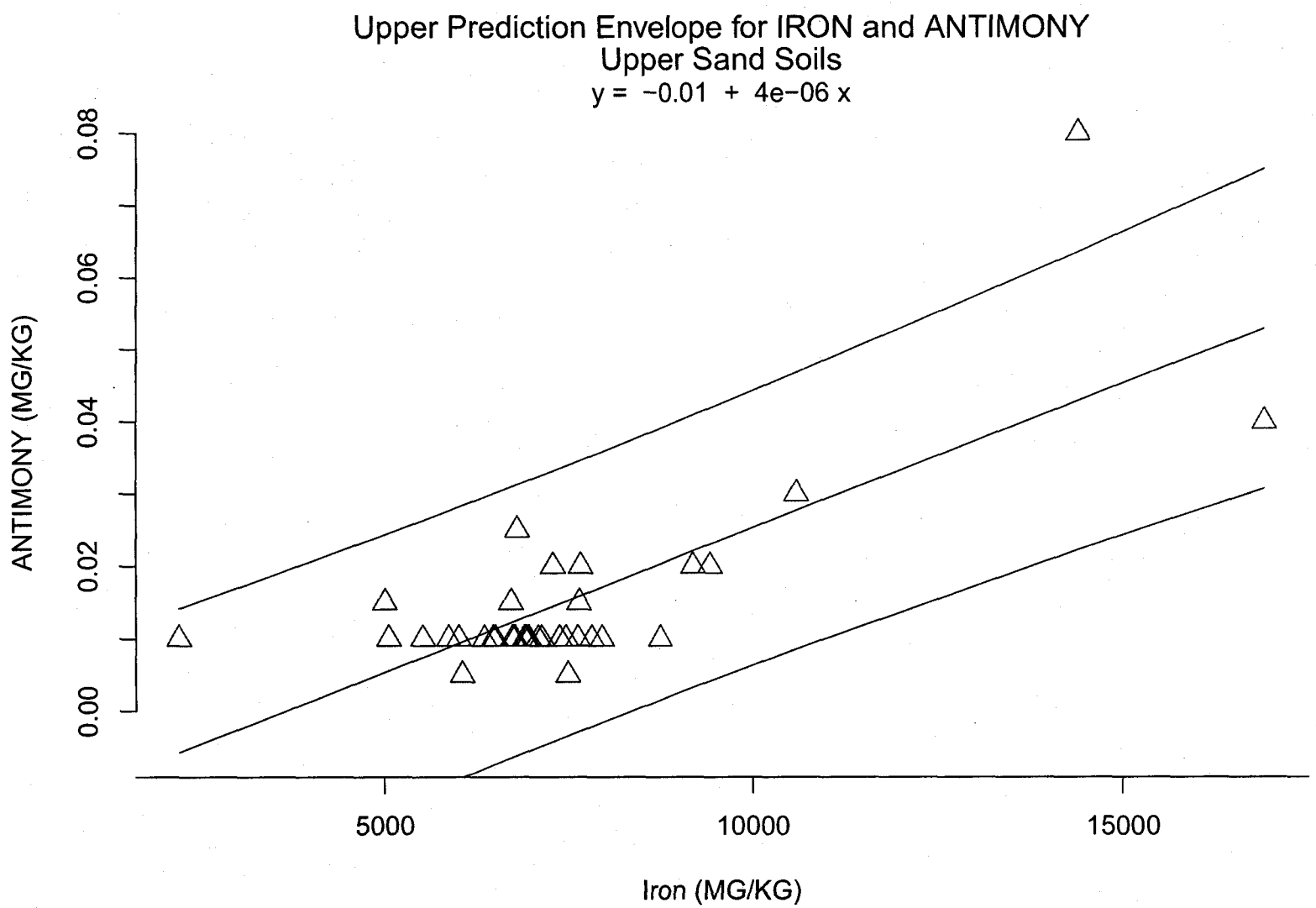


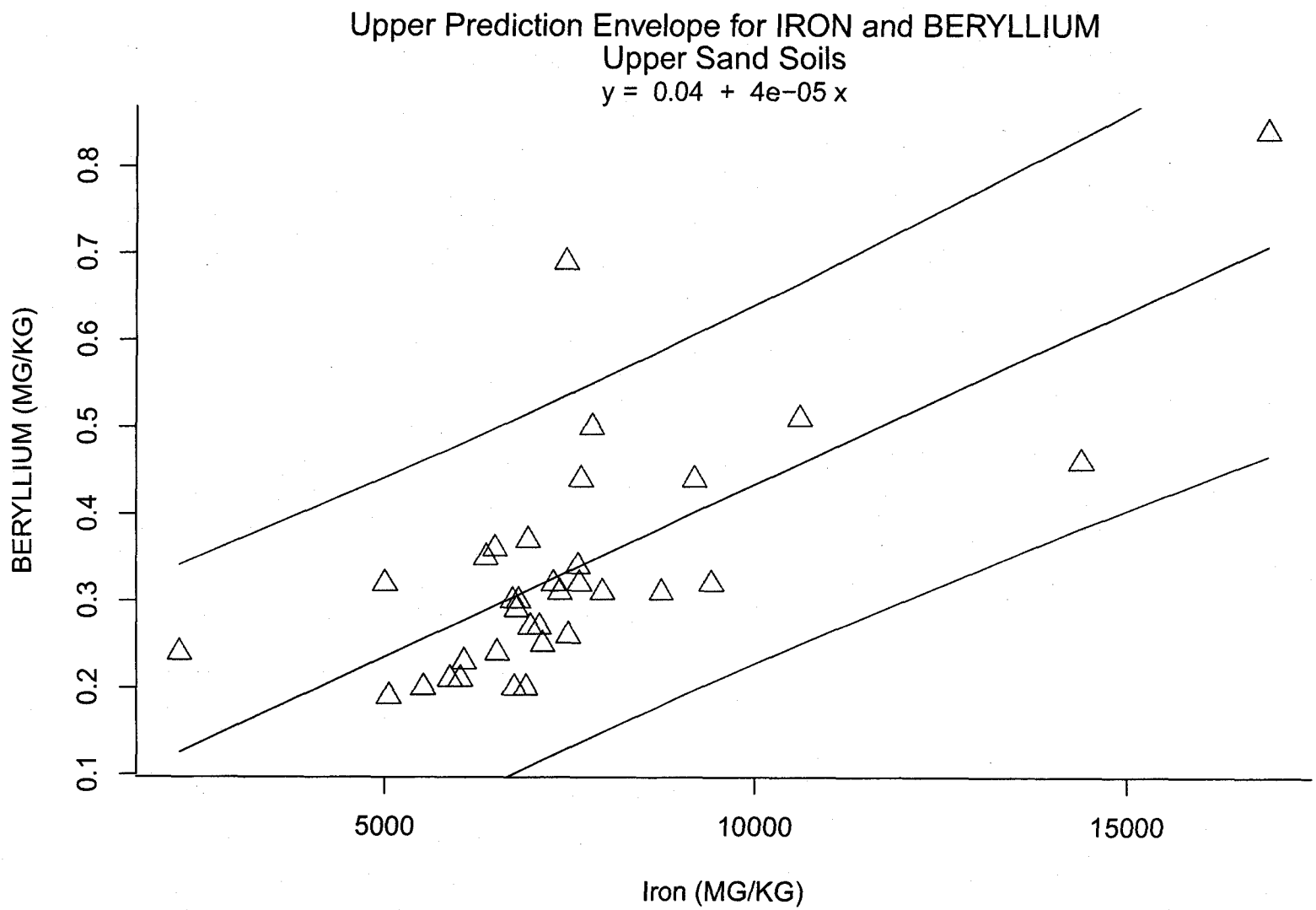
Regression Assumptions
Upper Sand
Aluminum and VANADIUM

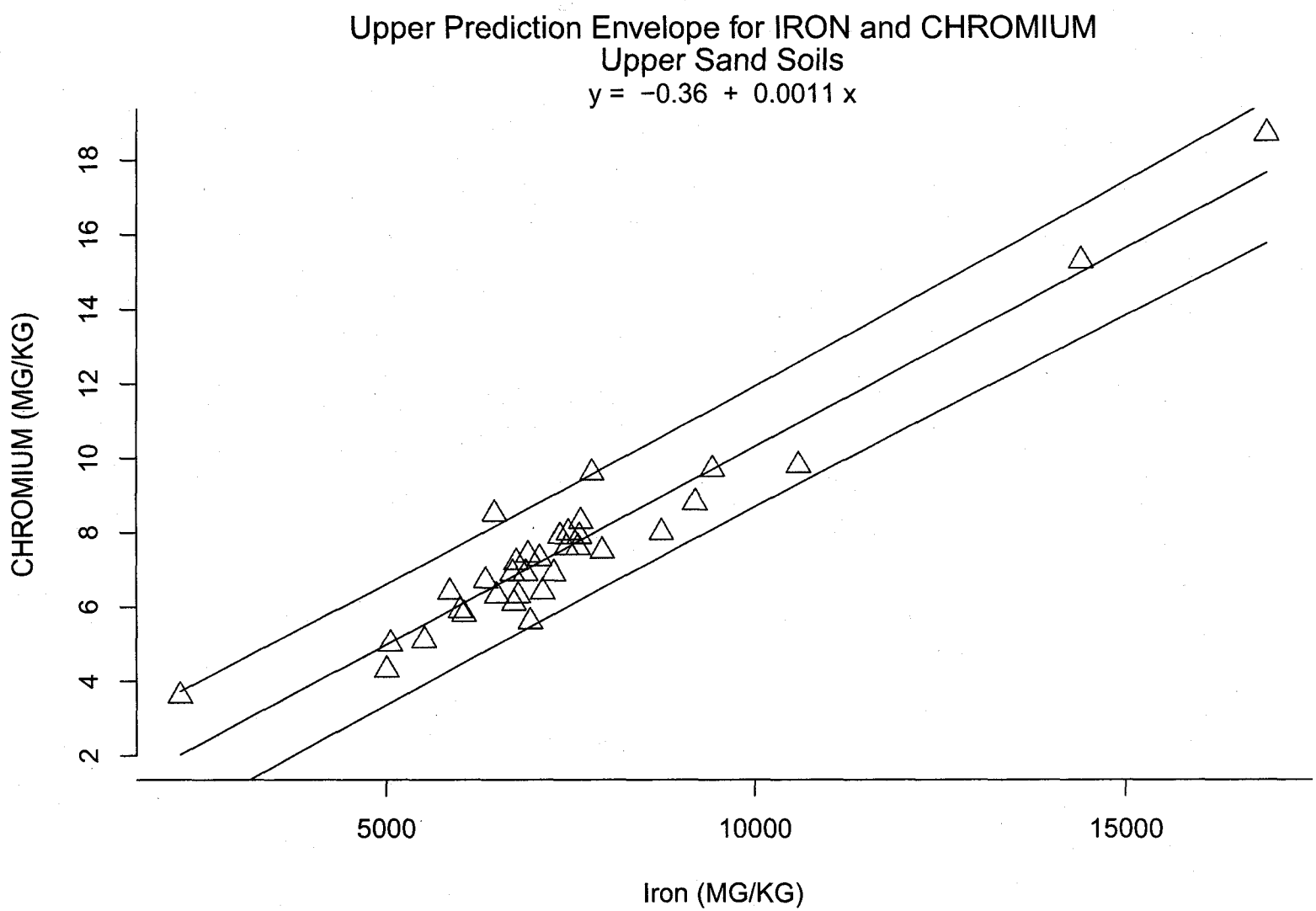


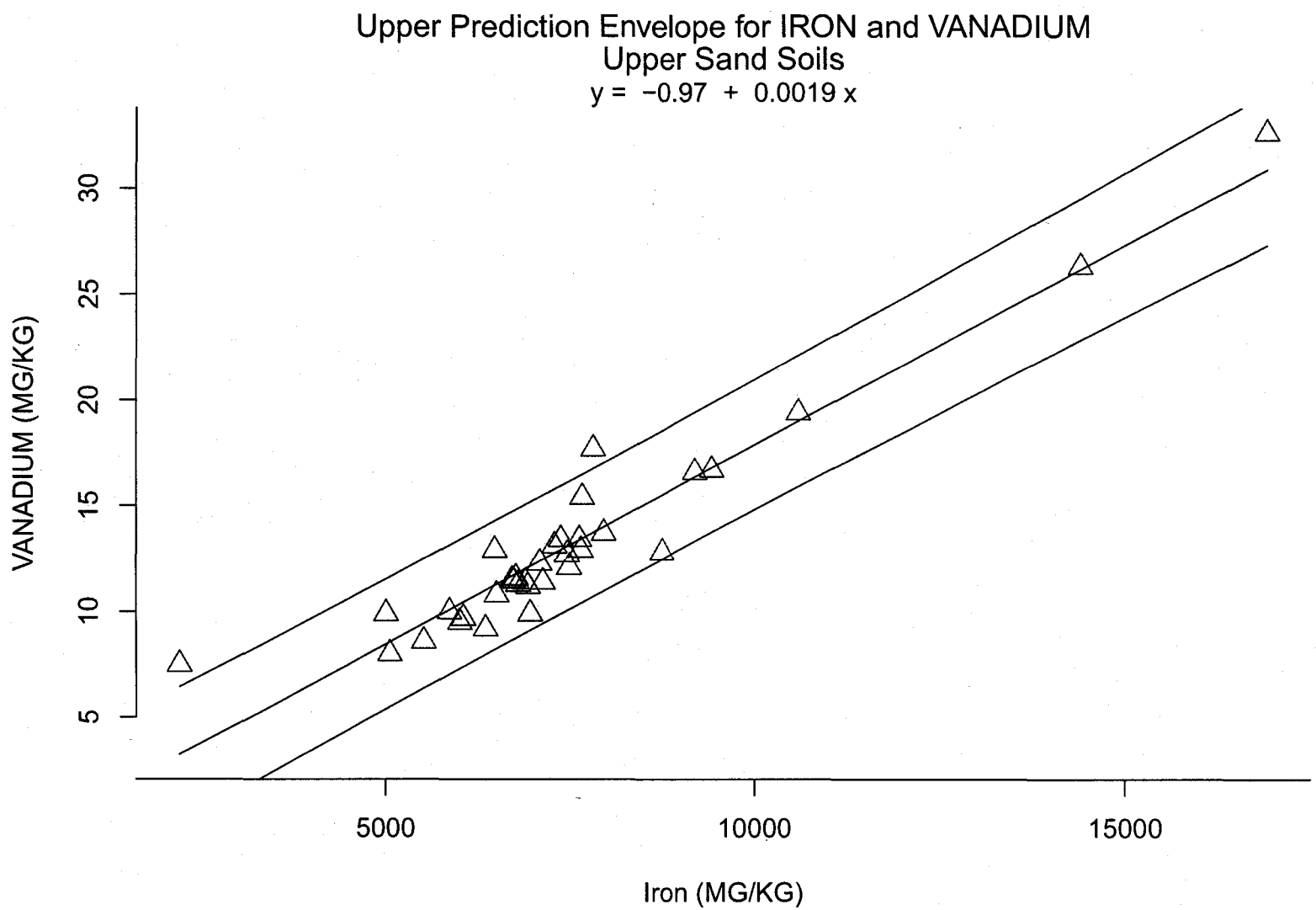



Upper Prediction Envelope for IRON and ALUMINUM
Upper Sand Soils
y = −3346.44 + 1.4 x
ALUMINUM (MG/KG)
2000
6000
10000
14000
18000
5000
10000
15000
Iron (MG/KG)

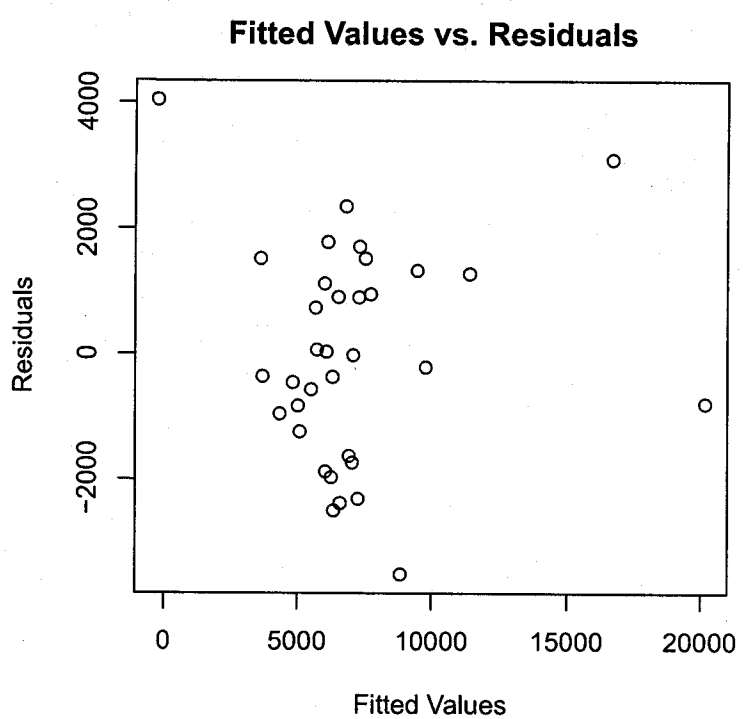

Upper Prediction Envelope for IRON and ANTIMONY
Upper Sand Soils
y = −0.01 + 4e−06 x
ANTIMONY (MG/KG)
0.00
0.02
0.04
0.06
0.08
5000
10000
15000
Iron (MG/KG)

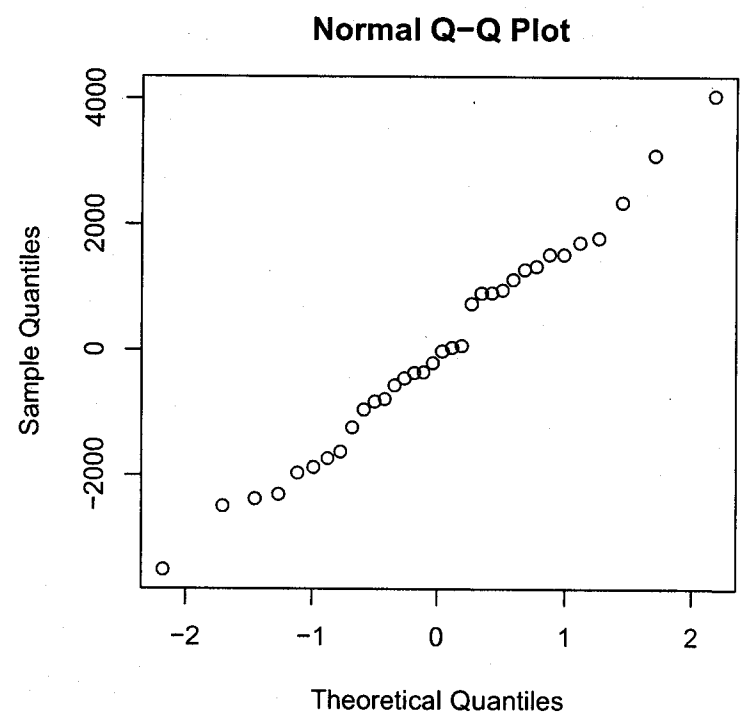

Upper Prediction Envelope for IRON and BERYLLIUM
Upper Sand Soils
y = 0.04 + 4e−05 x
BERYLLIUM (MG/KG)
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
5000
10000
15000
Iron (MG/KG)


Upper Prediction Envelope for IRON and CHROMIUM
Upper Sand Soils
y = −0.36 + 0.0011 x
CHROMIUM (MG/KG)
2
4
6
8
10
12
14
16
18
5000
10000
15000
Iron (MG/KG)

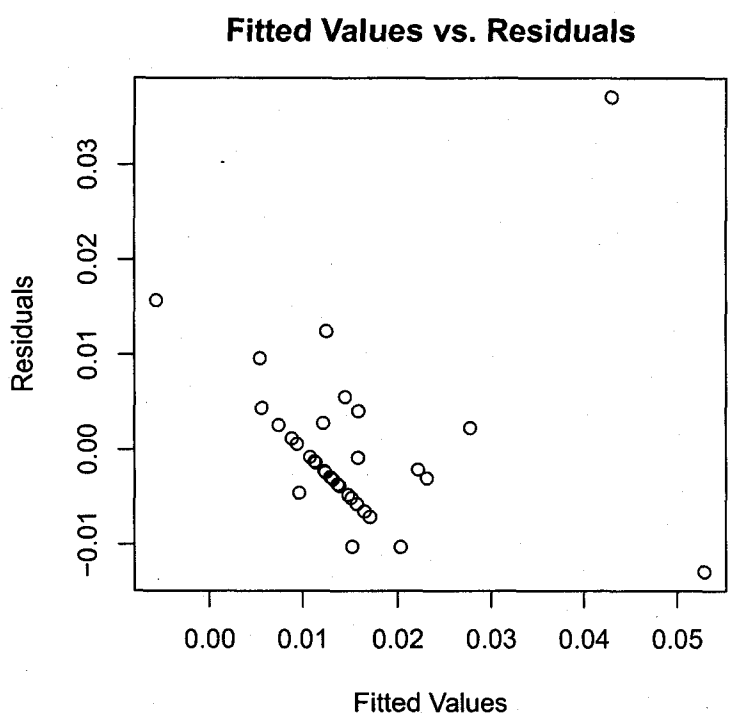

Upper Prediction Envelope for IRON and VANADIUM
Upper Sand Soils
y = −0.97 + 0.0019 x
VANADIUM (MG/KG)
5
10
15
20
25
30
5000
10000
15000
Iron (MG/KG)

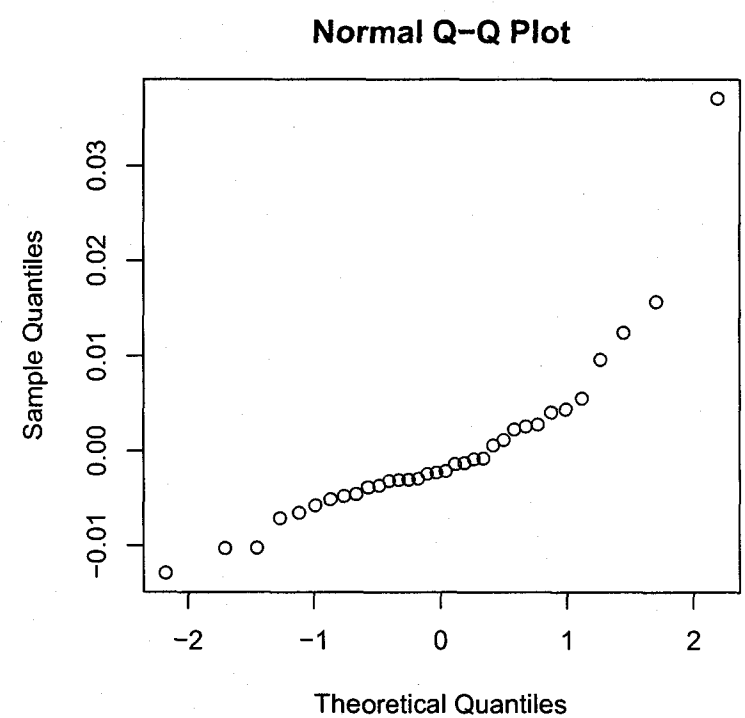
Regression Assumptions
Upper Sand
IRON and ALUMINUM



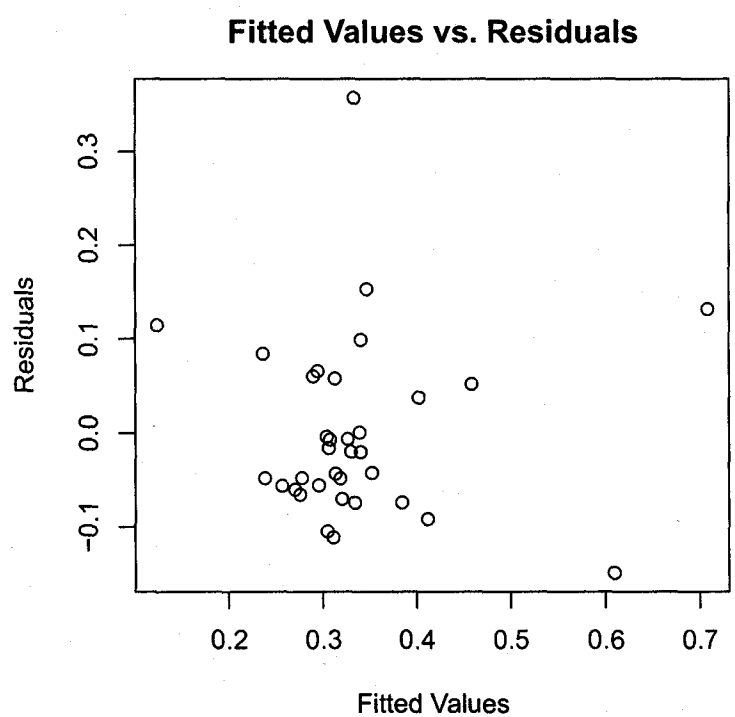


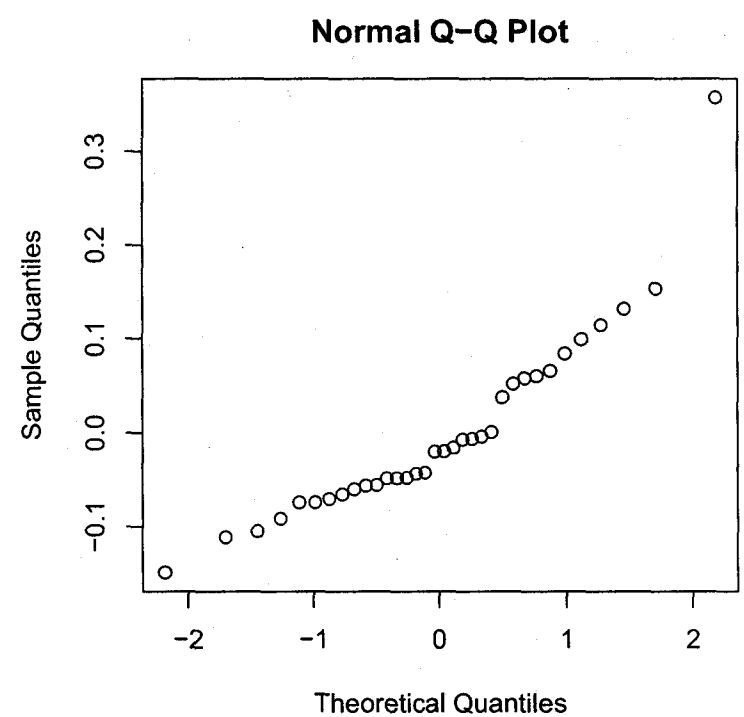
Regression Assumptions
Upper Sand
IRON and ANTIMONY



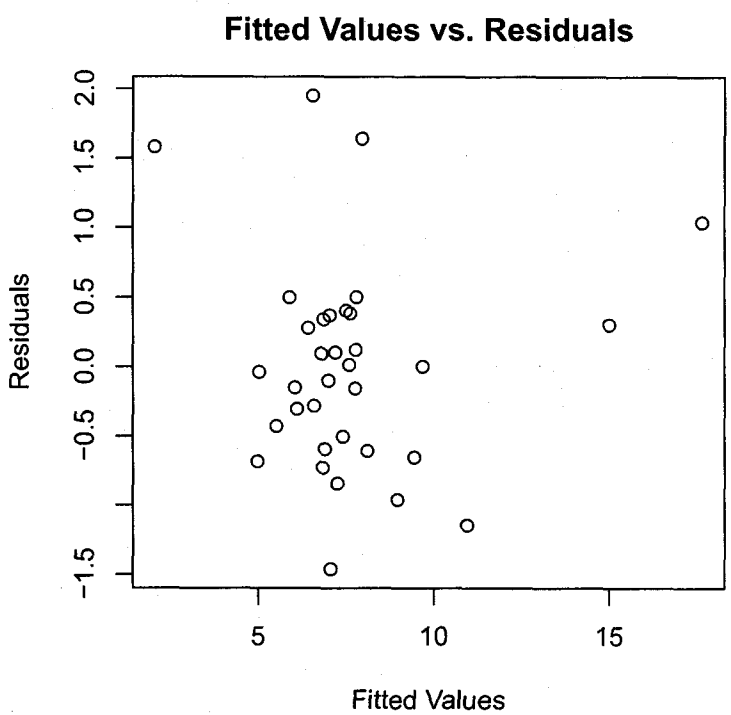


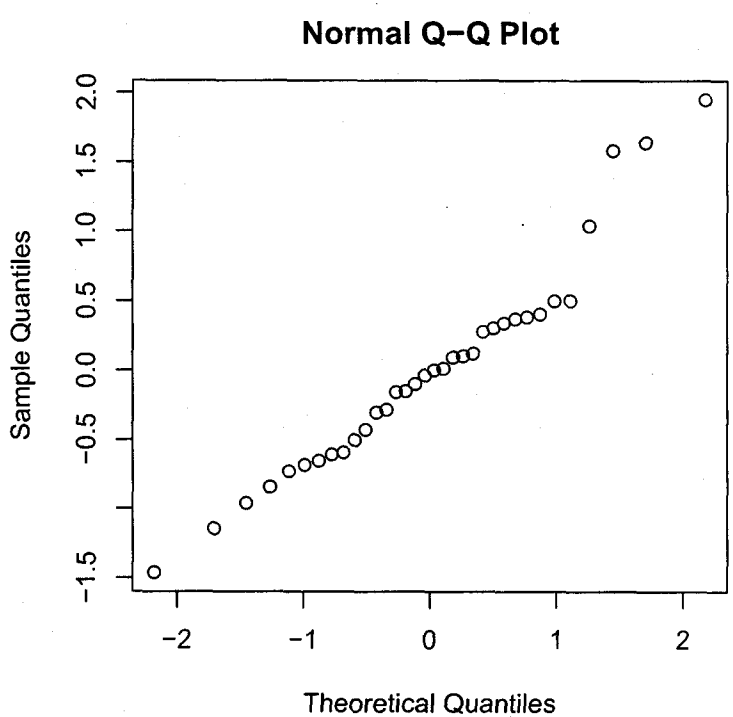
Regression Assumptions
Upper Sand
IRON and BERYLLIUM



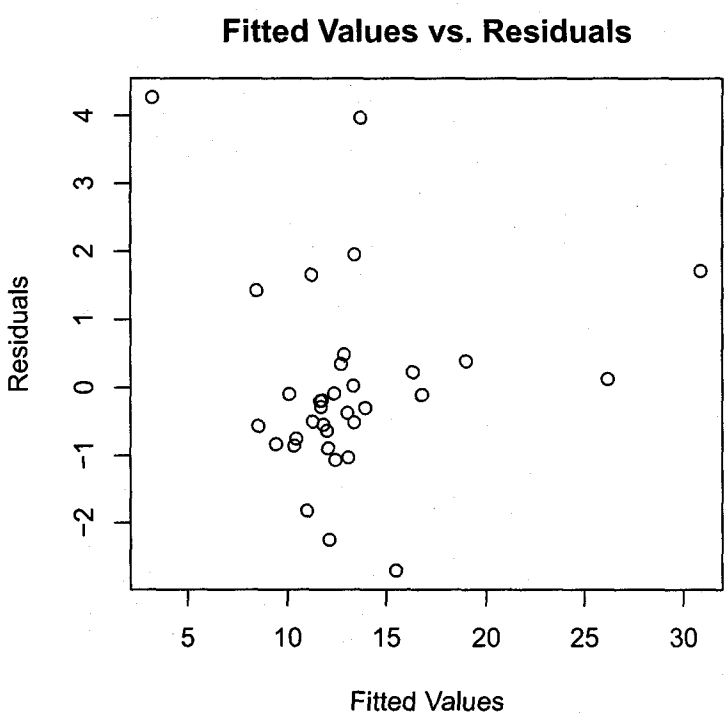


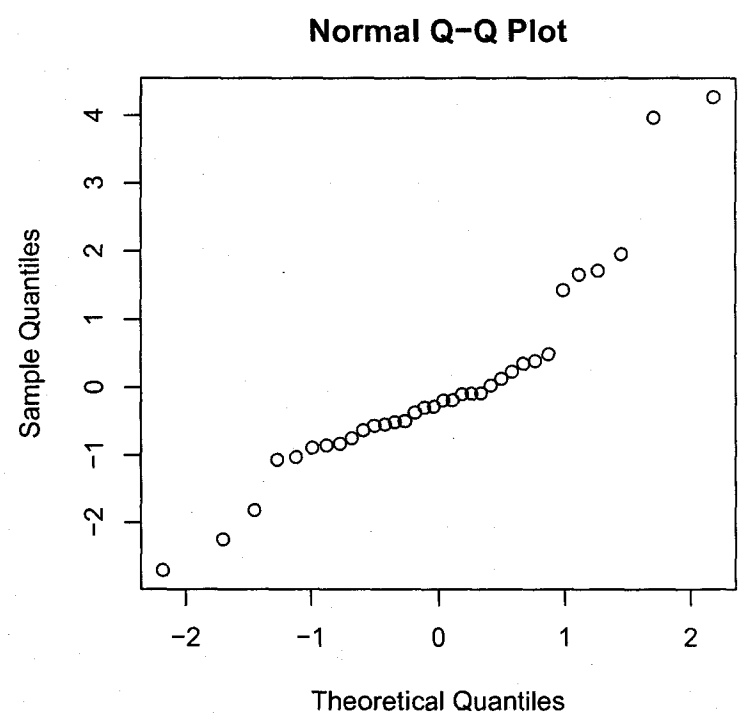
Regression Assumptions
Upper Sand
IRON and CHROMIUM

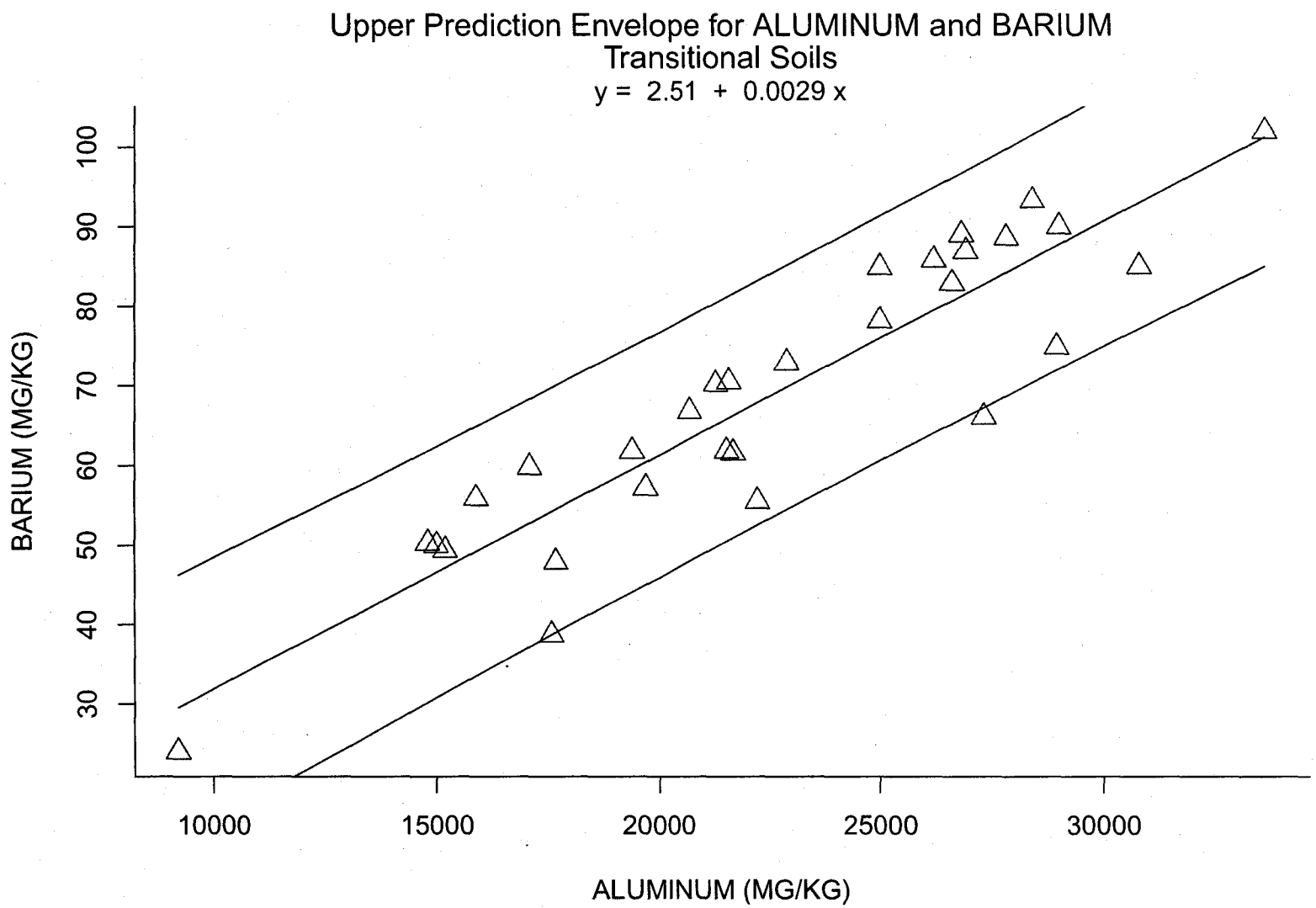


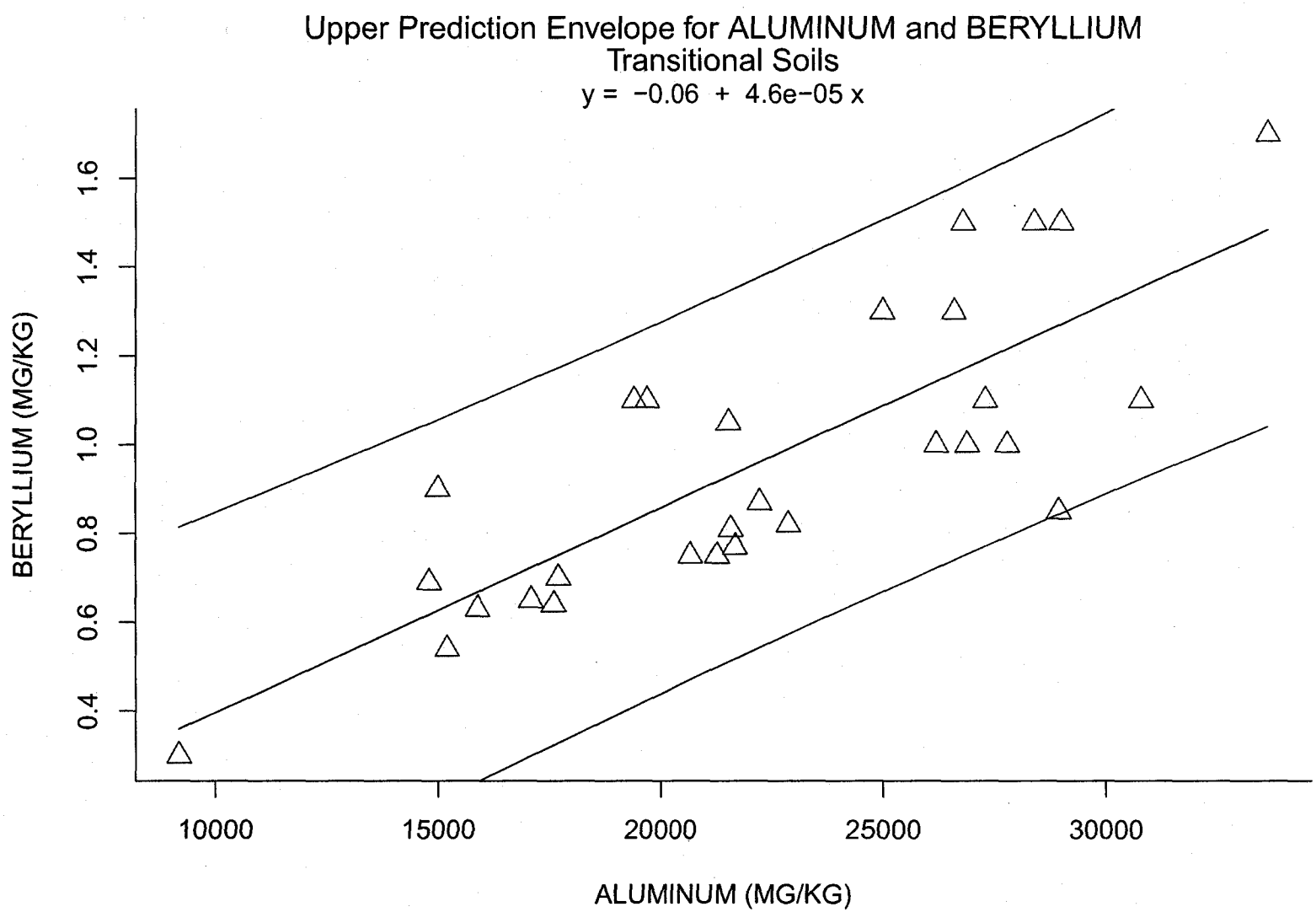


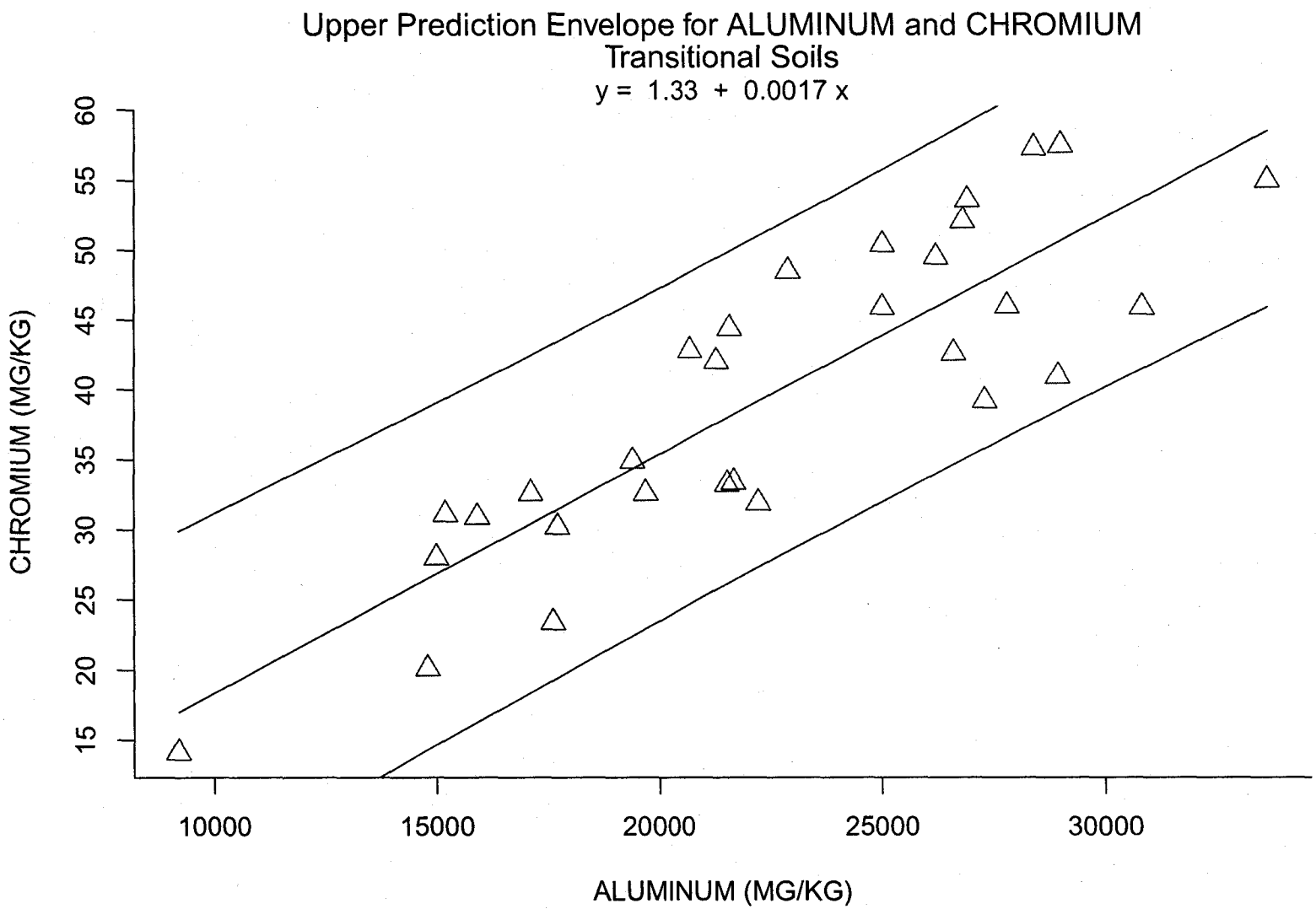
Regression Assumptions
Upper Sand
IRON and VANADIUM

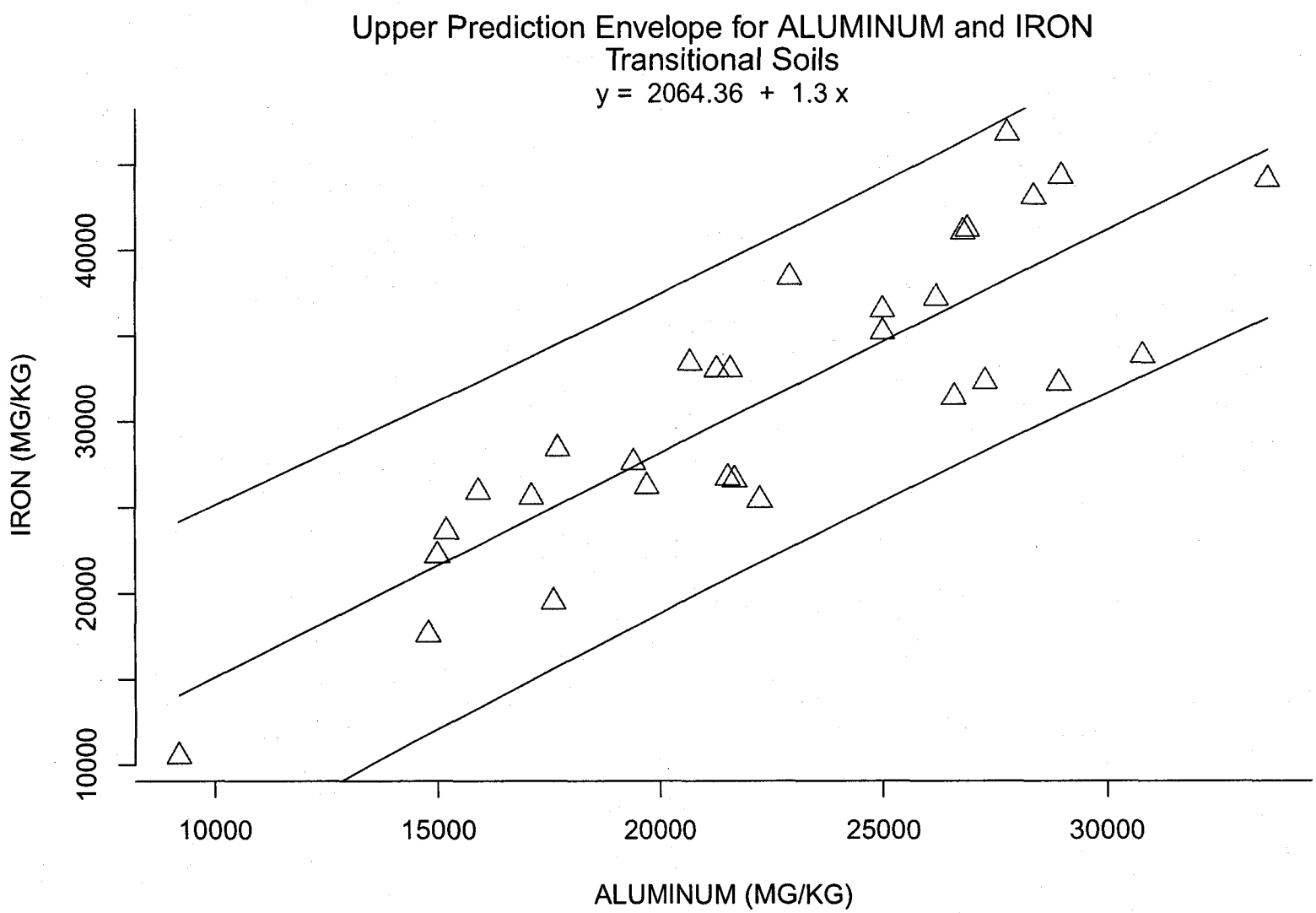


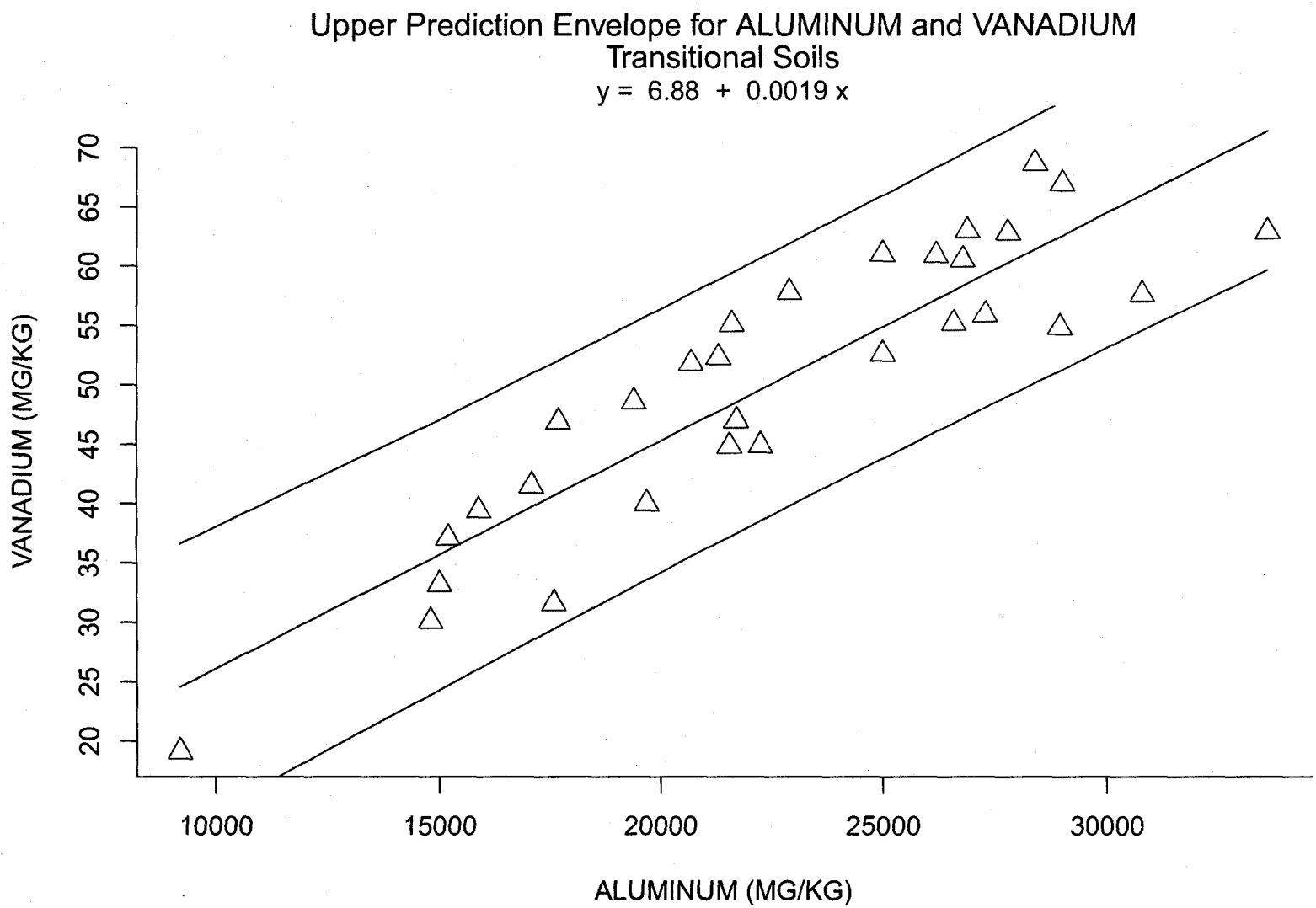


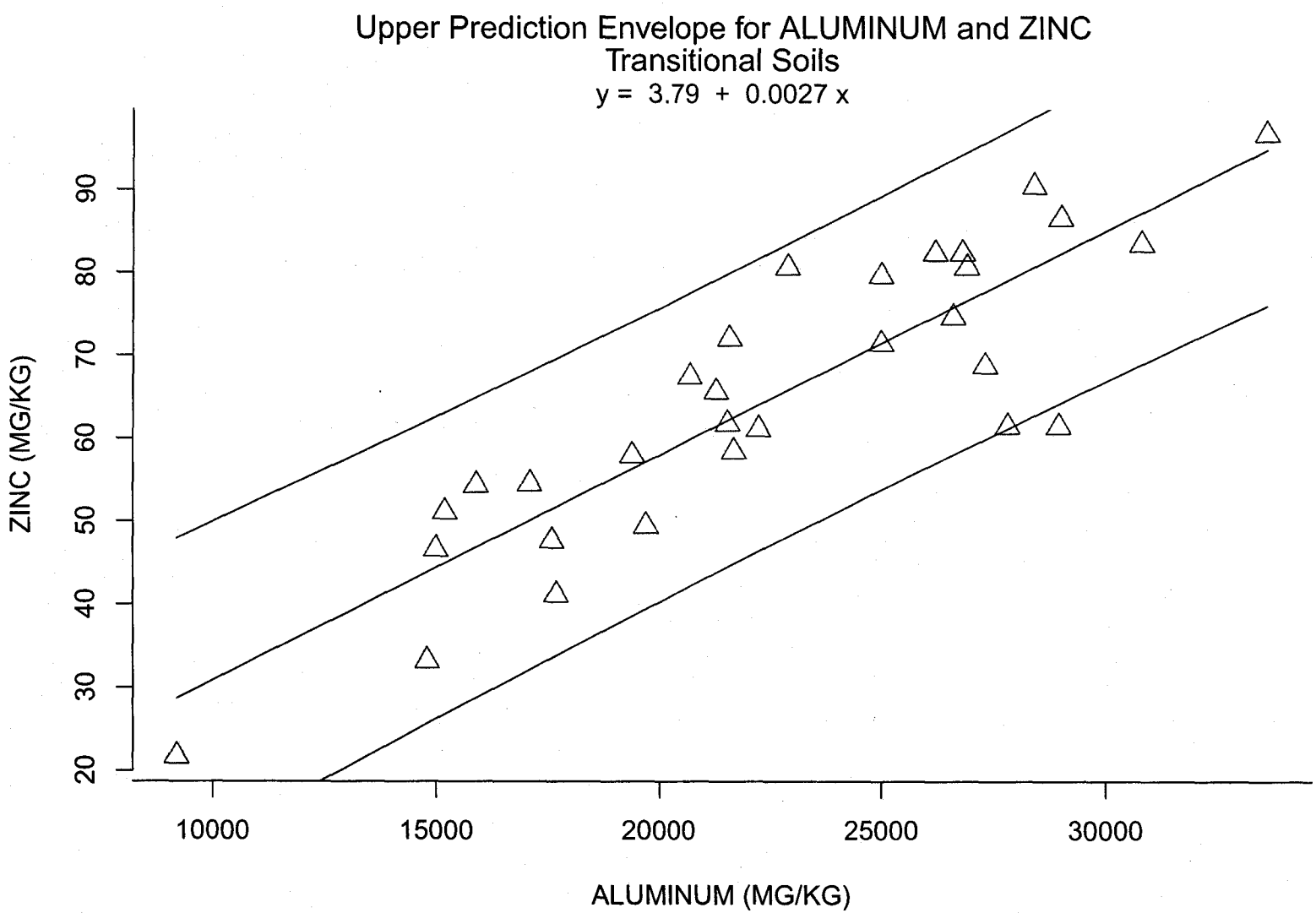

Upper Prediction Envelope for ALUMINUM and BARIUM
Transitional Soils
y = 2.51 + 0.0029 x
BARIUM (MG/KG)
30
40
50
60
70
80
90
100
10000
15000
20000
25000
30000
ALUMINUM (MG/KG)


Upper Prediction Envelope for ALUMINUM and BERYLLIUM
Transitional Soils
y = −0.06 + 4.6e−05 x
BERYLLIUM (MG/KG)
0.4
0.6
0.8
1.0
1.2
1.4
1.6
10000
15000
20000
25000
30000
ALUMINUM (MG/KG)

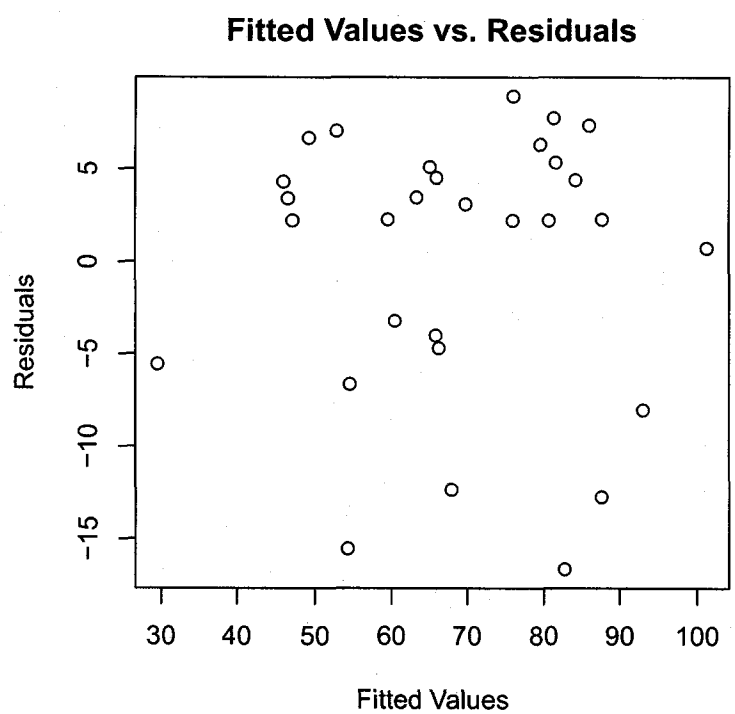

Upper Prediction Envelope for ALUMINUM and CHROMIUM
Transitional Soils
y = 1.33 + 0.0017 x
CHROMIUM (MG/KG)
15
20
25
30
35
40
45
50
55
60
10000
15000
20000
25000
30000
ALUMINUM (MG/KG)

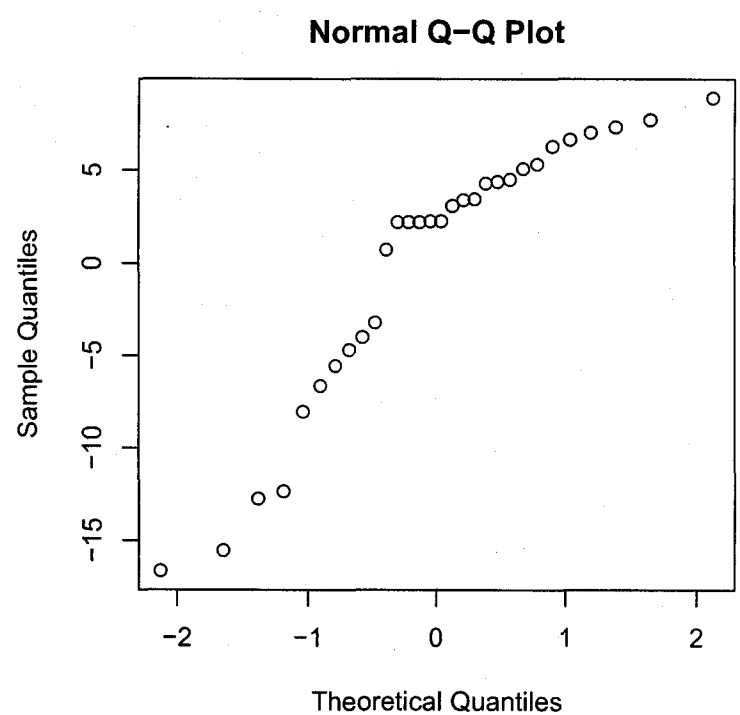

Upper Prediction Envelope for ALUMINUM and IRON
Transitional Soils
y = 2064.36 + 1.3 x
IRON (MG/KG)
10000
20000
30000
40000
10000
15000
20000
25000
30000
ALUMINUM (MG/KG)


Upper Prediction Envelope for ALUMINUM and VANADIUM
Transitional Soils
y = 6.88 + 0.0019 x
VANADIUM (MG/KG)
20
25
30
35
40
45
50
55
60
65
70
10000
15000
20000
25000
30000
ALUMINUM (MG/KG)

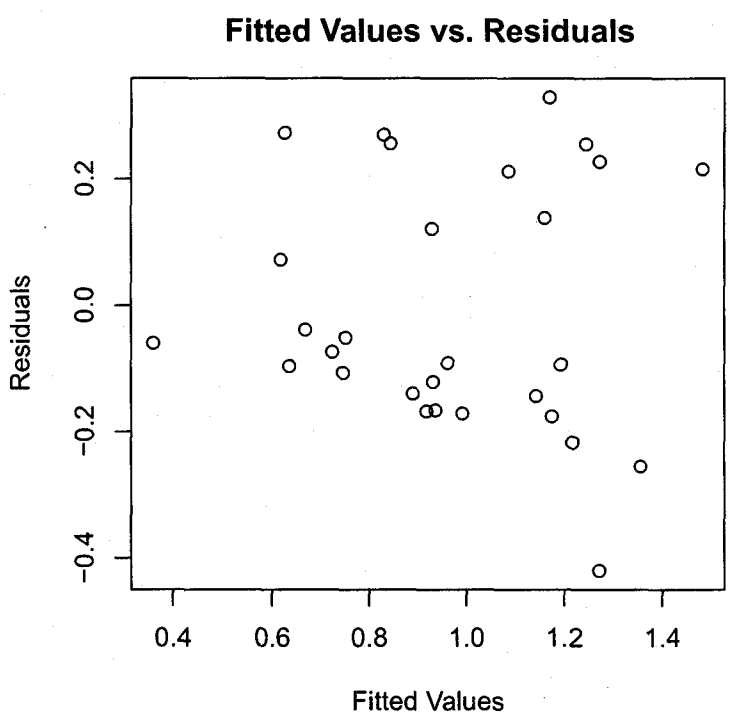

Upper Prediction Envelope for ALUMINUM and ZINC
Transitional Soils
y = 3.79 + 0.0027 x
ZINC (MG/KG)
20
30
40
50
60
70
80
90
10000
15000
20000
25000
30000
ALUMINUM (MG/KG)

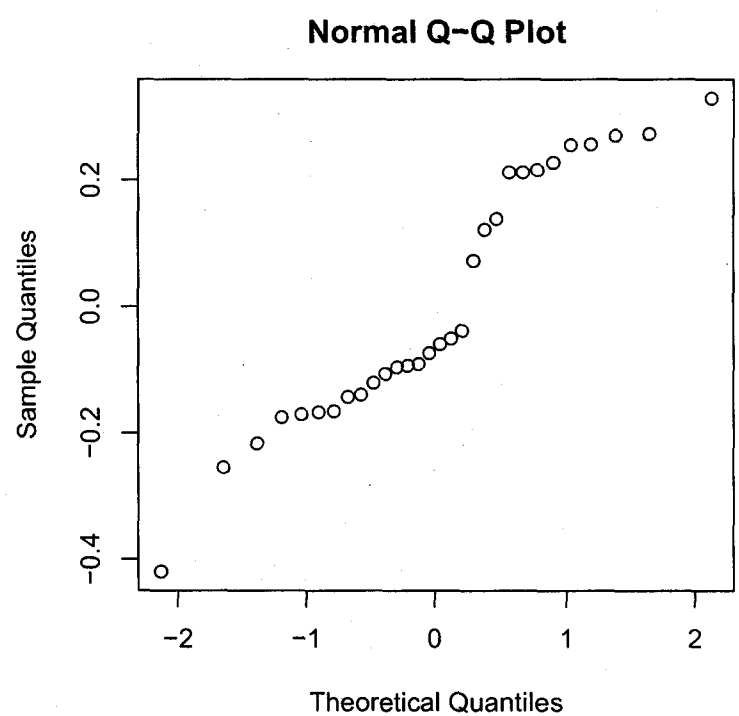
Regression Assumptions
Transition
ALUMINUM and BARIUM



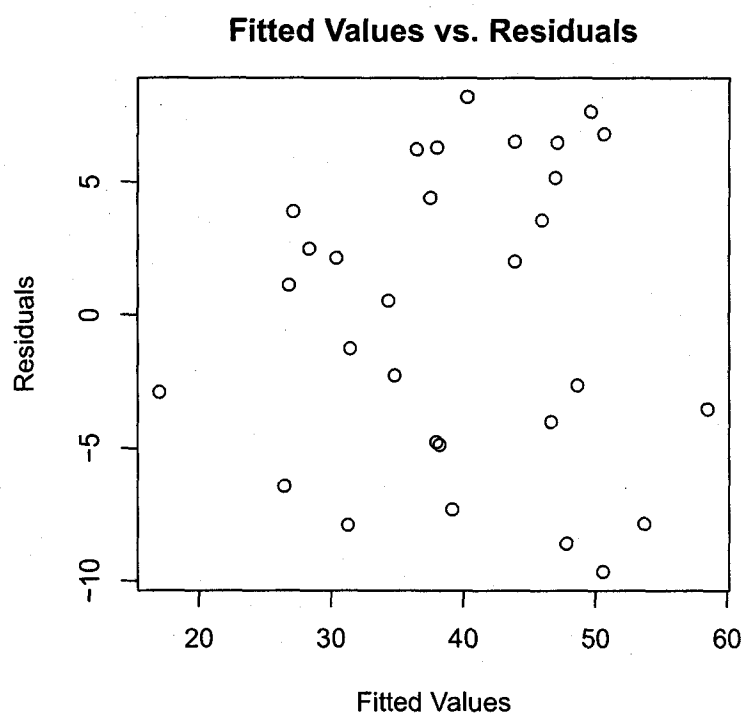


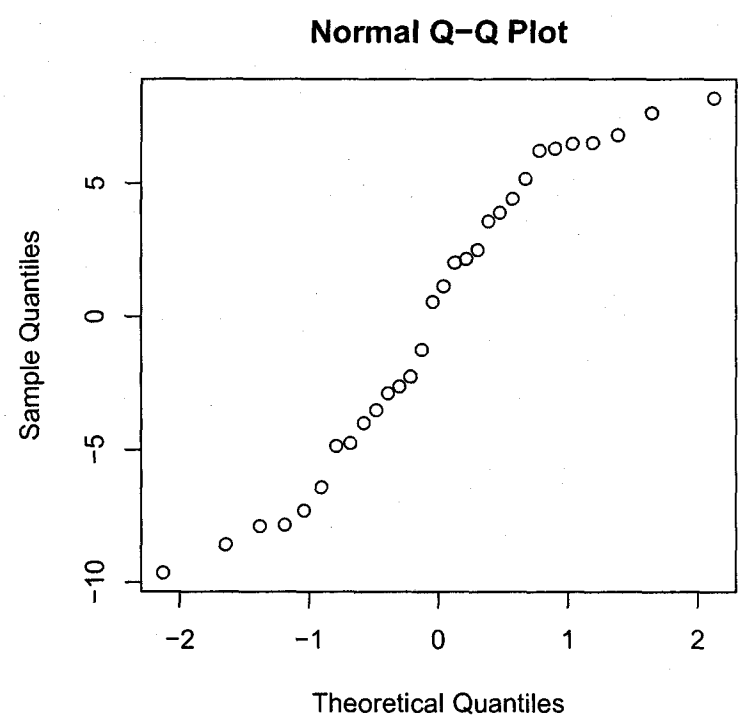
Regression Assumptions
Transition
ALUMINUM and BERYLLIUM



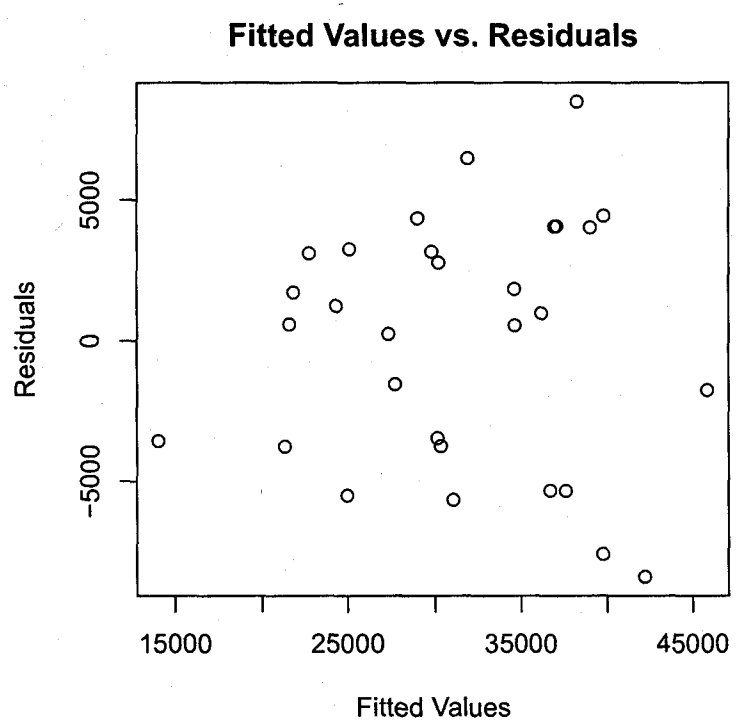


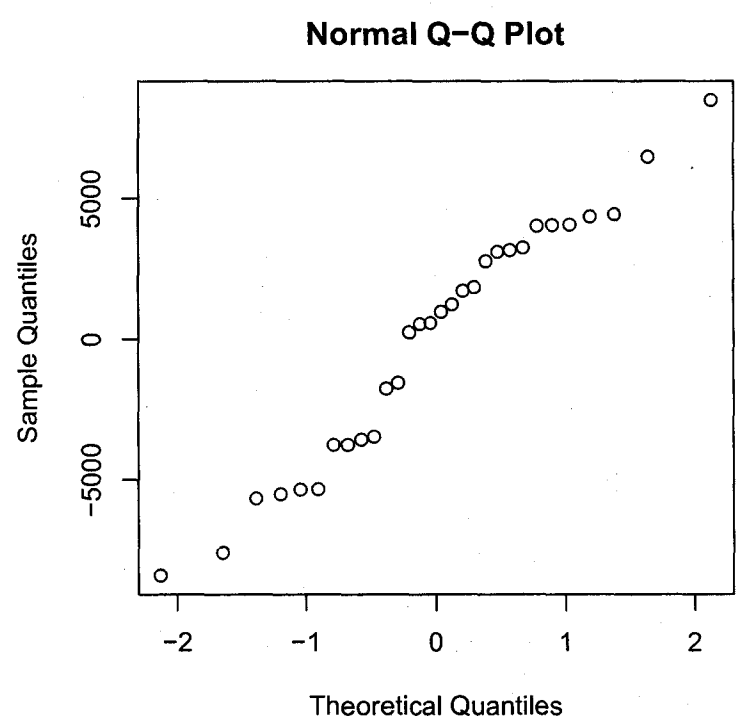
Regression Assumptions
Transition
ALUMINUM and CHROMIUM



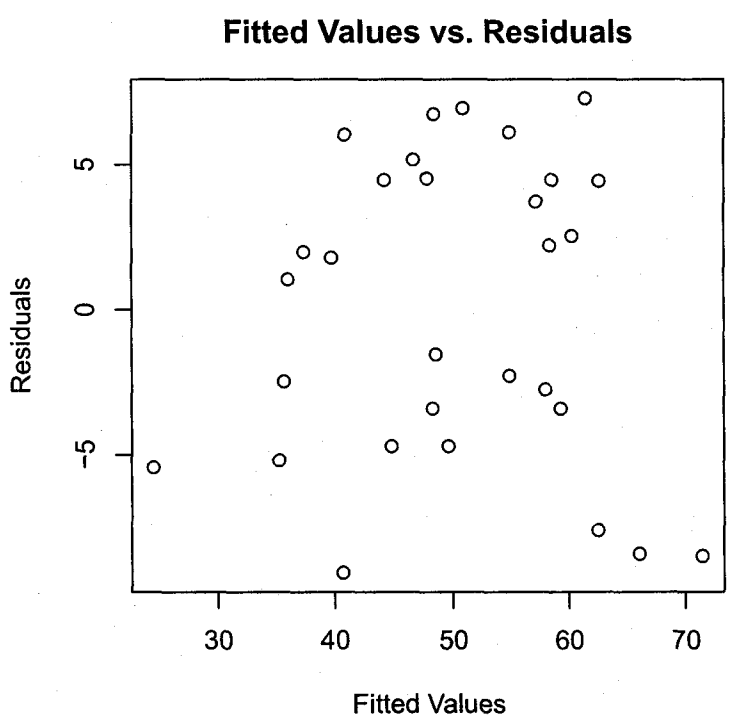


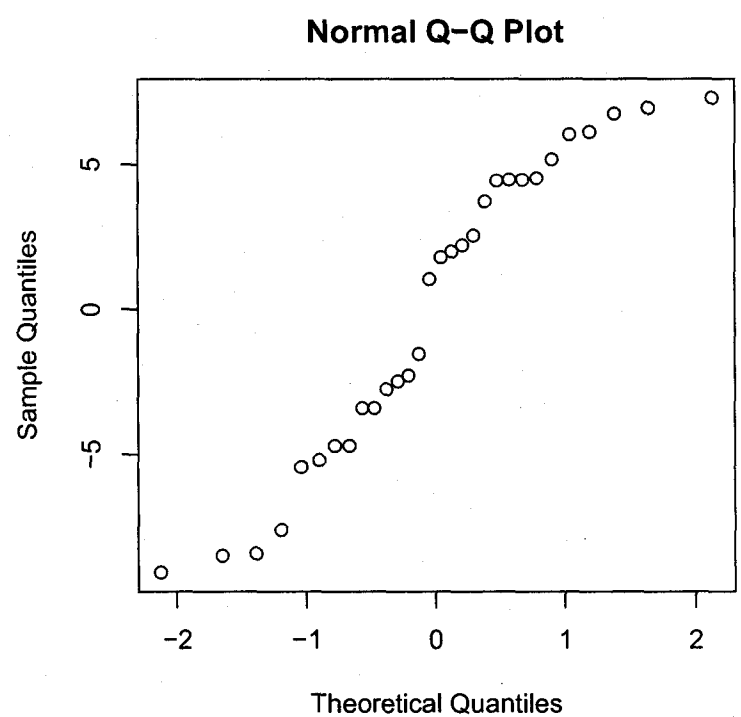
Regression Assumptions
Transition
ALUMINUM and IRON



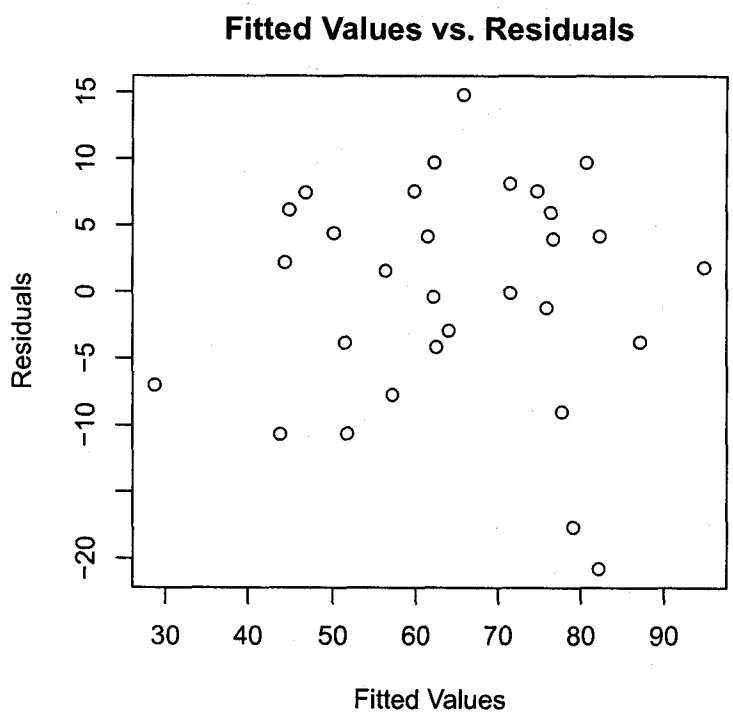


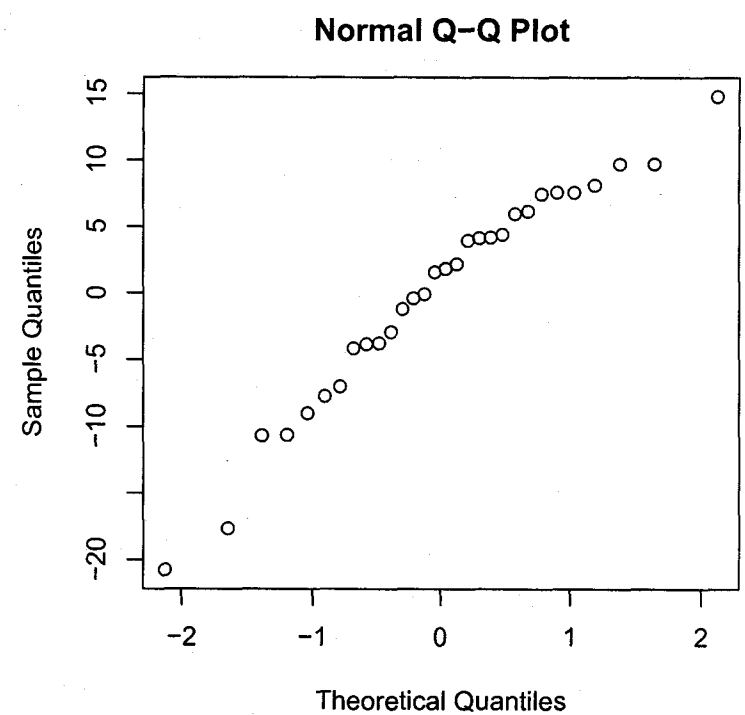
Regression Assumptions
Transition
ALUMINUM and VANADIUM

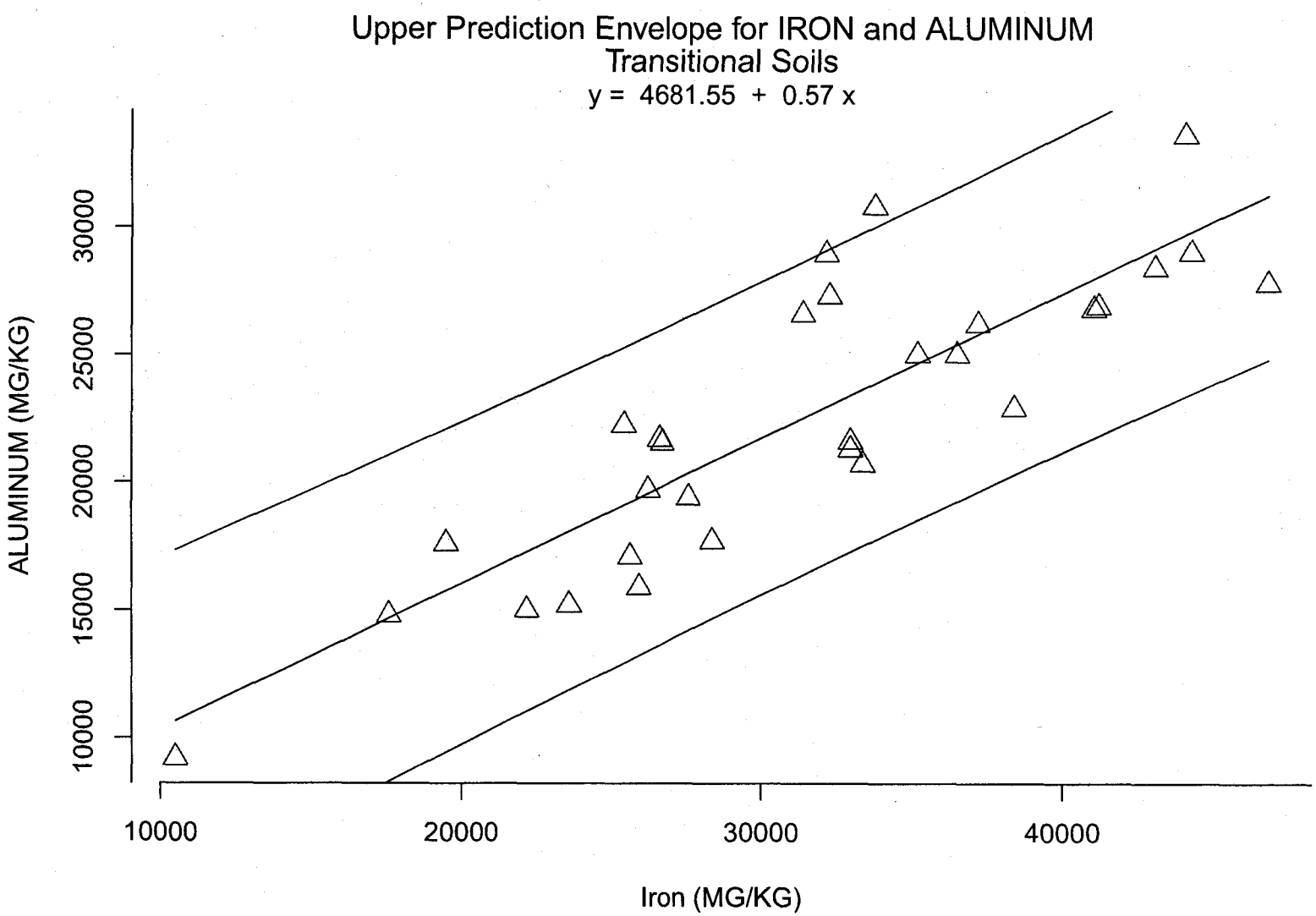


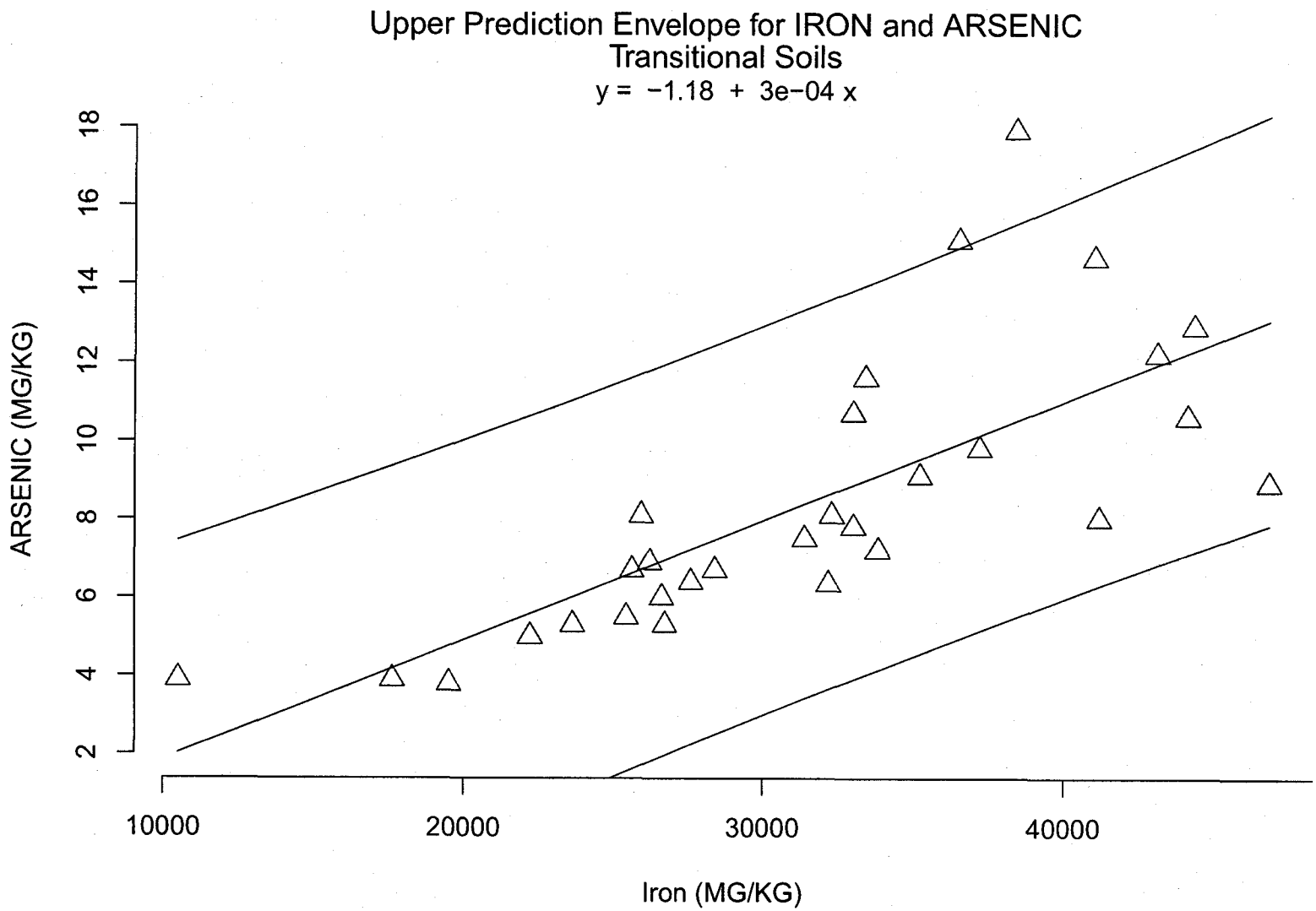


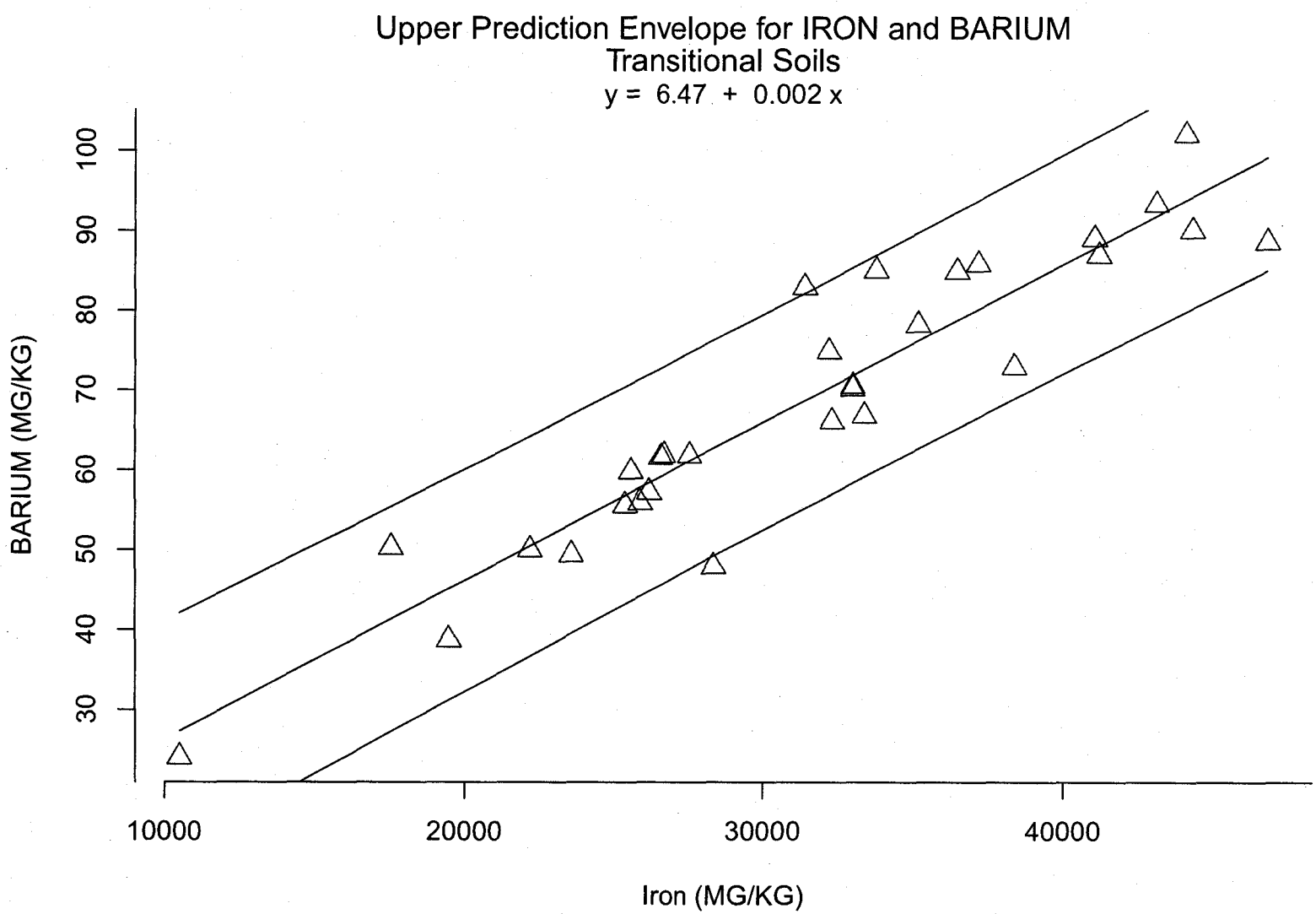
Regression Assumptions
Transition
ALUMINUM and ZINC

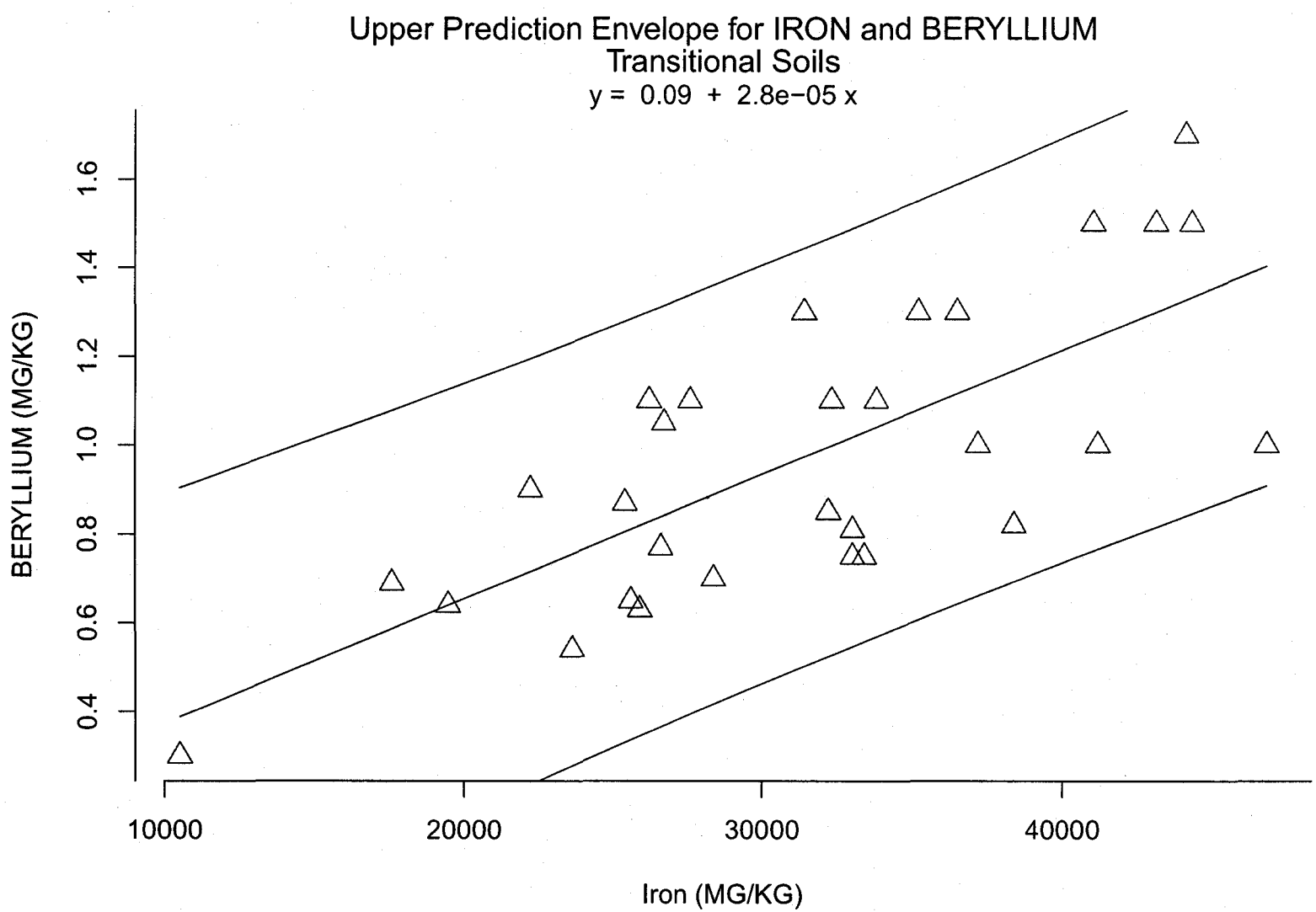


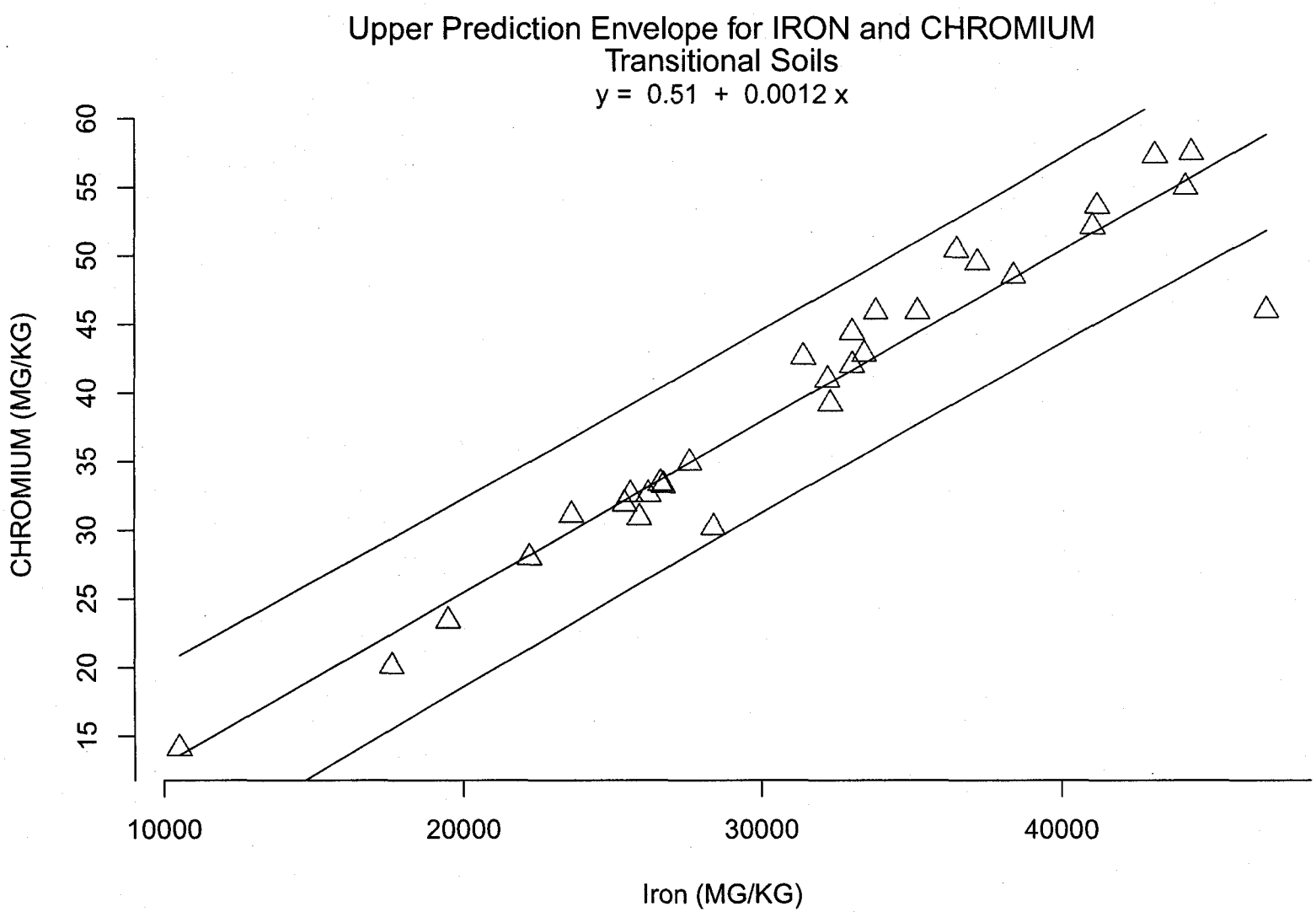


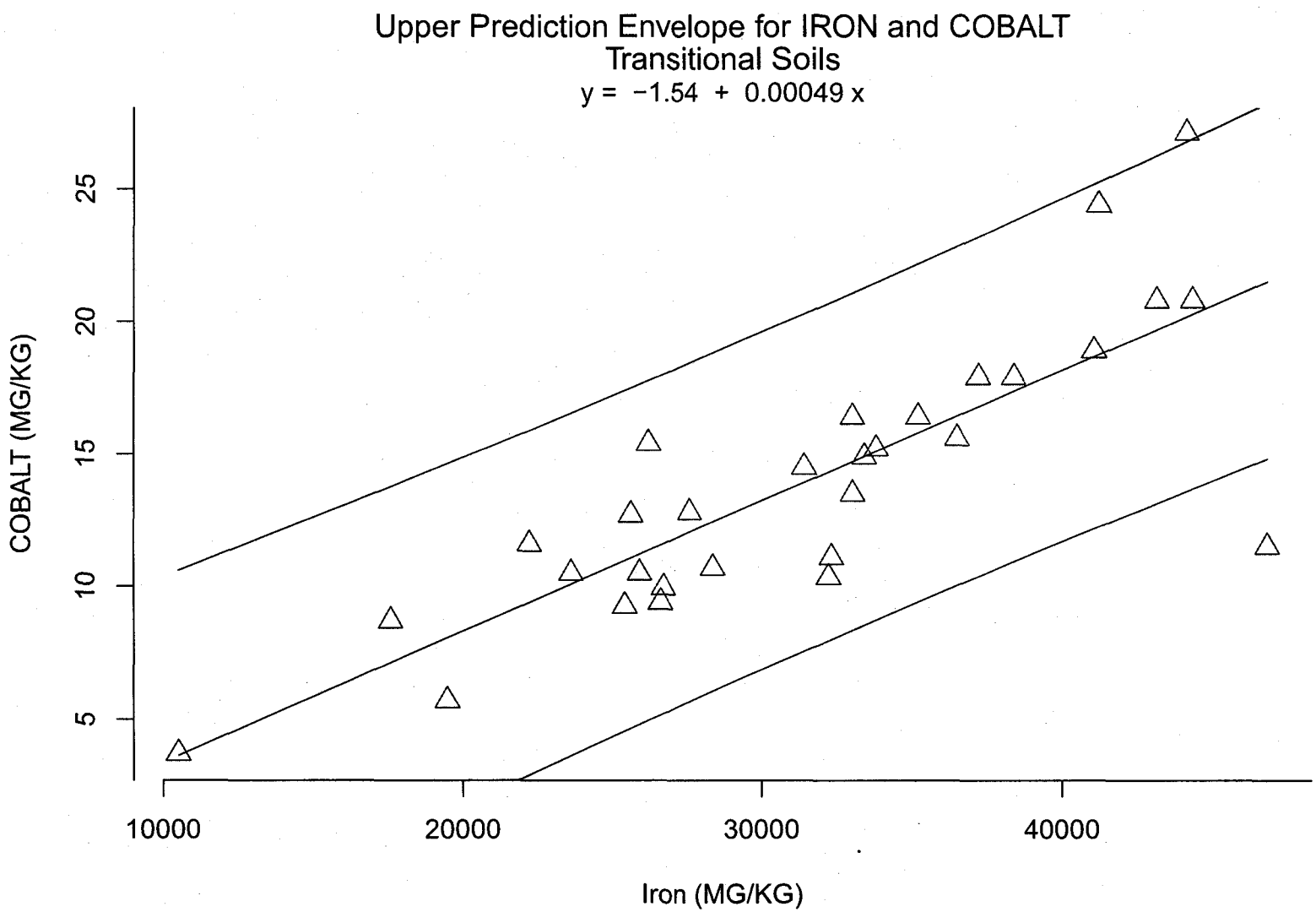

Upper Prediction Envelope for IRON and ALUMINUM
Transitional Soils
y = 4681.55 + 0.57 x
ALUMINUM (MG/KG)
10000
15000
20000
25000
30000
10000
20000
30000
40000
Iron (MG/KG)

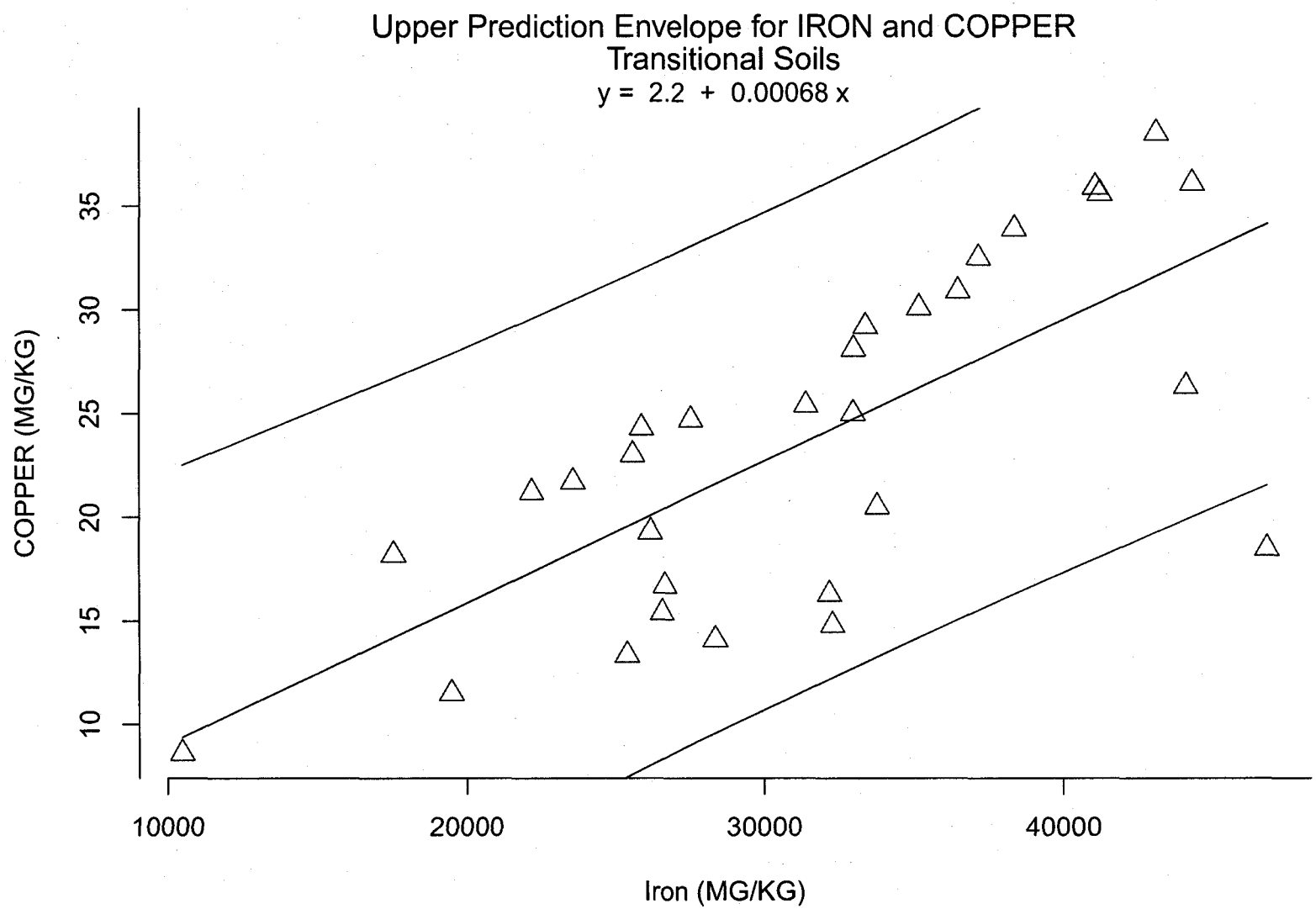

Upper Prediction Envelope for IRON and ARSENIC
Transitional Soils
y = −1.18 + 3e−04 x
ARSENIC (MG/KG)
2
4
6
8
10
12
14
16
18
10000
20000
30000
40000
Iron (MG/KG)

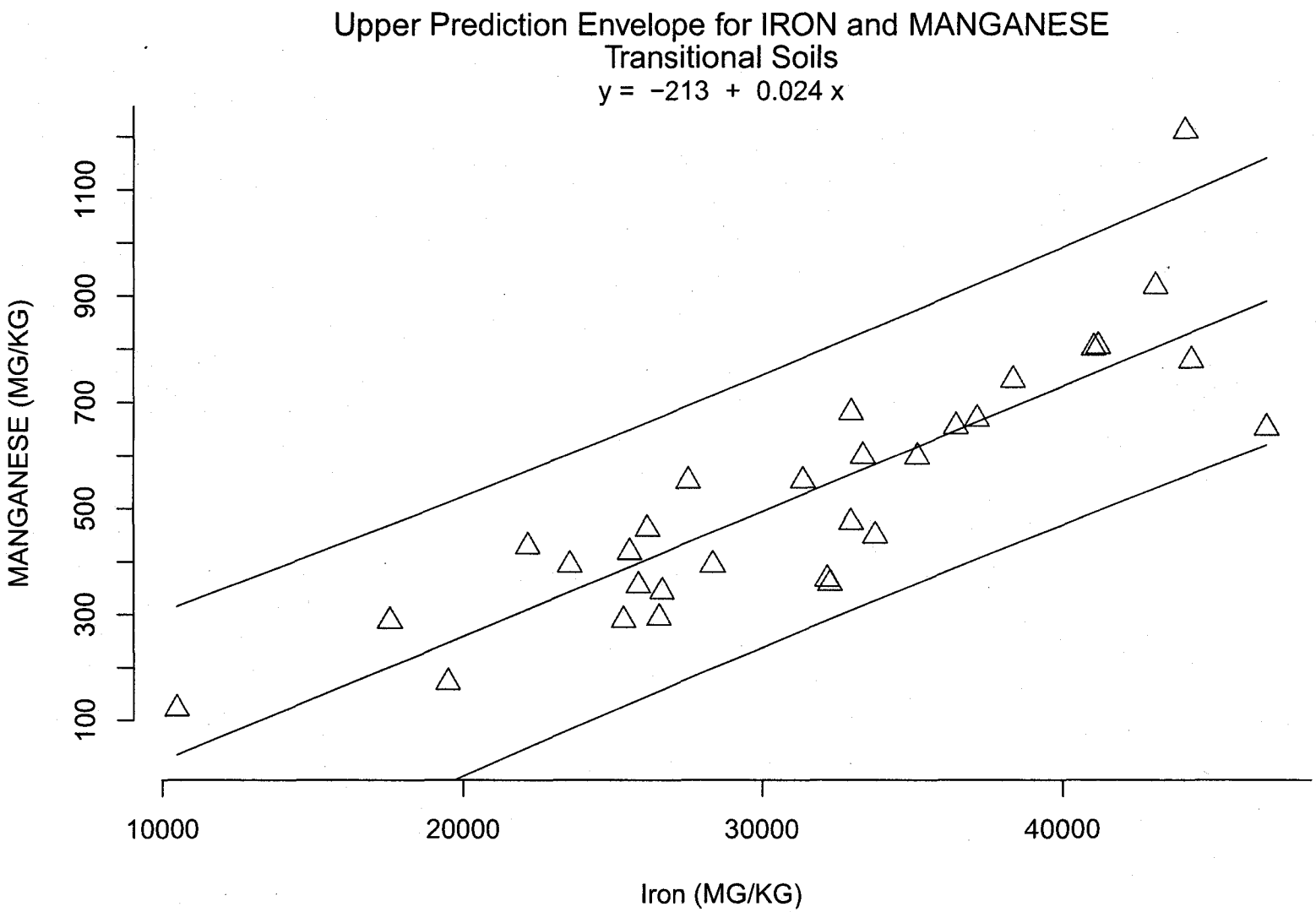

Upper Prediction Envelope for IRON and BARIUM
Transitional Soils
y = 6.47 + 0.002 x
BARIUM (MG/KG)
30
40
50
60
70
80
90
100
10000
20000
30000
40000
Iron (MG/KG)

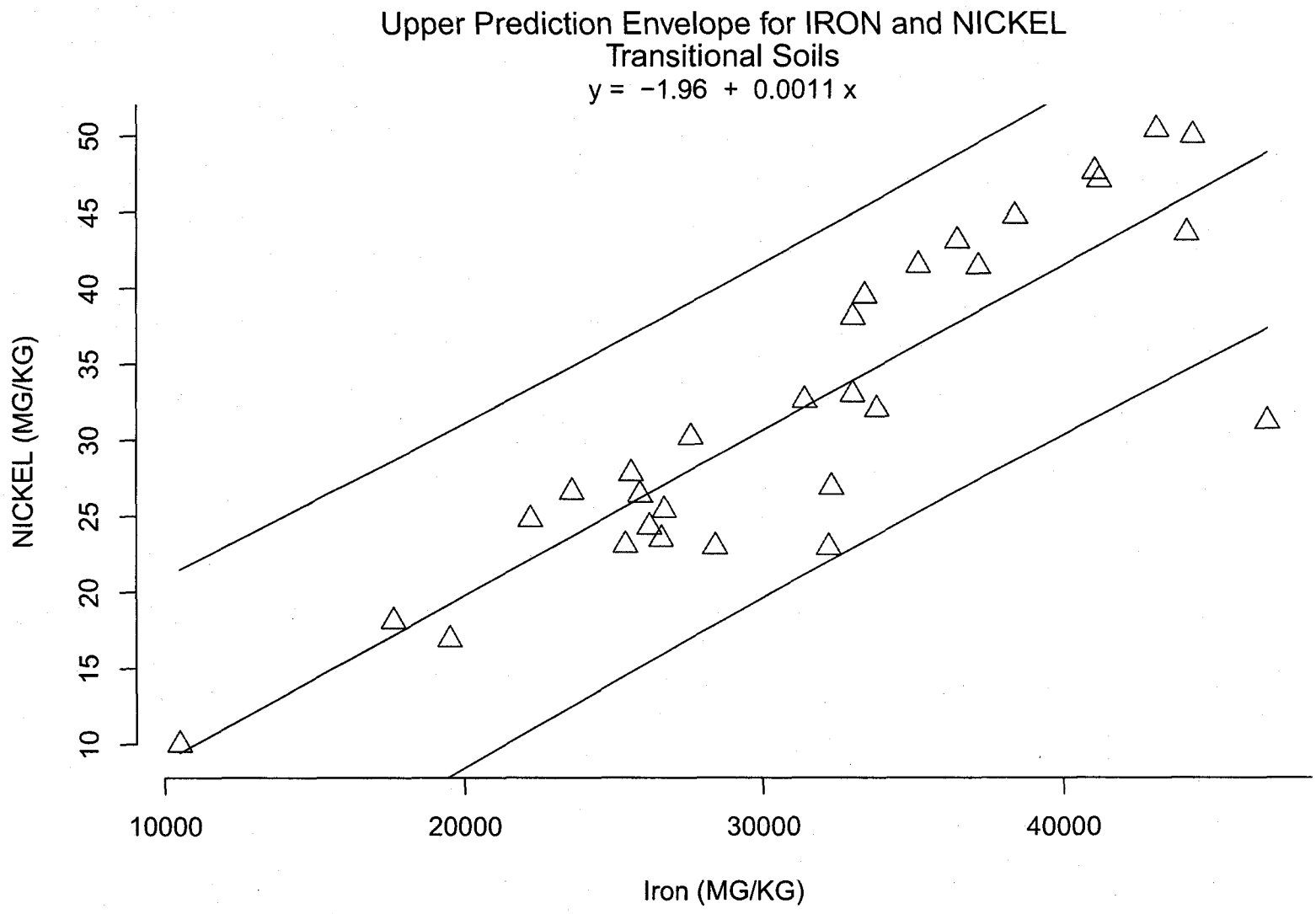

Upper Prediction Envelope for IRON and BERYLLIUM
Transitional Soils
y = 0.09 + 2.8e−05 x
BERYLLIUM (MG/KG)
0.4
0.6
0.8
1.0
1.2
1.4
1.6
10000
20000
30000
40000
Iron (MG/KG)

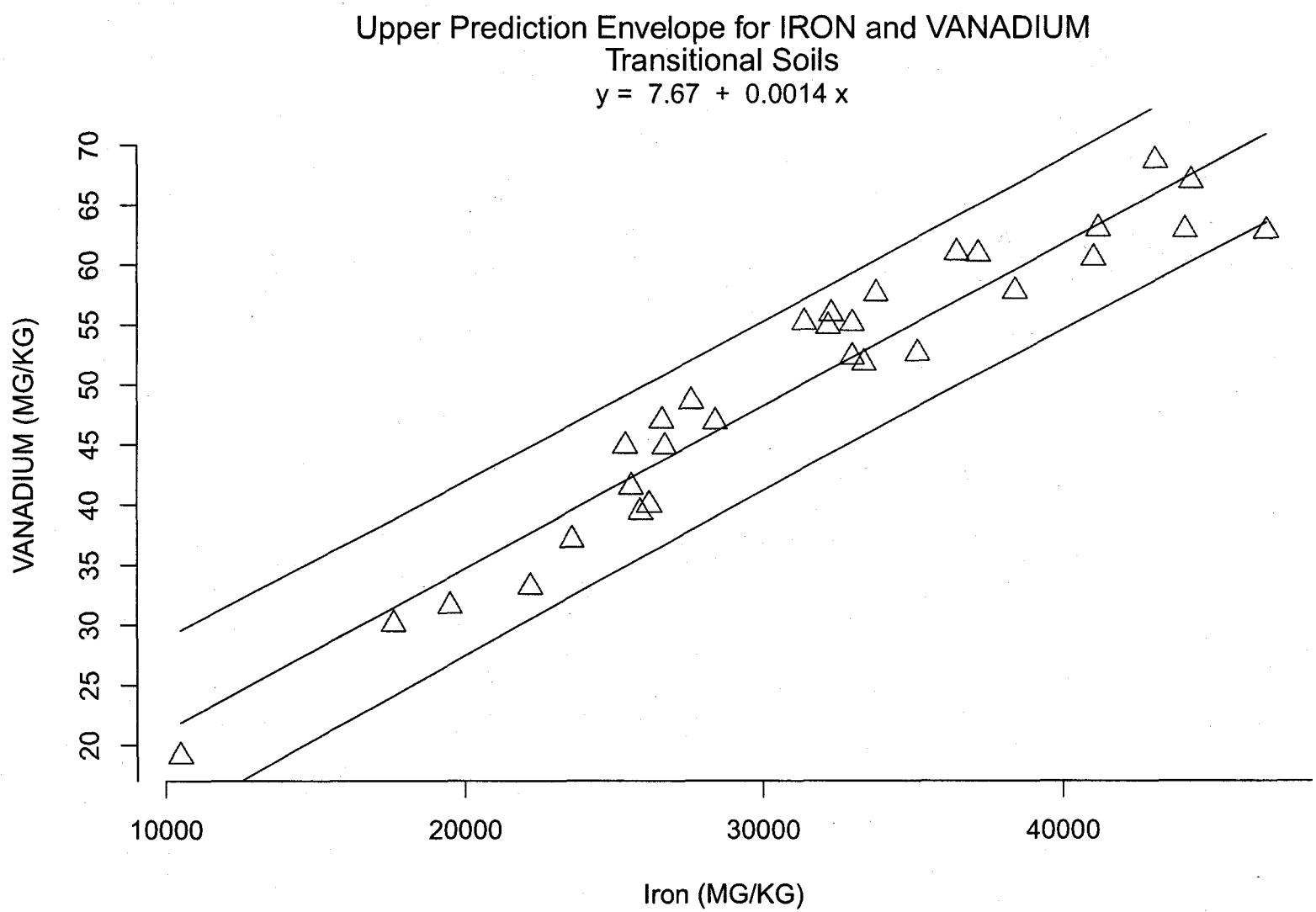

Upper Prediction Envelope for IRON and CHROMIUM
Transitional Soils
y = 0.51 + 0.0012 x
CHROMIUM (MG/KG)
15
20
25
30
35
40
45
50
55
60
10000
20000
30000
40000
Iron (MG/KG)

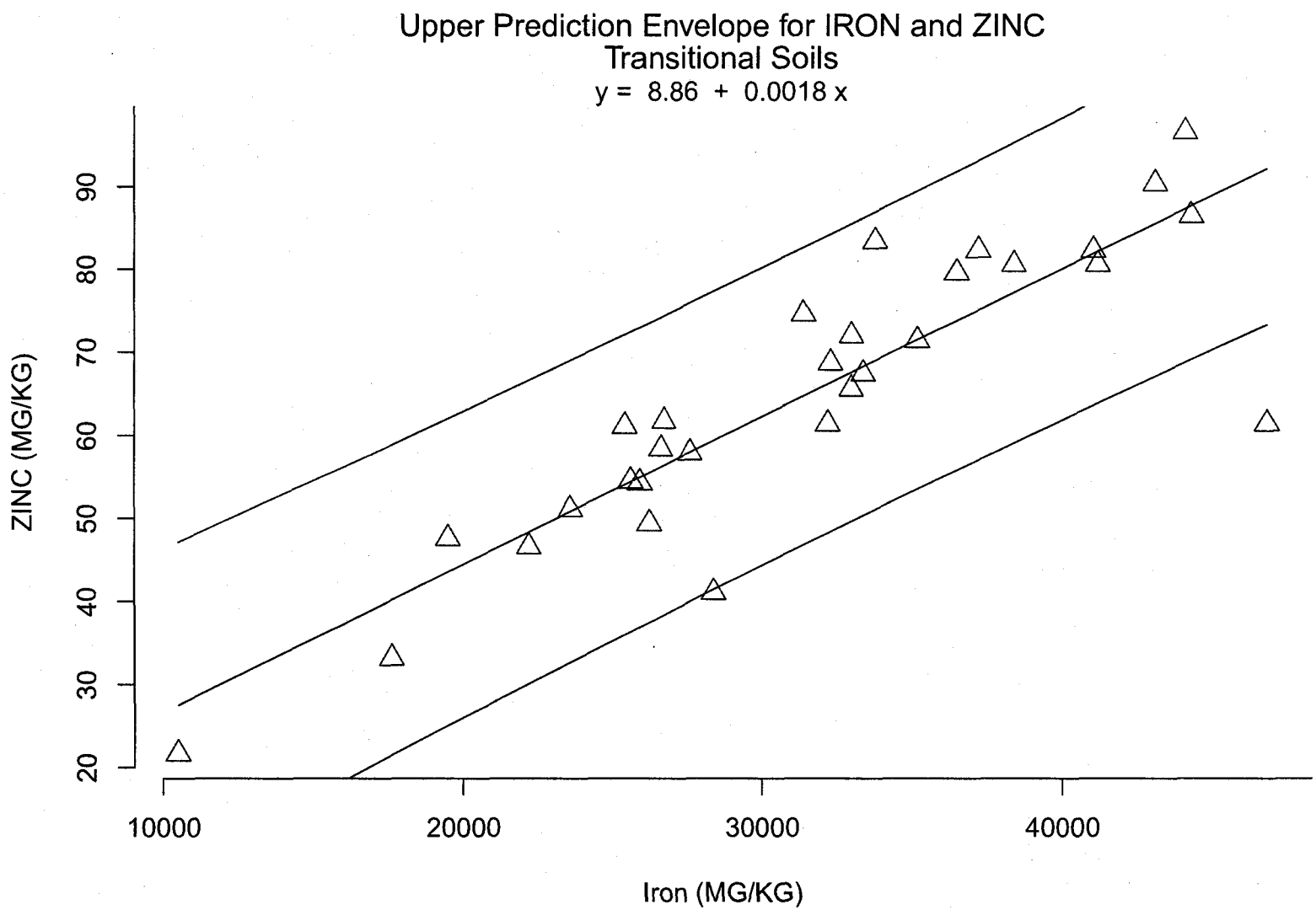

Upper Prediction Envelope for IRON and COBALT
Transitional Soils
y = −1.54 + 0.00049 x
COBALT (MG/KG)
5
10
15
20
25
10000
20000
30000
40000
Iron (MG/KG)


Upper Prediction Envelope for IRON and COPPER
Transitional Soils
y = 2.2 + 0.00068 x
COPPER (MG/KG)
10
15
20
25
30
35
10000
20000
30000
40000
Iron (MG/KG)

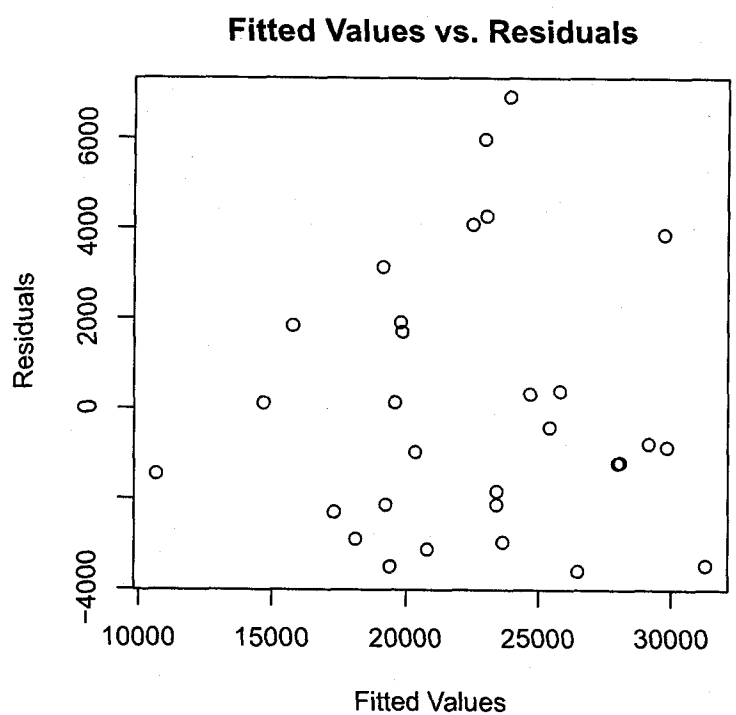

Upper Prediction Envelope for IRON and MANGANESE
Transitional Soils
y = −213 + 0.024 x
MANGANESE (MG/KG)
100
300
500
700
900
1100
10000
20000
30000
40000
Iron (MG/KG)

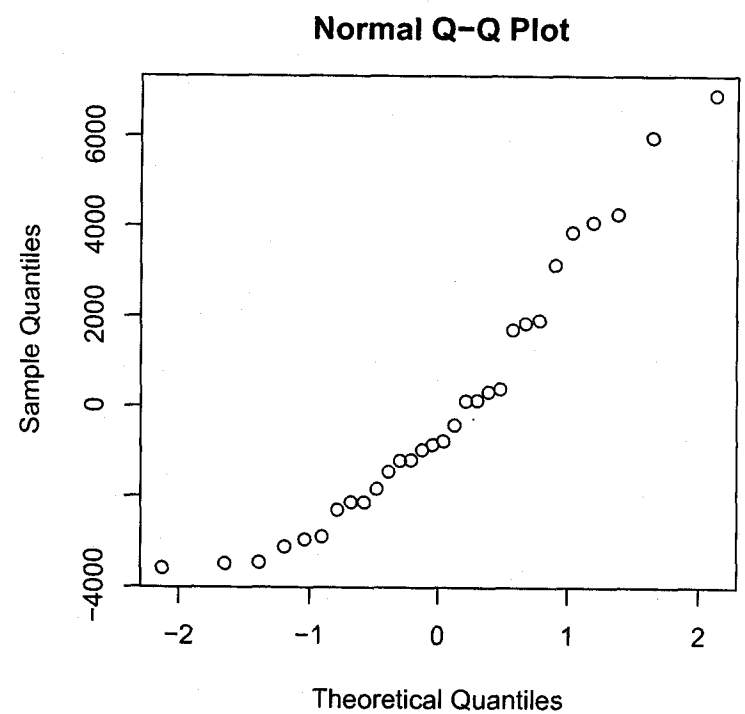

Upper Prediction Envelope for IRON and NICKEL
Transitional Soils
y = −1.96 + 0.0011 x
NICKEL (MG/KG)
10
15
20
25
30
35
40
45
50
10000
20000
30000
40000
Iron (MG/KG)


Upper Prediction Envelope for IRON and VANADIUM
Transitional Soils
y = 7.67 + 0.0014 x
VANADIUM (MG/KG)
20
25
30
35
40
45
50
55
60
65
70
10000
20000
30000
40000
Iron (MG/KG)

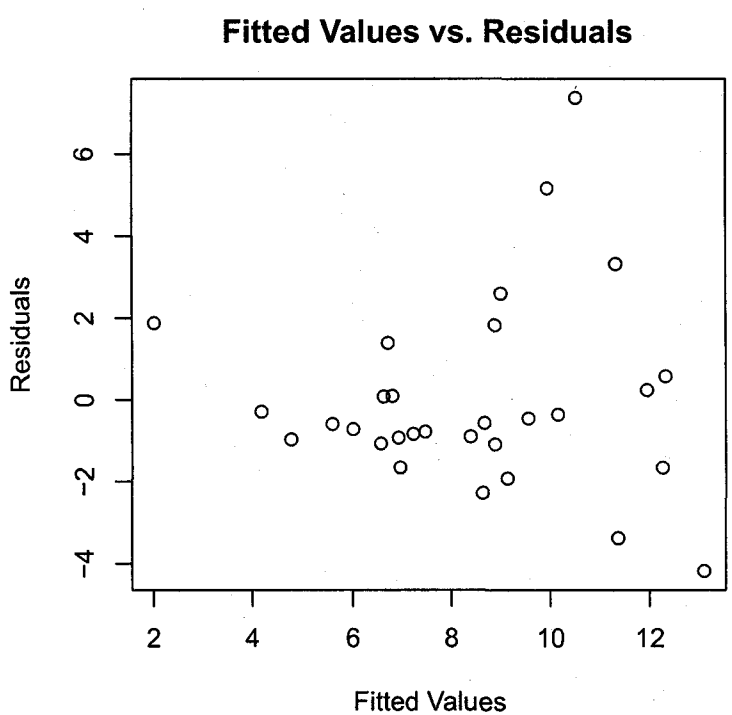

Upper Prediction Envelope for IRON and ZINC
Transitional Soils
y = 8.86 + 0.0018 x
ZINC (MG/KG)
20
30
40
50
60
70
80
90
10000
20000
30000
40000
Iron (MG/KG)

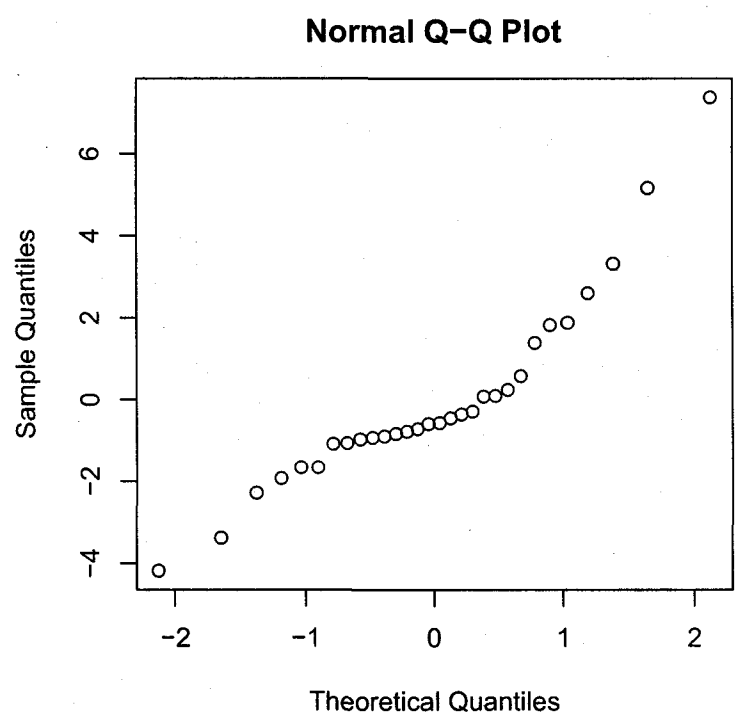
Regression Assumptions
Transition
IRON and ALUMINUM



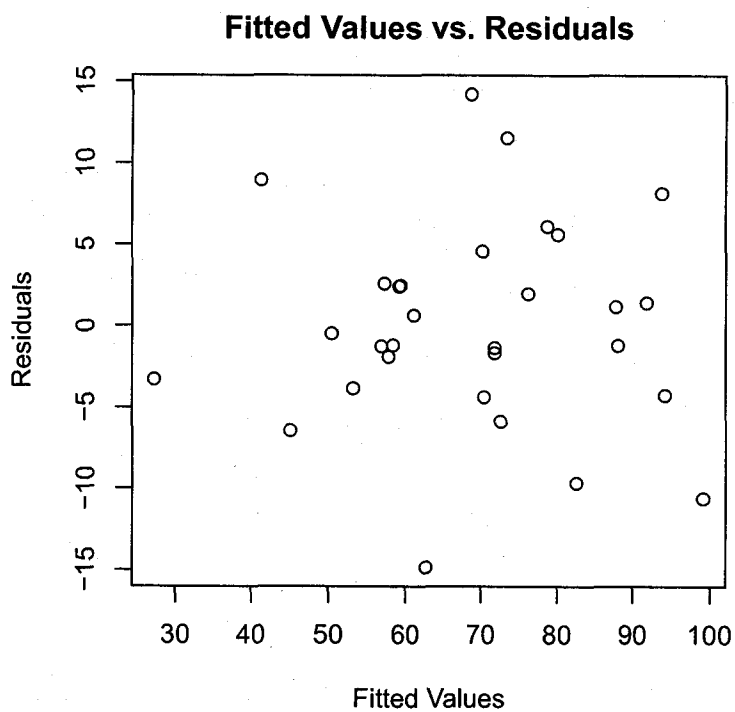


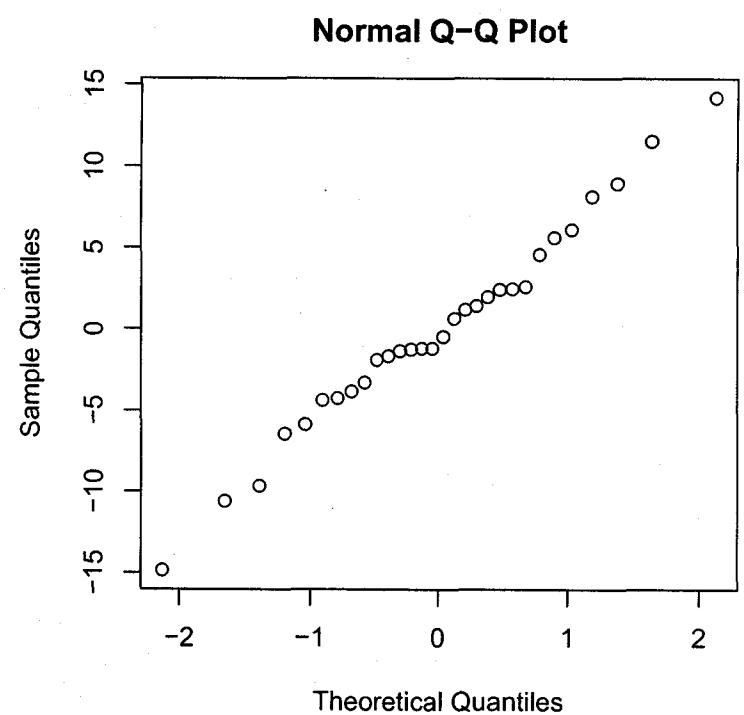
Regression Assumptions
Transition
IRON and ARSENIC



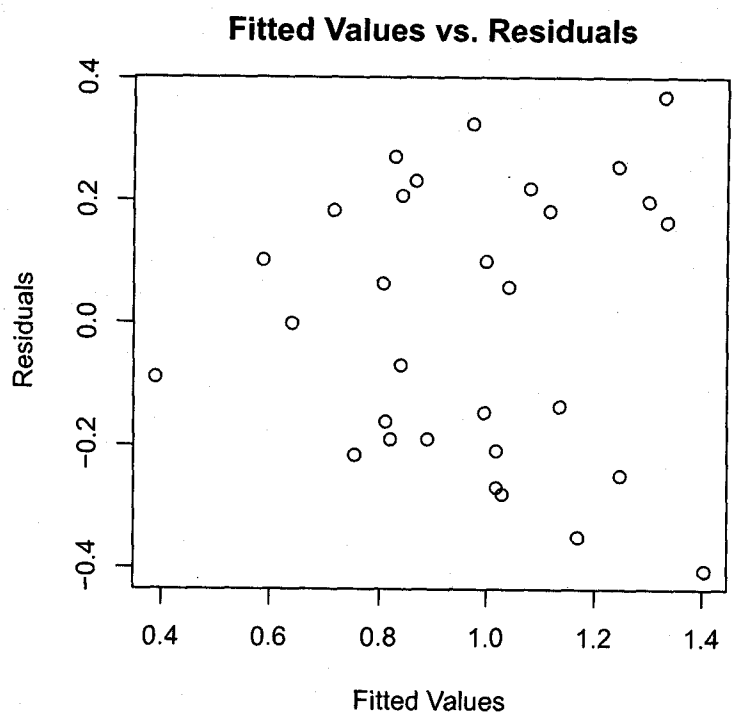


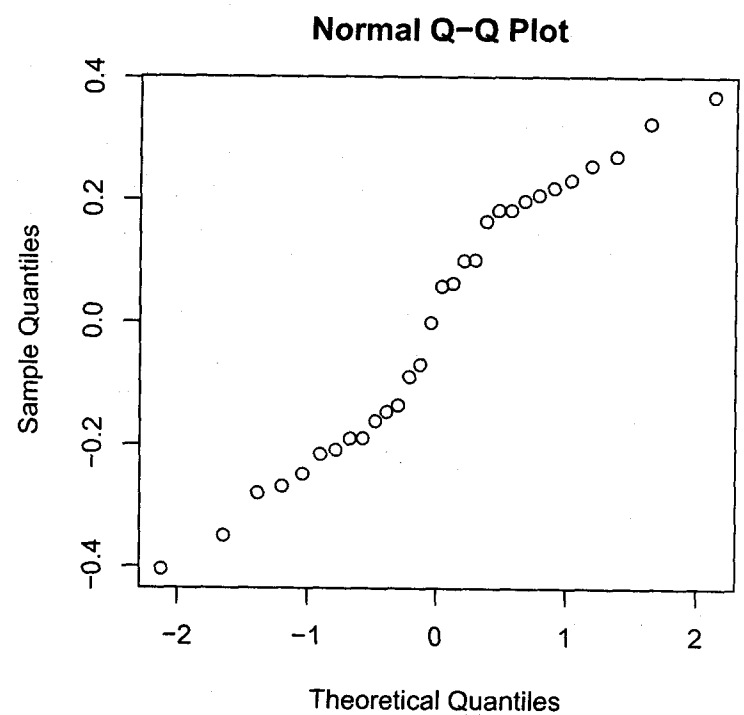
Regression Assumptions
Transition
IRON and BARIUM



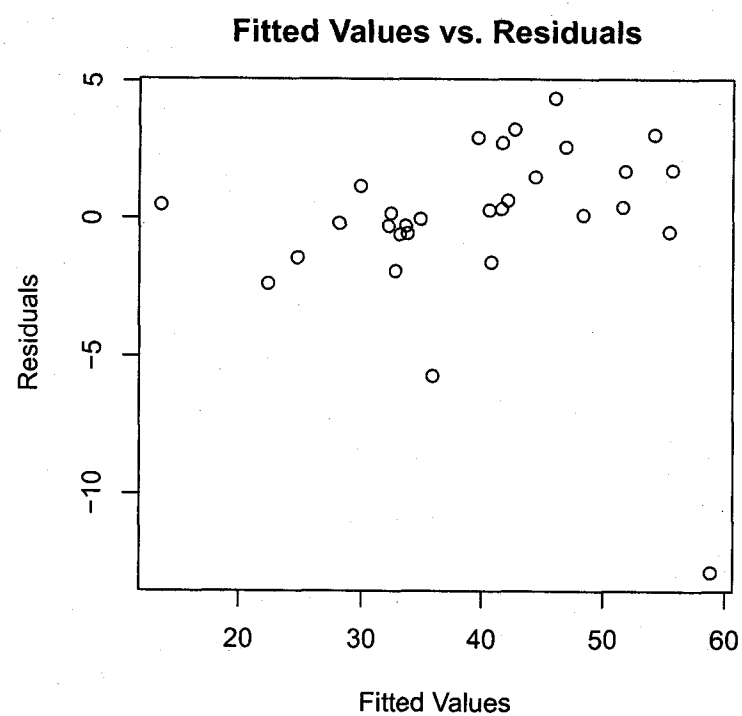


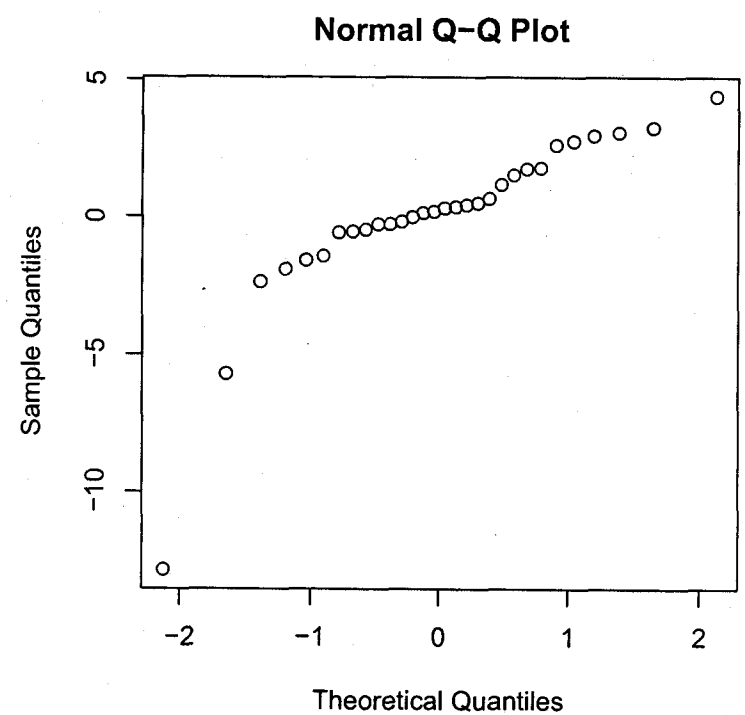
Regression Assumptions
Transition
IRON and BERYLLIUM



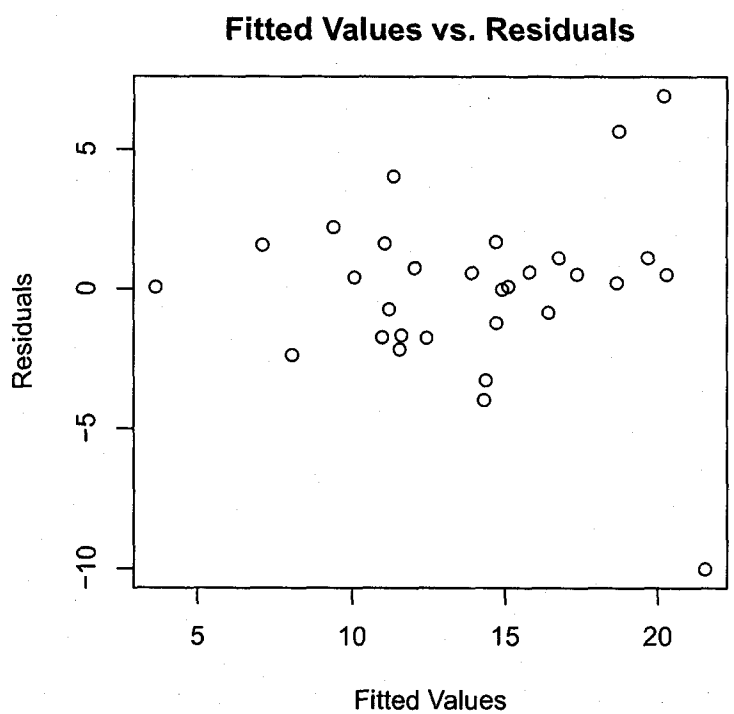


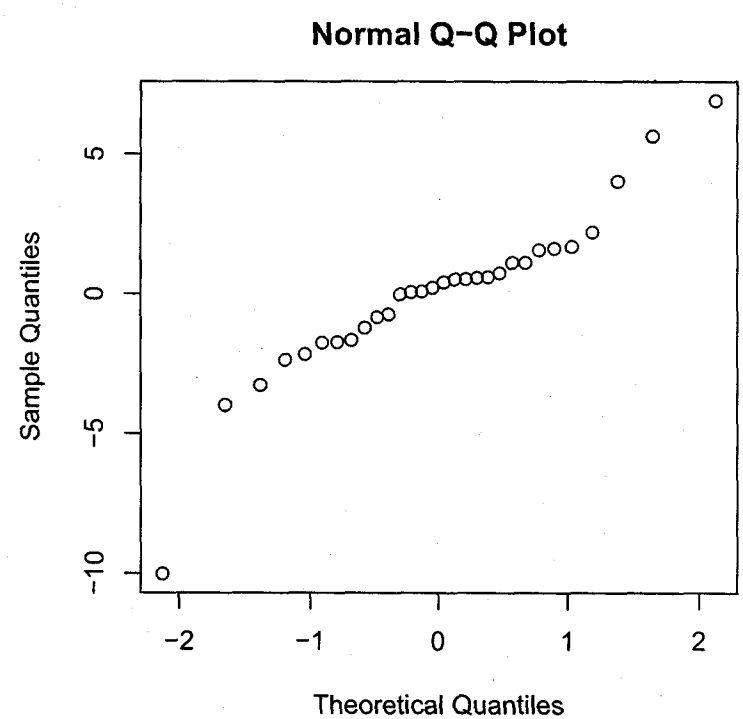
Regression Assumptions
Transition
IRON and CHROMIUM



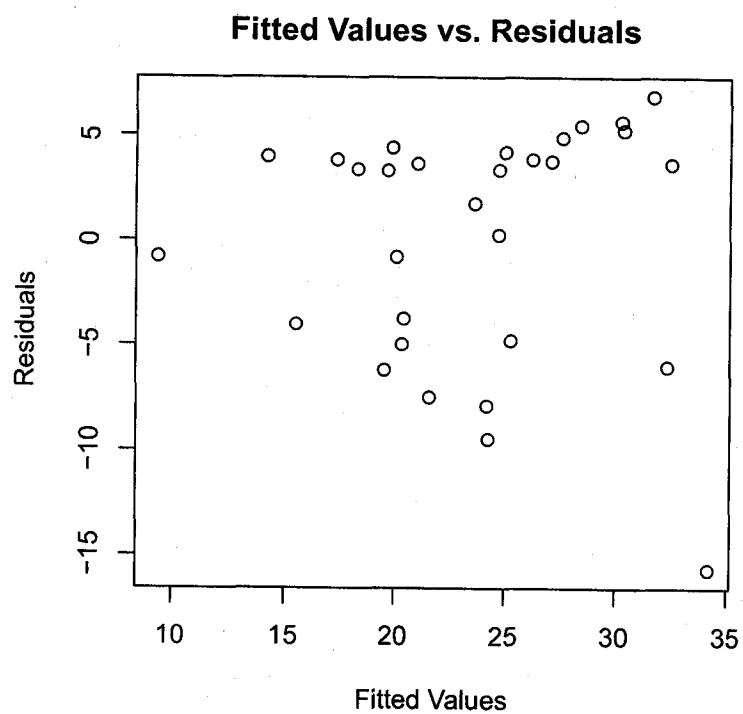


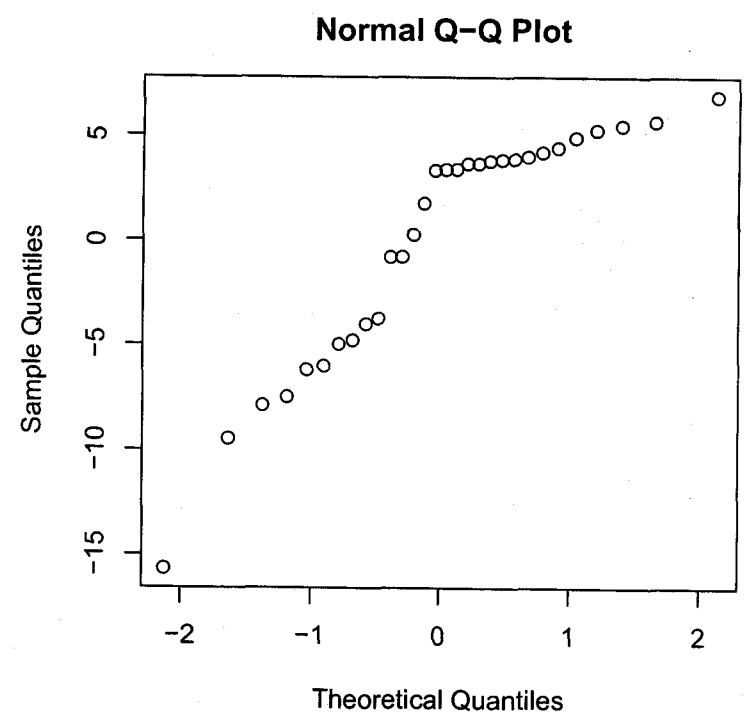
Regression Assumptions
Transition
IRON and COBALT



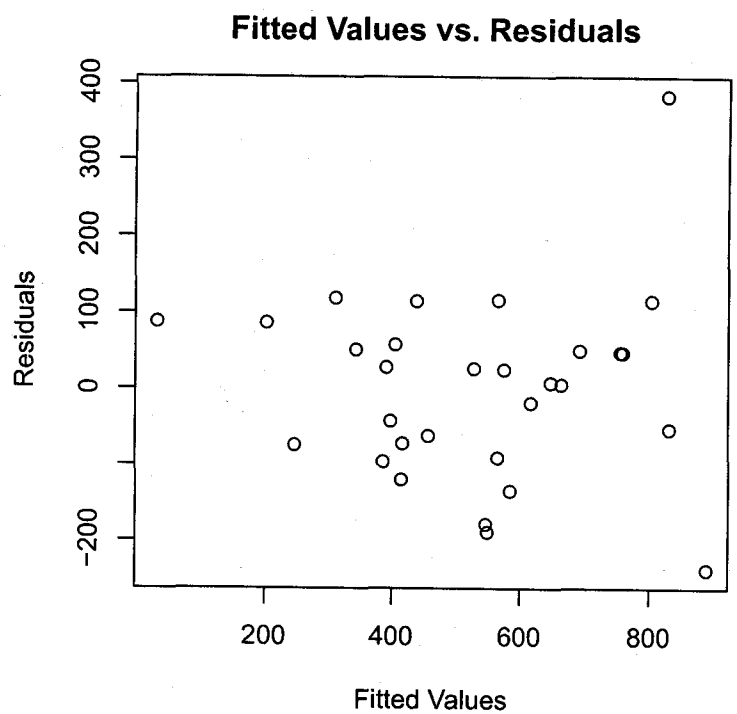


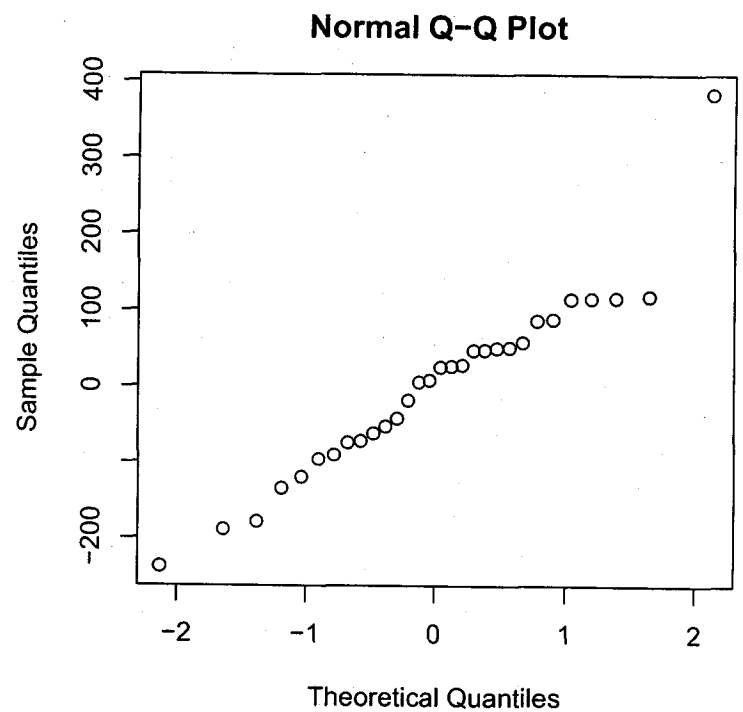
Regression Assumptions
Transition
IRON and COPPER



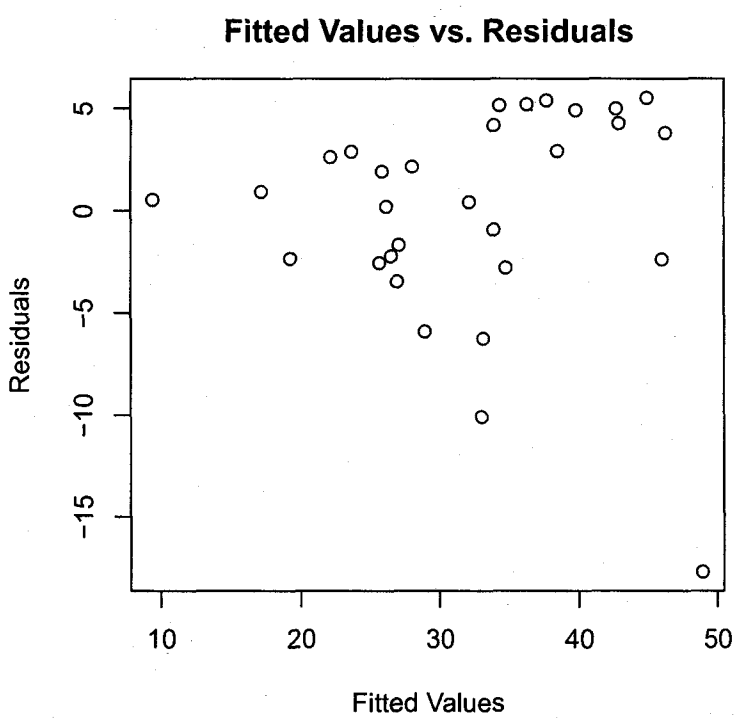


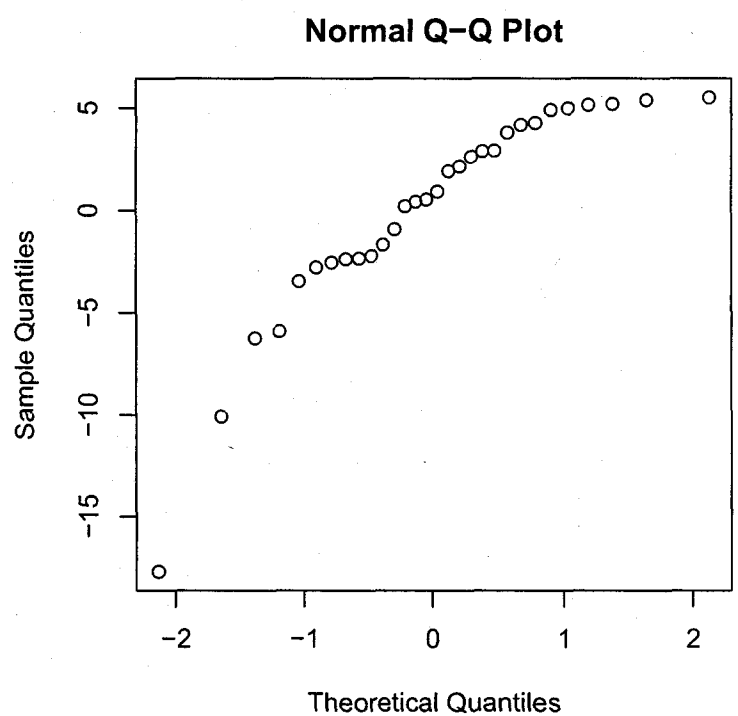
Regression Assumptions
Transition
IRON and MANGANESE



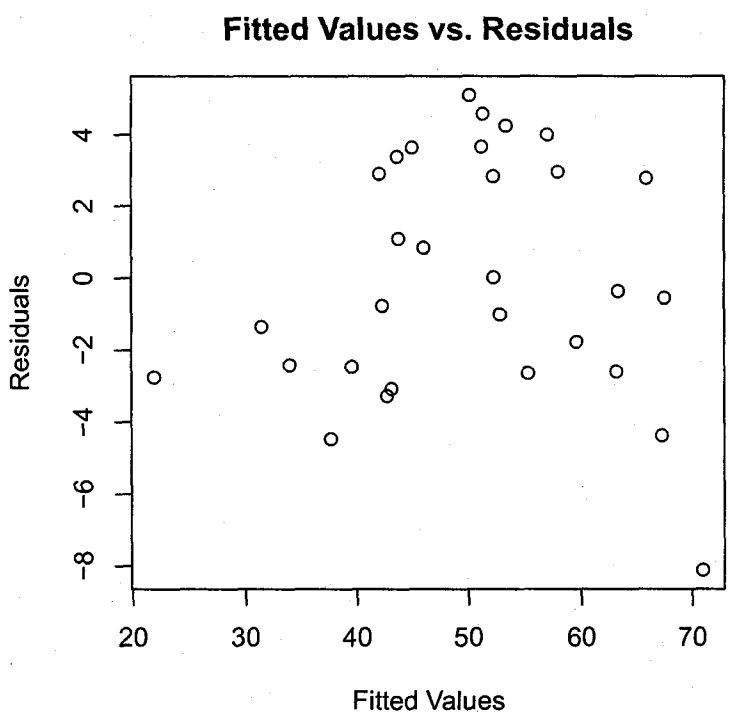


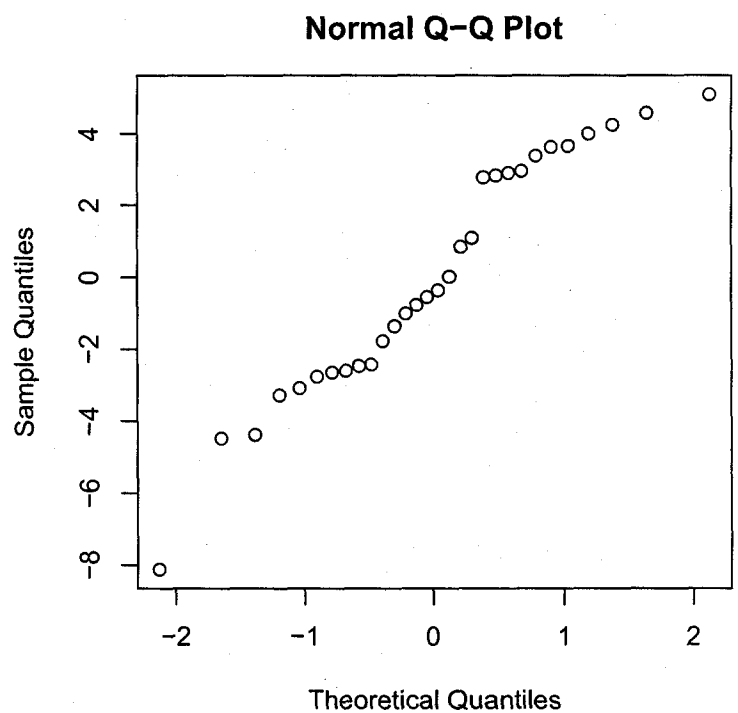
Regression Assumptions
Transition
IRON and NICKEL



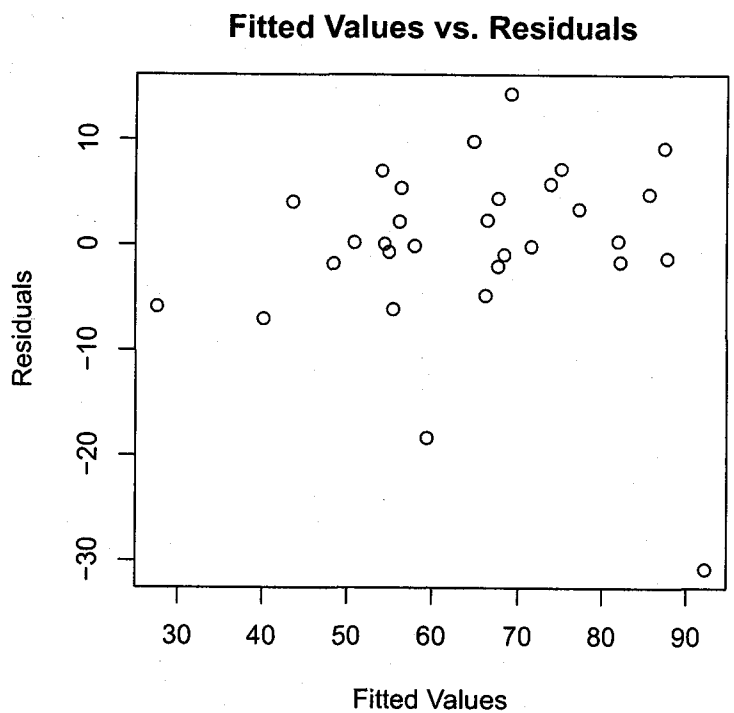


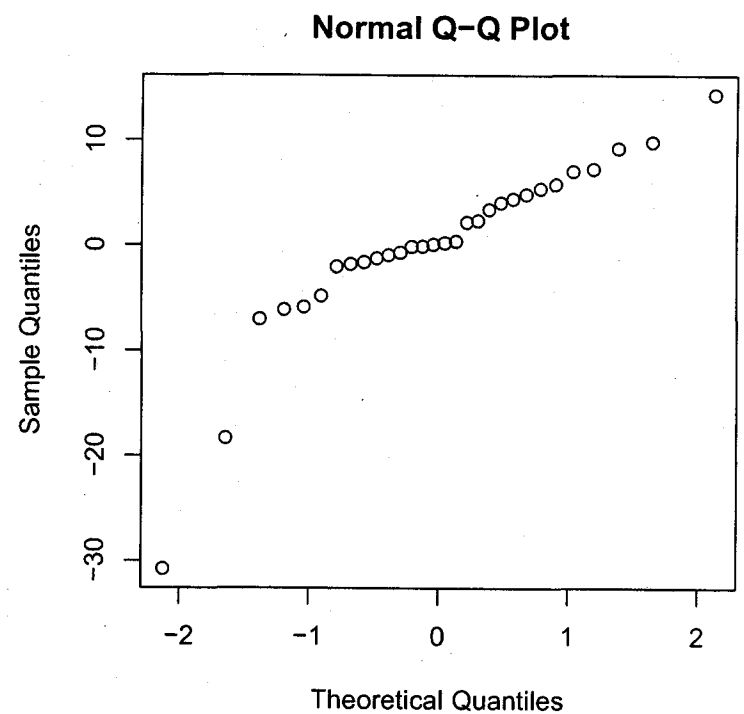
Regression Assumptions
Transition
IRON and VANADIUM





Regression Assumptions
Transition
IRON and ZINC





APPENDIX A.2

GROUNDWATER STATISTICAL EVALUATION

APPENDIX A.2 GROUNDWATER STATISTICAL EVALUATION

Appendix A.2 presents the results of the statistical analyses for the groundwater background data sets. Groundwater samples were collected once during the fall and once during the spring from the following hydrogeologic units: Upper Sand, Transition Unit, Lower Sand, and bedrock. Statistical analyses were conducted for two purposes. The first was to determine if any of the geochemical subgroups could be combined, the second was to determine background concentrations to be used to compare future site data. The statistical methods used to determine if the groundwater subgroups could be combined are presented in Appendices A.2.1 through A.2.4. Appendix A.2.5 presents the background values that can be used for future site comparisons.

A.2.1 GROUNDWATER OUTLIER ASSESSMENT

APPENDIX A.2.1 OUTLIER ASSESSMENT

All background data subsets were evaluated for potential outliers before conducting any statistical comparisons between data groups.

To evaluate the data for potential outliers, Dixon's parametric outlier test or Tukey's nonparametric outlier test was used. Dixon's parametric outlier test was applied only when the data without the suspected outlier can be shown to follow a normal distribution, otherwise Tukey's nonparametric outlier test was applied. To determine if the data follow a normal distribution, the Shapiro Wilk Normality Test was used. The Shapiro Wilk Normality Test was used because it has more robust statistical properties than alternative normality tests and is preferred.

Tables A.2.1.1 through A.2.1.6 present the results of the normality and outlier assessments for the wells from the following subgroups: Lower Sand fall, Lower Sand spring, Transition fall, Transition spring, Upper Sand fall and Upper Sand spring. Formal outlier tests were only computed if there were at least four detected concentrations. There were only four samples for the bedrock wells therefore the two bedrock subgroups were not evaluated for potential outliers due to the limited sample size. First, the Shapiro Wilk Normality Test was computed on the data set without the suspected outlier. The Shapiro Wilk Normality Test tests the null hypothesis that the data follow a normal distribution against the alternative hypothesis that the data do not follow a normal distribution. The test has an associated p-value as a measure of the credibility of the null hypothesis, with lower probabilities providing lower credibility for the null hypothesis. If the p-value for the Shapiro Wilk Test is less than 0.05 it was concluded that the data do not follow a normal distribution. For cases where the analytical data for a substance fit a normal distribution the suspected outlier was screened by successively deleting the largest, second largest, and third largest data points from the data set and performing Dixon's outlier test on the remaining data points versus the excluded data point. When the Dixon C statistic was greater than the Dixon D critical value the data point was considered a candidate outlier. For cases where the analytical data for a substance did not fit a normal distribution, Tukey's nonparametric outlier test was conducted on the three largest data points. Tukey's outlier test compares each sample concentration to a critical value represented by the 75th percentile plus 3 times the IQR. The IQR is the difference between the 75th percentile (Q3) and the 25th percentile (Q1). When the data point exceeded the critical value the point was considered to be a candidate outlier.

Univarite box plots, probability (Q-Q) plots, and the Shapiro Wilk W-test were used to further evaluate the candidate outliers. All candidate outliers were labeled with sample ID and highlighted on univariate box plots (see Appendix A.2.3). A point of departure at the upper end of

the probability plot may indicate that the candidate outlier does not belong to the same population as the rest of the data.

Candidate outliers were located on a site map to check for any pattern of localized, anthropogenic contamination that is not representative of the background area as a whole. During the fall sampling event, candidate outliers for the Lower Sand wells were identified at NASB-BG-MW36, NASB-BG-MW41, NASB-BG-MW42, and MW-315A; while in the spring, candidate outliers were identified at NASB-BG-MW36, NASB-BG-MW42, MW-219, MW-310, and MW-335. During the fall sampling event, candidate outliers for the Transition wells were identified at NASB-BG-MW13; during the spring, candidate outliers were identified at NASB-BG-MW10, NASB-BG-MW16, NASBG-BG-MW24, and MW-314B. During the fall sampling event candidate outliers for the Upper Sand wells were identified at NASB-BG-MW-1, NASB-BG-MW18, NASB-BG-MW19, NASB-BG-MW21, NASB-BG-MW28, NASB-BG-MW30, NASB-BG-MW39, and NASB-BG-MW40; while in the spring, candidate outliers were identified at NASB-BG-MW01, NASB-BG-MW18, NASB-BG-MW19, NASB-BG-MW21, NASB-BG-MW30, NASB-BG-MW32, NASB-BG-39, and NASB-BG-MW40. Based on the site uses for these areas, there is no indication that the concentrations from these areas are related to site contamination. Additionally, the wells in which candidate outliers were found are not located in one geographic portion of the base. Therefore, no candidate outliers were removed from the data sets.

Table A.2.1.1
Outlier Tests
Lower Sand Fall Groundwater
Naval Air Station, Brunswick, Maine

Parameter	Dixon's Outlier Test Results									Tukey's Outlier Test					
	Largest Concentration			Second Largest Concentration			Third Largest Concentration								
	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	IQR	Q1	Q3	Largest Concentration	Second Largest Concentration	Third Largest Concentration
Inorganics (ug/L)															
ALUMINUM	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0	763	20.9	784	8700	6670	4720
ARSENIC	Not Normal	Not Normal	0.003	Not Normal	Not Normal	0.003	Not Normal	Not Normal	0.003	10.5	0.94	11.5	32.9	18.7	16
BARIUM	Not Normal	Not Normal	0	Not Normal	Not Normal	0.001	Not Normal	Not Normal	0.002	9.5	1.8	11.3	46.6	35	23.4
CALCIUM	0.051	0.507	0.445	0	0.525	0.791	0.197	0.546	0.846	6360	5590	11950	Normal	Normal	Normal
CHROMIUM	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0.007	3.4	1.3	4.8	16.4	15.35	11.2
COBALT	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0	1.1	0.05	1.2	5.3	4.8	3.9
COPPER	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0	1.9	0.35	2.3	29.8	7.3	7.275
IRON	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0	2985	328	3313	11200	10035	6470
LEAD	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0.001	0.69	0.06	0.74	6.5	4	3
MAGNESIUM	0.284	0.507	0.478	0.127	0.525	0.252	0.041	0.546	0.258	1965	3768	5733	Normal	Normal	Normal
MANGANESE	0.022	0.507	0.165	0.153	0.525	0.131	0.097	0.546	0.134	402	99.6	501	Normal	Normal	Normal
NICKEL	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0	3.0	0.18	3.2	13.8	11.4	10.45
POTASSIUM	0.297	0.507	0.683	0.068	0.525	0.713	0.057	0.546	0.777	1890	1460	3350	Normal	Normal	Normal
SODIUM	Not Normal	Not Normal	0.033	Not Normal	Not Normal	0.027	Not Normal	Not Normal	0.03	16003	7298	23300	33200	29800	25800
VANADIUM	Not Normal	Not Normal	0	Not Normal	Not Normal	0	0.746	0.546	0.322	1.9	1	2.9	18	16.2	Normal
ZINC	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0	9.7	1.8	11.5	62.2	41.55	33.8
Dissolved Inorganics (ug/L)															
ARSENIC	Not Normal	Not Normal	0.002	Not Normal	Not Normal	0.003	Not Normal	Not Normal	0.004	8.2	1.6	9.9	31.6	19.2	13
BARIUM	Not Normal	Not Normal	0.008	Not Normal	Not Normal	0.013	Not Normal	Not Normal	0.032	4.0	1.1	5.1	14.7	8.55	7.7
CALCIUM	0.086	0.507	0.243	0.017	0.525	0.458	0.225	0.546	0.513	6580	5570	12150	Normal	Normal	Normal
COBALT	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0	0.03	0.05	0.08	4.7	0.915	0.51
IRON	Not Normal	Not Normal	0.001	Not Normal	Not Normal	0.004	Not Normal	Not Normal	0.005	871	15.6	887	5800	2180	1130
MAGNESIUM	0.399	0.507	0.406	0.097	0.525	0.222	0.138	0.546	0.076	1398	3400	4798	Normal	Normal	Normal
MANGANESE	0.104	0.507	0.055	0.131	0.525	0.068	Not Normal	Not Normal	0.04	384	11.4	395	761	Normal	593
POTASSIUM	0.101	0.507	0.3	0.009	0.525	0.395	0.15	0.546	0.213	1375	1465	2840	3440	Normal	Normal
SODIUM	Not Normal	Not Normal	0.026	Not Normal	Not Normal	0.023	Not Normal	Not Normal	0.026	16865	6835	23700	33100	30400	26800
Miscellaneous (mg/L)															
CHLORIDE	Not Normal	Not Normal	0	Not Normal	Not Normal	0.001	0.583	0.546	0.091	10.0	4.0	14	48	40	Normal

Shaded cells indicate value is an outlier.

[1] In accordance with Dixon's Test, Shapiro Wilk test was computed on the data set without the suspected outlier.

IQR = Interquartile Range
Q1 = 1st Quartile, 25th Percentile
Q3 = 3rd Quartile, 75th Percentile
Normal = Normally Distributed; Tukey's Outlier Test was not appropriate.
Not Normal = Not Normally Distributed; Dixon's Test was not appropriate.

Table A.2.1.2
Outlier Tests
Lower Sand Spring Groundwater
Naval Air Station, Brunswick, Maine

Parameter	Dixon's Outlier Test Results									Tukey's Outlier Test						
	Largest Concentration			Second Largest Concentration			Third Largest Concentration									
	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	IQR	Q1	Q3	Tukey Critical Value	Largest Concentration	Second Largest Concentration	Third Largest Concentration
Inorganics (ug/L)																
ALUMINUM	Not Normal	Not Normal	0.002	Not Normal	Not Normal	0.002	Not Normal	Not Normal	0.001	152	20.1	172	628.7	1220	220.5	214
ARSENIC	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0	11.6	0.4	12	46.8	35.6	27.5	17.15
BARIUM	0.055	0.507	0.07	0.138	0.525	0.266	0.479	0.546	0.824	2.1	1.9	4.0	10.2	Normal	Normal	Normal
CADMIUM	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0	0.10	0.03	0.13	0.43	1.1	0.54	0.36
CALCIUM	0.083	0.507	0.314	0.074	0.525	0.519	0.206	0.546	0.677	5725	5450	11175	28350.0	Normal	Normal	Normal
COBALT	Not Normal	Not Normal	0.005	Not Normal	Not Normal	0.006	Not Normal	Not Normal	0.013	0.14	0.04	0.18	0.6	1.1	0.315	0.28
COPPER	Not Normal	Not Normal	0.004	Not Normal	Not Normal	0.002	Not Normal	Not Normal	0.002	0.65	0.24	0.89	2.8	2.4	1.4	1.1
IRON	0.297	0.507	0.35	0.291	0.525	0.199	0.078	0.546	0.209	475	149	624	2047.4	Normal	Normal	Normal
MAGNESIUM	0.445	0.507	0.55	0.184	0.525	0.181	0.014	0.546	0.217	1318	3400	4718	8670.0	Normal	Normal	Normal
MANGANESE	0.299	0.507	0.052	Not Normal	Not Normal	0.044	0.026	0.546	0.06	356	4.7	361	1428.9	Normal	443	394
NICKEL	Not Normal	Not Normal	0.015	Not Normal	Not Normal	0.016	Not Normal	Not Normal	0.012	0.96	0.22	1.2	4.0	2.7	1.6	1.5
POTASSIUM	0.255	0.507	0.128	0.043	0.525	0.14	0.034	0.546	0.14	1129	1398	2526	5912.5	Normal	Normal	Normal
SODIUM	Not Normal	Not Normal	0.008	Not Normal	Not Normal	0.009	Not Normal	Not Normal	0.01	15758	6593	22350	69622.5	31700	28000	26600
Dissolved Inorganics (ug/L)																
ARSENIC	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0	10.3	0.72	11.0	41.7	34.2	27.5	17.55
BARIUM	Not Normal	Not Normal	0.002	0.528	0.525	0.227	0.1	0.546	0.296	1.4	1.7	3.1	7.4	8.2	Normal	Normal
CADMIUM	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0	0.02	0.03	0.04	0.09	1	0.5	0.11
CALCIUM	0.098	0.507	0.197	0.011	0.525	0.408	0.219	0.546	0.65	5813	5513	11325	28762.5	Normal	Normal	Normal
COPPER	Not Normal	Not Normal	0.003	Not Normal	Not Normal	0.001	Not Normal	Not Normal	0.001	0.32	0.24	0.56	1.5	0.99	0.7	0.61
IRON	Not Normal	Not Normal	0.012	Not Normal	Not Normal	0.011	Not Normal	Not Normal	0.014	298	3.135	302	1197.1	574	565	430
MAGNESIUM	0.421	0.507	0.677	0.243	0.525	0.164	0.007	0.546	0.225	1288	3385	4673	8535.0	Normal	Normal	Normal
MANGANESE	0.322	0.507	0.057	0.035	0.525	0.077	0.108	0.546	0.077	327	1.675	329	1311.0	Normal	Normal	Normal
POTASSIUM	0.272	0.507	0.104	0.021	0.525	0.101	Not Normal	Not Normal	0.035	1040	1373	2413	5532.5	Normal	Normal	2810
SODIUM	Not Normal	Not Normal	0.009	Not Normal	Not Normal	0.008	Not Normal	Not Normal	0.009	16860	6340	23200	73780.0	31600	28300	26100

Shaded cells indicate value is an outlier.

[1] In accordance with Dixon's Test, Shapiro Wilk test was computed on the data set without the suspected outlier.

IQR = Interquartile Range
Q1 = 1st Quartile, 25th Percentile
Q3 = 3rd Quartile, 75th Percentile
Normal = Normally Distributed; Tukey's Outlier Test was not appropriate.
Not Normal = Not Normally Distributed; Dixon's Test was not appropriate.

Table A.2.1.3
Outlier Tests
Transition Fall Groundwater
Naval Air Station, Brunswick, Maine

Parameter	Dixon's Outlier Test Results									Tukey's Outlier Test						
	Largest Concentration			Second Largest Concentration			Third Largest Concentration									
	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	IQR	Q1	Q3	Tukey Critical Value	Largest Concentration	Second Largest Concentration	Third Largest Concentration
Inorganics (ug/L)																
ALUMINUM	Not Normal	Not Normal	0.004	Not Normal	Not Normal	0.007	Not Normal	Not Normal	0.005	934	157	1090	3890.5	2890	2550	1950
BARIUM	0.356	0.525	0.119	0.123	0.546	0.097	0.086	0.521	0.099	12.6	8.7	21.3	59.05	Normal	Normal	Normal
CALCIUM	Not Normal	Not Normal	0.044	0.399	0.546	0.15	0.123	0.521	0.206	5890	5060	10950	28620	17850	Normal	Normal
COBALT	0.228	0.525	0.826	0.296	0.546	0.979	0.14	0.521	0.891	0.69	0.76	1.5	3.52	Normal	Normal	Normal
COPPER	Not Normal	Not Normal	0.004	Not Normal	Not Normal	0.003	Not Normal	Not Normal	0.003	3.8	0.65	4.5	15.85	6.7	5.1	4.8
IRON	Not Normal	Not Normal	0.006	Not Normal	Not Normal	0.029	0.424	0.521	0.133	1043	437	1480	4609	4430	3790	Normal
LEAD	Not Normal	Not Normal	0.016	Not Normal	Not Normal	0.018	Not Normal	Not Normal	0.018	0.89	0.16	1.0	3.7	2.2	1.7	1.4
MAGNESIUM	0.045	0.525	0.056	0.308	0.546	0.11	0.139	0.521	0.152	5130	3530	8660	24050	Normal	Normal	Normal
MANGANESE	0.069	0.525	0.662	0.331	0.546	0.632	0.095	0.521	0.674	94.9	79.6	174.5	459.2	Normal	Normal	Normal
NICKEL	0.382	0.525	0.329	0.112	0.546	0.257	0.063	0.521	0.258	3.2	1.9	5.1	14.775	Normal	Normal	Normal
POTASSIUM	0.006	0.525	0.392	0.23	0.546	0.261	0	0.521	0.381	685	1770	2455	4510	Normal	Normal	Normal
SODIUM	0.155	0.525	0.477	0.052	0.546	0.644	0.069	0.521	0.822	4120	7880	12000	24360	Normal	Normal	Normal
ZINC	0.037	0.525	0.218	0.031	0.546	0.356	0.04	0.521	0.613	8	4.7	12.7	36.65	Normal	Normal	Normal
Dissolved Inorganics (ug/L)																
BARIUM	Not Normal	Not Normal	0.009	Not Normal	Not Normal	0.01	Not Normal	Not Normal	0.019	9.3	4.5	13.8	41.775	26.5	22.8	20.4
CALCIUM	0.053	0.525	0.086	0.407	0.546	0.248	0.051	0.521	0.454	6080	4870	10950	29190	Normal	Normal	Normal
COBALT	0	0.525	0.301	0.098	0.546	0.191	0.109	0.521	0.144	0.50	0.49	0.99	2.5	Normal	Normal	Normal
IRON	Not Normal	Not Normal	0.036	Not Normal	Not Normal	0.042	0.073	0.521	0.08	91.1	21.3	112	385.575	217	177	Normal
MAGNESIUM	0.114	0.525	0.102	Not Normal	Not Normal	0.073	0.057	0.521	0.099	5873	3375	9248	26865	Normal	12800	Normal
MANGANESE	0.068	0.525	0.986	0.122	0.546	0.995	0.275	0.521	0.616	69.9	74.1	144	353.7	Normal	Normal	Normal
NICKEL	0.066	0.525	0.219	0.353	0.546	0.065	0.036	0.521	0.086	2.2	1	3.2	9.8	Normal	Normal	Normal
POTASSIUM	0.025	0.525	0.531	0.191	0.546	0.144	0.087	0.521	0.103	500	1690	2190	3690	Normal	Normal	Normal
SODIUM	0.135	0.525	0.438	0	0.546	0.79	0.156	0.521	0.941	4320	7880	12200	25160	Normal	Normal	Normal
ZINC	Not Normal	Not Normal	0.001	Not Normal	Not Normal	0.001	Not Normal	Not Normal	0.001	3.6	1.8	5.4	16.075	29.6	6.8	6.3
Miscellaneous (mg/L)																
CHLORIDE	0.157	0.525	0.536	0.302	0.546	0.71	0.1	0.521	0.871	2	3.7	5.7	11.7	Normal	Normal	Normal

Shaded cells indicate value is an outlier.

[1] In accordance with Dixon's Test, Shapiro Wilk test was computed on the data set without the suspected outlier.

IQR = Interquartile Range
Q1 = 1st Quartile, 25th Percentile
Q3 = 3rd Quartile, 75th Percentile
Normal = Normally Distributed; Tukey's Outlier Test was not appropriate.
Not Normal = Not Normally Distributed; Dixon's Test was not appropriate.

Table A.2.1.4
Outlier Tests
Transition Spring Groundwater
Naval Air Station, Brunswick, Maine

Parameter	Dixon's Outlier Test Results									Tukey's Outlier Test						
	Largest Concentration			Second Largest Concentration			Third Largest Concentration									
	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	IQR	Q1	Q3	Tukey Critical Value	Largest Concentration	Second Largest Concentration	Third Largest Concentration
Inorganics (ug/L)																
ALUMINUM	Not Normal	Not Normal	0.011	Not Normal	Not Normal	0.013	Not Normal	Not Normal	0.006	974	206	1180	4101.25	2400	2230	1660
ARSENIC	0.069	0.525	0.893	0.111	0.546	0.961	0.125	0.521	0.991	1.5	1.5	2.9	7.25	Normal	Normal	Normal
BARIUM	0.035	0.525	0.852	0.316	0.546	0.865	0.194	0.521	0.593	5.9	4.5	10.4	28.05	Normal	Normal	Normal
CALCIUM	0.214	0.525	0.074	0.113	0.546	0.106	0.085	0.521	0.259	5060	5380	10440	25620	Normal	Normal	Normal
COBALT	0	0.525	0.626	0.382	0.546	0.284	0	0.521	0.545	0.58	0.41	0.99	2.73	Normal	Normal	Normal
COPPER	Not Normal	Not Normal	0.009	0.585	0.546	0.705	0.128	0.521	0.454	0.77	0.99	1.8	4.045	28	Normal	Normal
IRON	Not Normal	Not Normal	0.029	0.306	0.546	0.053	0.15	0.521	0.072	1257	393	1650	5421	3450	Normal	Normal
LEAD	Not Normal	Not Normal	0.007	0.485	0.546	0.215	0.094	0.521	0.461	0.32	0.17	0.48	1.435	3.1	Normal	Normal
MAGNESIUM	0.117	0.525	0.099	0.291	0.546	0.073	0.065	0.521	0.093	5820	4010	9830	27290	Normal	Normal	Normal
MANGANESE	0.318	0.525	0.191	0.095	0.546	0.331	0.21	0.521	0.571	67.1	43.5	111	311.65	Normal	Normal	Normal
NICKEL	0.324	0.525	0.06	0.087	0.546	0.085	0.095	0.521	0.174	1.4	1.2	2.6	6.6	Normal	Normal	Normal
POTASSIUM	0.206	0.525	0.699	0.014	0.546	0.958	0.124	0.521	0.993	833	1348	2180	4677.5	Normal	Normal	Normal
SODIUM	0.294	0.525	0.248	0.065	0.546	0.325	0.097	0.521	0.404	5070	6780	11850	27060	Normal	Normal	Normal
Dissolved Inorganics (ug/L)																
ARSENIC	0.294	0.525	0.608	0.208	0.546	0.345	0.105	0.521	0.27	1.1	0.98	2.1	5.3	Normal	Normal	Normal
BARIUM	0.39	0.525	0.051	0.422	0.546	0.108	0.081	0.521	0.131	3	2.3	5.3	14.3	Normal	Normal	Normal
CALCIUM	0.197	0.525	0.054	0.16	0.546	0.06	0.022	0.521	0.134	5700	4930	10630	27730.0	Normal	Normal	Normal
COBALT	Not Normal	Not Normal	0.026	Not Normal	Not Normal	0.048	0.232	0.521	0.181	0.31	0.23	0.54	1.5	0.96	0.9	Normal
COPPER	Not Normal	Not Normal	0.041	Not Normal	Not Normal	0.018	Not Normal	Not Normal	0.005	0.38	0.24	0.62	1.7	1.5	0.91	0.76
IRON	Not Normal	Not Normal	0.003	0.593	0.546	0.169	0.024	0.521	0.248	91.6	20.8	112	387.0	806	Normal	Normal
MAGNESIUM	0.174	0.525	0.063	Not Normal	Not Normal	0.039	0.039	0.521	0.055	6060	3685	9745	27925.0	Normal	12800	Normal
MANGANESE	0.229	0.525	0.081	0.008	0.546	0.16	0.259	0.521	0.225	64.1	34.9	98.9	291.1	Normal	Normal	Normal
NICKEL	0.191	0.525	0.522	0.101	0.546	0.561	0.075	0.521	0.623	0.575	0.85	1.4	3.2	Normal	Normal	Normal
POTASSIUM	0.369	0.525	0.434	0	0.546	0.734	0.058	0.521	0.823	740	1205	1945	4165.0	Normal	Normal	Normal
SODIUM	0.059	0.525	0.24	0.176	0.546	0.167	0.046	0.521	0.257	5340	6710	12050	28070.0	Normal	Normal	Normal

Shaded cells indicate value is an outlier.

[1] In accordance with Dixon's Test, Shapiro Wilk test was computed on the data set without the suspected outlier.

IQR = Interquartile Range
Q1 = 1st Quartile, 25th Percentile
Q3 = 3rd Quartile, 75th Percentile
Normal = Normally Distributed; Tukey's Outlier Test was not appropriate.
Not Normal = Not Normally Distributed; Dixon's Test was not appropriate.

Table A.2.1.5
Outlier Tests
Upper Sand Fall Groundwater
Naval Air Station, Brunswick, Maine

Parameter	Dixon's Outlier Test Results									Tukey's Outlier Test						
	Largest Concentration			Second Largest Concentration			Third Largest Concentration									
	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	IQR	Q1	Q3	Tukey Critical Value	Largest Concentration	Second Largest Concentration	Third Largest Concentration
Inorganics (ug/L)																
ALUMINUM	Not Normal	Not Normal	0.006	Not Normal	Not Normal	0.004	Not Normal	Not Normal	0.003	534	29.8	564	2164	1030	916	734
BARIUM	Not Normal	Not Normal	0.002	Not Normal	Not Normal	0.008	0.495	0.521	0.481	10.5	6.2	16.6	48	215	43.4	Normal
CALCIUM	Not Normal	Not Normal	0.009	Not Normal	Not Normal	0.032	Not Normal	Not Normal	0.029	4103	1058	5160	17468	11800	10400	6750
COBALT	Not Normal	Not Normal	0.043	0.379	0.546	0.442	0.28	0.521	0.359	0.19	0.15	0.34	1	1.2	Normal	Normal
IRON	Not Normal	Not Normal	0.004	Not Normal	Not Normal	0.003	Not Normal	Not Normal	0.002	349	14.7	364	1410	2520	652	483
LEAD	Not Normal	Not Normal	0	Not Normal	Not Normal	0.019	0.459	0.521	0.483	0.09	0.05	0.14	0.40	0.96	0.63	Normal
MAGNESIUM	Not Normal	Not Normal	0.001	Not Normal	Not Normal	0.048	0.128	0.521	0.052	679	397	1075	3111	3710	2580	Normal
MANGANESE	Not Normal	Not Normal	0.019	0.422	0.546	0.305	0.227	0.521	0.504	56.5	16.7	73.2	243	180	Normal	Normal
NICKEL	Not Normal	Not Normal	0.015	Not Normal	Not Normal	0.024	Not Normal	Not Normal	0.044	1.8	0.26	2.1	7	3.6	3.3	3.2
POTASSIUM	0.239	0.525	0.061	0.129	0.546	0.063	Not Normal	Not Normal	0.04	848	212	1060	3603	Normal	Normal	1360
SODIUM	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0	17385	2140	19525	71680	79800	58000	27800
VANADIUM	0.221	0.525	0.851	0.332	0.546	0.269	0.071	0.521	0.31	0.5	0.7	1.2	3	Normal	Normal	Normal
Dissolved Inorganics (ug/L)																
BARIUM	Not Normal	Not Normal	0.003	Not Normal	Not Normal	0.011	0.44	0.521	0.531	11.0	5.5	16.4	49	214	42.8	Normal
CALCIUM	Not Normal	Not Normal	0.009	Not Normal	Not Normal	0.027	Not Normal	Not Normal	0.024	4135	1100	5235	17640	12200	10400	6760
COBALT	Not Normal	Not Normal	0.015	Not Normal	Not Normal	0.028	Not Normal	Not Normal	0.06	0.17	0.05	0.22	1	1.2	0.41	0.345
IRON	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0	24.5	3.6	28.1	101	2320	428	86
MAGNESIUM	Not Normal	Not Normal	0	Not Normal	Not Normal	0.023	Not Normal	Not Normal	0.018	682	363	1045	3091	3780	2580	1180
MANGANESE	Not Normal	Not Normal	0.004	Not Normal	Not Normal	0.037	0.228	0.521	0.135	52.1	12.5	64.6	221	183	163	Normal
NICKEL	Not Normal	Not Normal	0.001	Not Normal	Not Normal	0.001	Not Normal	Not Normal	0.001	1.6	0.26	1.9	7	3.5	3.2	2.9
POTASSIUM	0.263	0.525	0.161	0.108	0.546	0.18	0.238	0.521	0.105	814	214	1028	3470	Normal	Normal	Normal
SODIUM	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0	17720	2205	19925	73085	81150	57600	29000
VANADIUM	Not Normal	Not Normal	0.04	0.048	0.546	0.051	Not Normal	Not Normal	0.09	0.78	0.55	1.3	4	1.5	Normal	1.35
Miscellaneous (mg/L)																
CHLORIDE	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0	23.8	2.3	26	97.25	130	120	38

Shaded cells indicate value is an outlier.

[1] In accordance with Dixon's Test, Shapiro Wilk test was computed on the data set without the suspected outlier.

IQR = Interquartile Range
Q1 = 1st Quartile, 25th Percentile
Q3 = 3rd Quartile, 75th Percentile
Normal = Normally Distributed; Tukey's Outlier Test was not appropriate.
Not Normal = Not Normally Distributed; Dixon's Test was not appropriate.

Table A.2.1.6
Outlier Tests
Upper Sand Spring Groundwater
Naval Air Station, Brunswick, Maine

Parameter	Dixon's Outlier Test Results									Tukey's Outlier Test					
	Largest Concentration			Second Largest Concentration			Third Largest Concentration								
	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	IQR	Q1	Q3	Largest Concentration	Second Largest Concentration	Third Largest Concentration
Inorganics (ug/L)															
ALUMINUM	0.877	0.525	0.341	0.158	0.546	0.394	0.229	0.521	0.255	495	123	618	Normal	Normal	Normal
ARSENIC	0.16	0.525	0.45	0.143	0.546	0.465	0.278	0.521	0.176	0.46	0.59	1.1	Normal	Normal	Normal
BARIUM	Not Normal	Not Normal	0	0.746	0.546	0.083	0.358	0.521	0.379	6.1	5.8	11.9	65.5	Normal	Normal
BERYLLIUM	Not Normal	Not Normal	0	Not Normal	Not Normal	0.001	Not Normal	Not Normal	0.001	0.16	0.03	0.18	0.58	0.56	0.32
CADMIUM	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0	0.01	0.03	0.04	0.24	0.07	0.045
CALCIUM	Not Normal	Not Normal	0.001	Not Normal	Not Normal	0.013	0.425	0.521	0.121	2159	1017	3175	11500	8880	Normal
COBALT	0.559	0.525	0.256	0.187	0.546	0.406	0.177	0.521	0.509	0.3	0.13	0.43	Normal	Normal	Normal
COPPER	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0	0.36	0.24	0.6	1.8	1	1
IRON	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0.002	264	6.5	270	4380	2800	1660
LEAD	0.792	0.525	0.072	0.077	0.546	0.083	0	0.521	0.152	0.19	0.07	0.26	Normal	Normal	Normal
MAGNESIUM	Not Normal	Not Normal	0.033	0.361	0.546	0.061	0.164	0.521	0.06	543	347	889	3660	Normal	Normal
MANGANESE	Not Normal	Not Normal	0.01	Not Normal	Not Normal	0.012	Not Normal	Not Normal	0.024	33.1	10.1	43.2	238	72	67.6
NICKEL	Not Normal	Not Normal	0.006	Not Normal	Not Normal	0.008	Not Normal	Not Normal	0.015	1.3	0.26	1.6	3.9	2.9	2.6
POTASSIUM	0.233	0.525	0.184	0.397	0.546	0.385	0.107	0.521	0.405	555	295	850	Normal	Normal	Normal
SELENIUM	Not Normal	Not Normal	0.002	Not Normal	Not Normal	0.001	Not Normal	Not Normal	0	0.33	0.25	0.58	0.73	0.72	0.63
SODIUM	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0	10540	2065	12605	36100	29800	19800
ZINC	Not Normal	Not Normal	0.003	Not Normal	Not Normal	0.003	Not Normal	Not Normal	0.002	2.0	0.88	2.9	8.3	5.3	4
Dissolved Inorganics (ug/L)															
ALUMINUM	Not Normal	Not Normal	0.001	Not Normal	Not Normal	0.001	Not Normal	Not Normal	0.001	370	10.7	381	944	552	535
BARIUM	Not Normal	Not Normal	0	Not Normal	Not Normal	0.026	0.364	0.521	0.183	6.5	4.6	11.1	68.5	57.1	Normal
BERYLLIUM	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0	0.13	0.03	0.15	0.54	0.27	0.22
CALCIUM	Not Normal	Not Normal	0.002	Not Normal	Not Normal	0.008	0.42	0.521	0.077	2310	1050	3360	11300	8390	Normal
COBALT	Not Normal	Not Normal	0.006	Not Normal	Not Normal	0.006	Not Normal	Not Normal	0.004	0.28	0.04	0.32	1.5	0.56	0.45
COPPER	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0	0.51	0.24	0.75	2.5	1.2	0.95
LEAD	Not Normal	Not Normal	0.004	Not Normal	Not Normal	0.001	Not Normal	Not Normal	0.001	0.09	0.05	0.14	0.32	0.24	0.14
MAGNESIUM	Not Normal	Not Normal	0.017	Not Normal	Not Normal	0.016	Not Normal	Not Normal	0.019	608	330	938	3540	1430	1010
MANGANESE	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0	30.2	6.75	36.95	242	69.9	69.1
NICKEL	0.23	0.525	0.067	0.166	0.546	0.085	Not Normal	Not Normal	0.035	1.4	0.25	1.7	Normal	Normal	2.7
POTASSIUM	0.247	0.525	0.27	0.352	0.546	0.562	0.21	0.521	0.36	550	272	822	Normal	Normal	Normal
SODIUM	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0	10498	2078	12575	35600	28800	20000
ZINC	0.497	0.525	0.108	0.115	0.546	0.075	Not Normal	Not Normal	0.01	2.1	1.1	3.3	9.5	Normal	4.7

Shaded cells indicate value is an outlier.

[1] In accordance with Dixon's Test, Shapiro Wilk test was computed on the data set without the suspected outlier.

IQR = Interquartile Range
Q1 = 1st Quartile, 25th Percentile
Q3 = 3rd Quartile, 75th Percentile
Normal = Normally Distributed; Tukey's Outlier Test was not appropriate.
Not Normal = Not Normally Distributed; Dixon's Test was not appropriate.

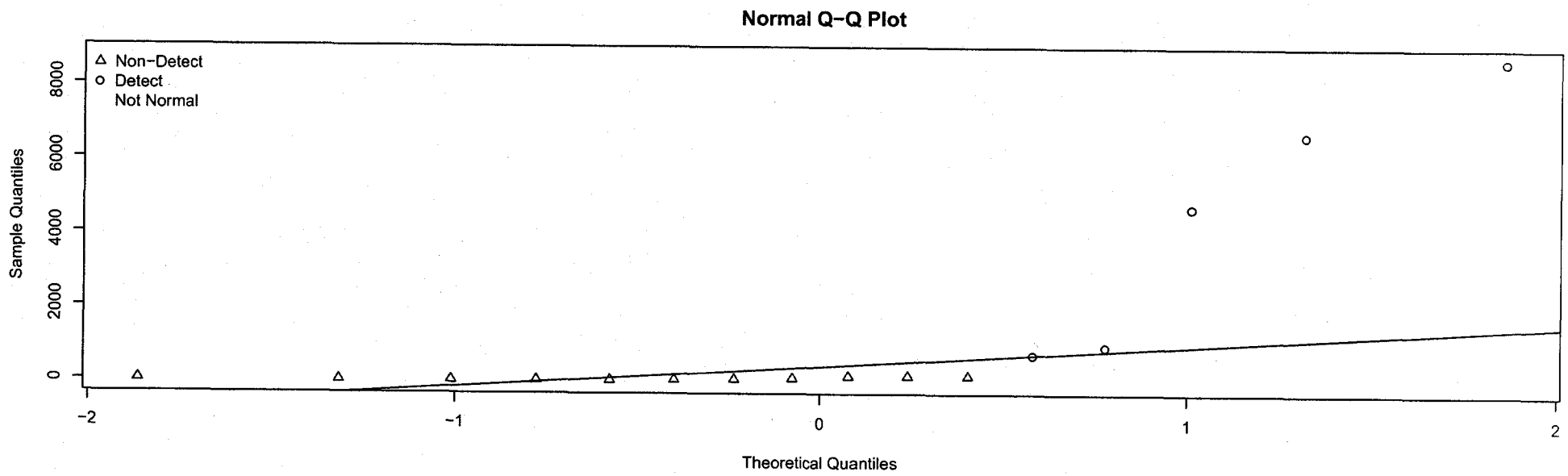
A.2.2 GROUNDWATER ASSESSMENT OF DISTRIBUTIONAL SHAPE

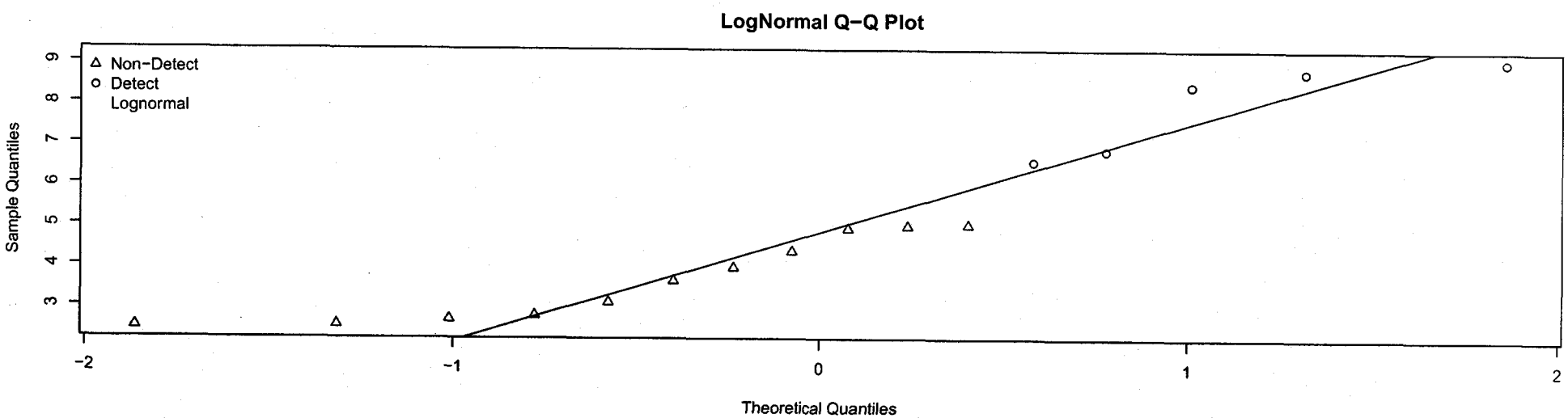
Table A.2.2
Distributional Shape Assessment
Lower Sand Fall Groundwater
Naval Air Station, Brunswick, Maine

	W Statistic		W Critical Value	Data Distribution
Parameter	Normal	LogNormal		
Inorganics				
ALUMINUM	>50%	>50%	0.887	Assumed Nonparametric
ARSENIC	>50%	>50%	0.887	Assumed Nonparametric
BARIUM	0.754	0.916	0.887	LogNormal
BERYLLIUM	>50%	>50%	0.887	Assumed Nonparametric
CALCIUM	0.914	0.929	0.887	LogNormal
CHROMIUM	>50%	>50%	0.887	Assumed Nonparametric
COBALT	>50%	>50%	0.887	Assumed Nonparametric
COPPER	>50%	>50%	0.887	Assumed Nonparametric
IRON	0.664	0.896	0.887	LogNormal
LEAD	>50%	>50%	0.887	Assumed Nonparametric
MAGNESIUM	0.951	0.897	0.887	Normal
MANGANESE	0.861	0.754	0.887	Normal
NICKEL	>50%	>50%	0.887	Assumed Nonparametric
POTASSIUM	0.962	0.892	0.887	Normal
SODIUM	0.886	0.935	0.887	LogNormal
VANADIUM	>50%	>50%	0.887	Assumed Nonparametric
ZINC	>50%	>50%	0.887	Assumed Nonparametric
Dissolved Inorganics				
ARSENIC	>50%	>50%	0.887	Assumed Nonparametric
BARIUM	0.679	0.97	0.887	LogNormal
CALCIUM	0.921	0.937	0.887	LogNormal
COBALT	>50%	>50%	0.887	Assumed Nonparametric
COPPER	>50%	>50%	0.887	Assumed Nonparametric
IRON	0.491	0.924	0.887	LogNormal
LEAD	>50%	>50%	0.887	Assumed Nonparametric
MAGNESIUM	0.951	0.889	0.887	Normal
MANGANESE	0.848	0.805	0.887	Nonparametric
NICKEL	>50%	>50%	0.887	Assumed Nonparametric
POTASSIUM	0.947	0.883	0.887	Normal
SODIUM	0.878	0.931	0.887	LogNormal
VANADIUM	>50%	>50%	0.887	Assumed Nonparametric
ZINC	>50%	>50%	0.887	Assumed Nonparametric
Miscellaneous				
BROMIDE	>50%	>50%	0.887	Assumed Nonparametric
CHLORIDE	0.768	0.941	0.887	LogNormal

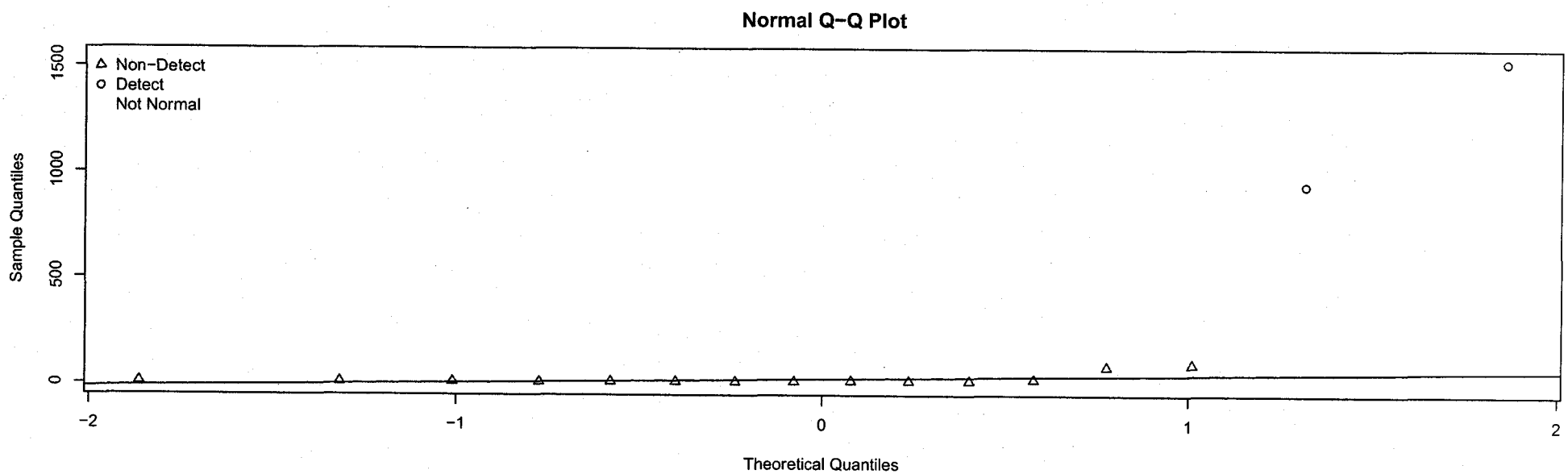
> 50% ND = More than 50 percent of the data values are non-detect.
Assumed Nonparametric: More than 50 percent of the data is non-detect, data are assumed to be nonparametric.
Lognormal: W statistic for the Log tranformed data is greater than W critical value and the W statistic for the raw data.
Nonparametric: W statistics for the Log transformed data and the raw data are less than the W critical value.
Normal: W statistic for raw data is greater than W critical value and greater than the W statistic for the log transformed data.
Chemicals only appear if detected once.

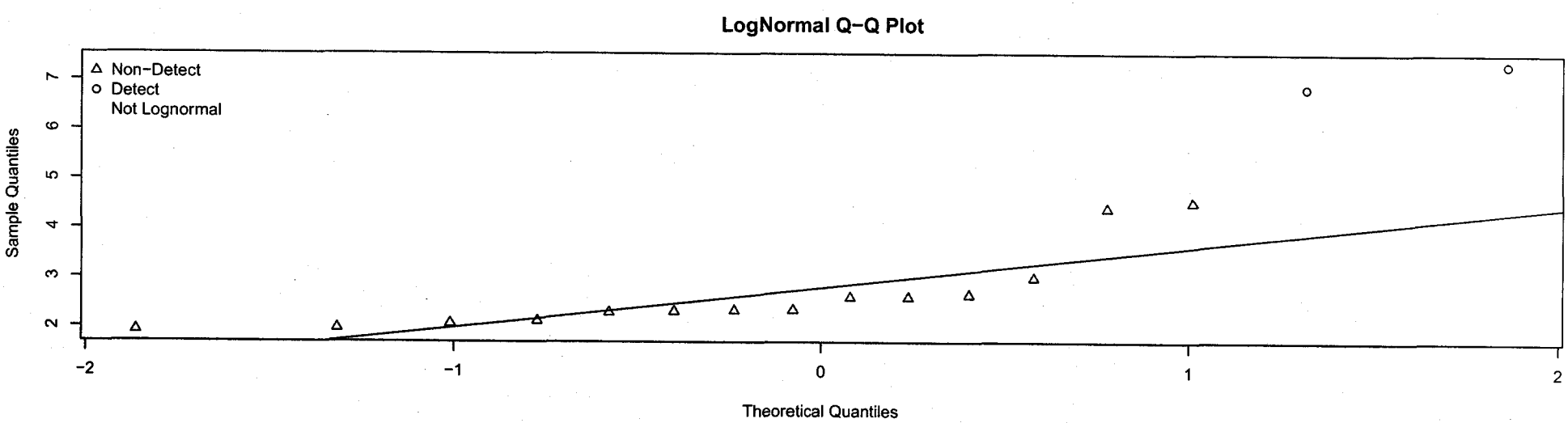
Lower Sand
Fall Groundwater
ALUMINUM



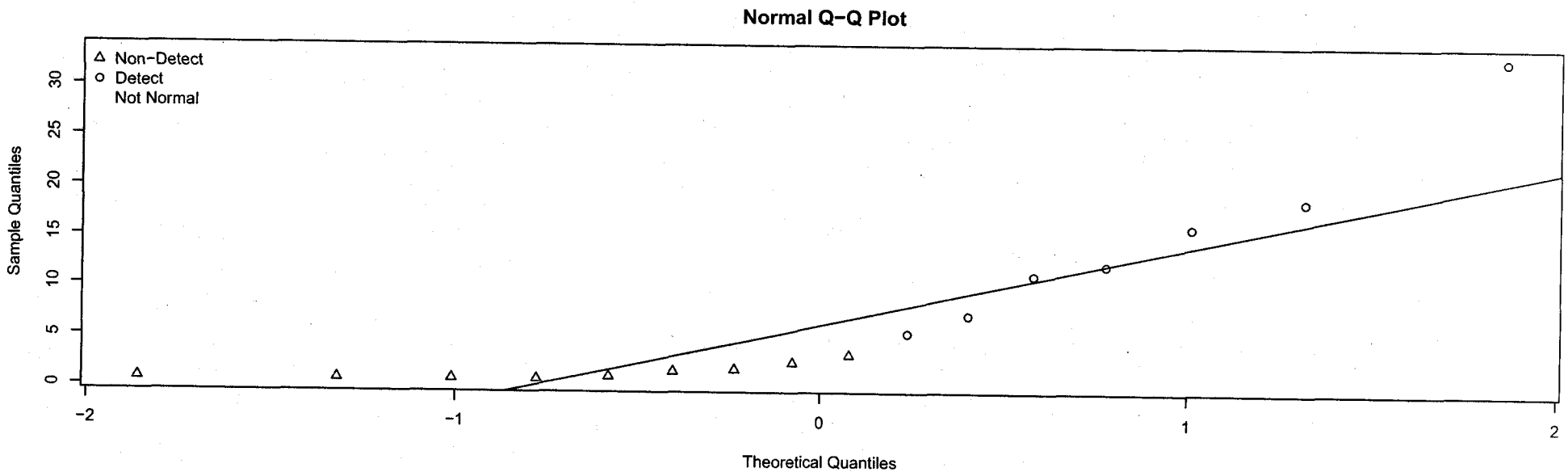


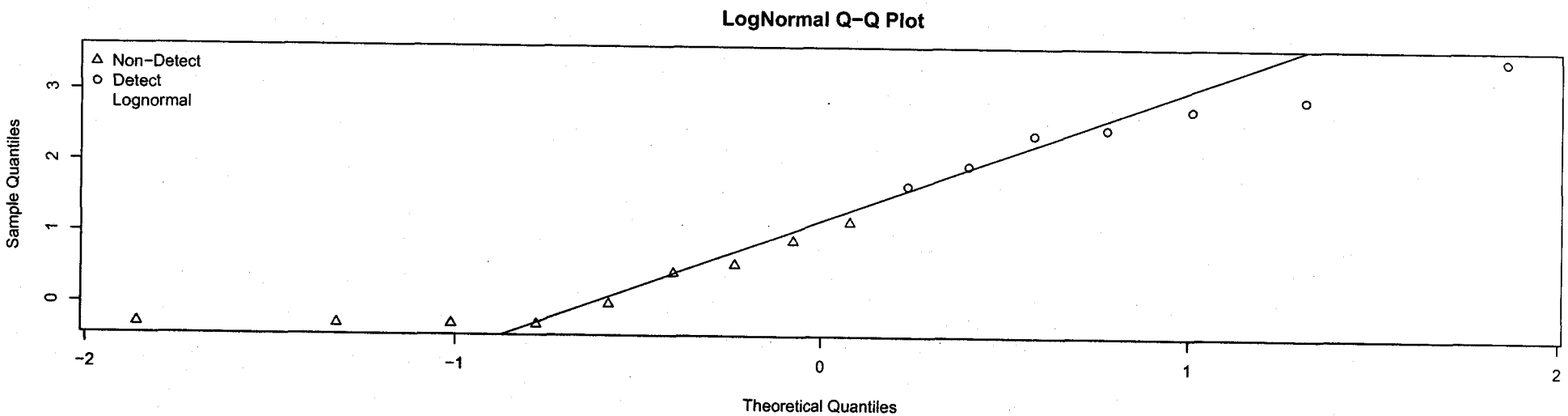
Lower Sand
Fall Groundwater
ALUMINUM



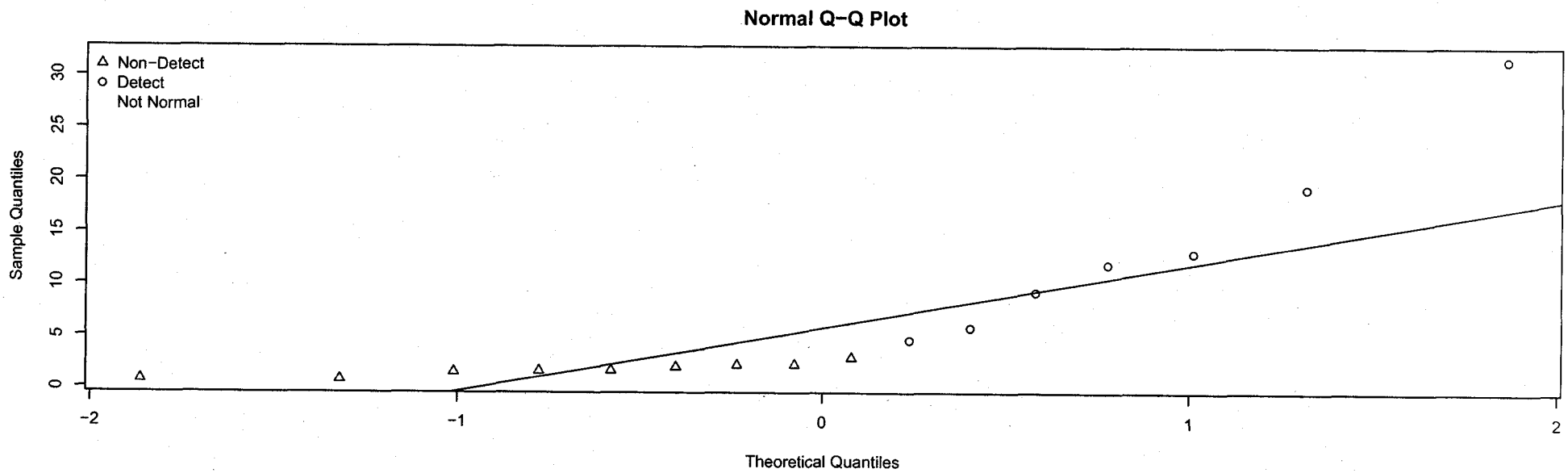


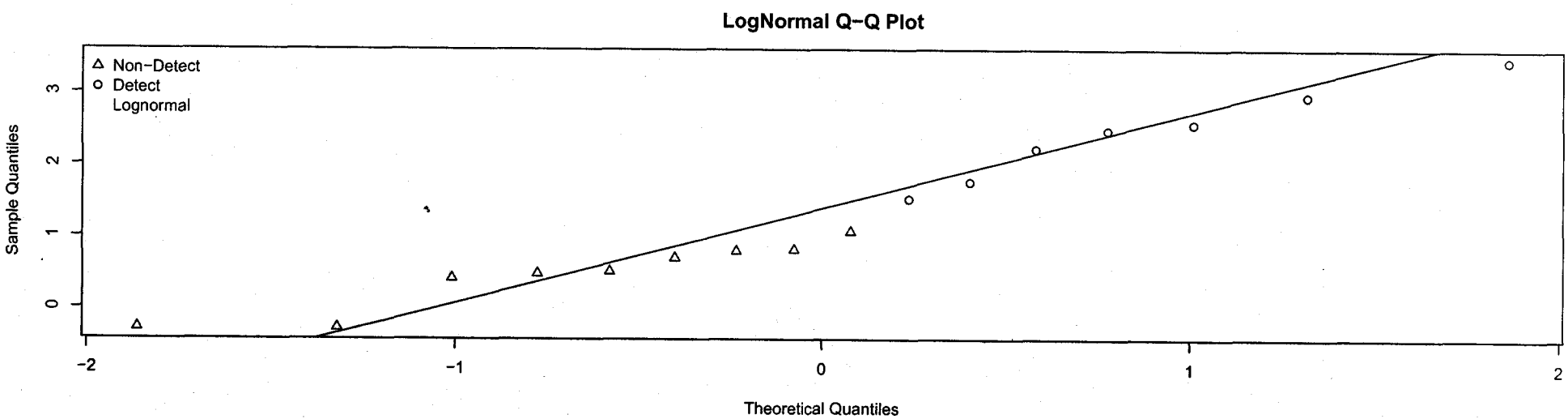
Lower Sand
Fall Groundwater
ARSENIC





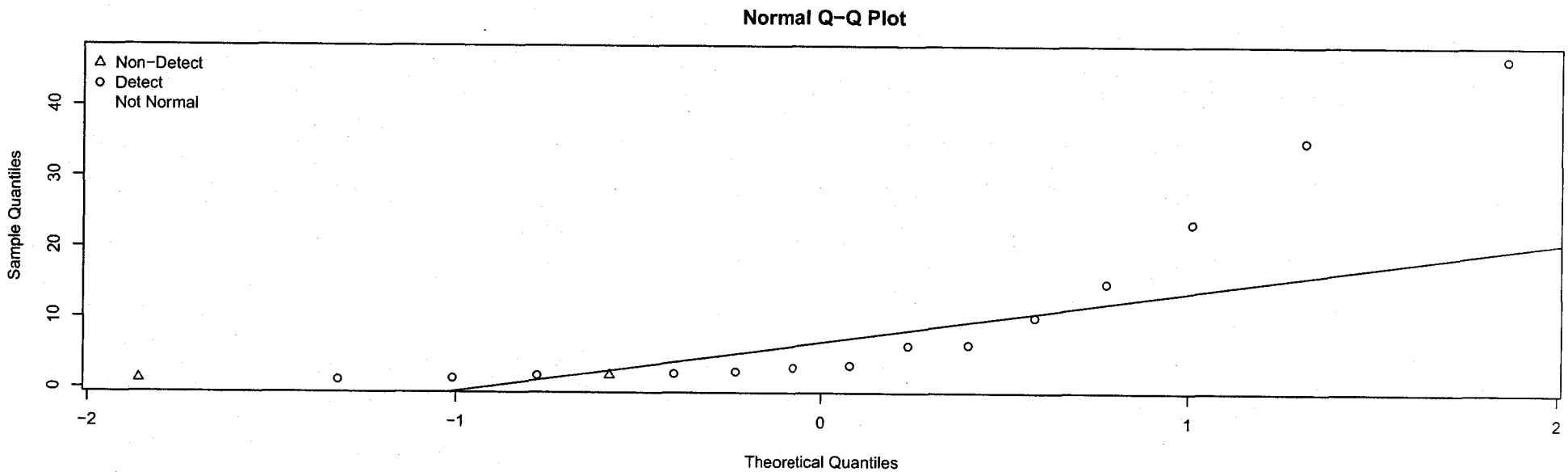
Lower Sand
Fall Groundwater
ARSENIC

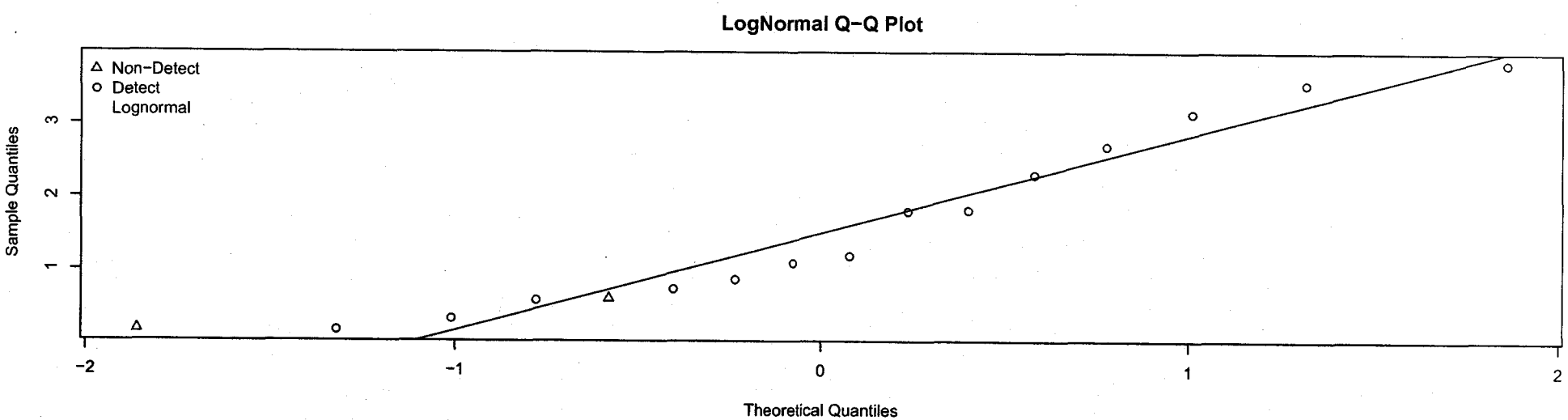




Lower Sand
Fall Groundwater

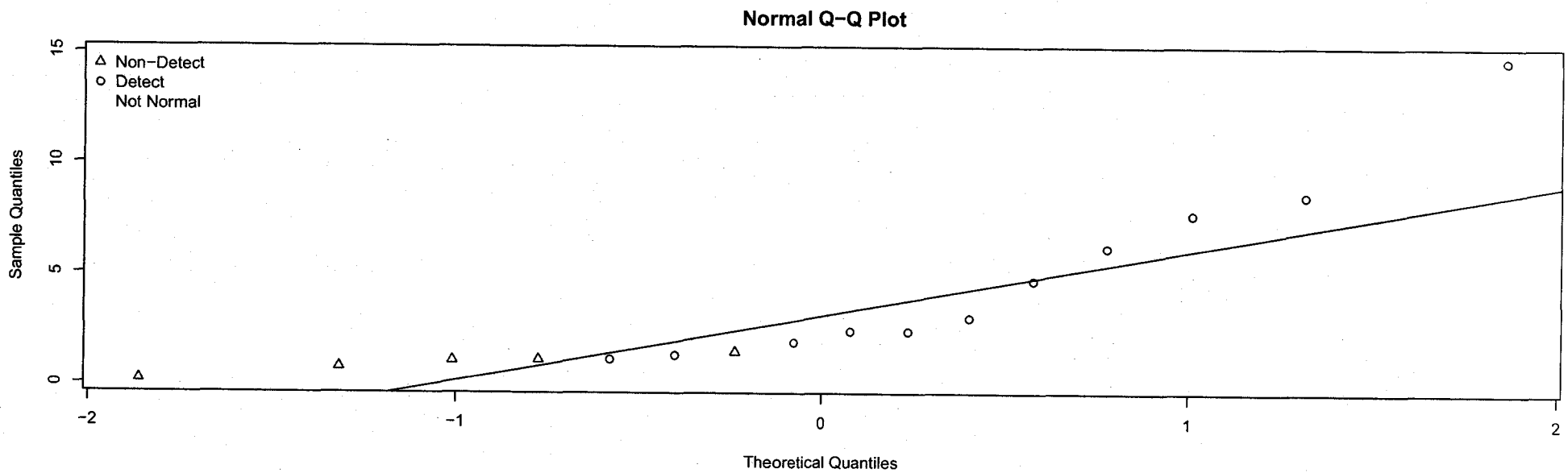
BARIUM

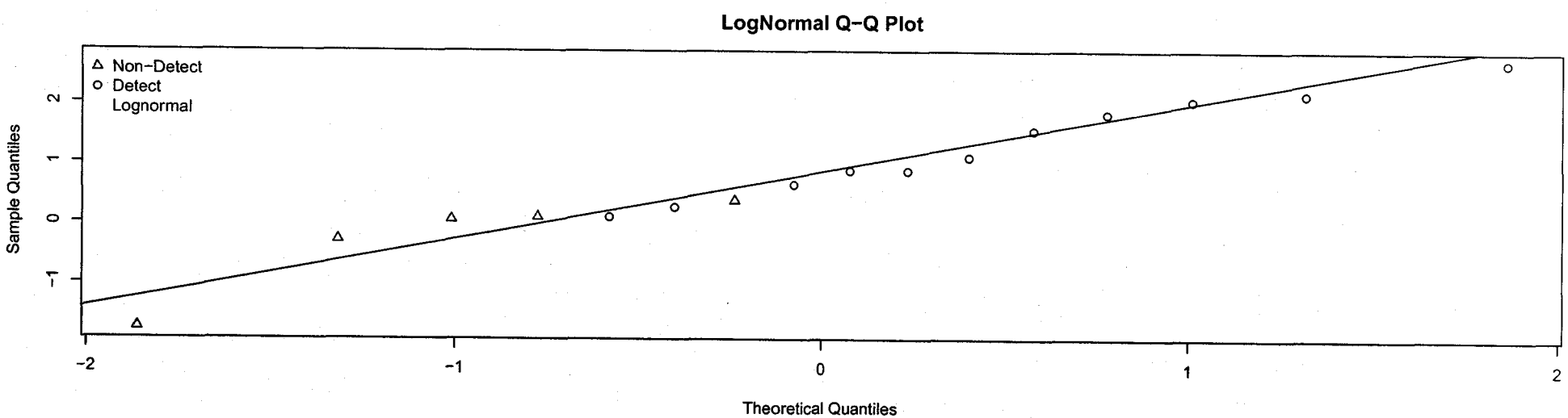




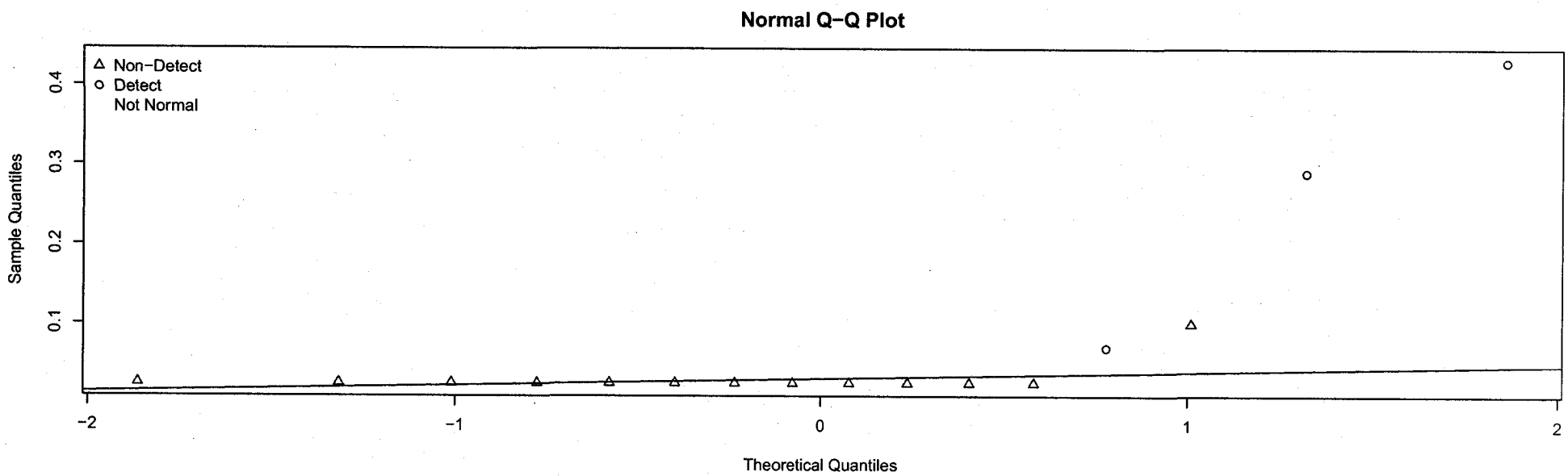
Lower Sand
Fall Groundwater

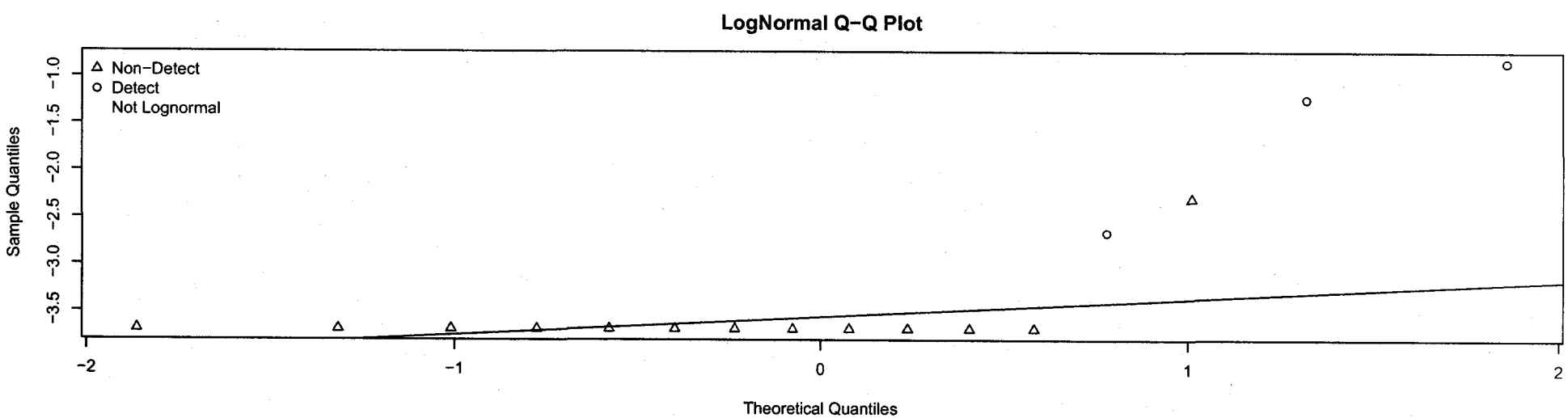
BARIUM



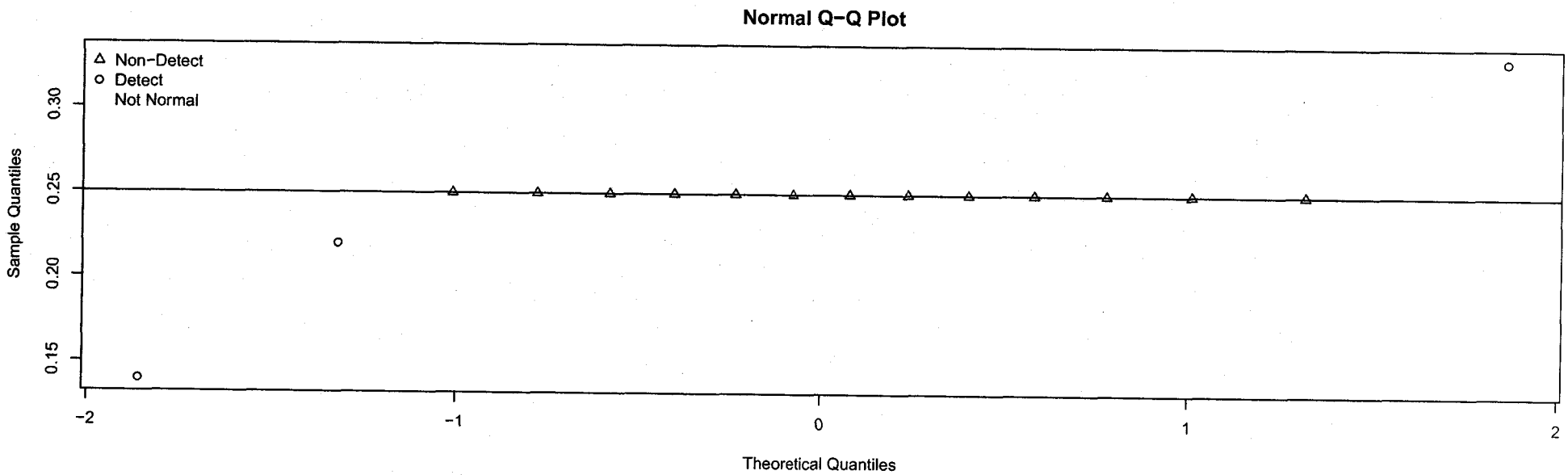


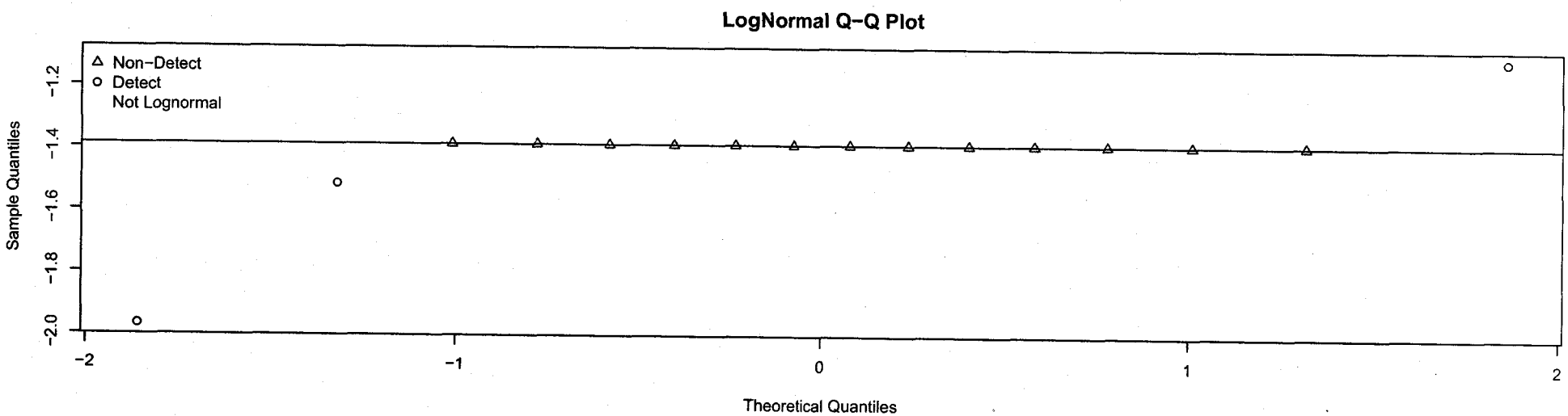
Lower Sand
Fall Groundwater
BERYLLIUM



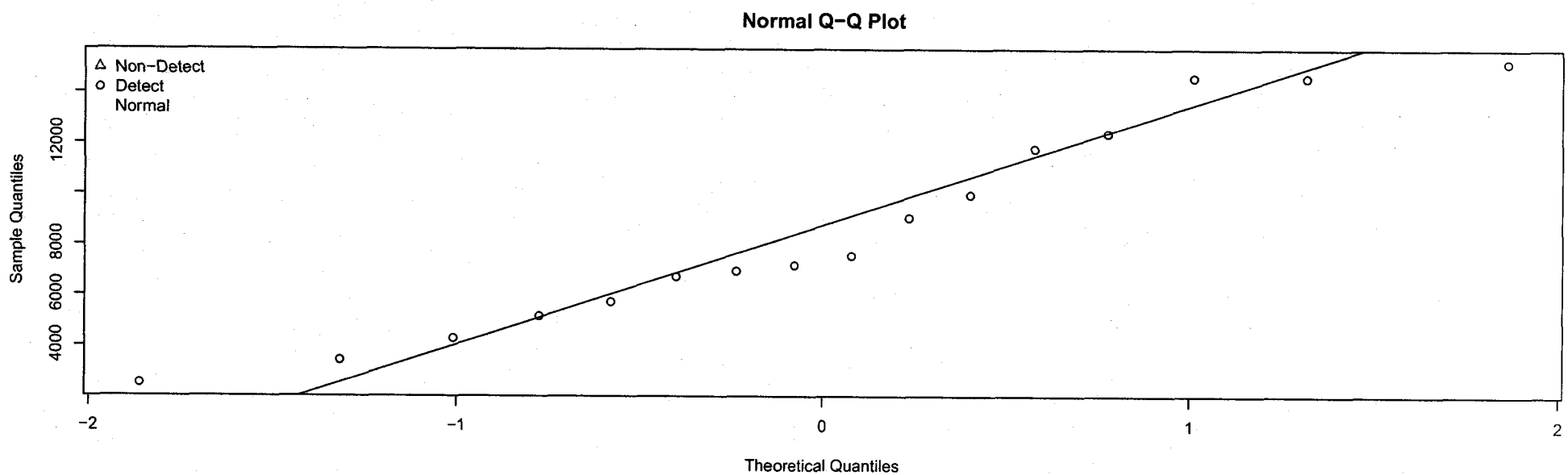


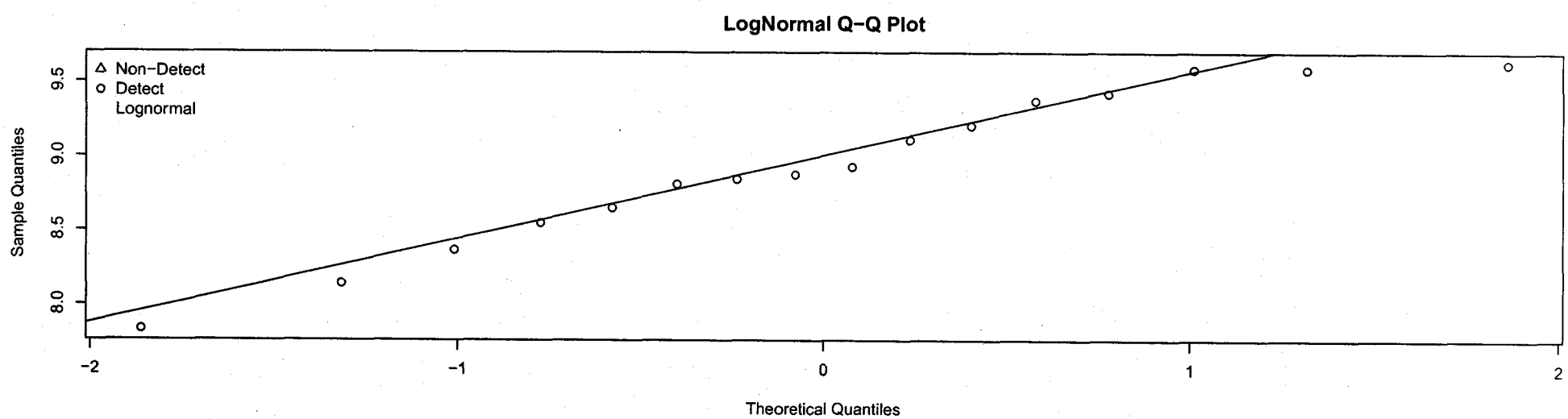
Lower Sand
Fall Groundwater
BROMIDE



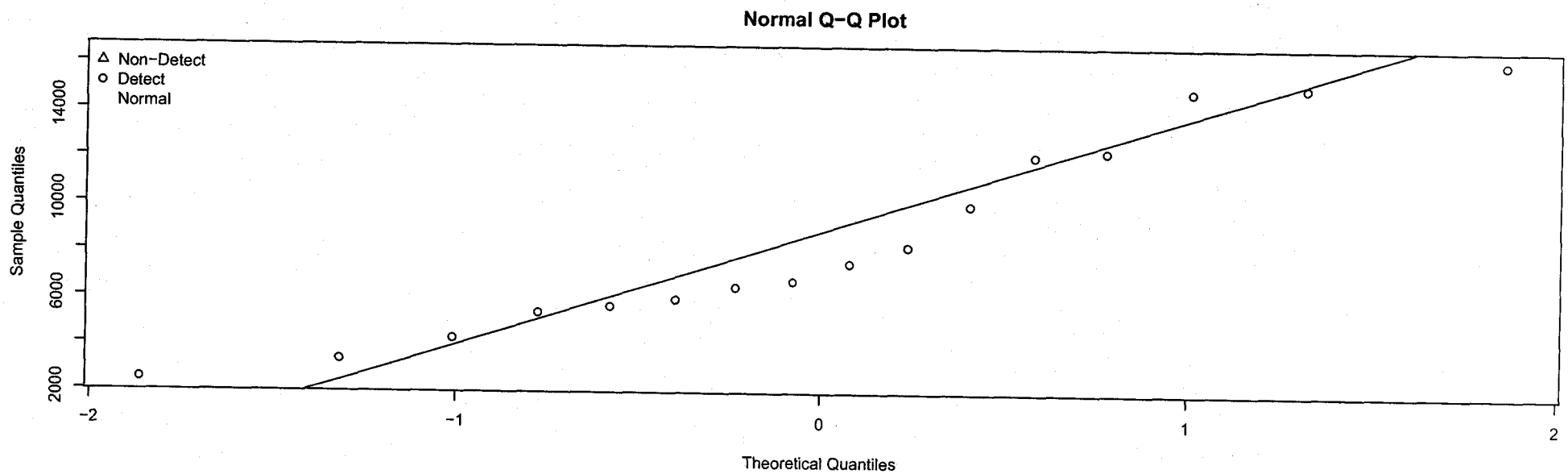


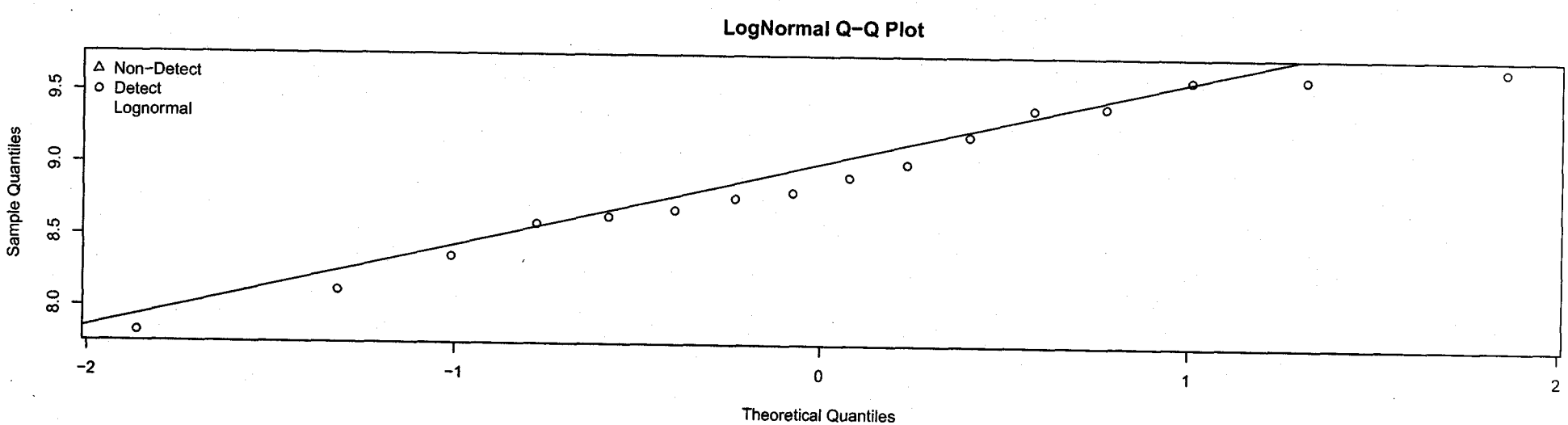
Lower Sand
Fall Groundwater
CALCIUM



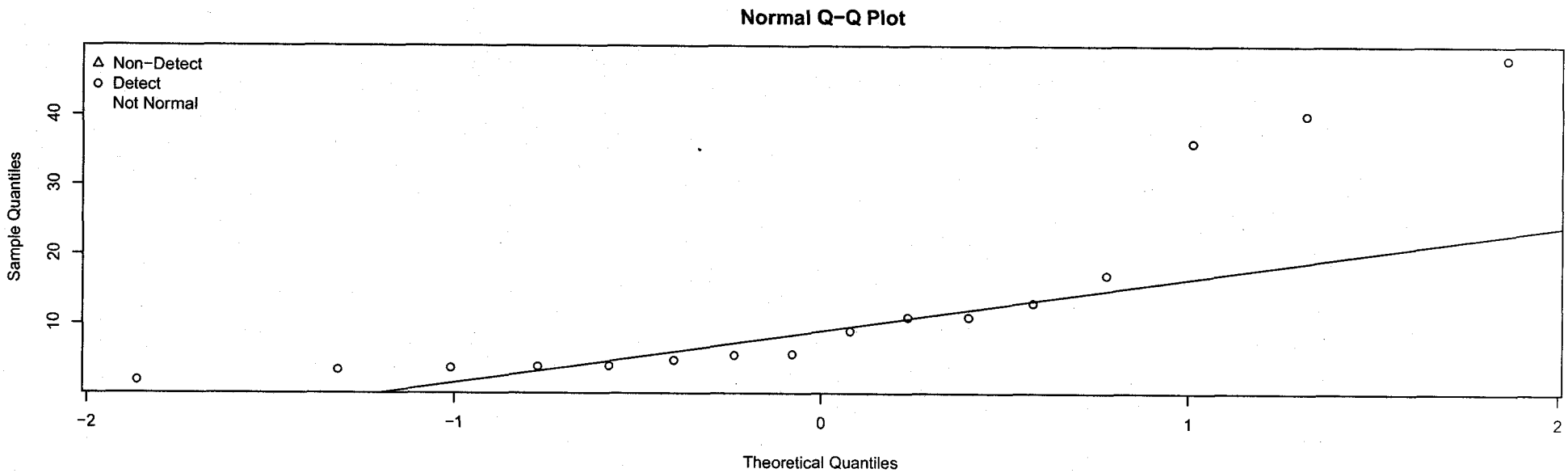


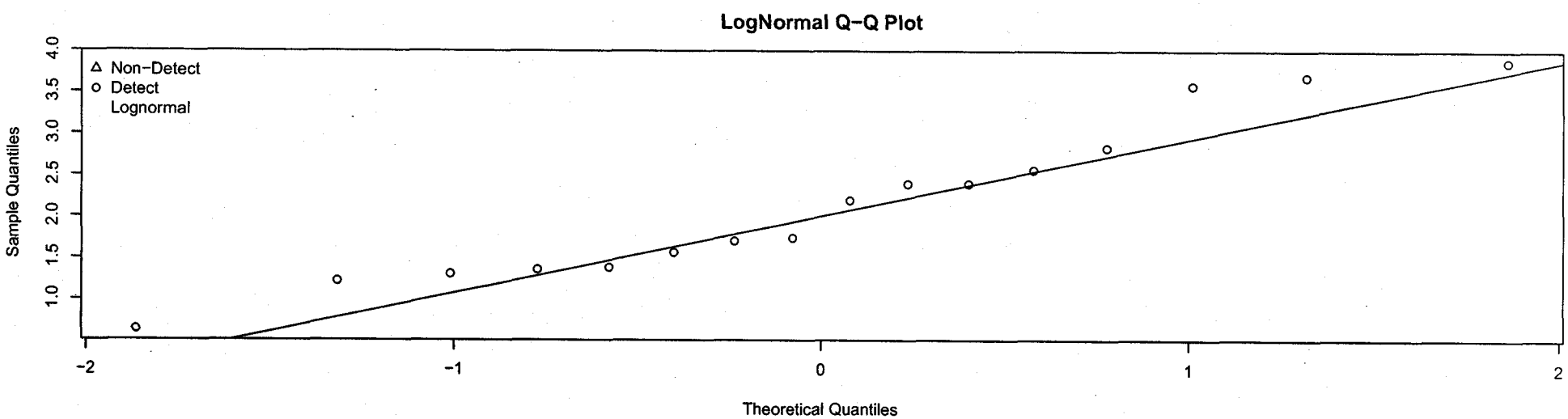
Lower Sand
Fall Groundwater
CALCIUM



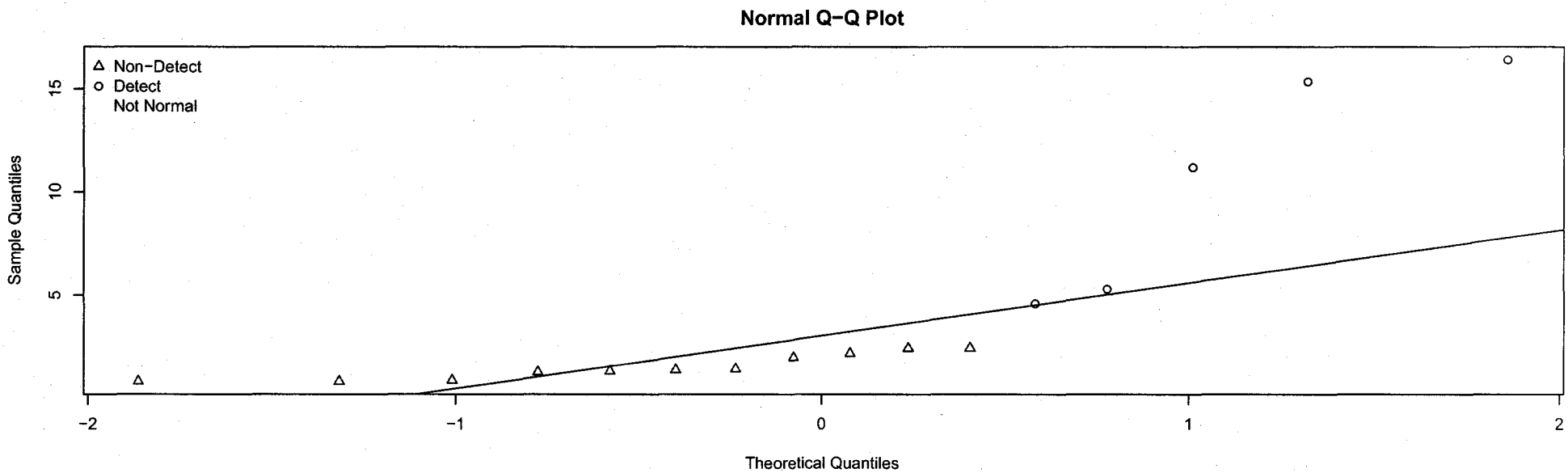


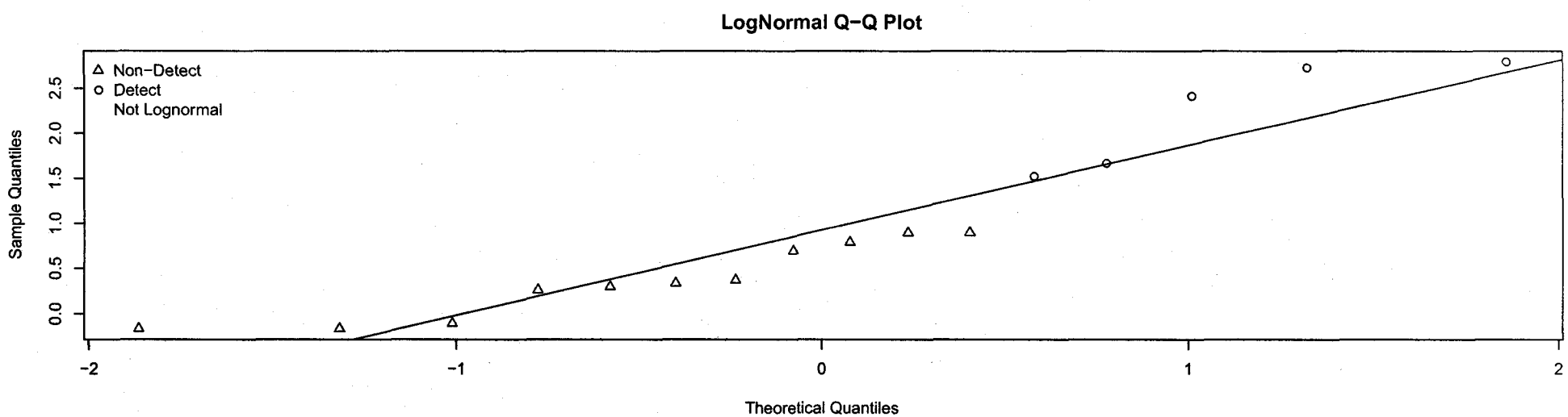
Lower Sand
Fall Groundwater
CHLORIDE





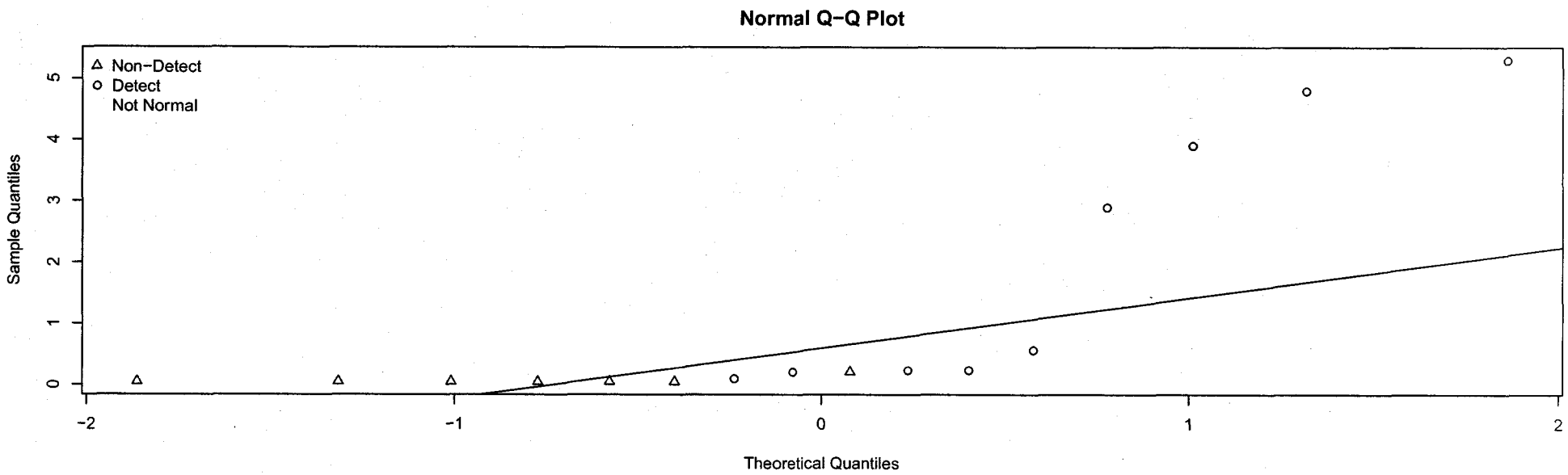
Lower Sand
Fall Groundwater
CHROMIUM

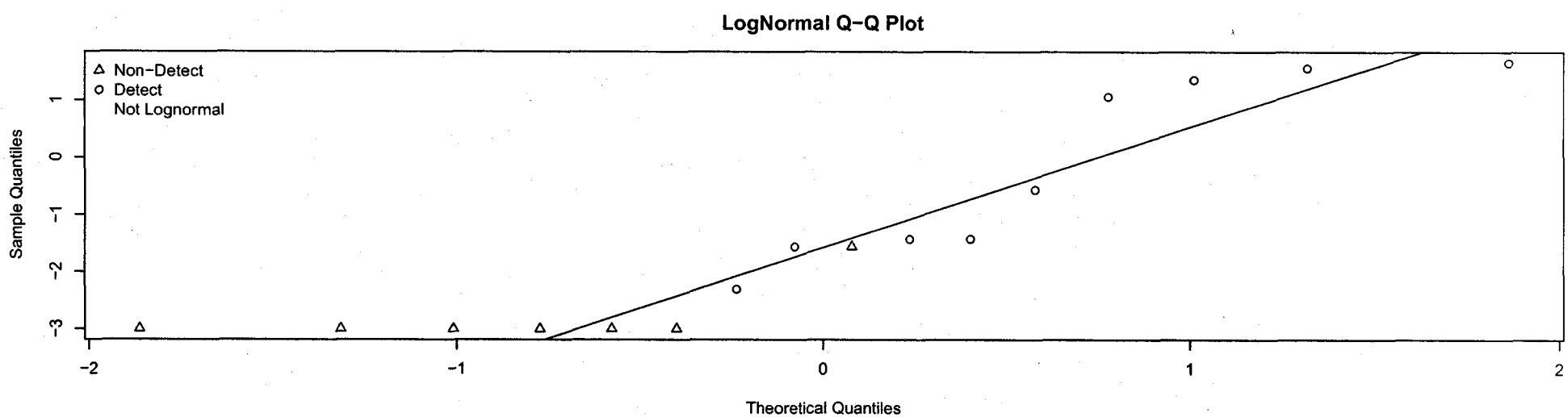




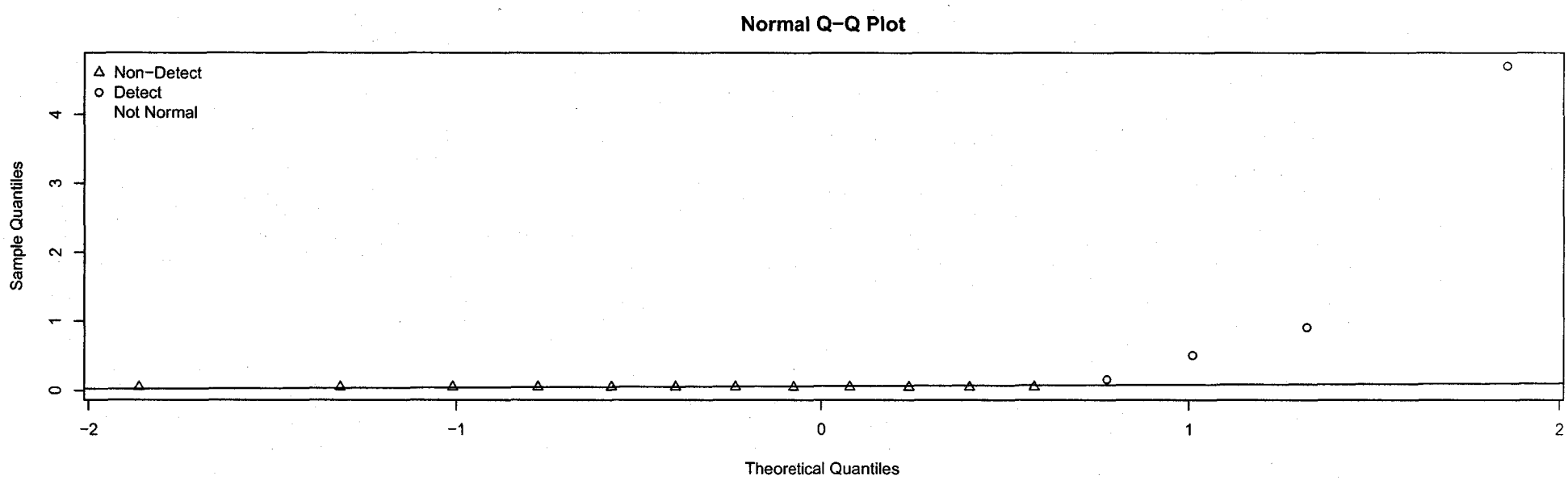
Lower Sand
Fall Groundwater

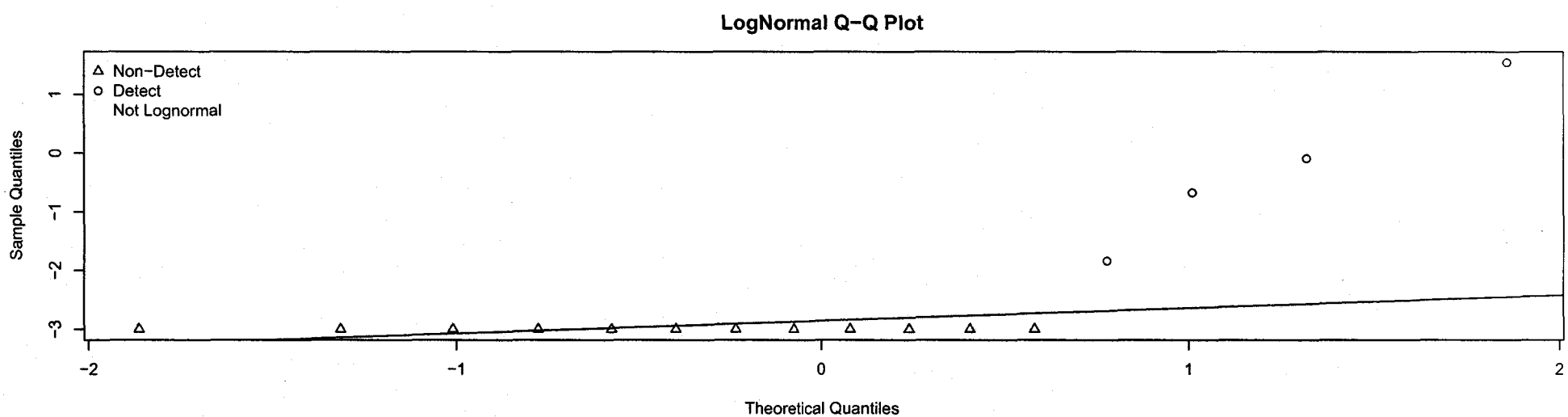
COBALT



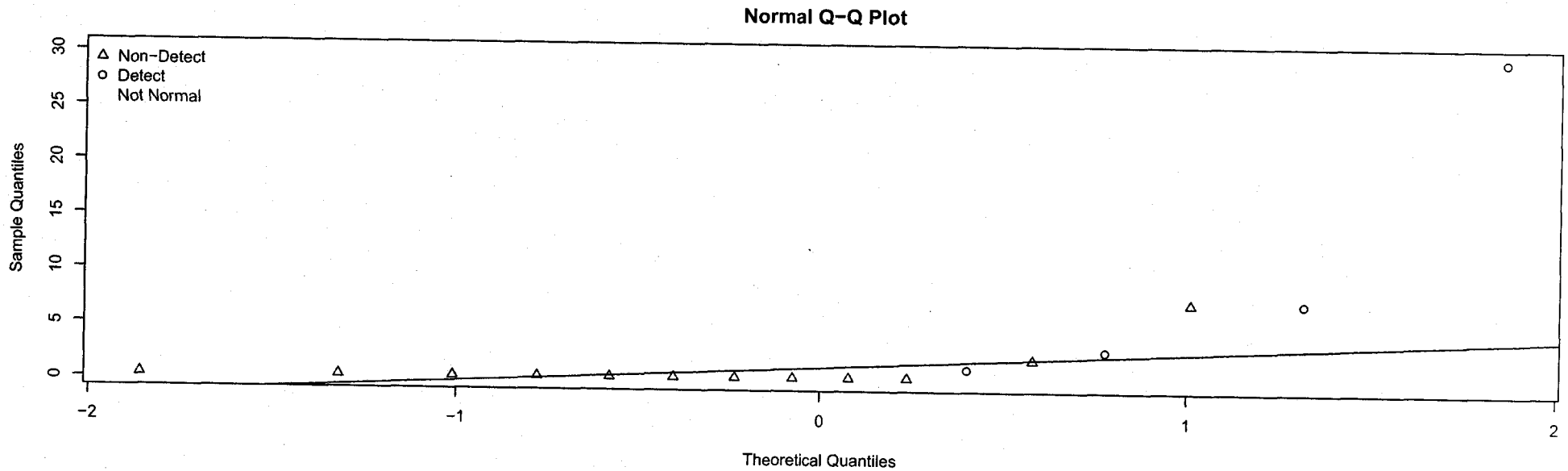


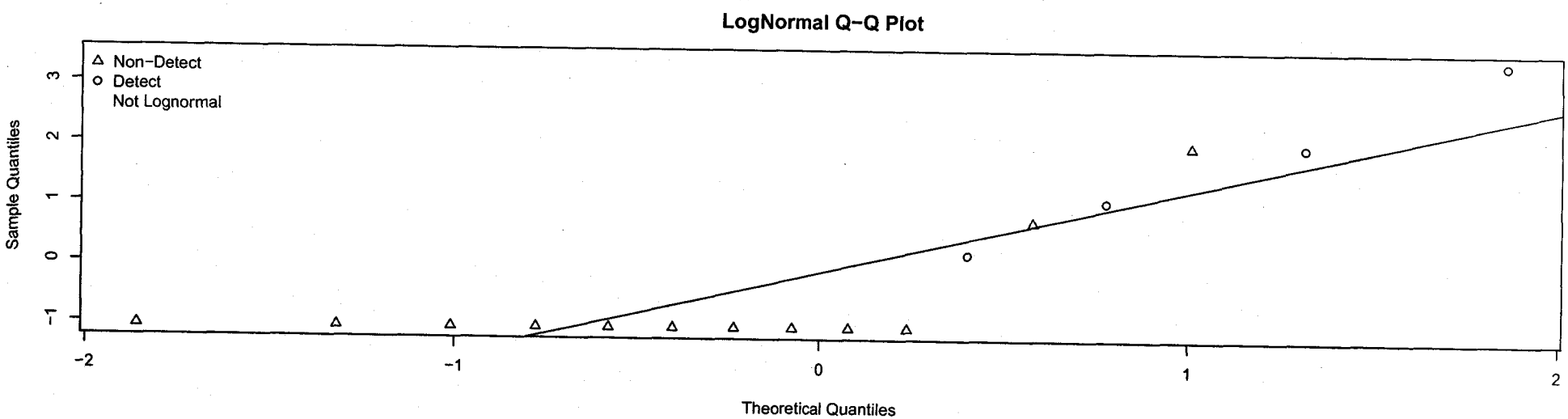
Lower Sand
Fall Groundwater
COBALT



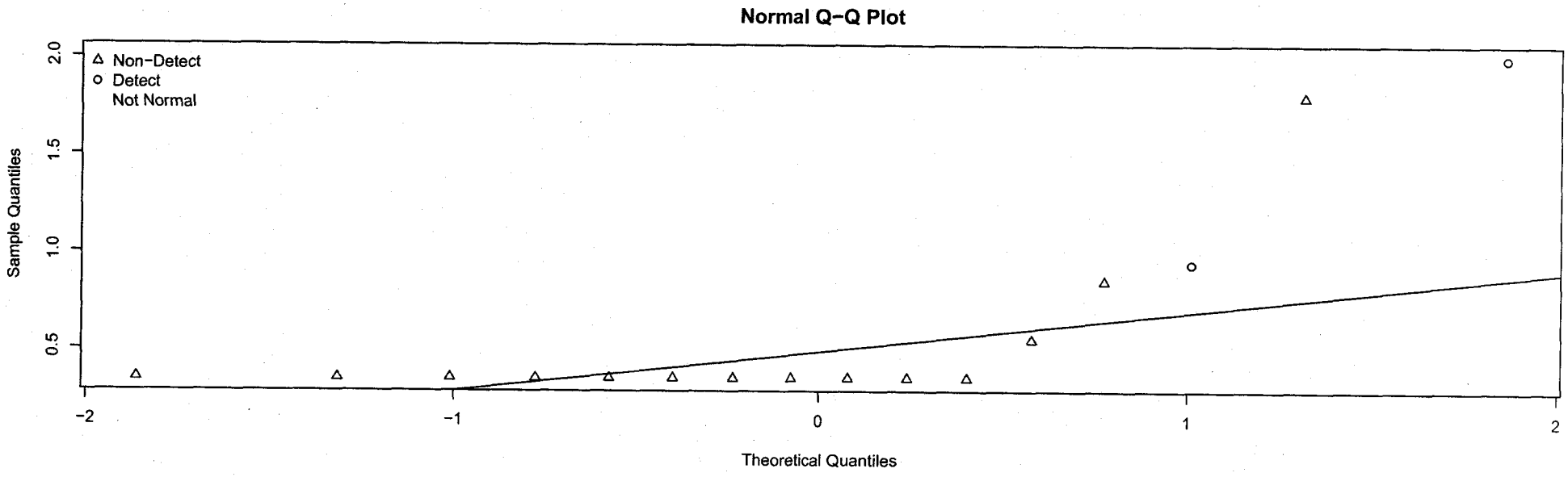


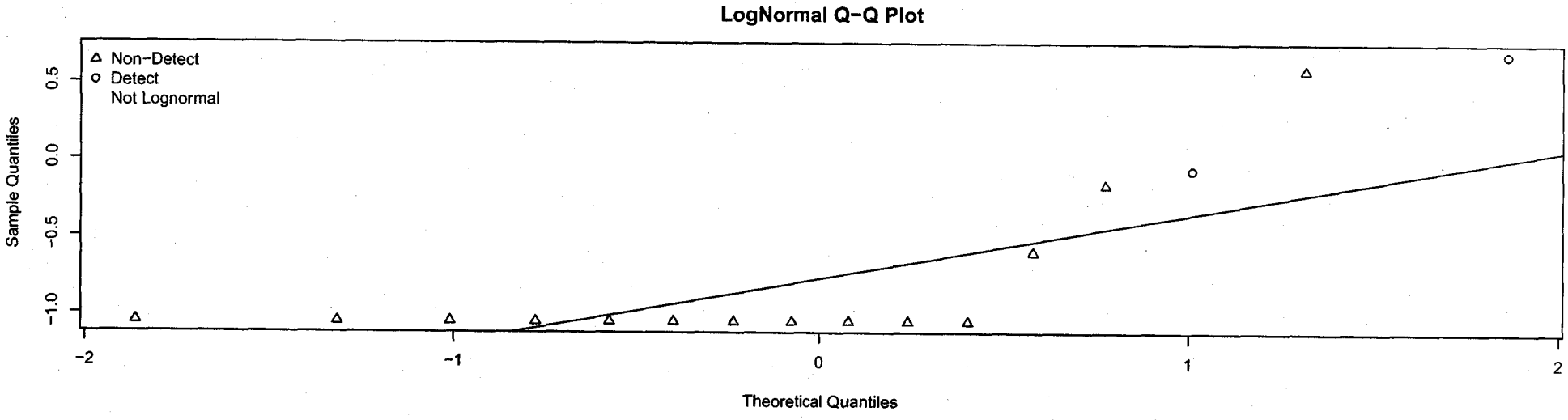
Lower Sand
Fall Groundwater
COPPER



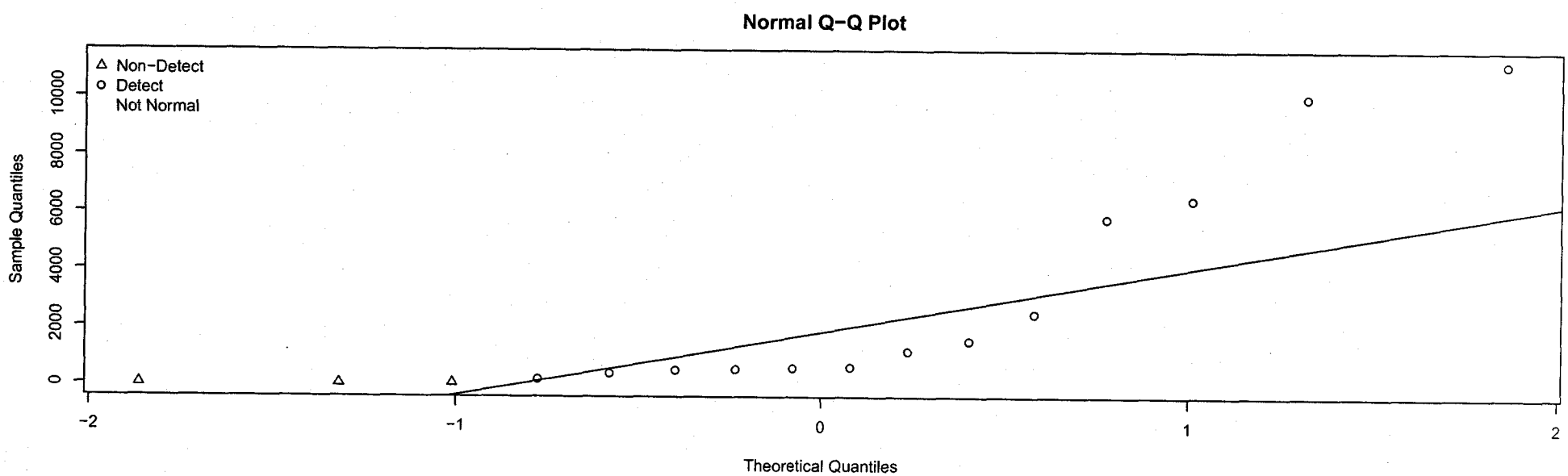


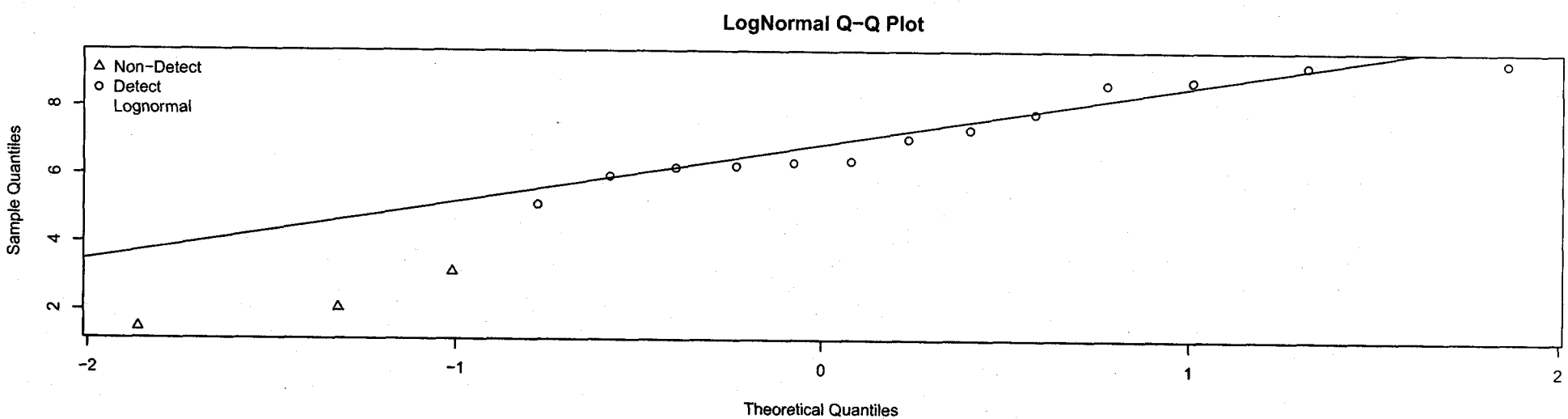
Lower Sand
Fall Groundwater
COPPER





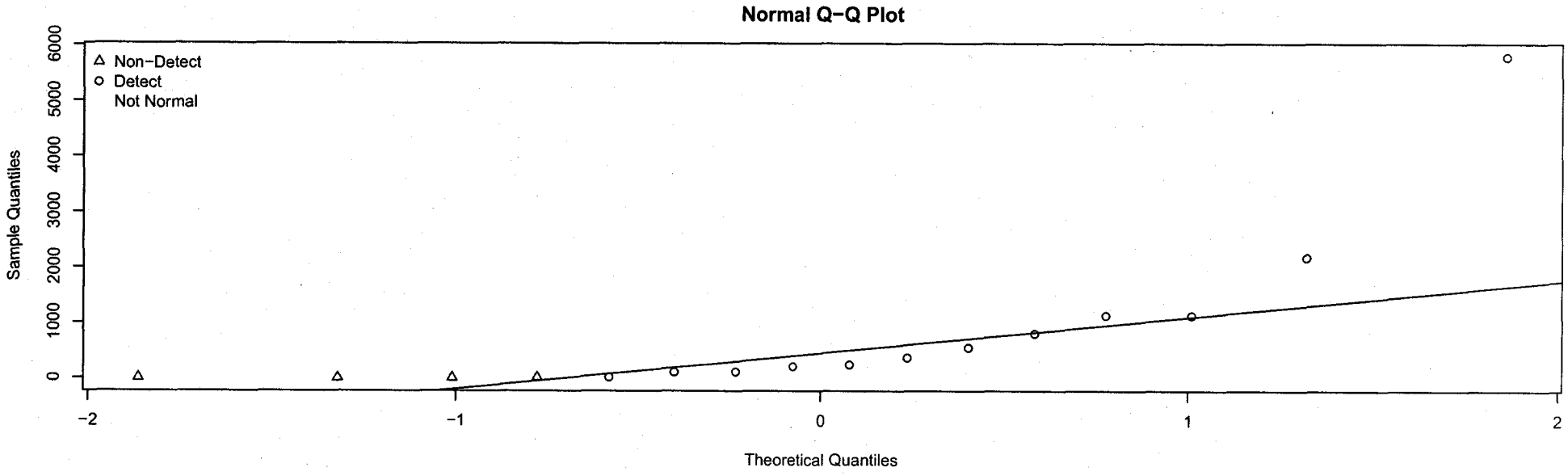
Lower Sand
Fall Groundwater
IRON

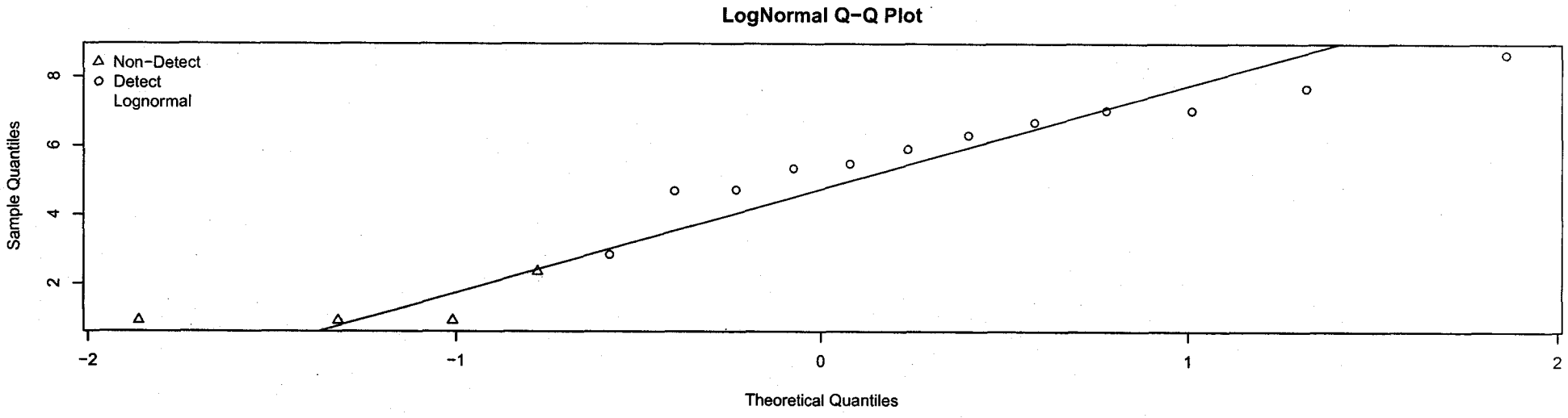




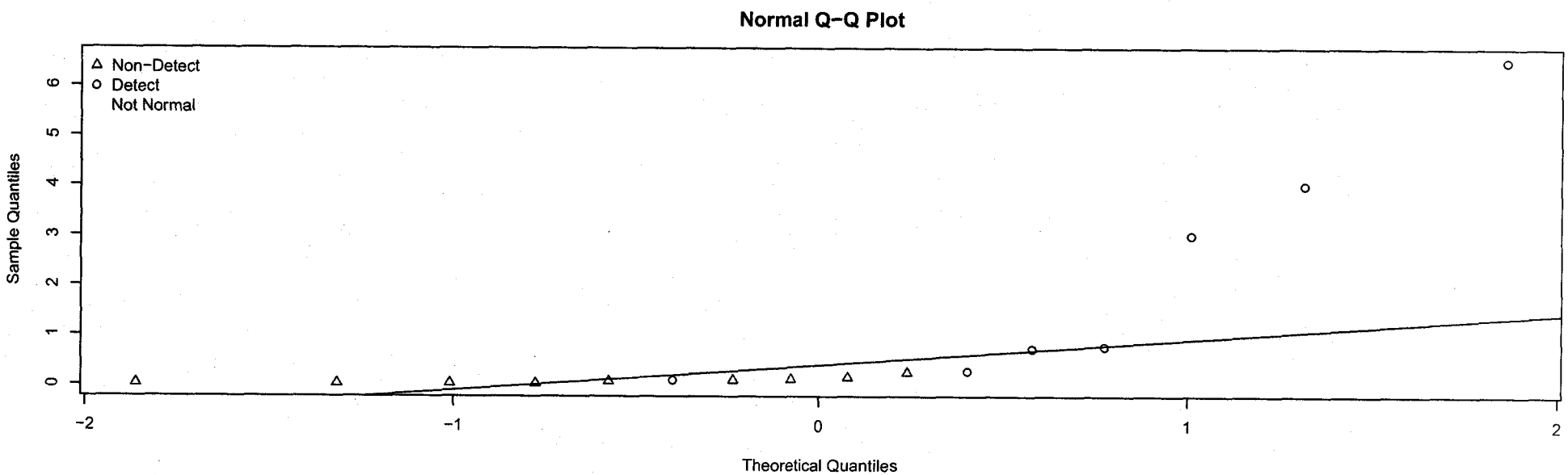
Lower Sand
Fall Groundwater

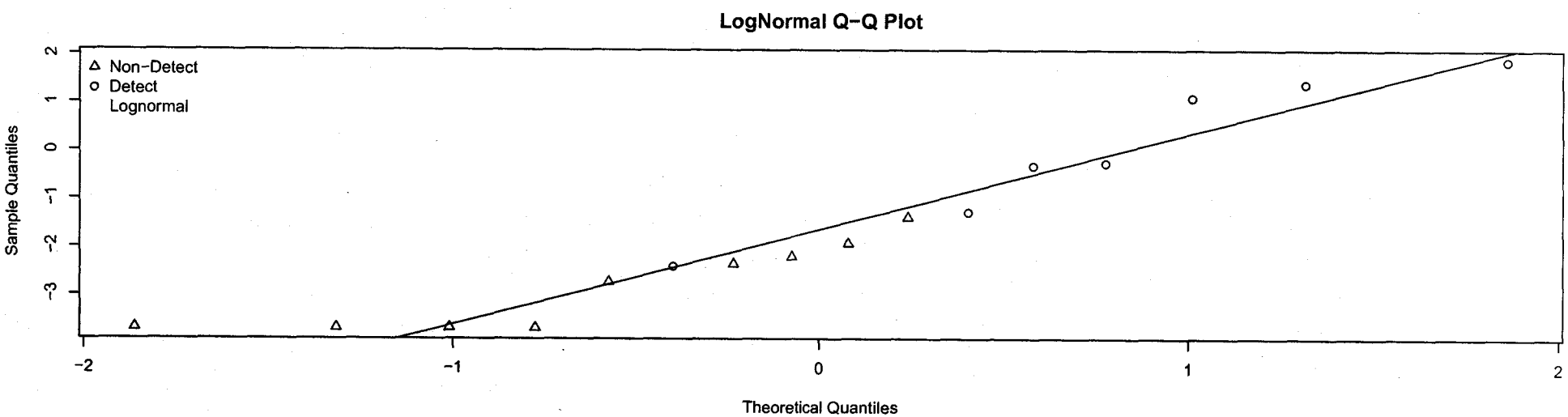
IRON



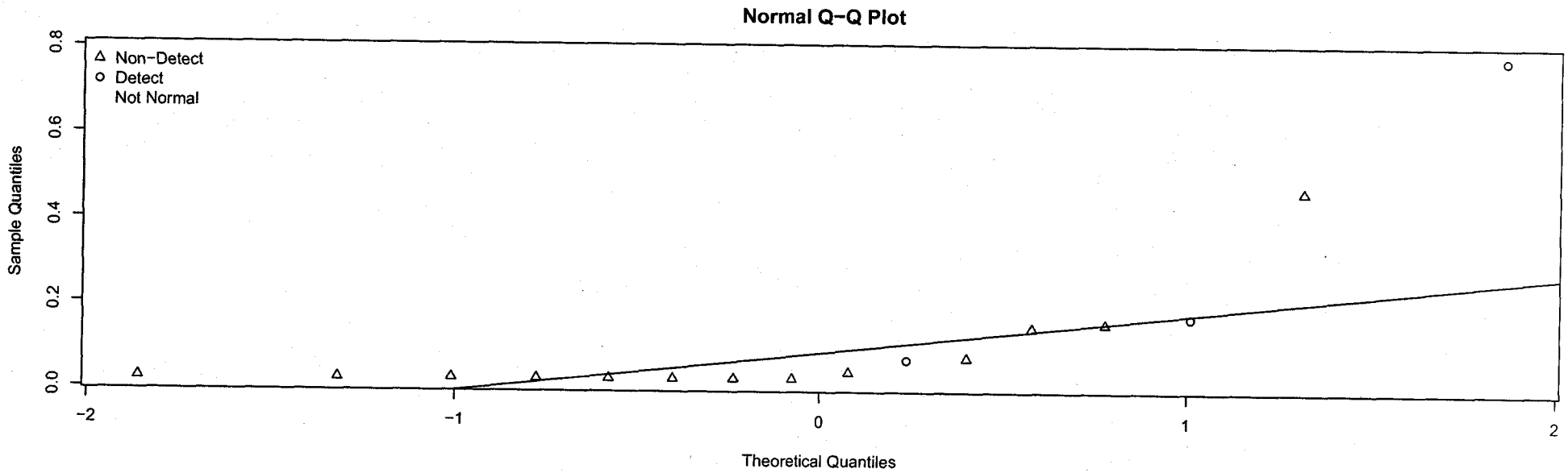


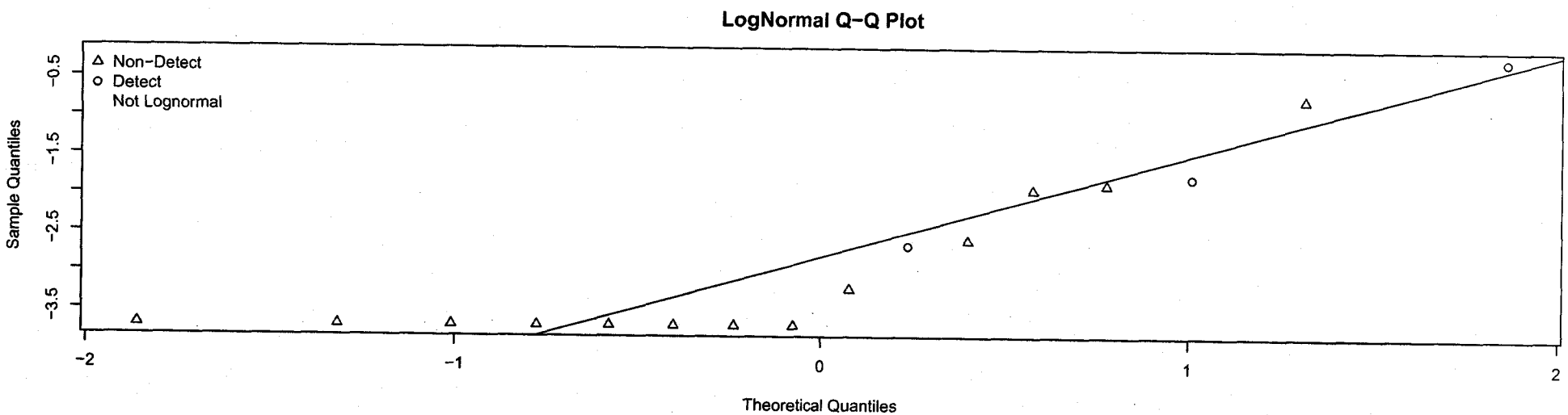
Lower Sand
Fall Groundwater
LEAD



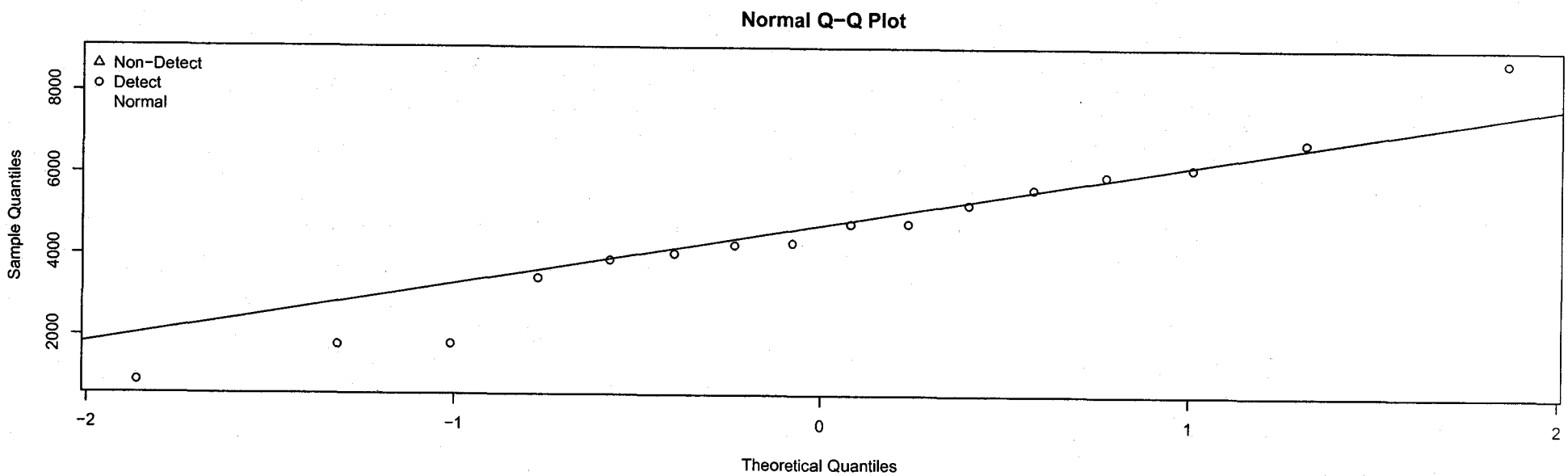


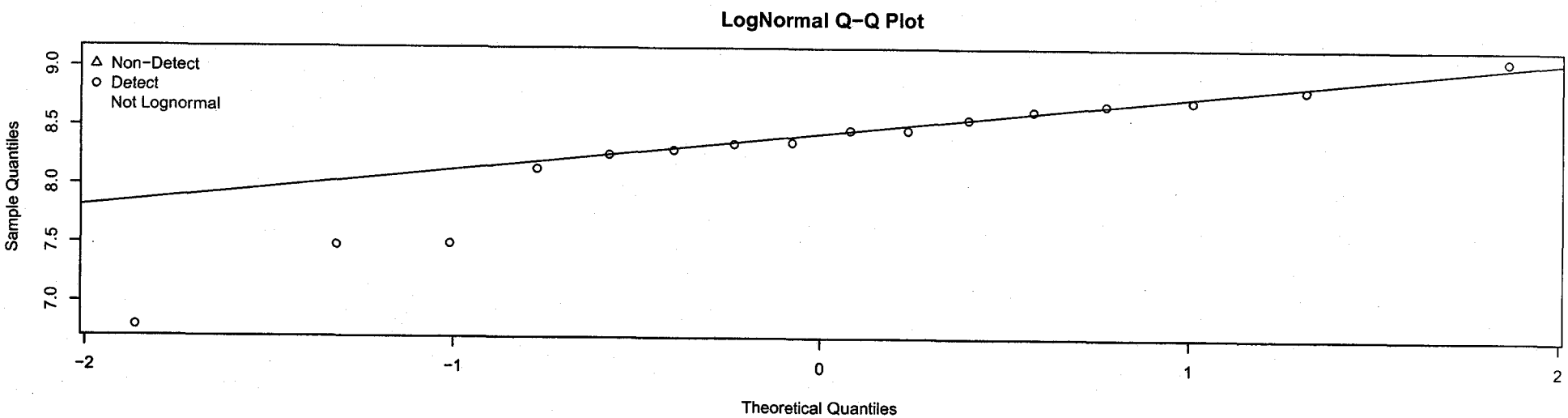
Lower Sand
Fall Groundwater
LEAD



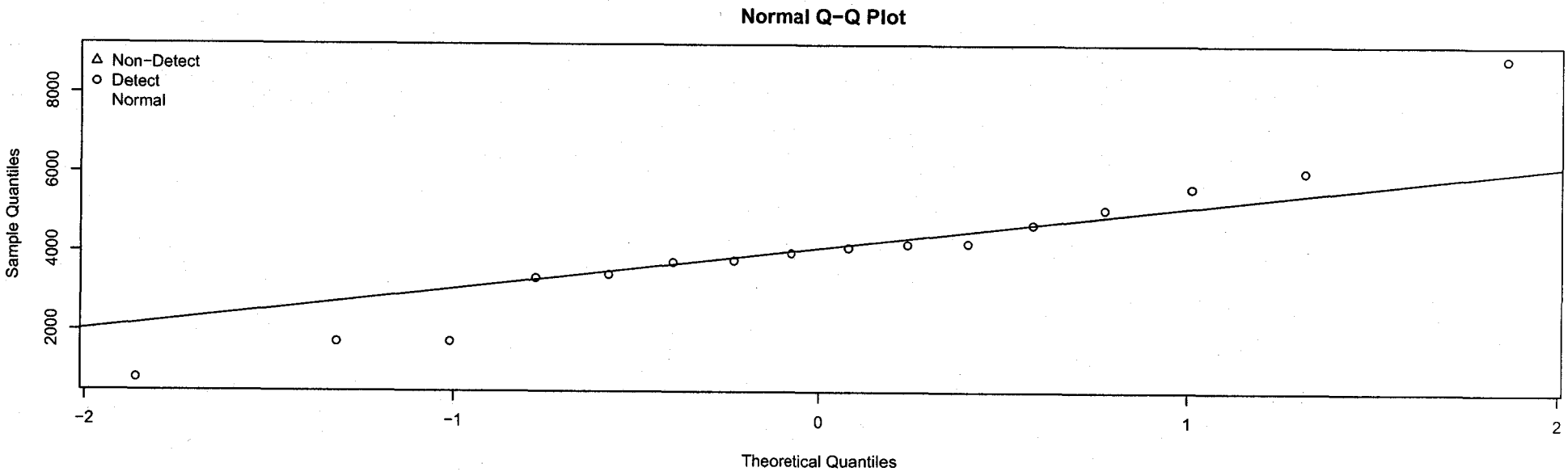


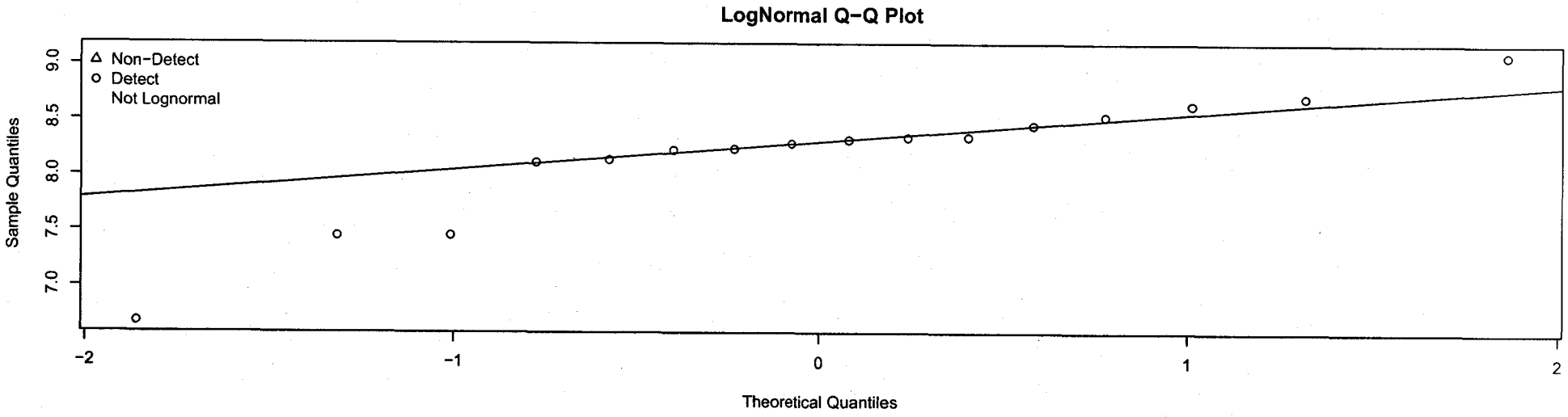
Lower Sand
Fall Groundwater
MAGNESIUM



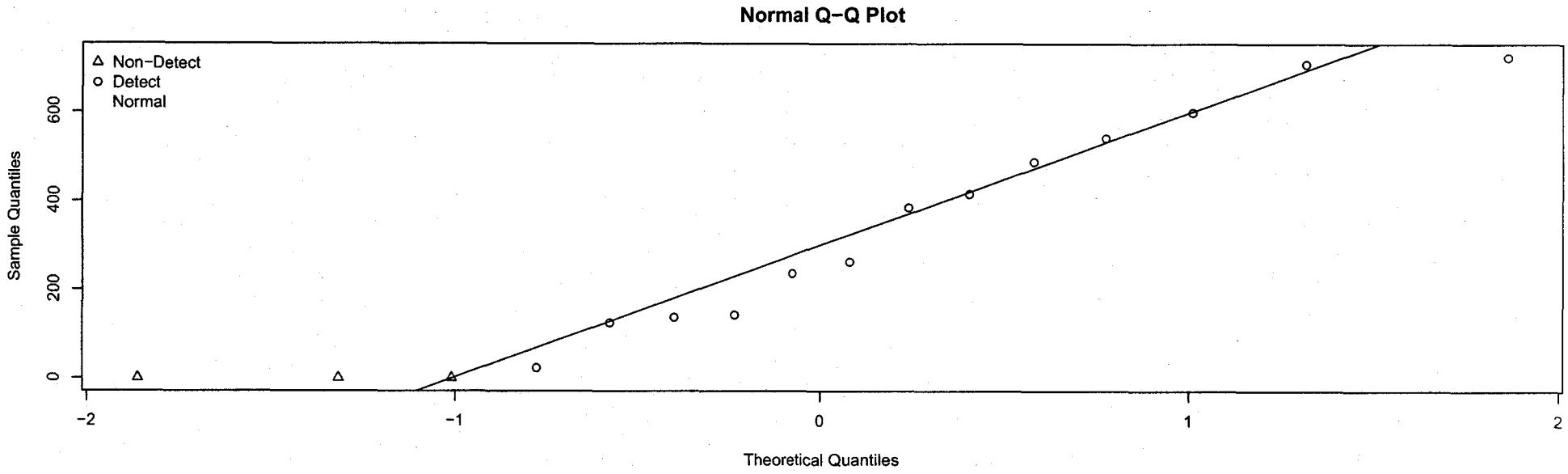


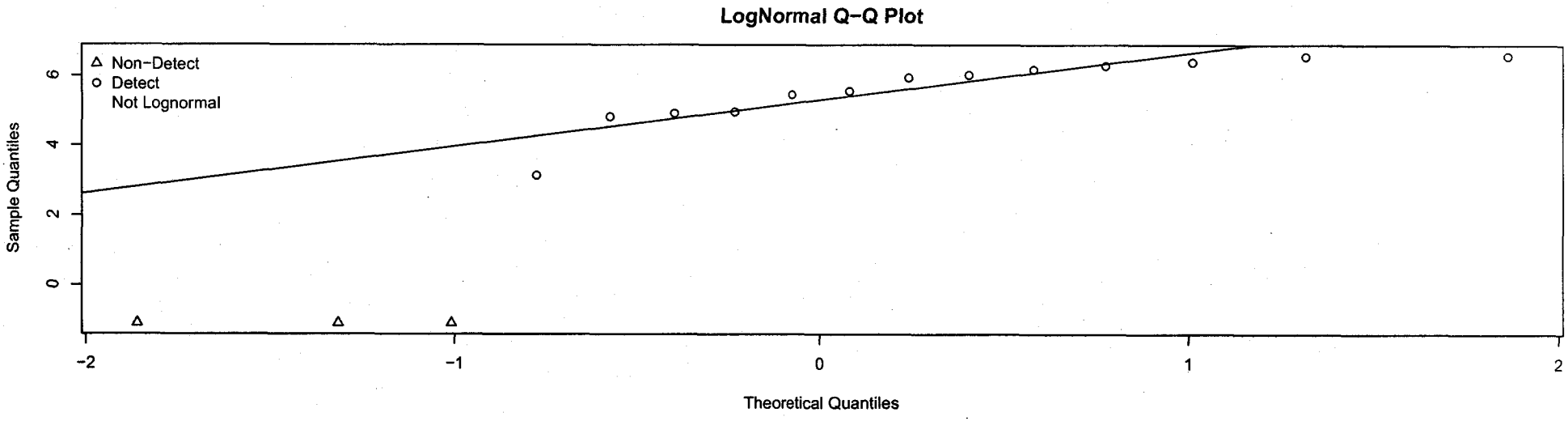
Lower Sand
Fall Groundwater
MAGNESIUM



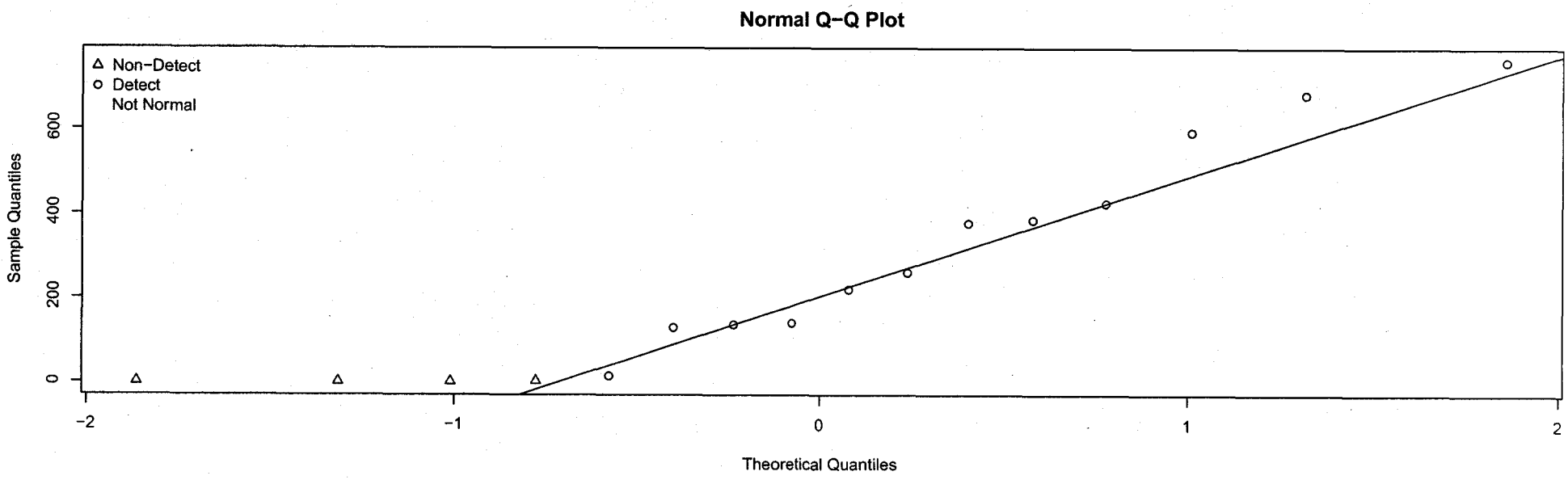


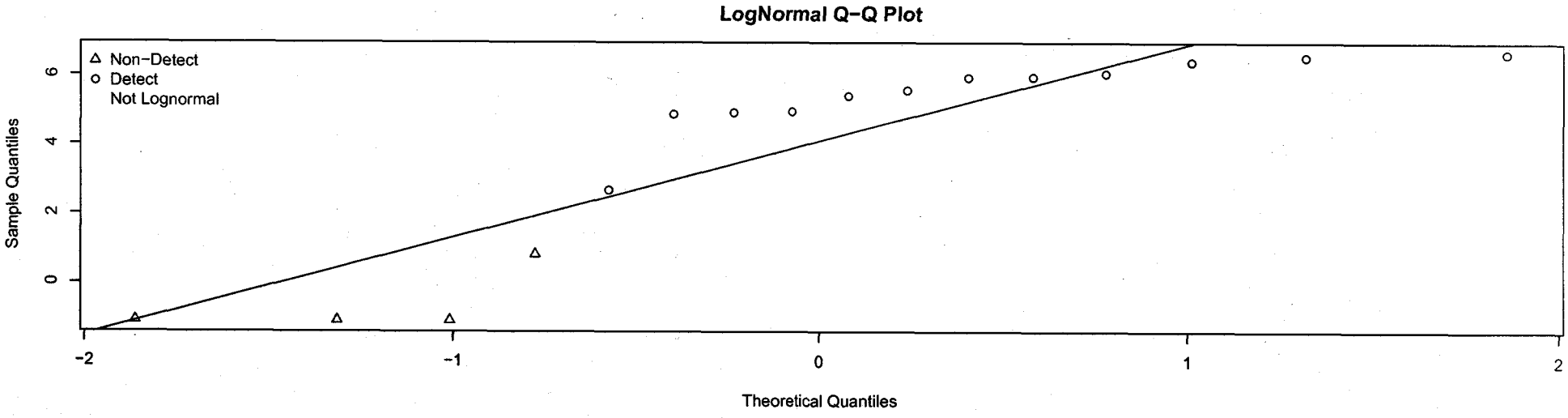
Lower Sand
Fall Groundwater
MANGANESE



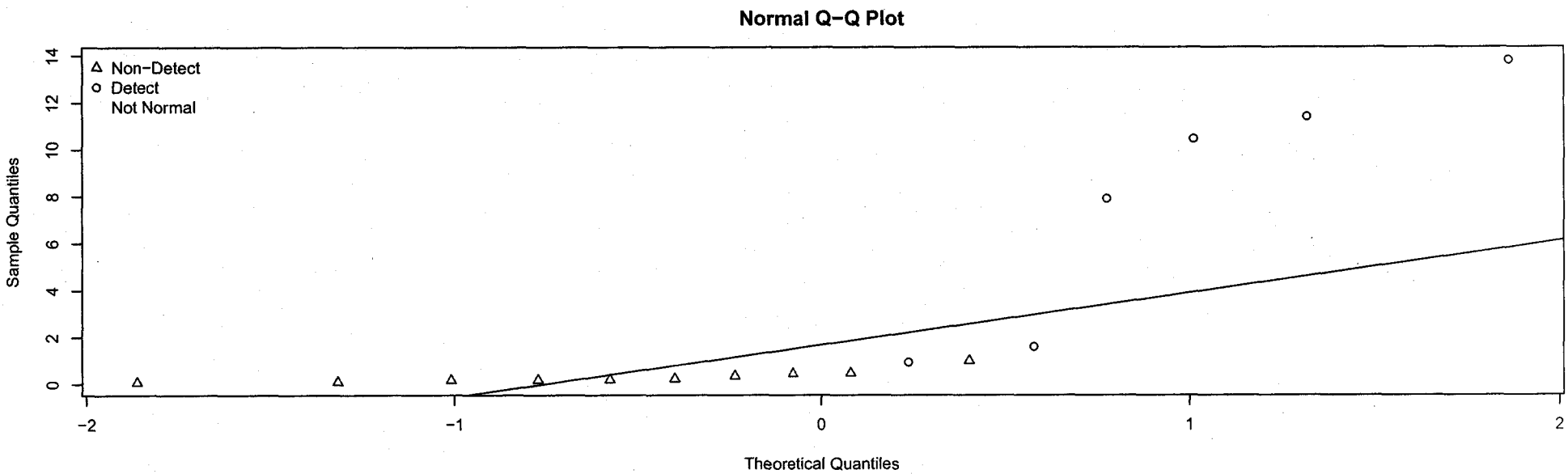


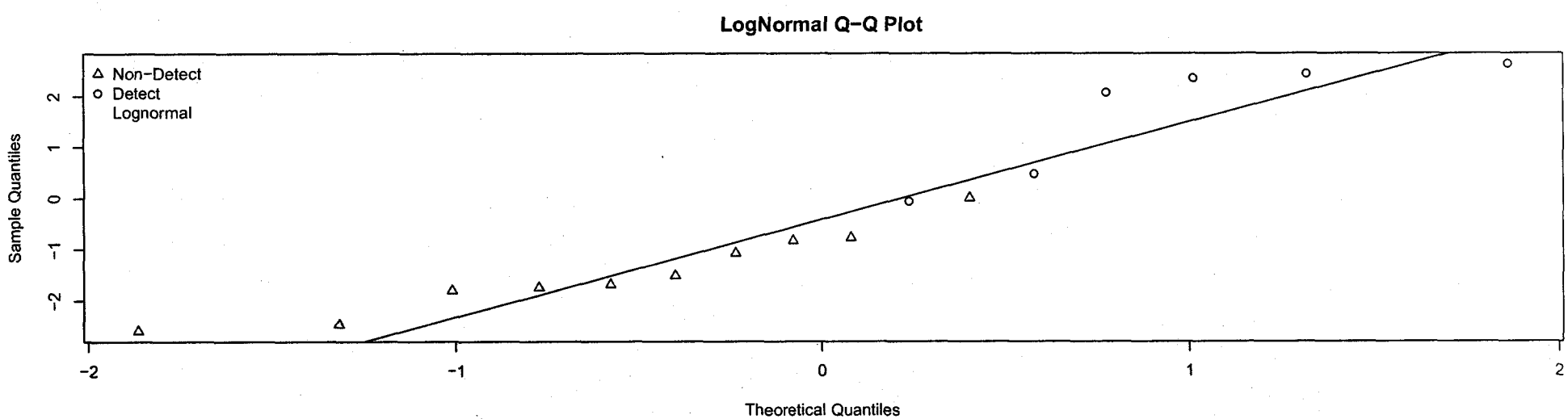
Lower Sand
Fall Groundwater
MANGANESE



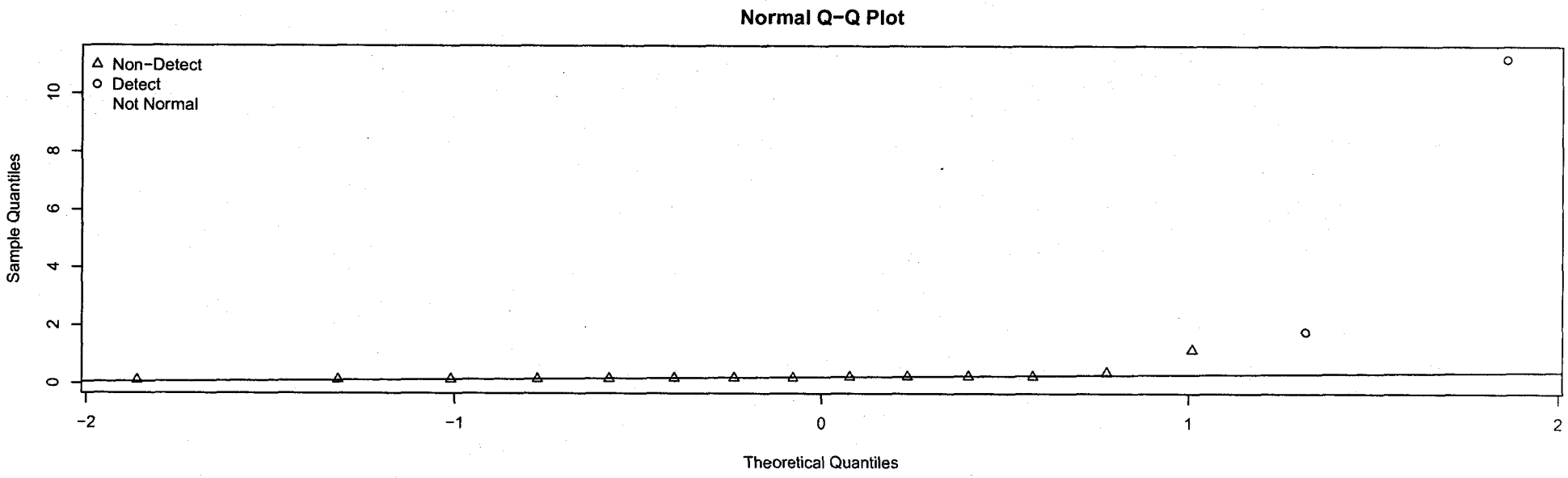


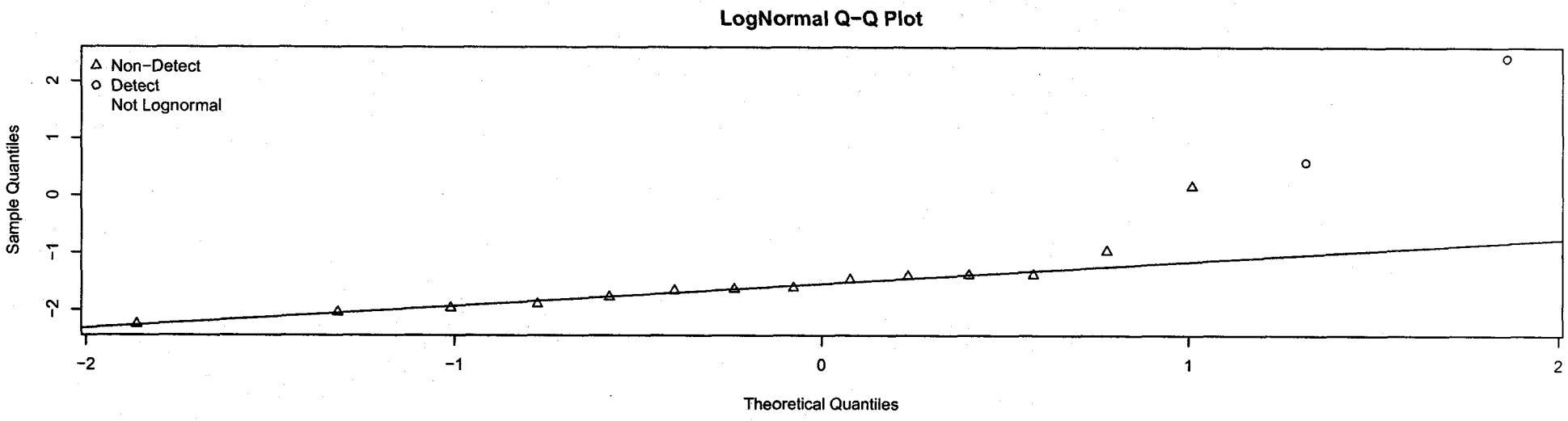
Lower Sand
Fall Groundwater
NICKEL



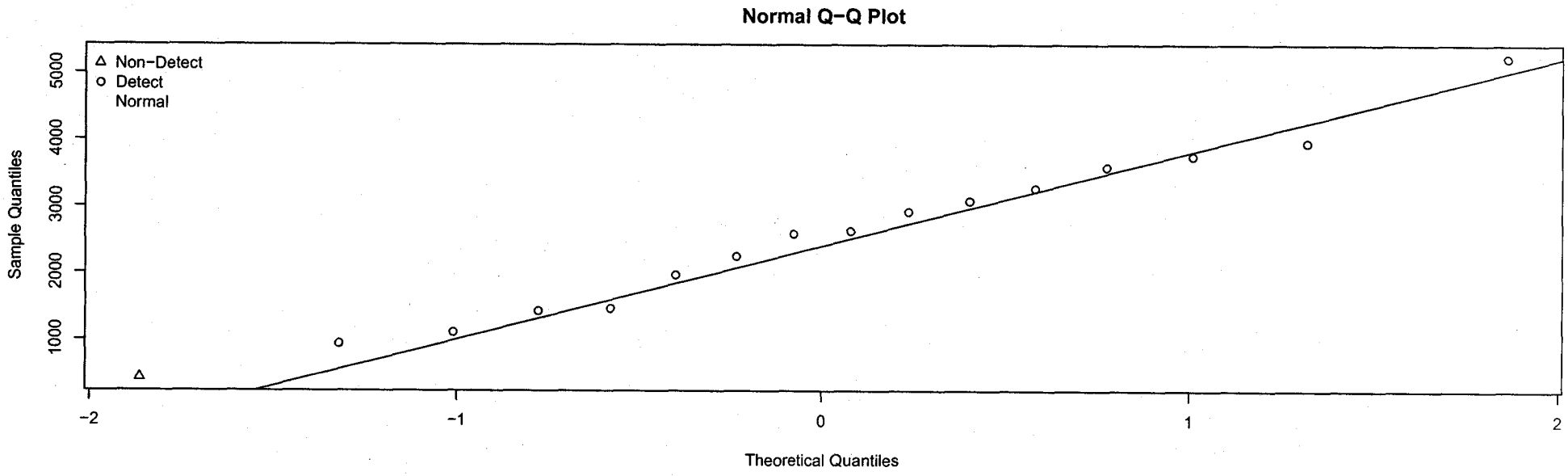


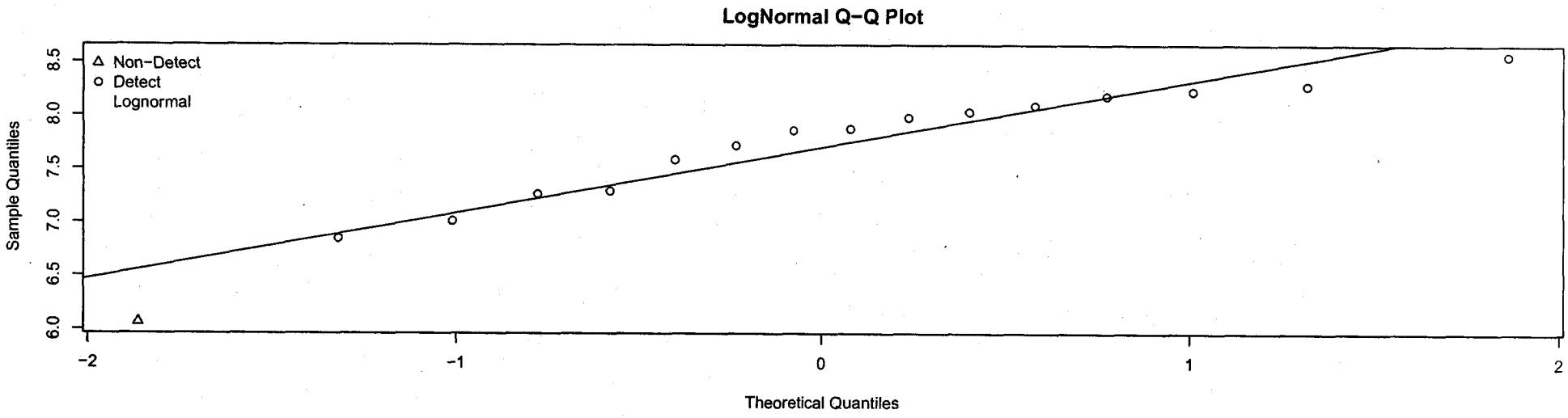
Lower Sand
Fall Groundwater
NICKEL



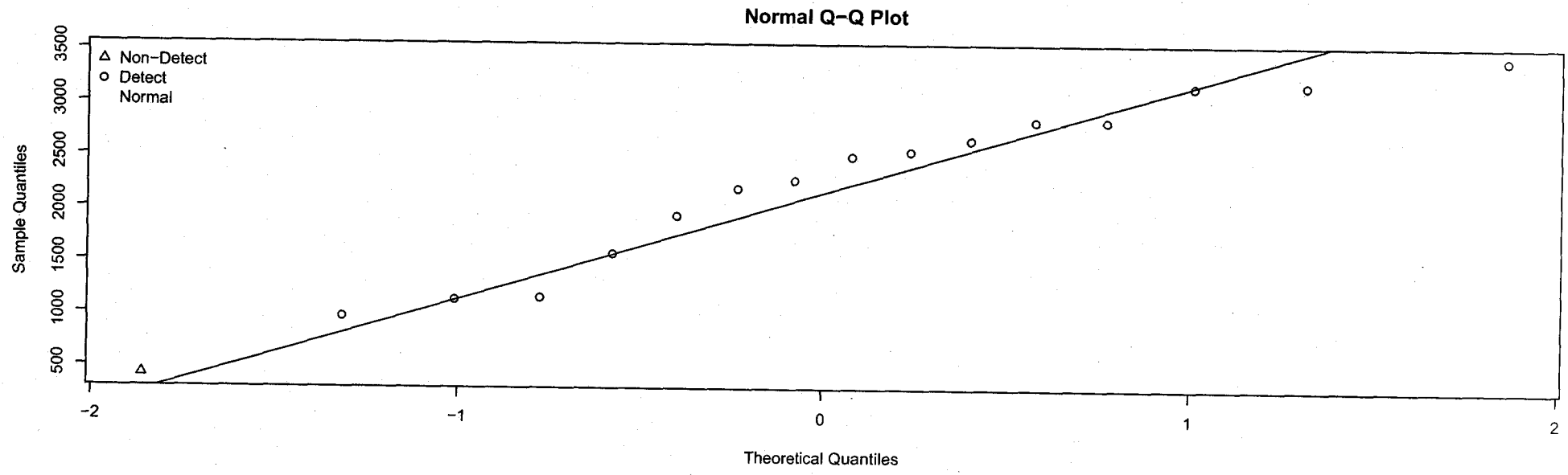


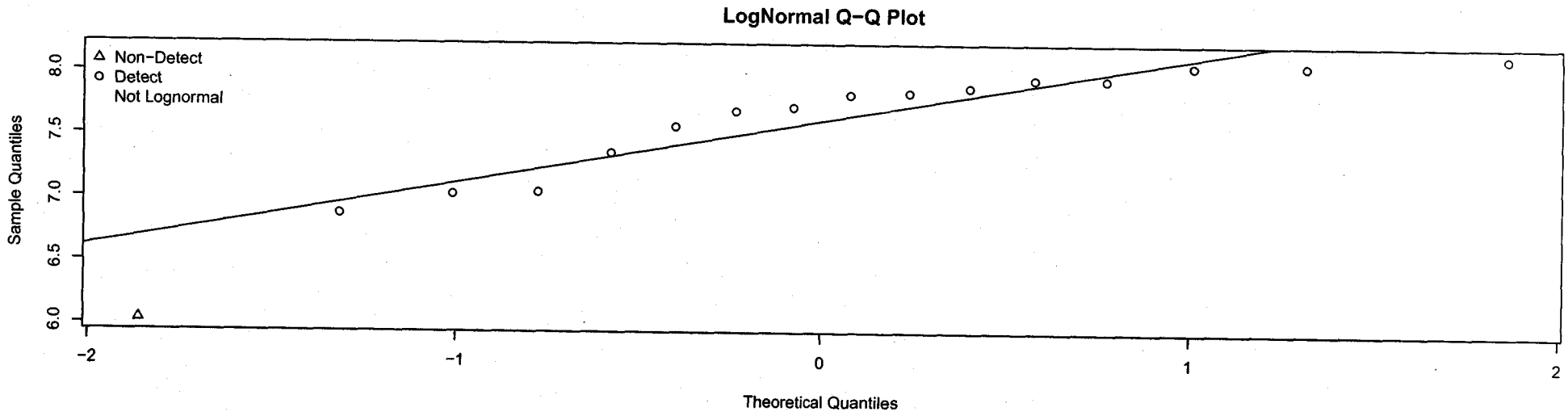
Lower Sand
Fall Groundwater
POTASSIUM



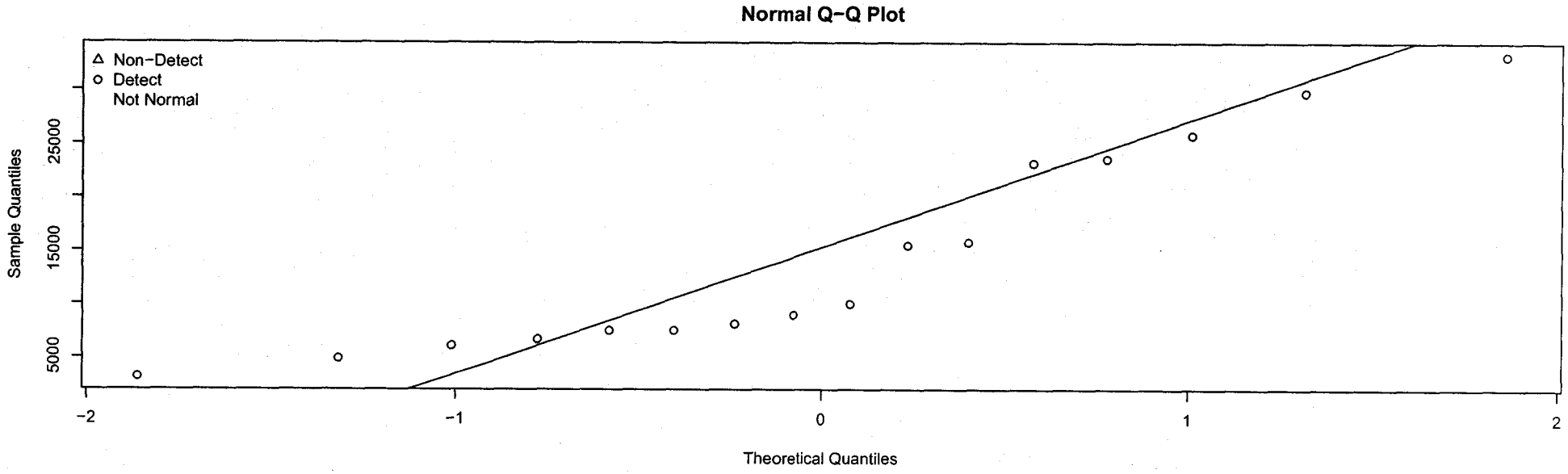


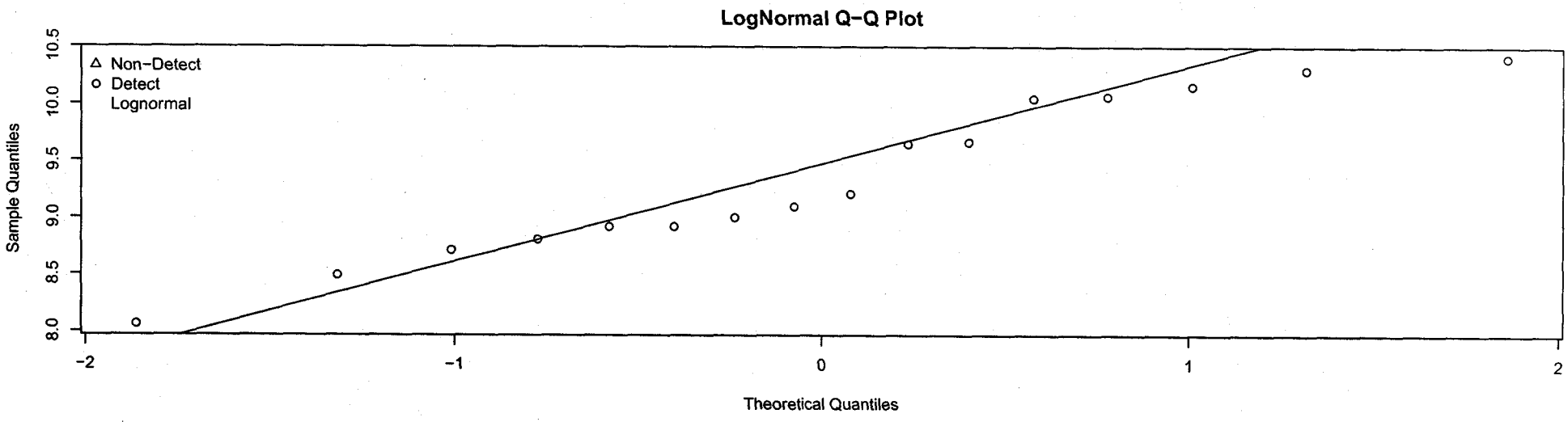
Lower Sand
Fall Groundwater
POTASSIUM



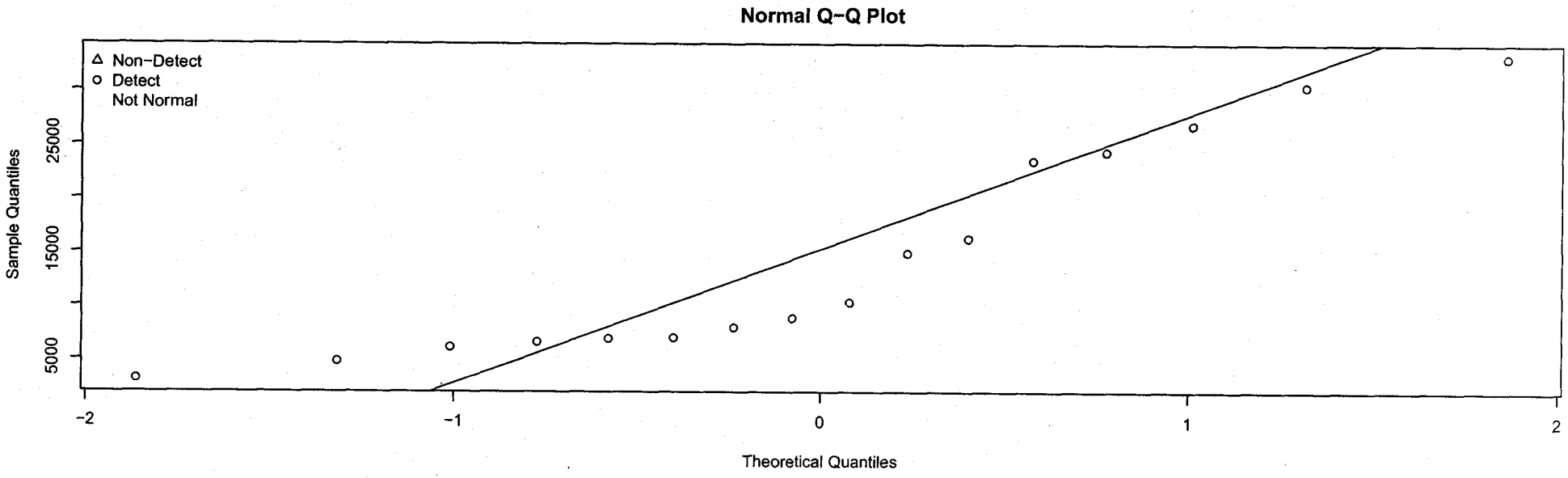


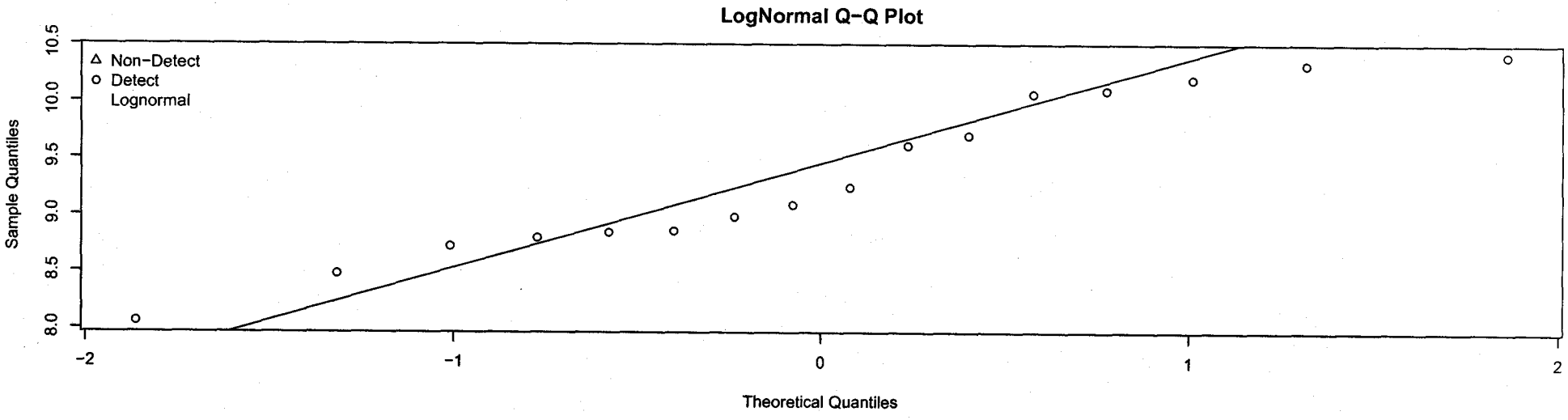
Lower Sand
Fall Groundwater
SODIUM



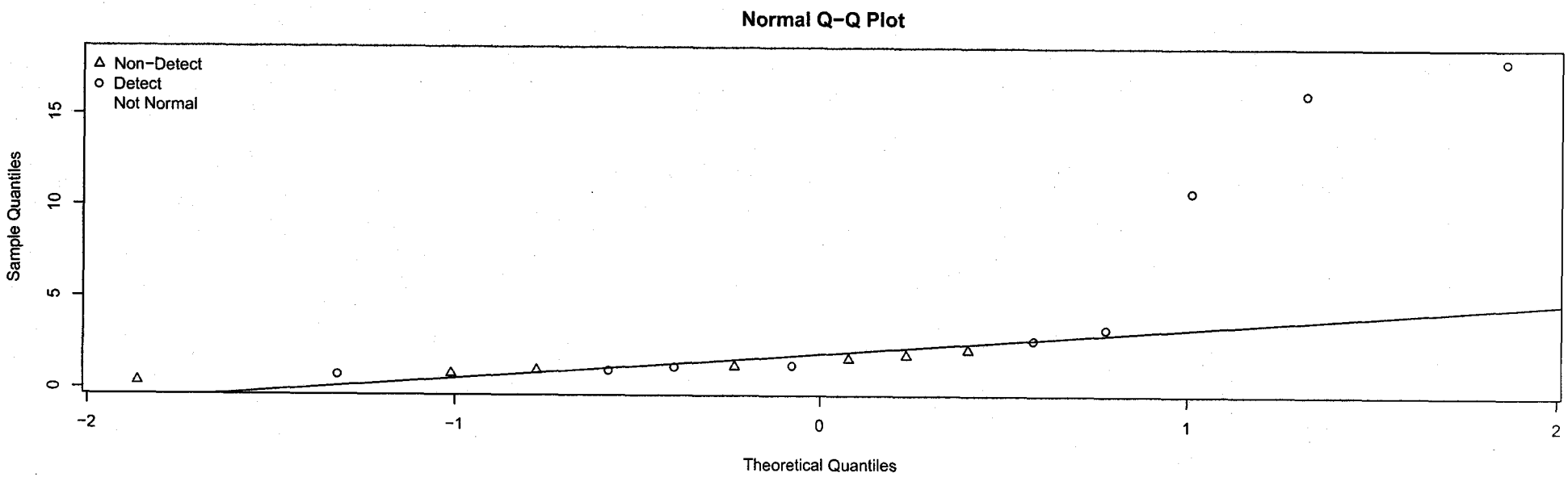


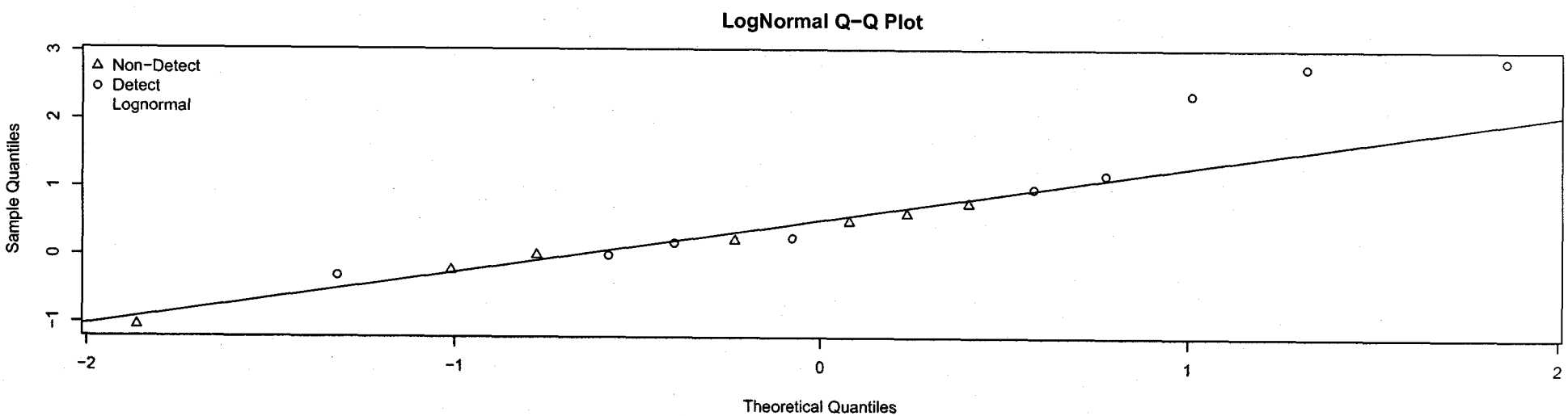
Lower Sand
Fall Groundwater
SODIUM



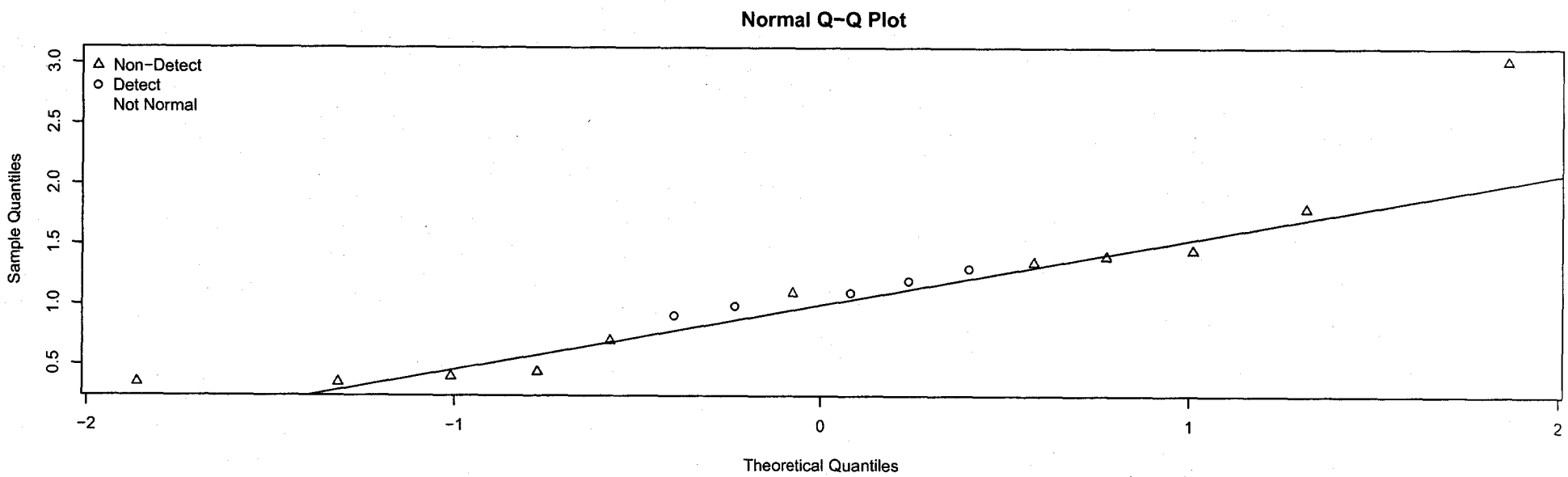


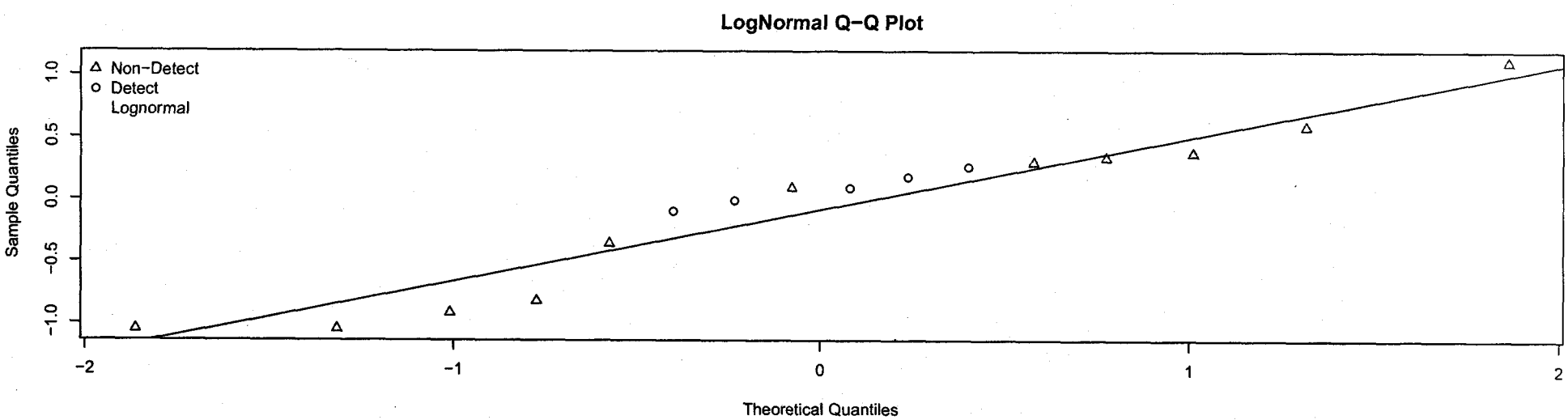
Lower Sand
Fall Groundwater
VANADIUM



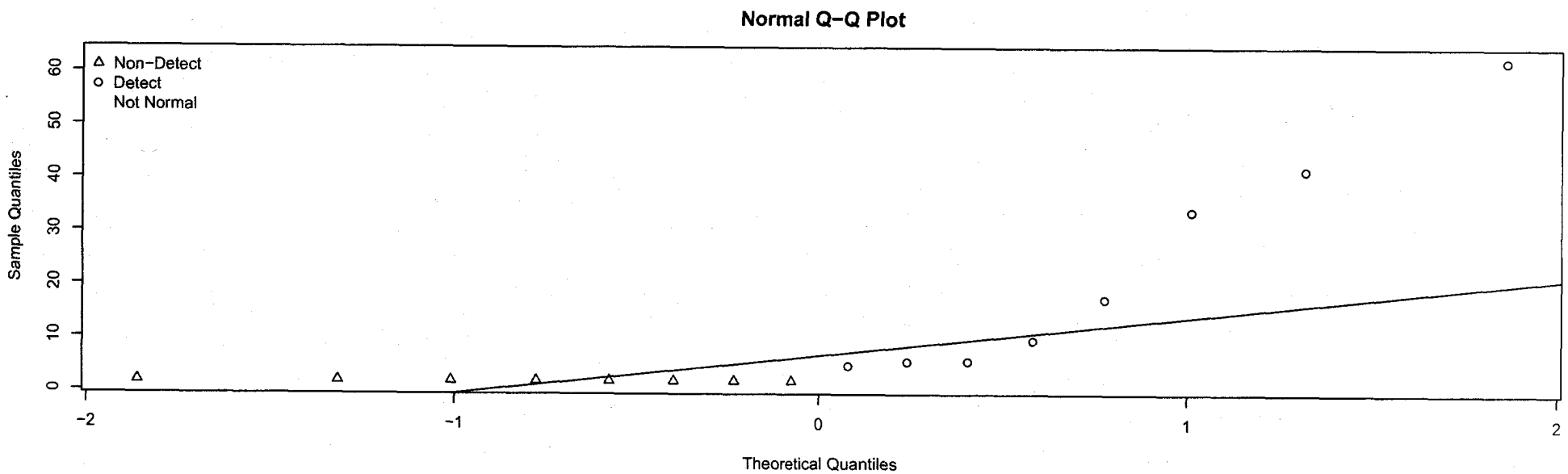


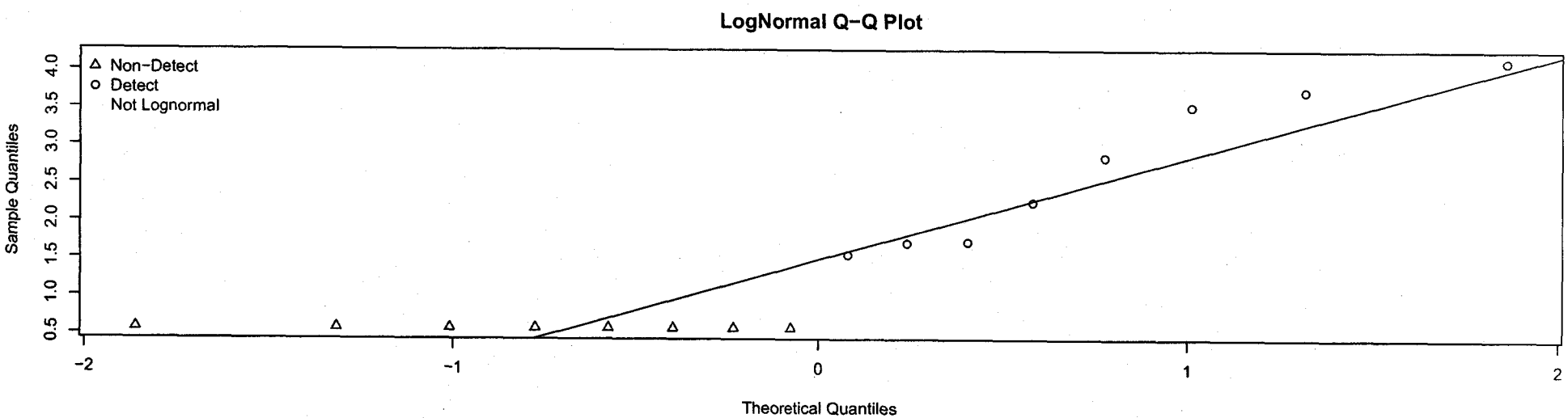
Lower Sand
Fall Groundwater
VANADIUM



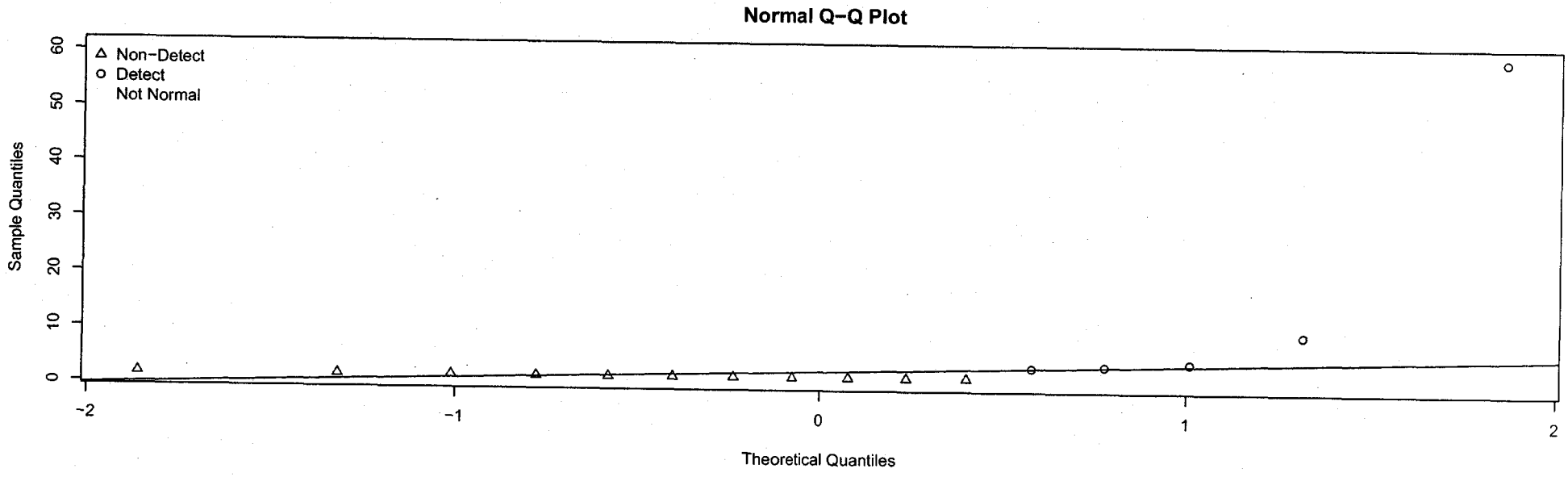


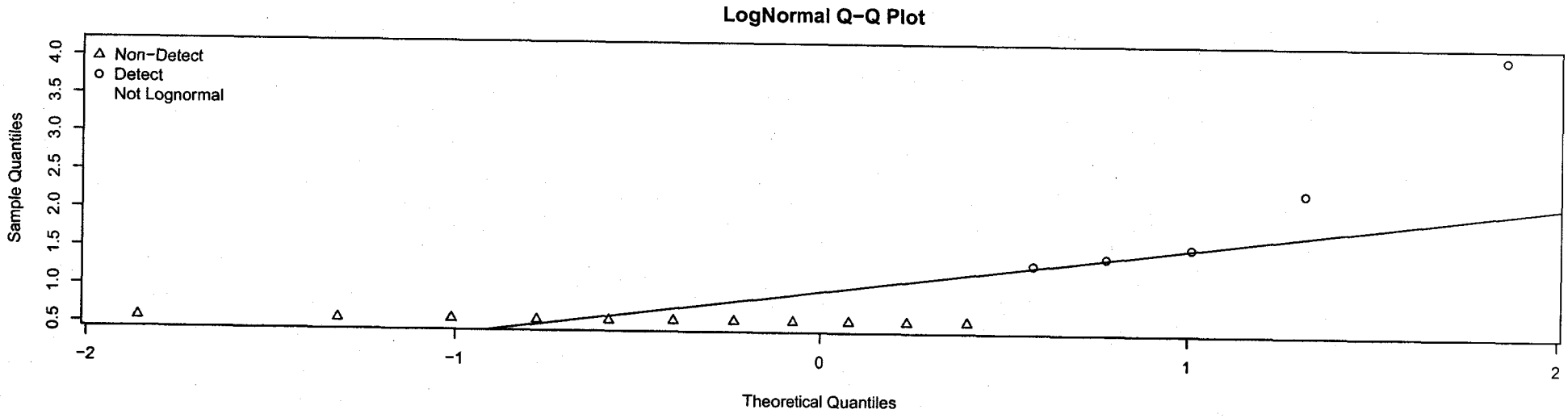
Lower Sand
Fall Groundwater
ZINC



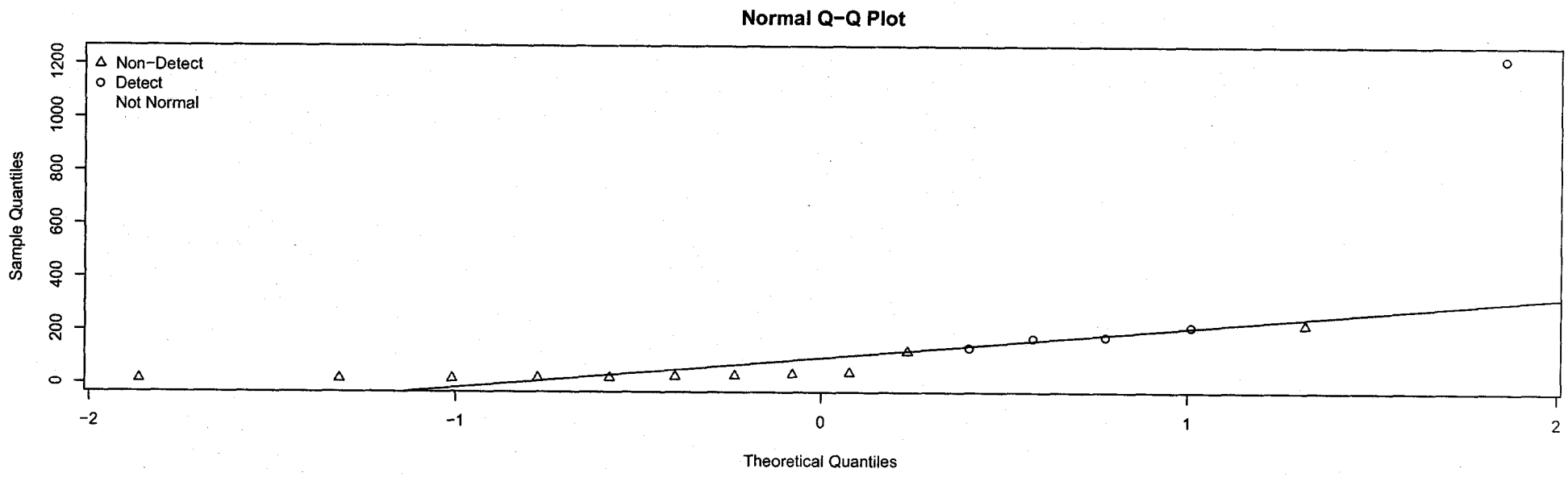


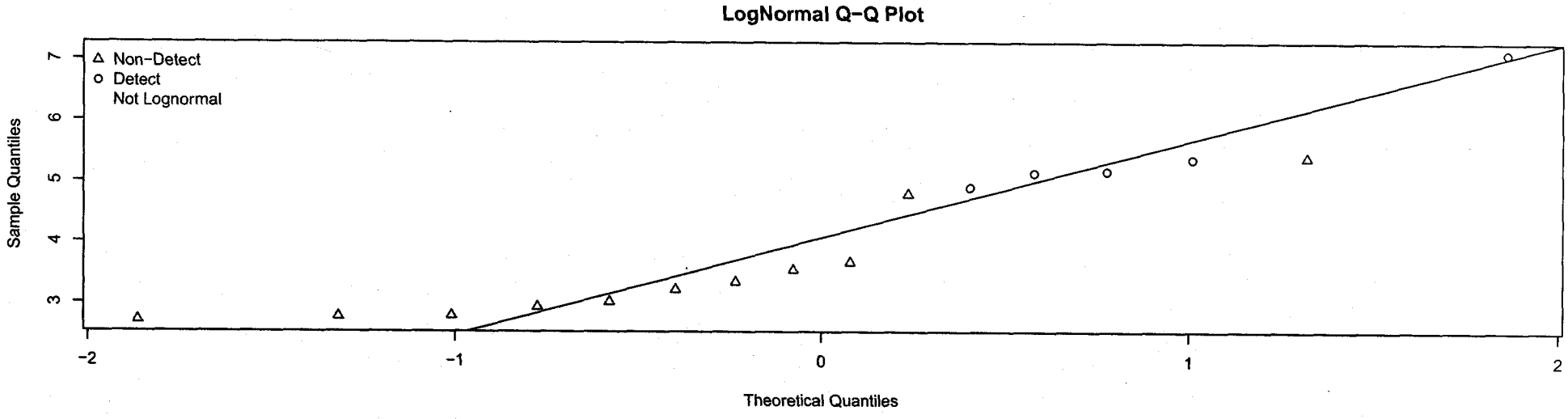
Lower Sand
Fall Groundwater
ZINC



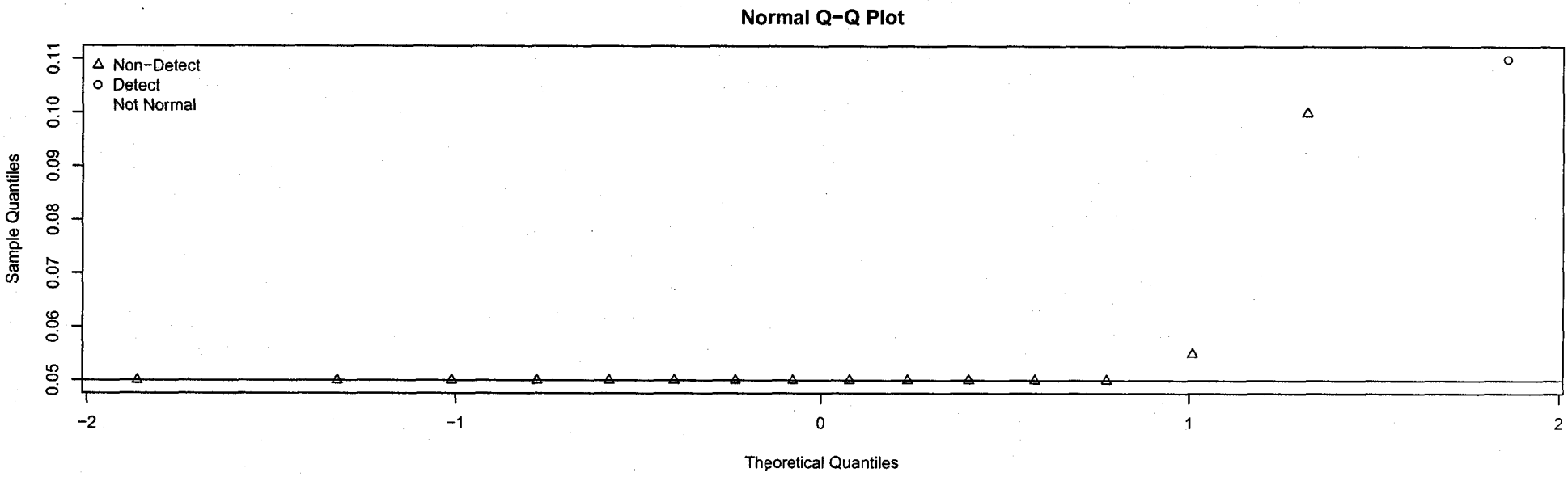


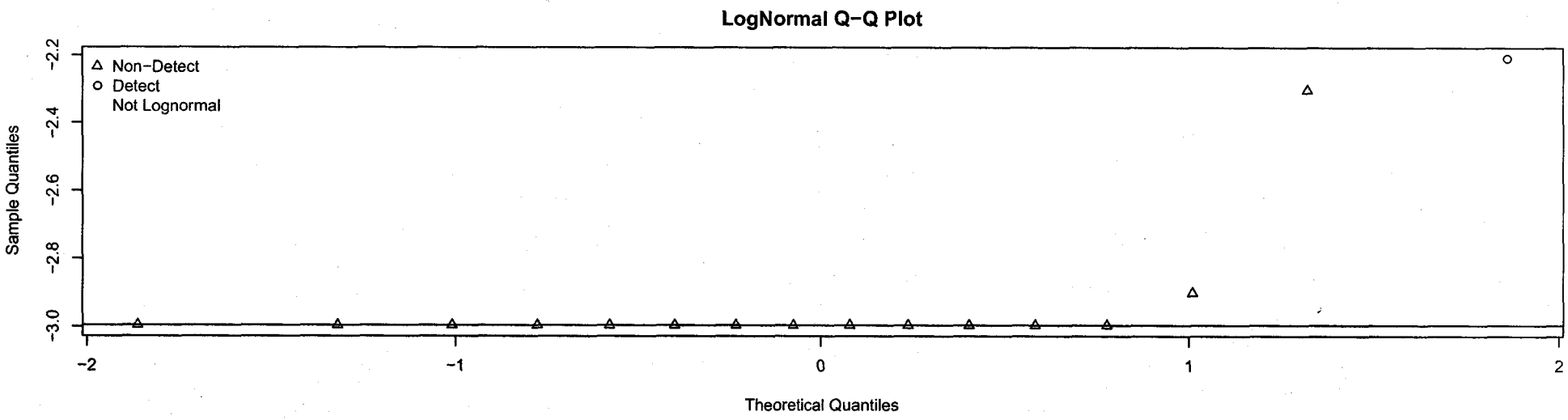
Lower Sand
Spring Groundwater
ALUMINUM



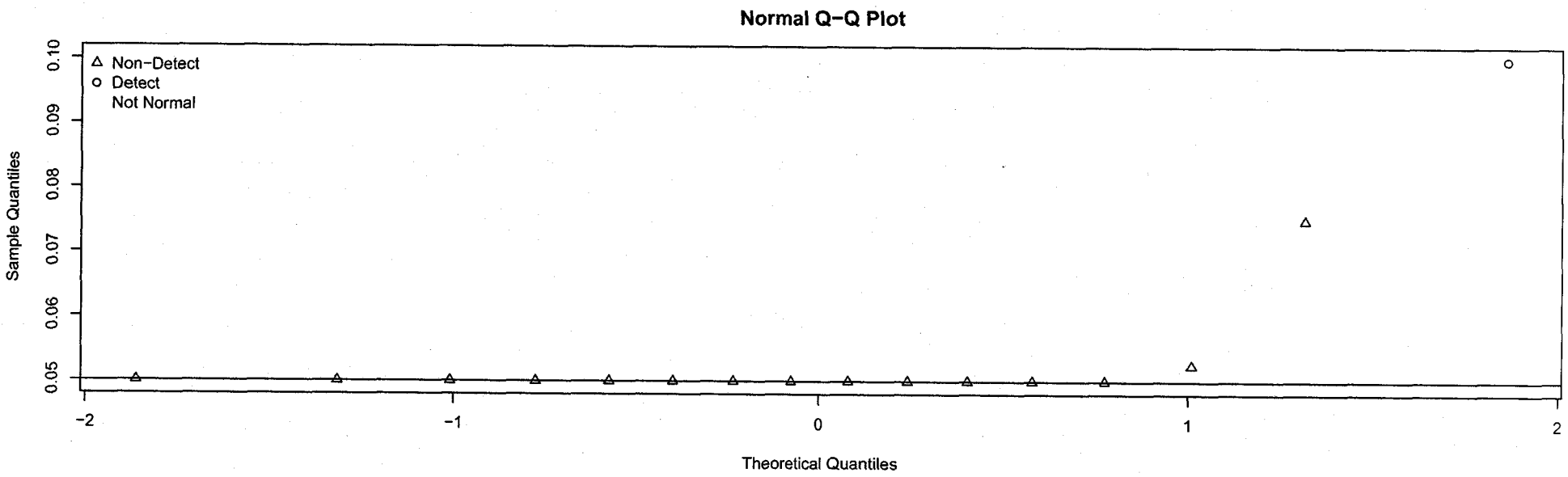


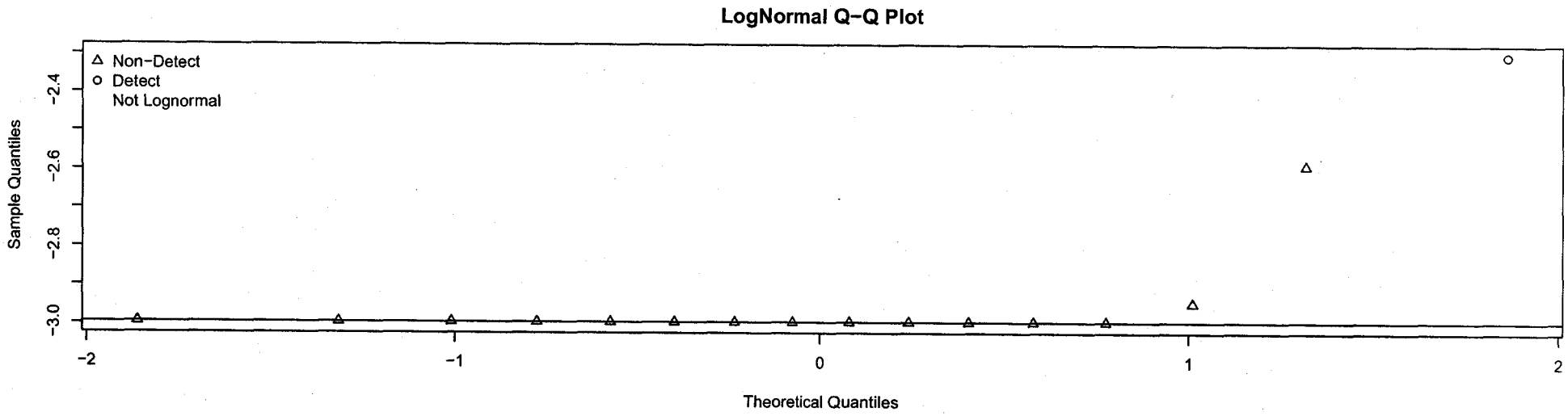
Lower Sand
Spring Groundwater
ANTIMONY



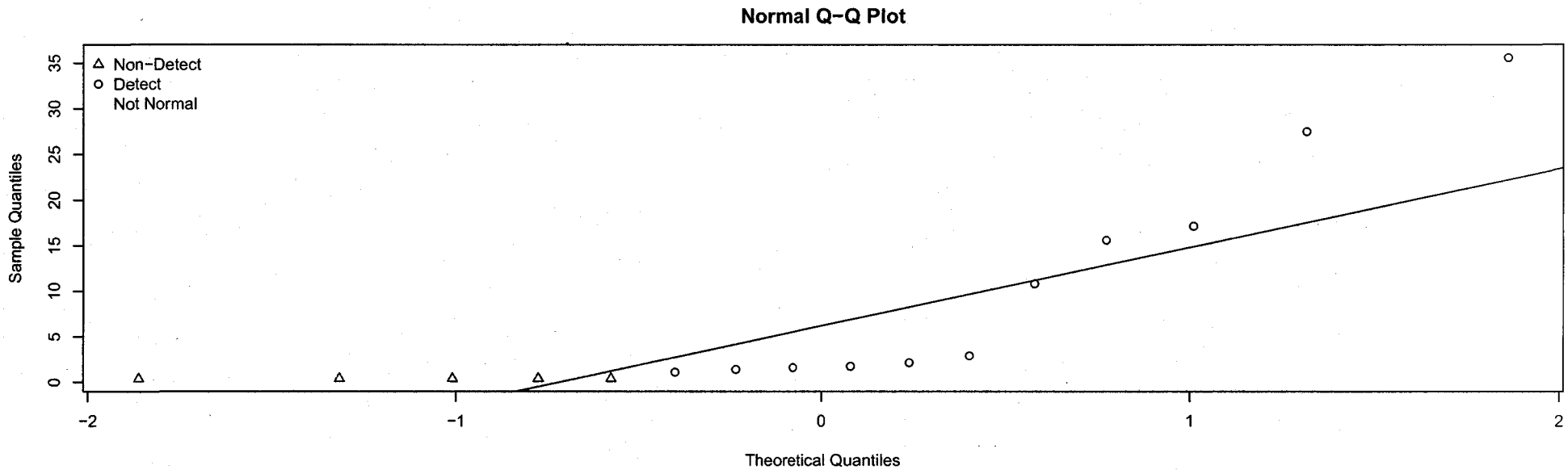


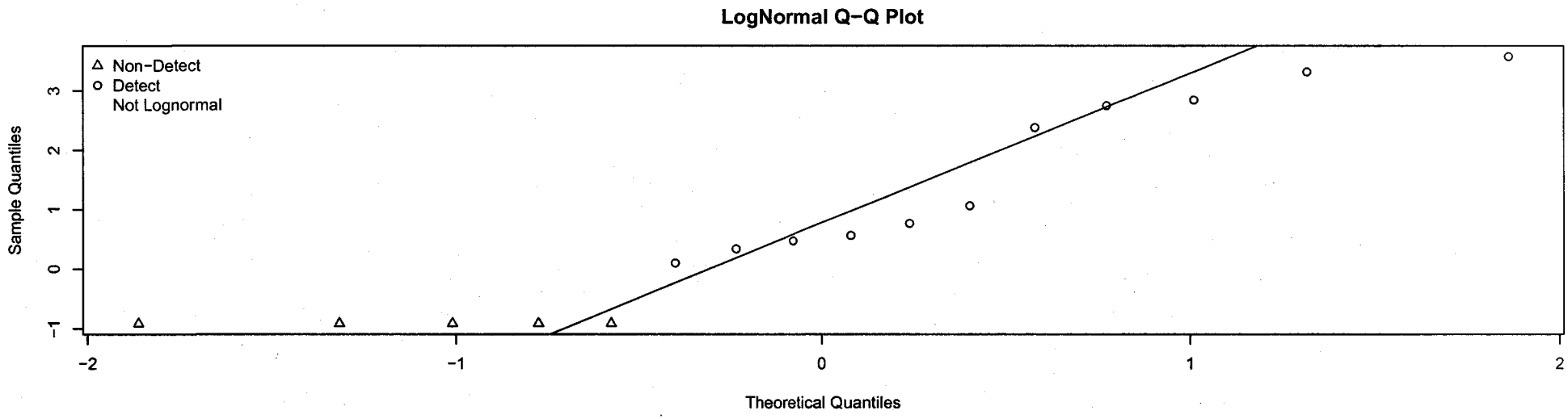
Lower Sand
Spring Groundwater
ANTIMONY



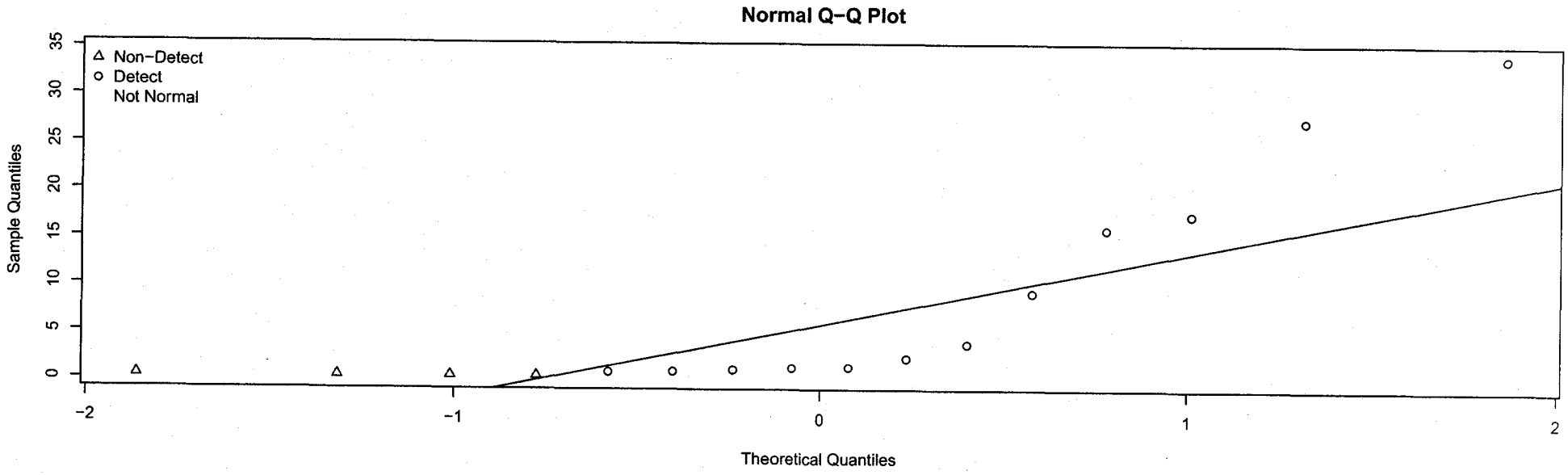


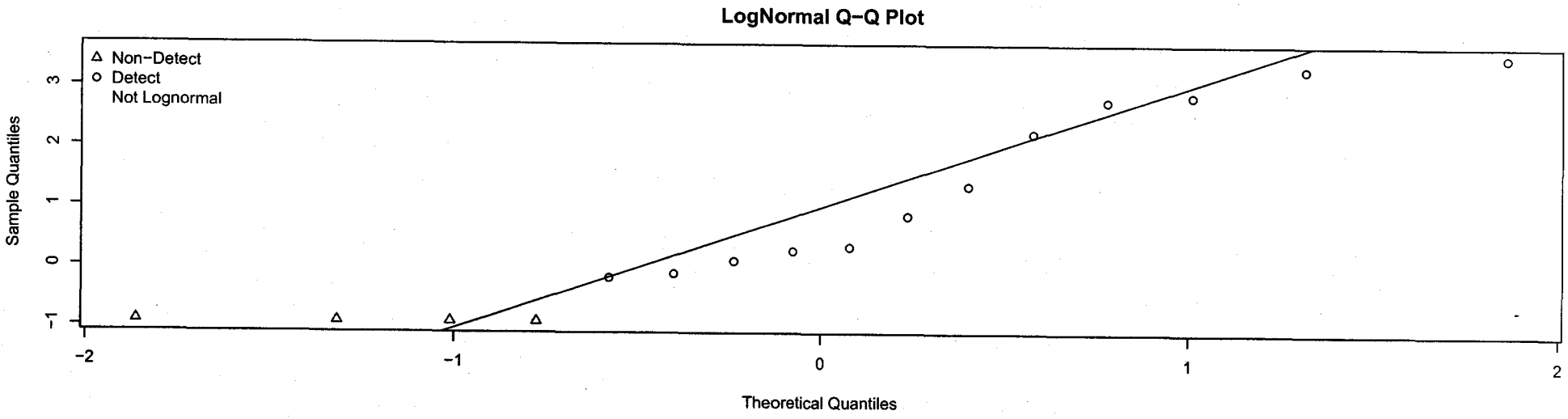
Lower Sand
Spring Groundwater
ARSENIC



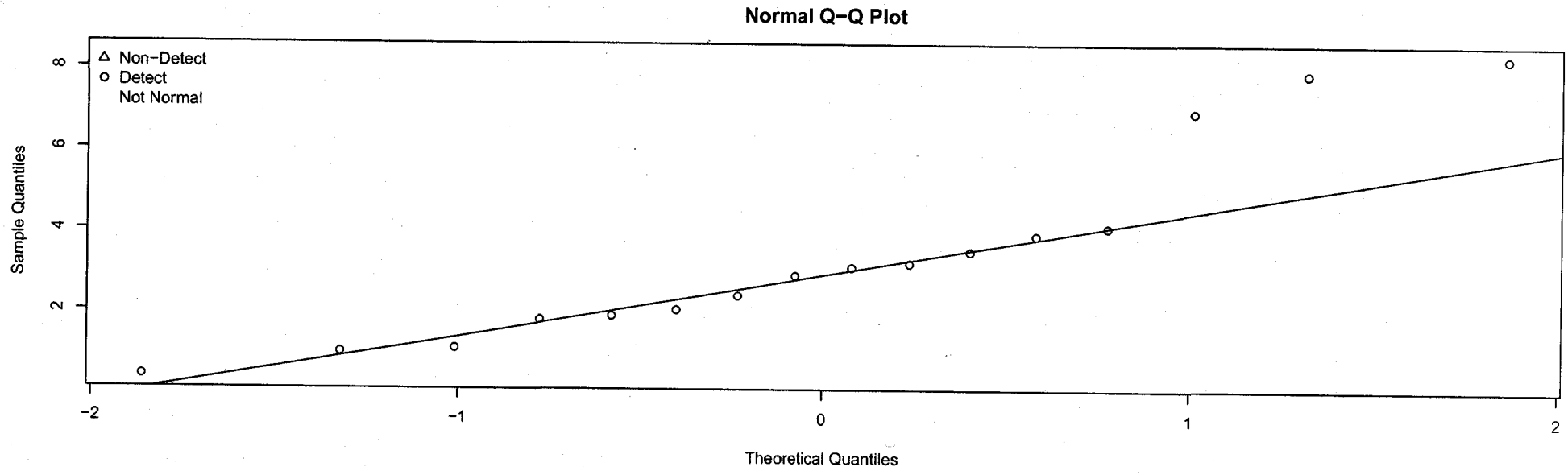


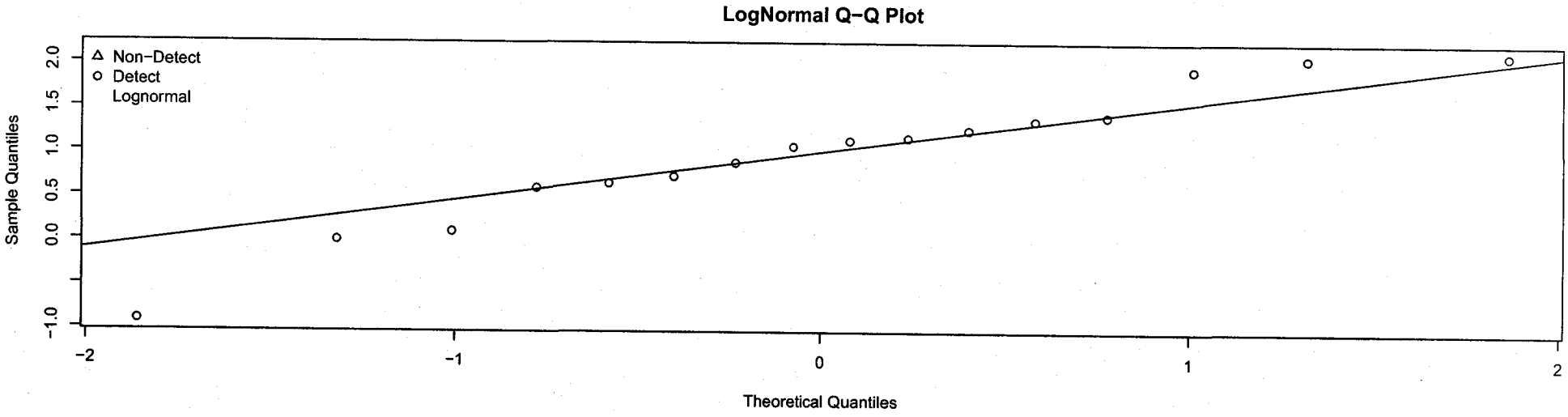
Lower Sand
Spring Groundwater
ARSENIC



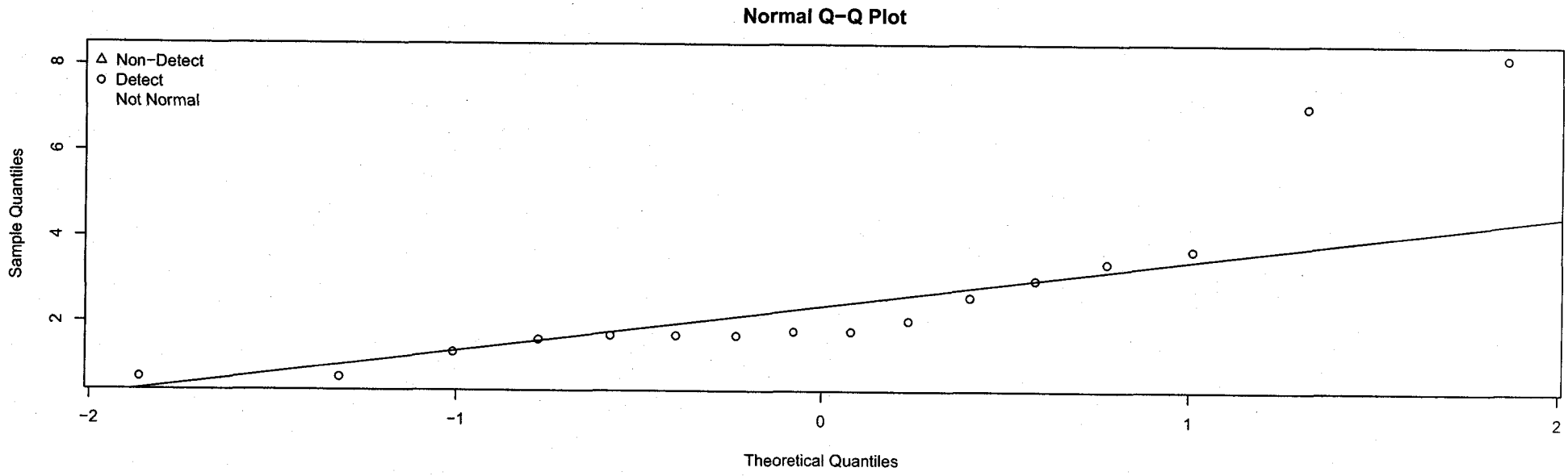


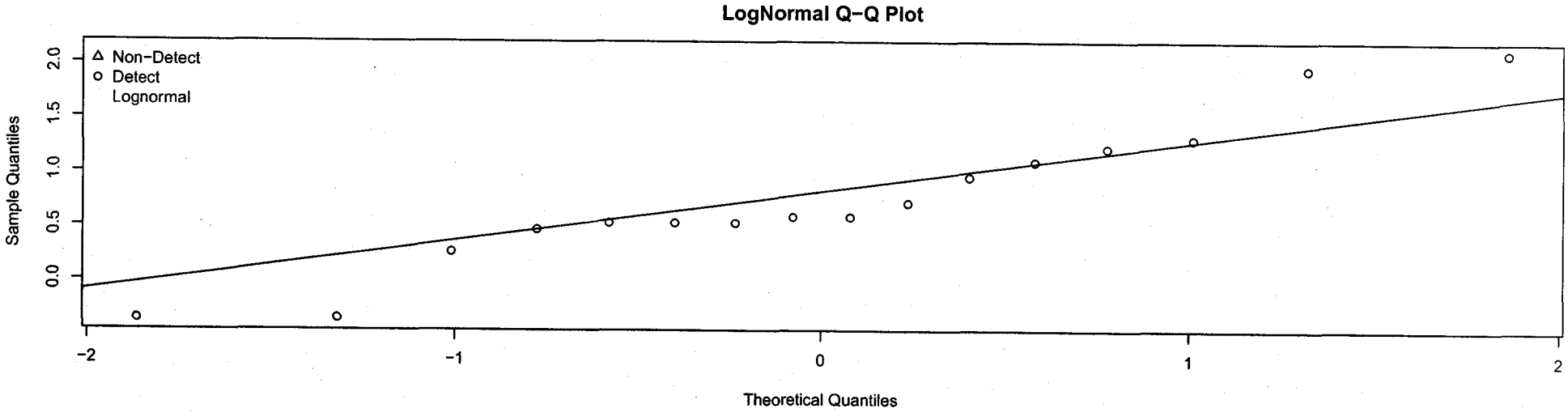
Lower Sand
Spring Groundwater
BARIUM



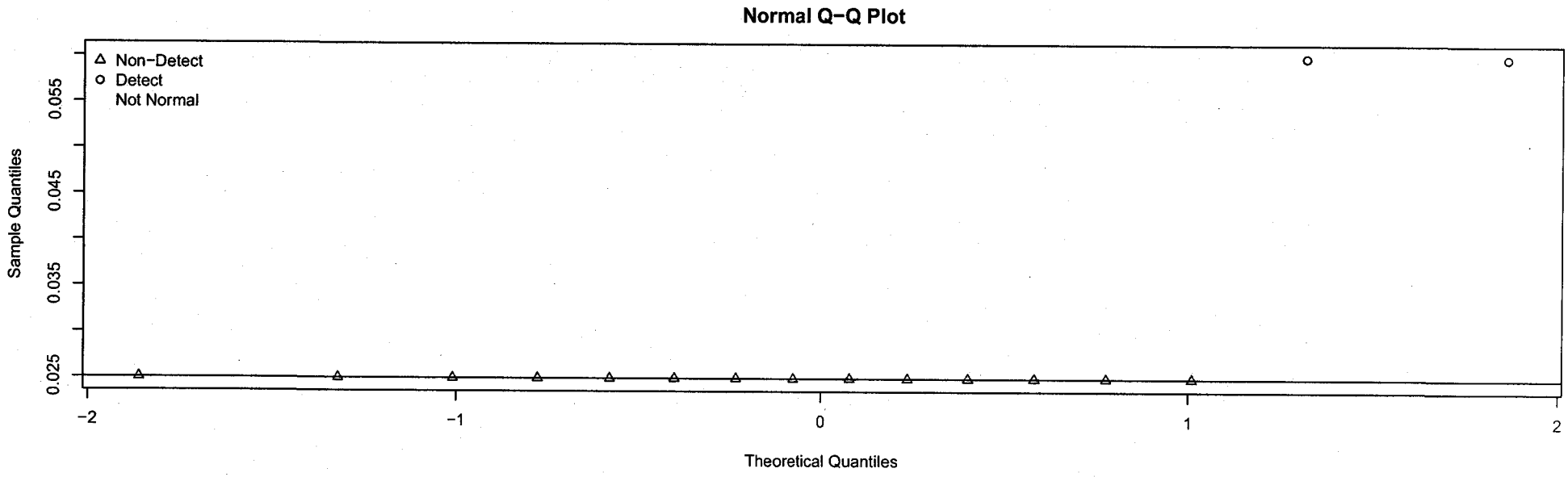


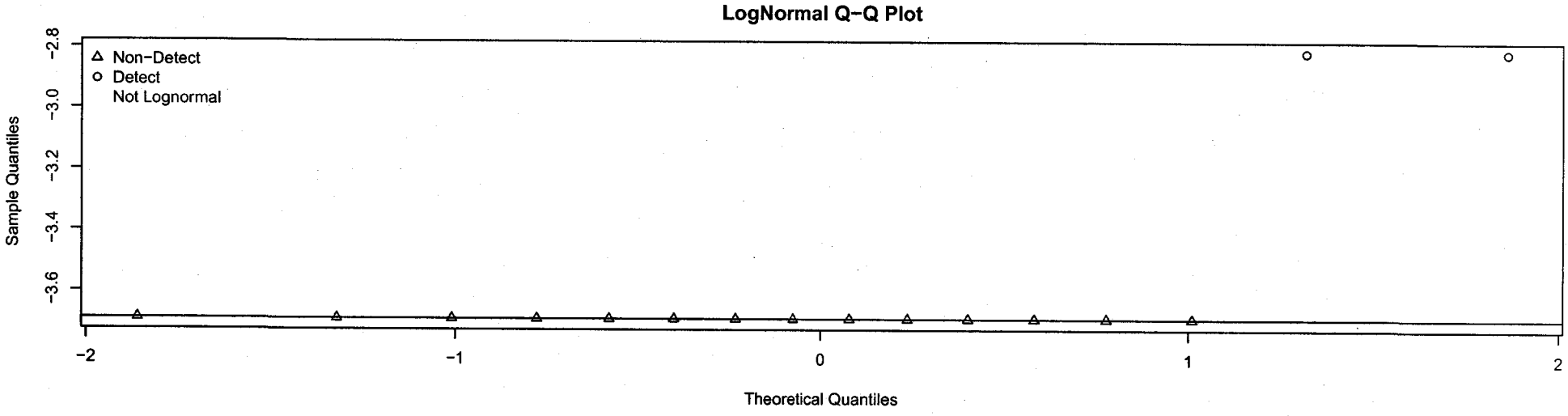
Lower Sand
Spring Groundwater
BARIUM



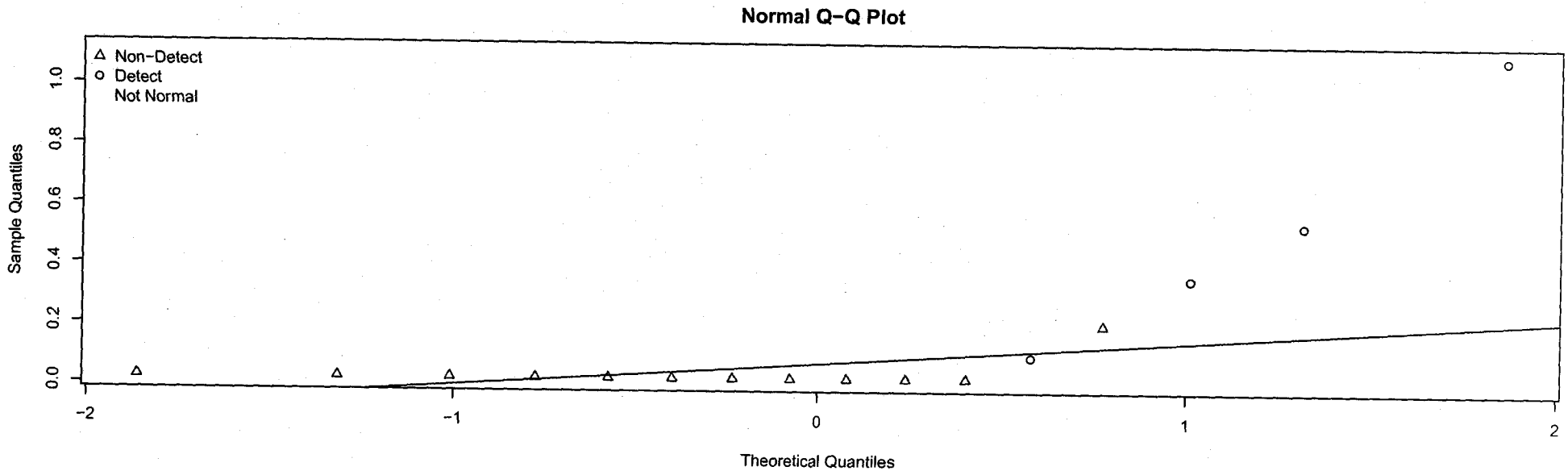


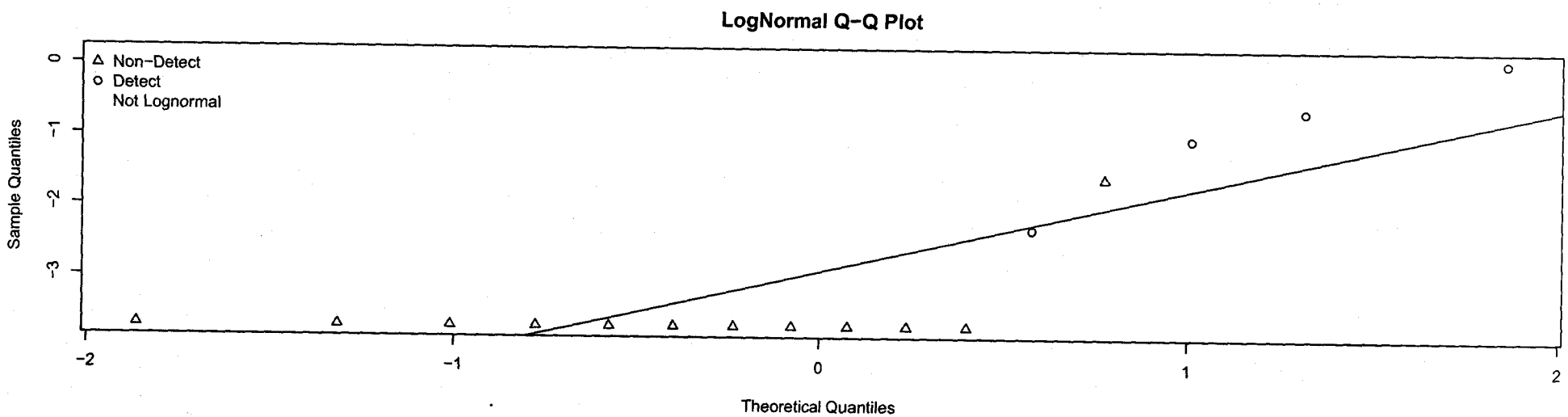
Lower Sand
Spring Groundwater
BERYLLIUM



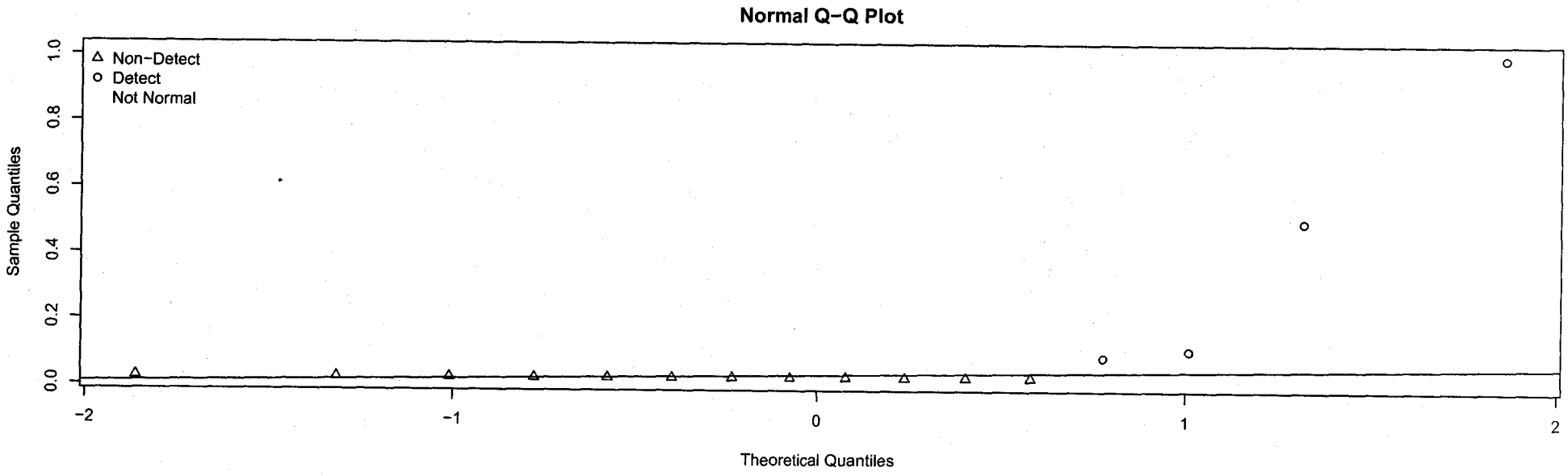


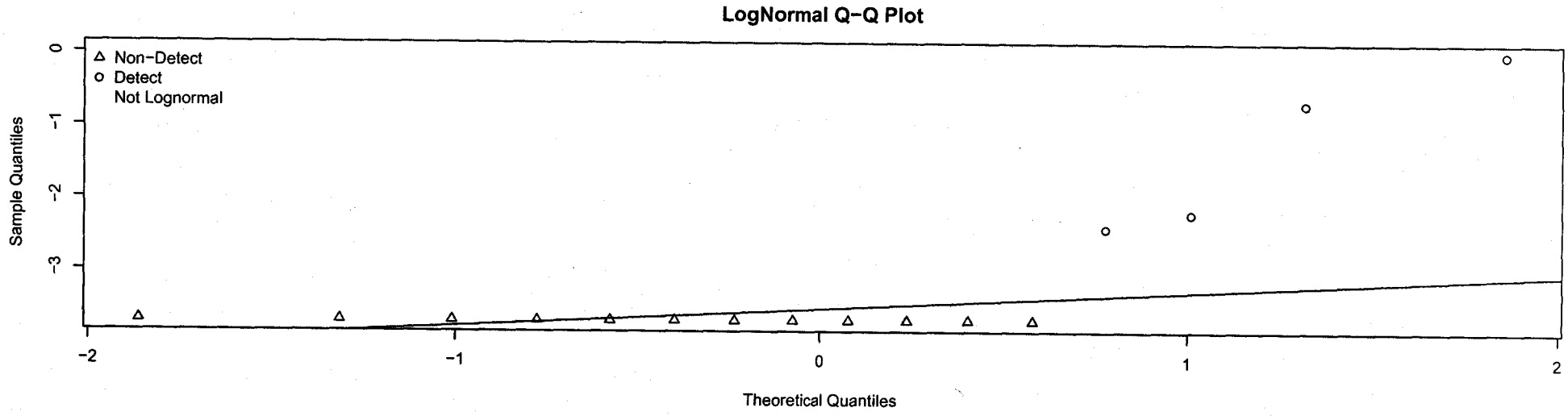
Lower Sand
Spring Groundwater
CADMIUM



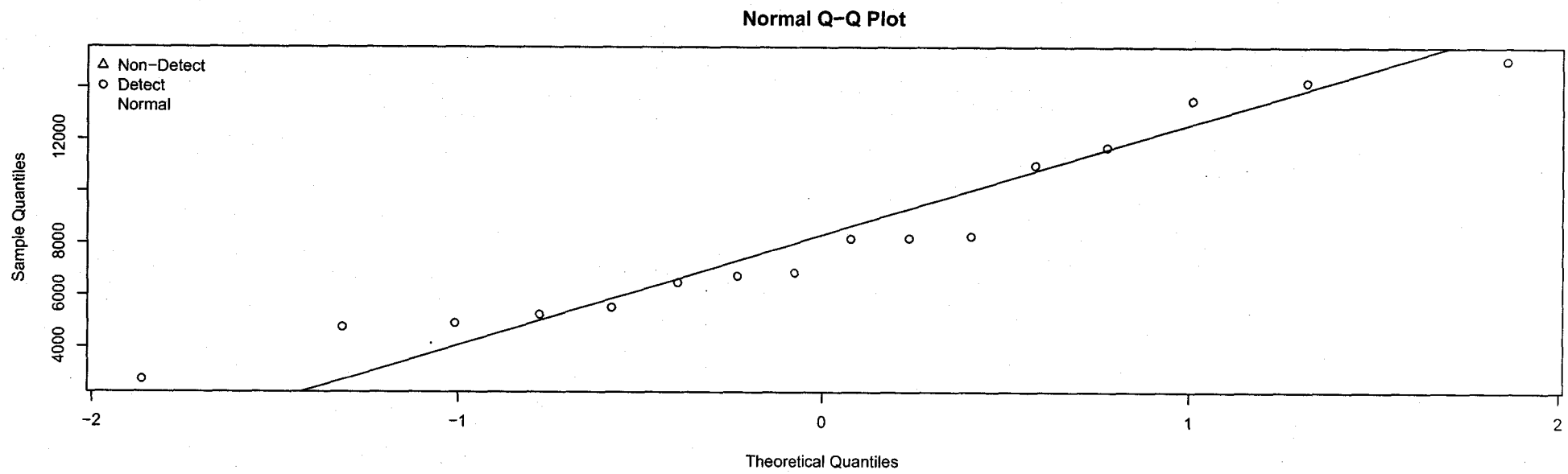


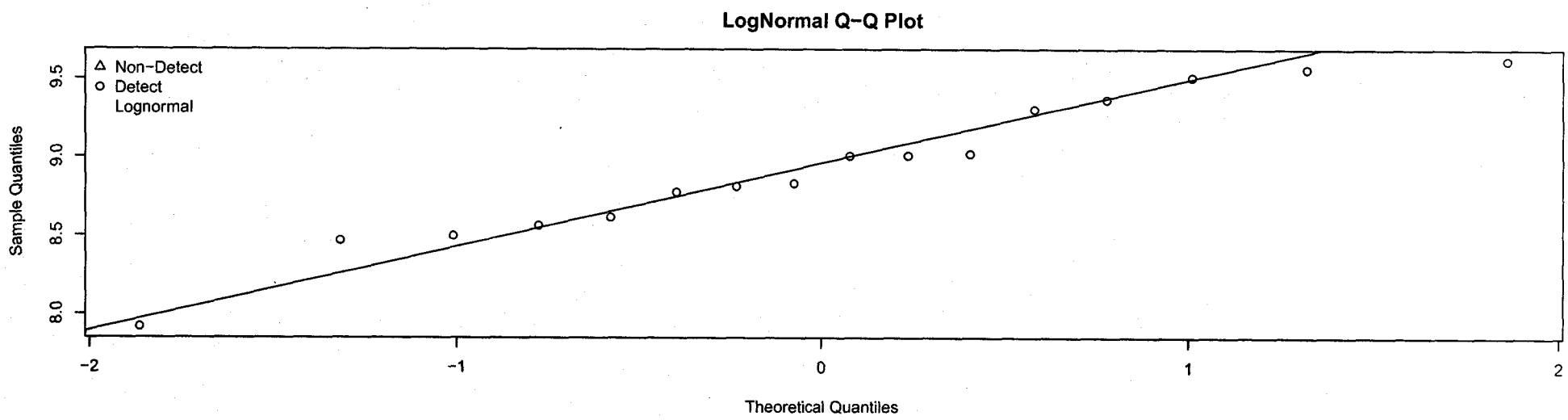
Lower Sand
Spring Groundwater
CADMIUM



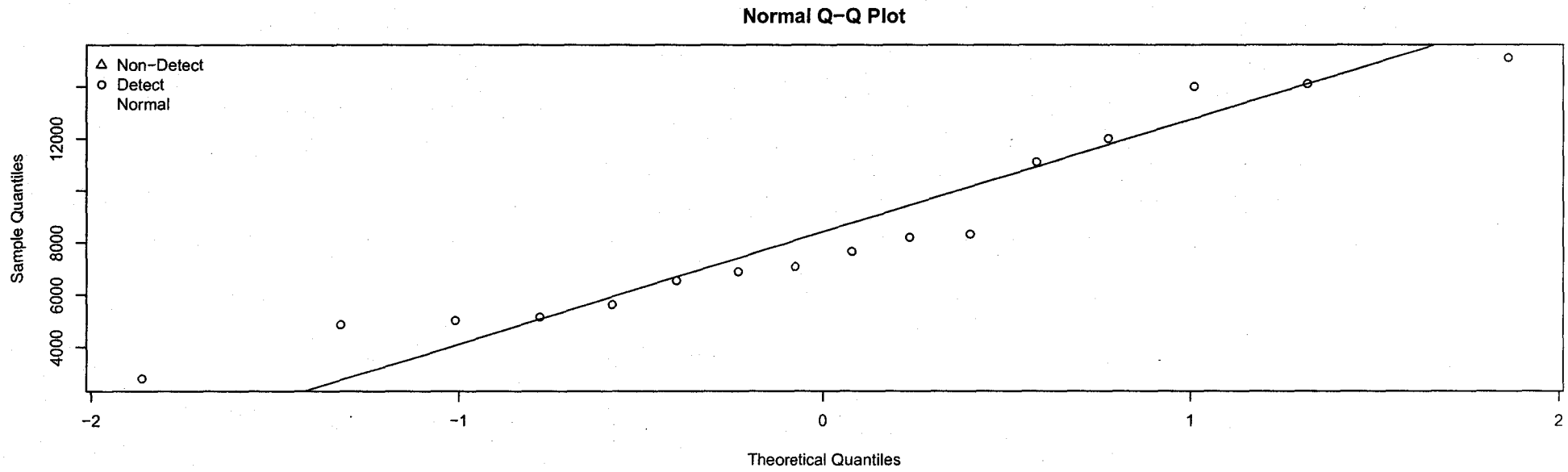


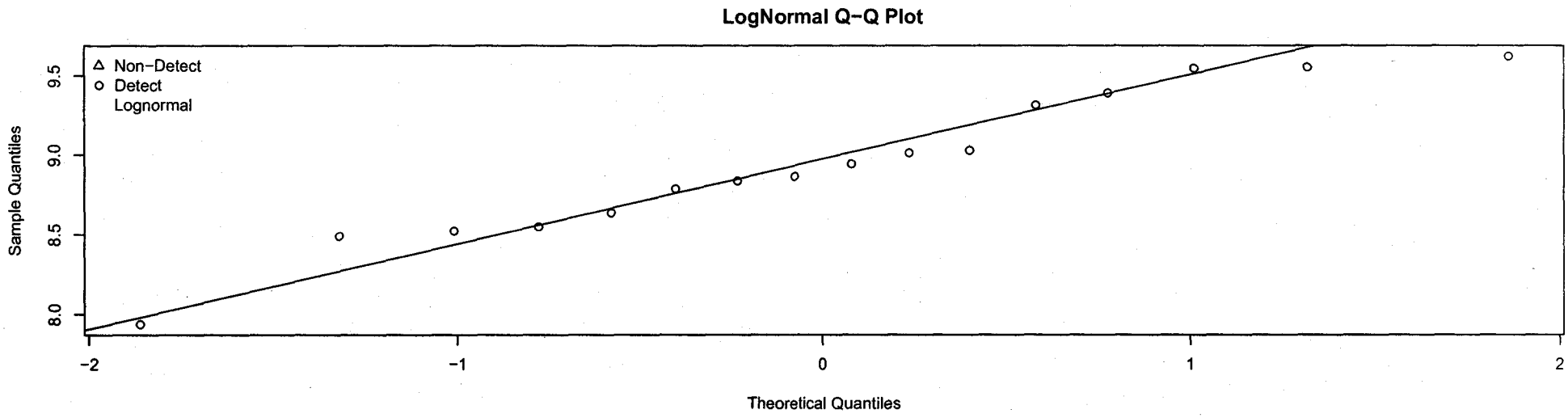
Lower Sand
Spring Groundwater
CALCIUM



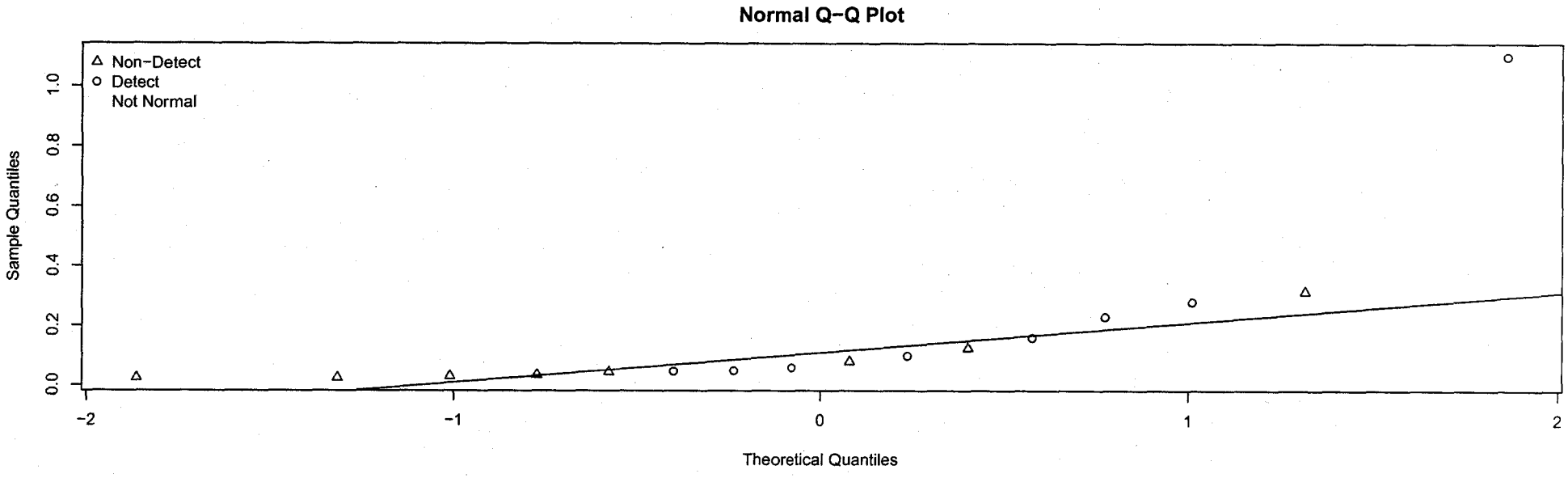


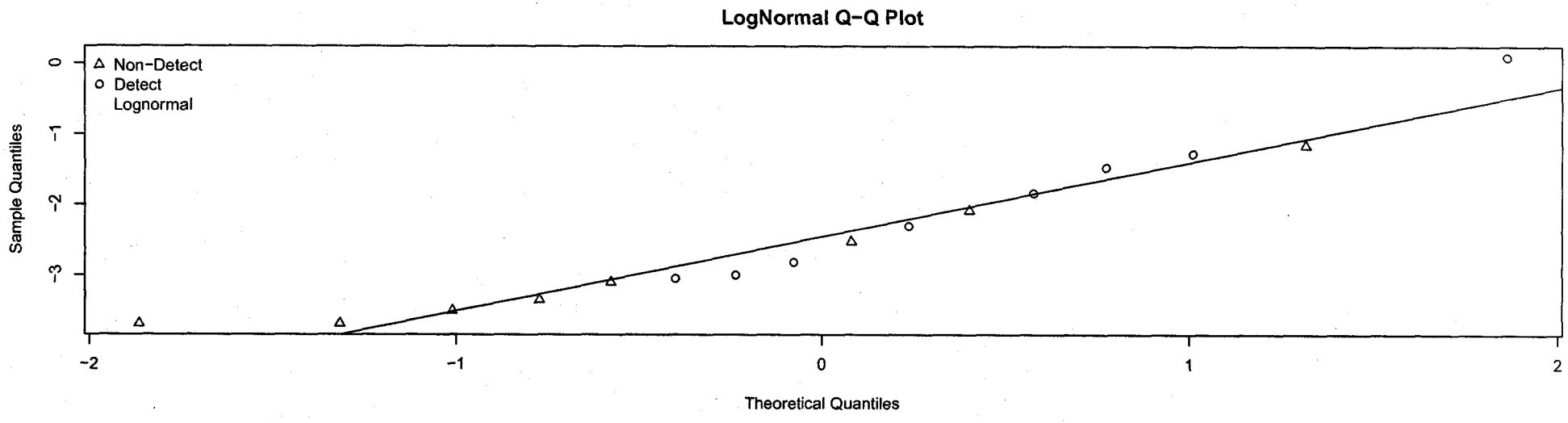
Lower Sand
Spring Groundwater
CALCIUM



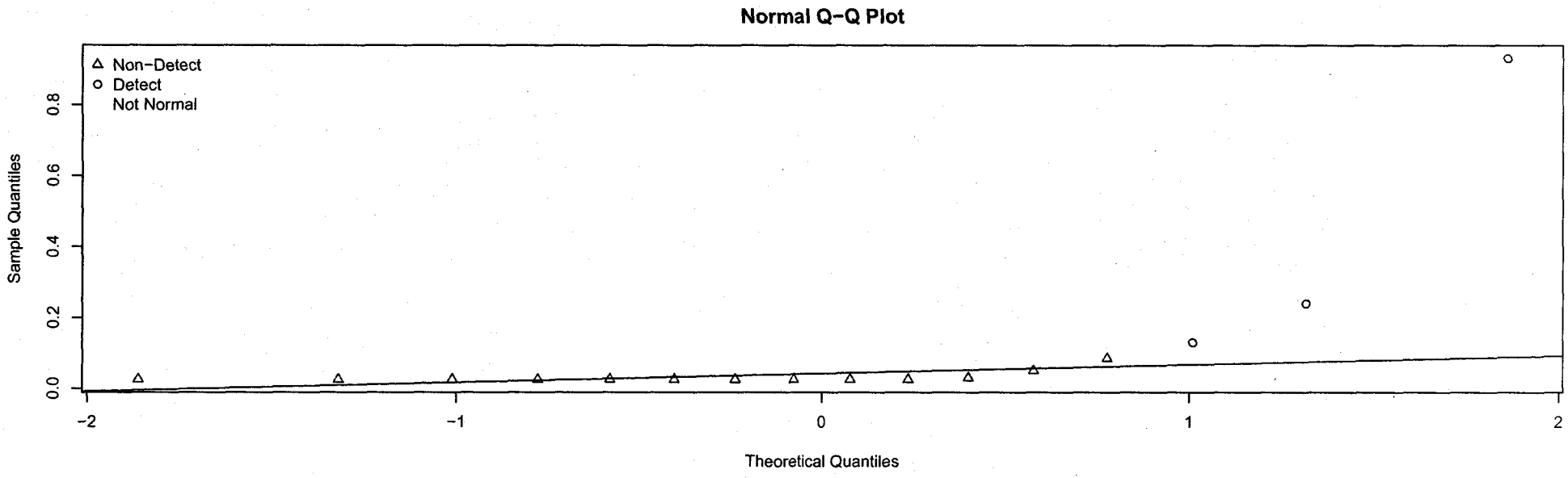


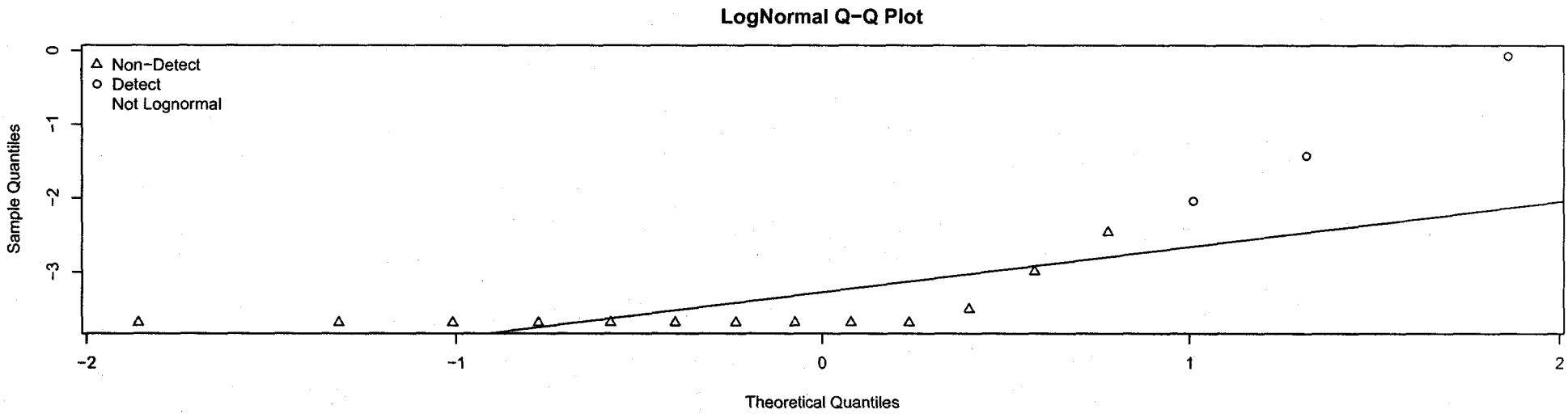
Lower Sand
Spring Groundwater
COBALT



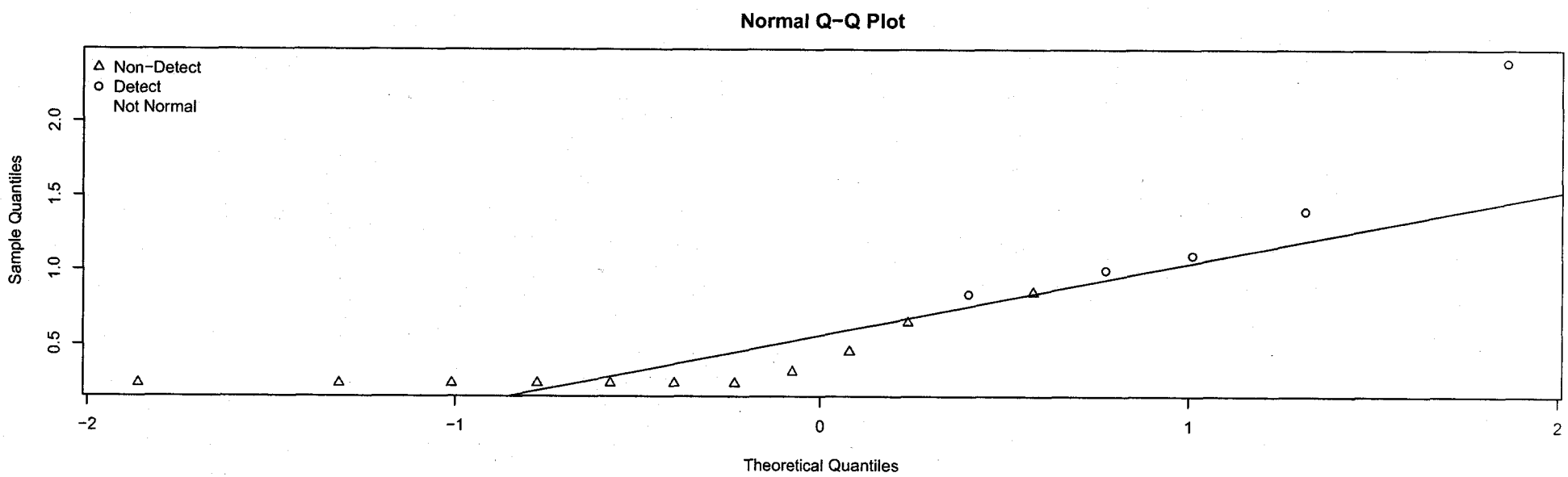


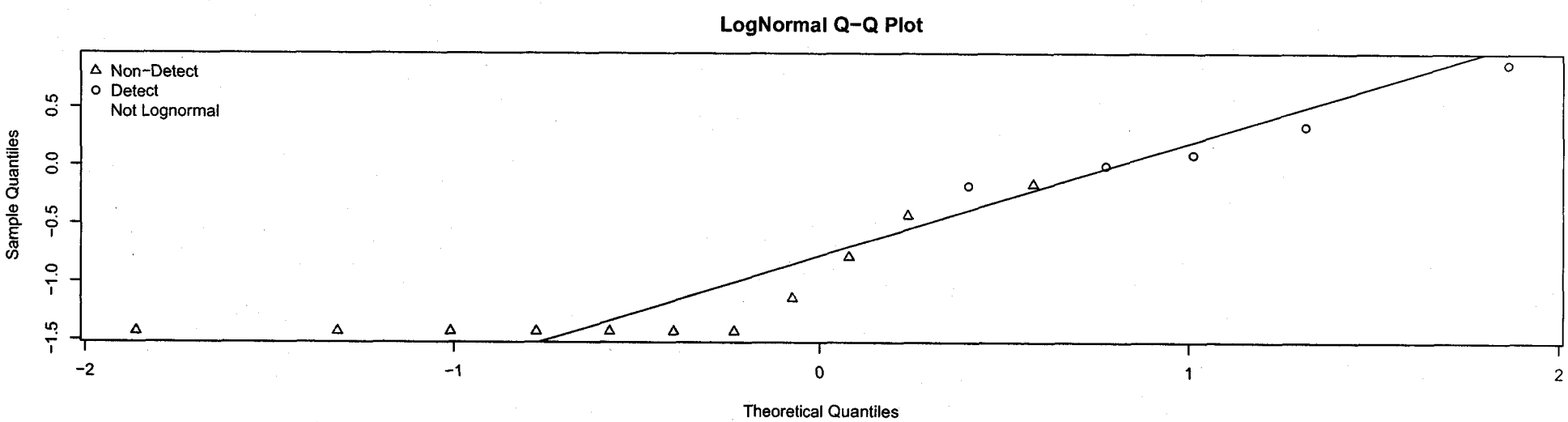
Lower Sand
Spring Groundwater
COBALT



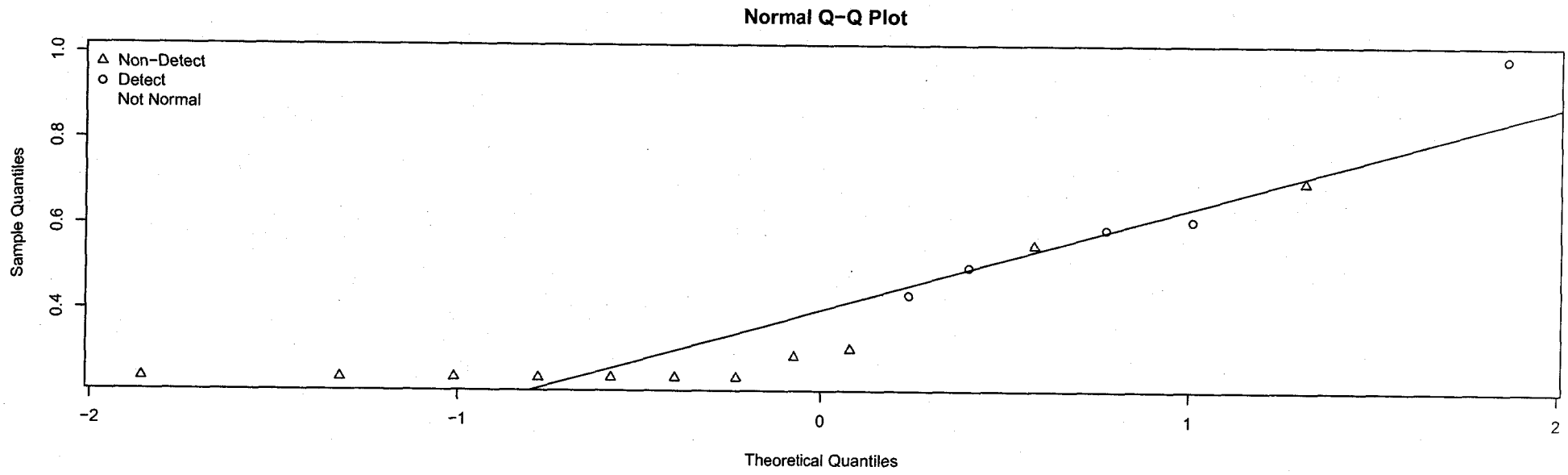


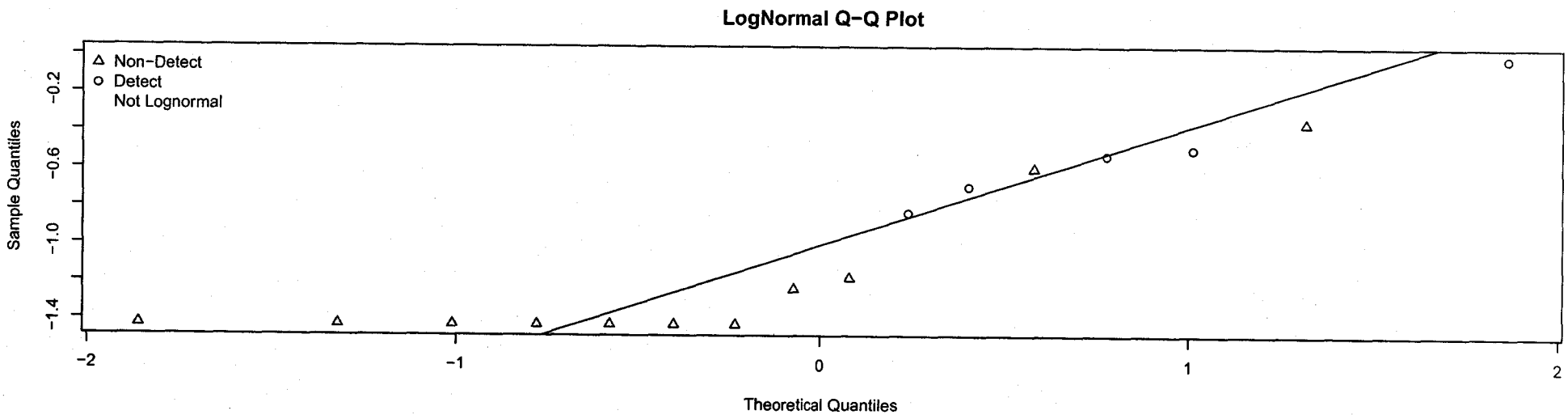
Lower Sand
Spring Groundwater
COPPER



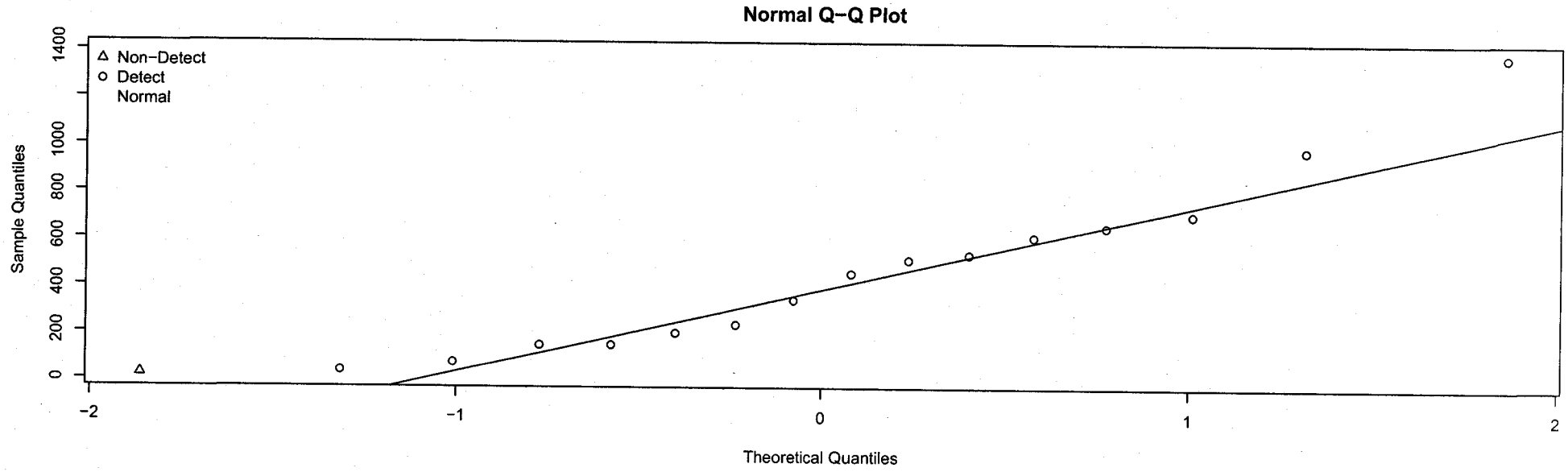


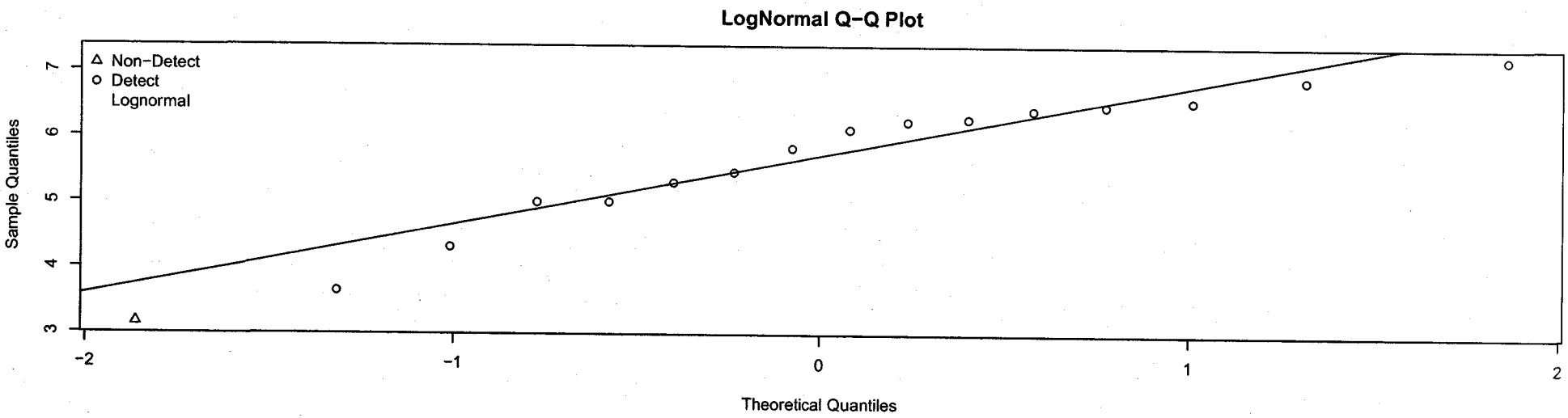
Lower Sand
Spring Groundwater
COPPER



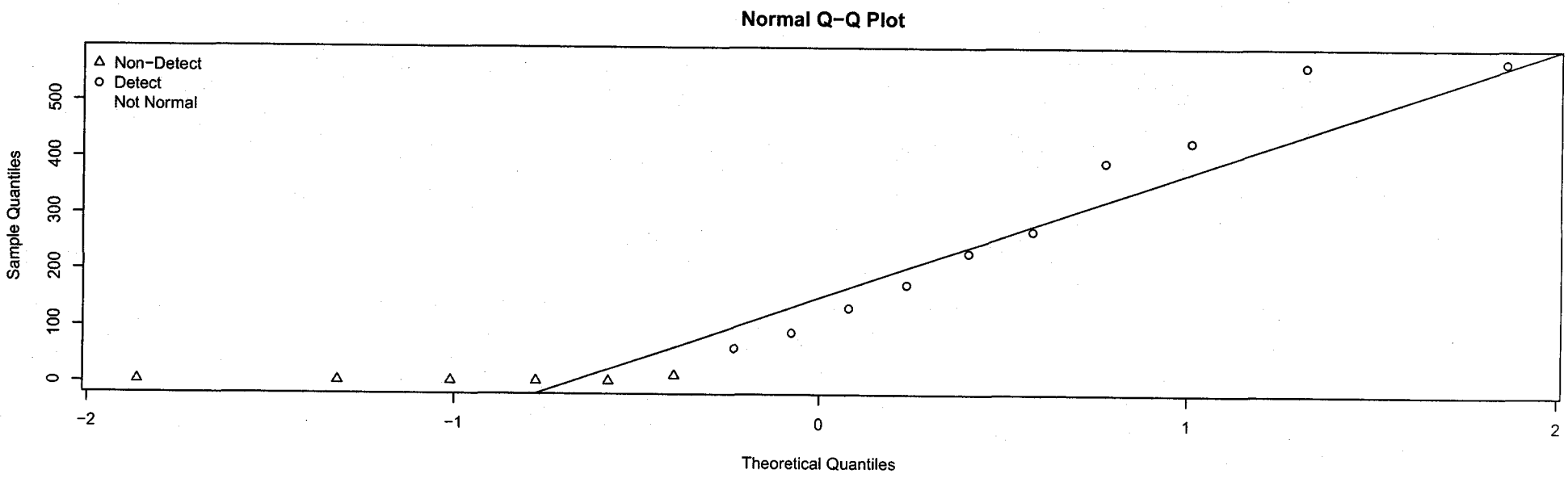


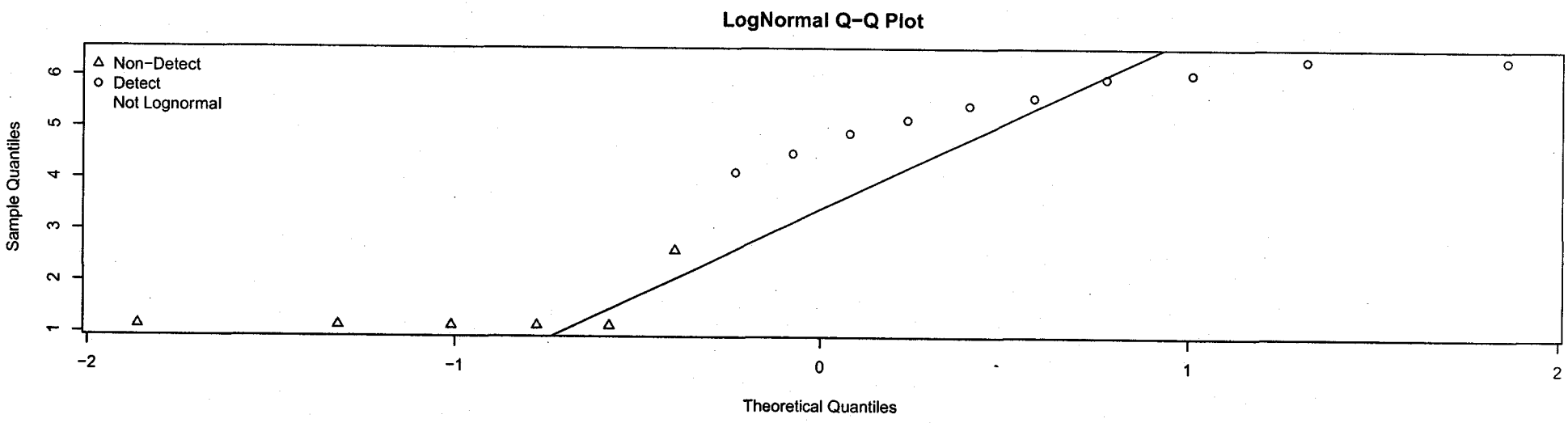
Lower Sand
Spring Groundwater
IRON



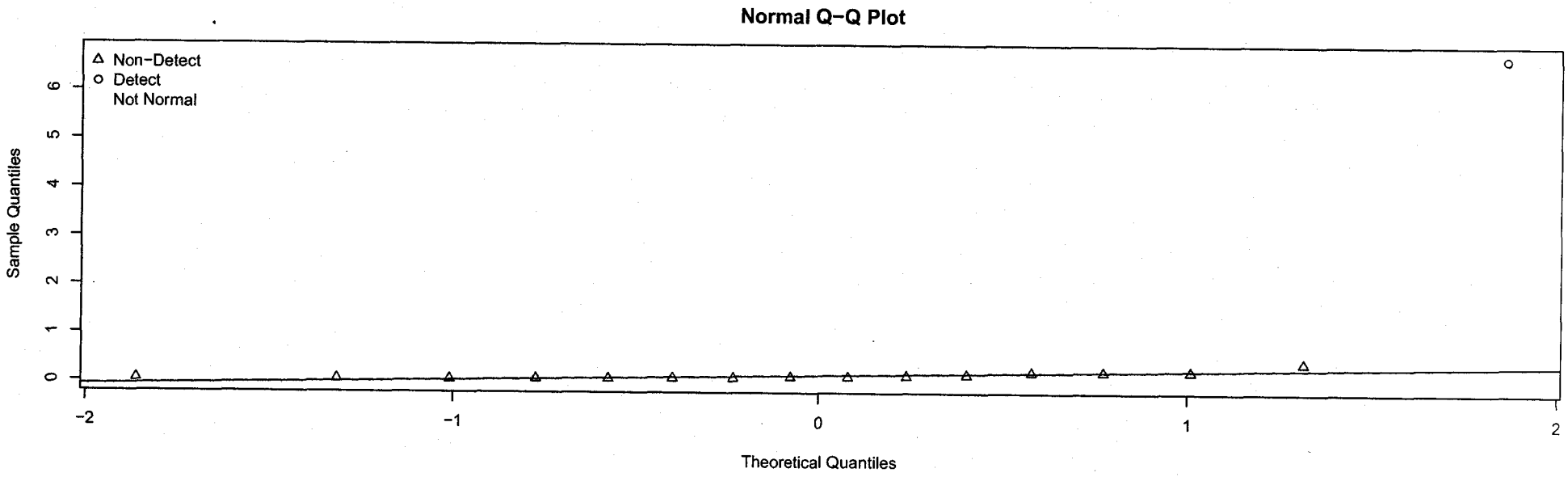


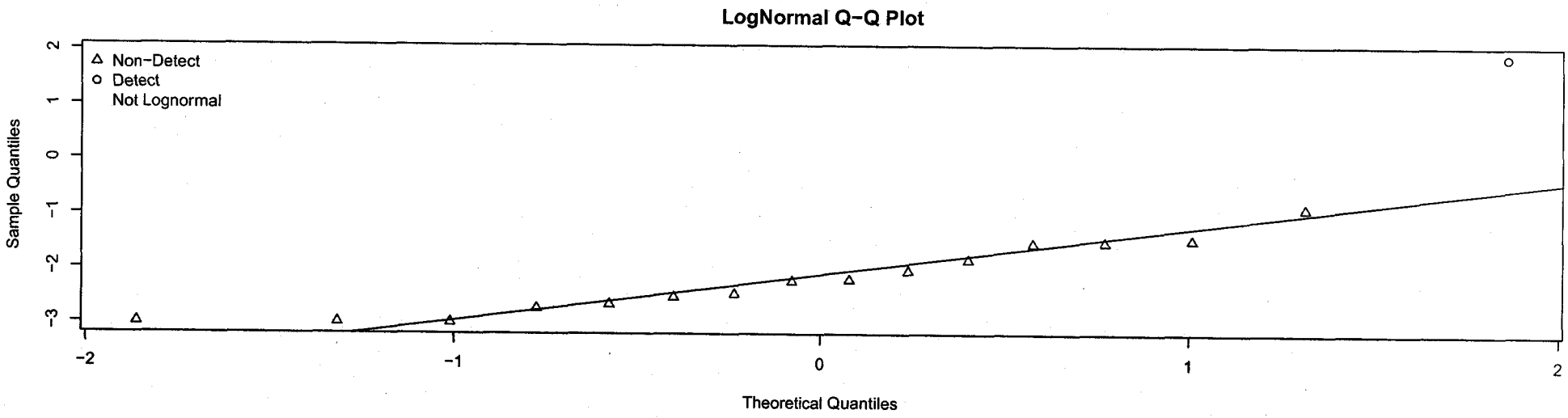
Lower Sand
Spring Groundwater
IRON



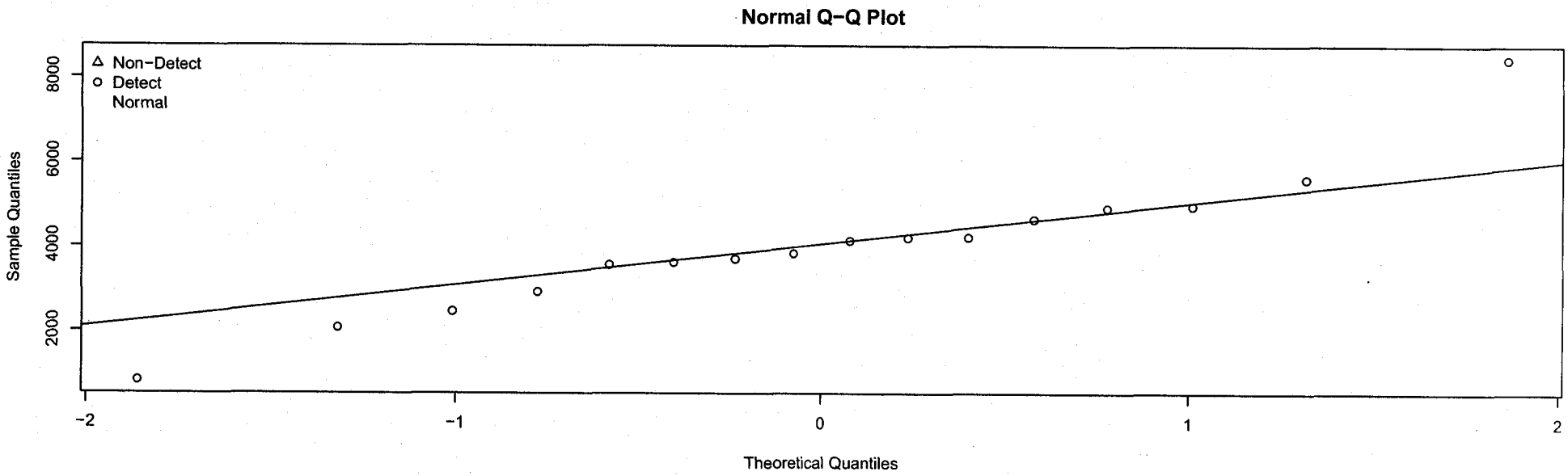


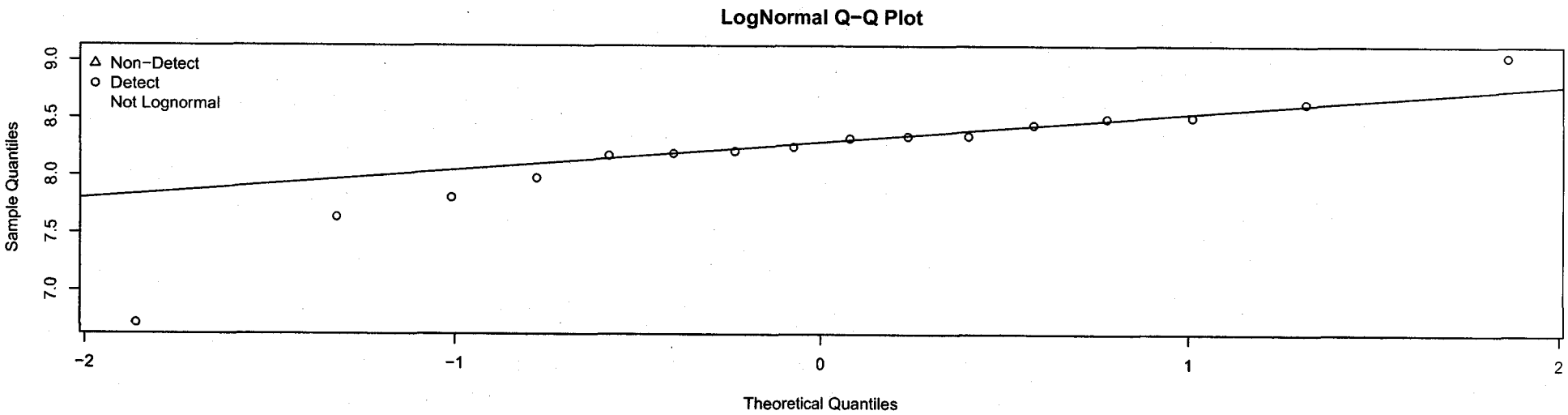
Lower Sand
Spring Groundwater
LEAD



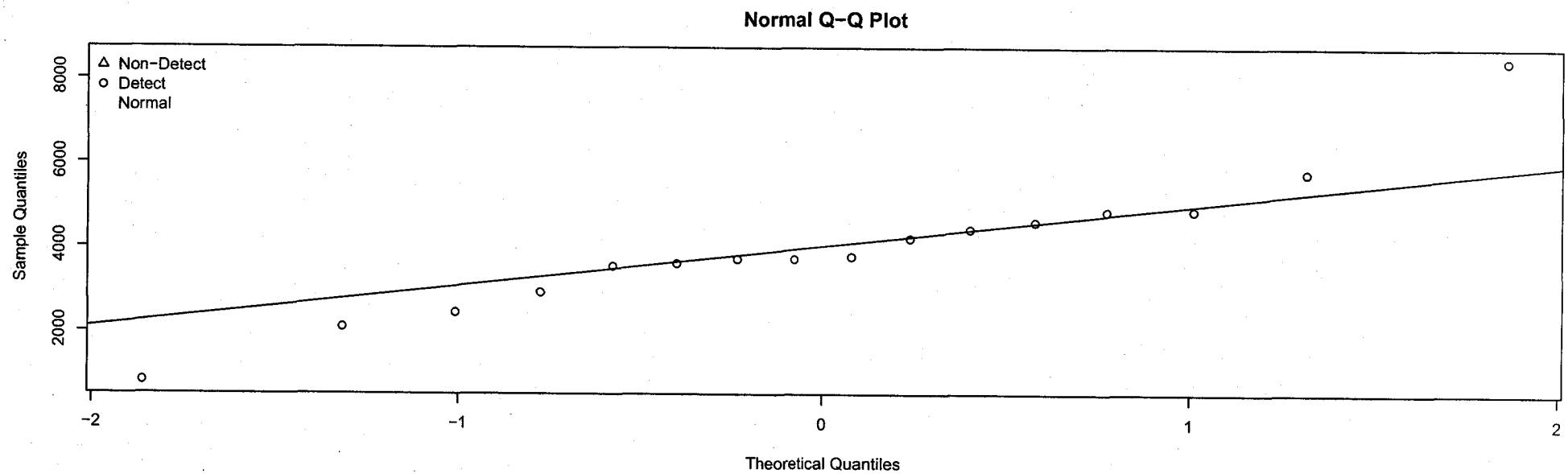


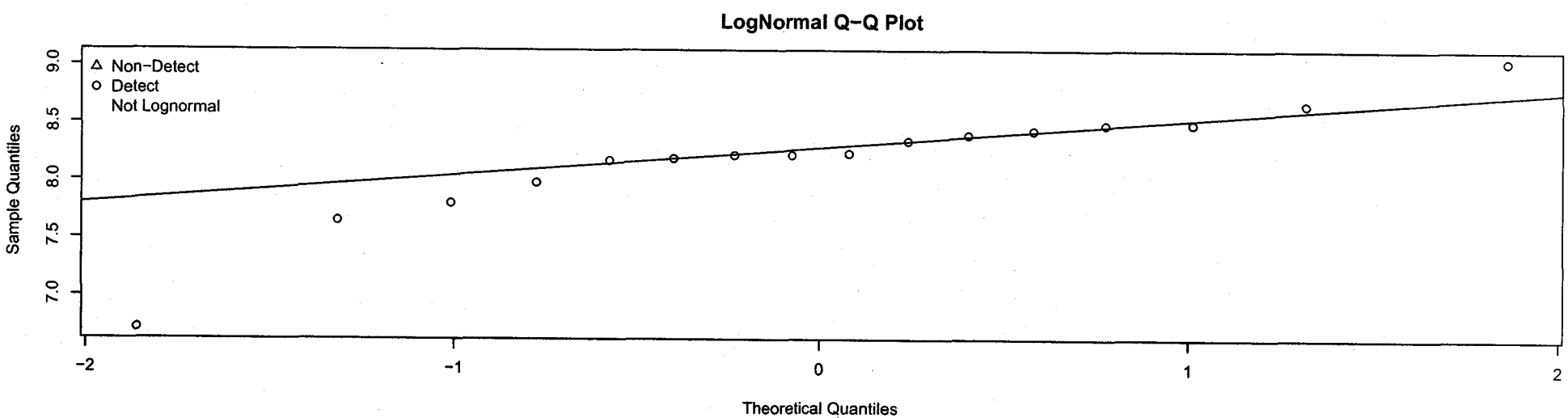
Lower Sand
Spring Groundwater
MAGNESIUM



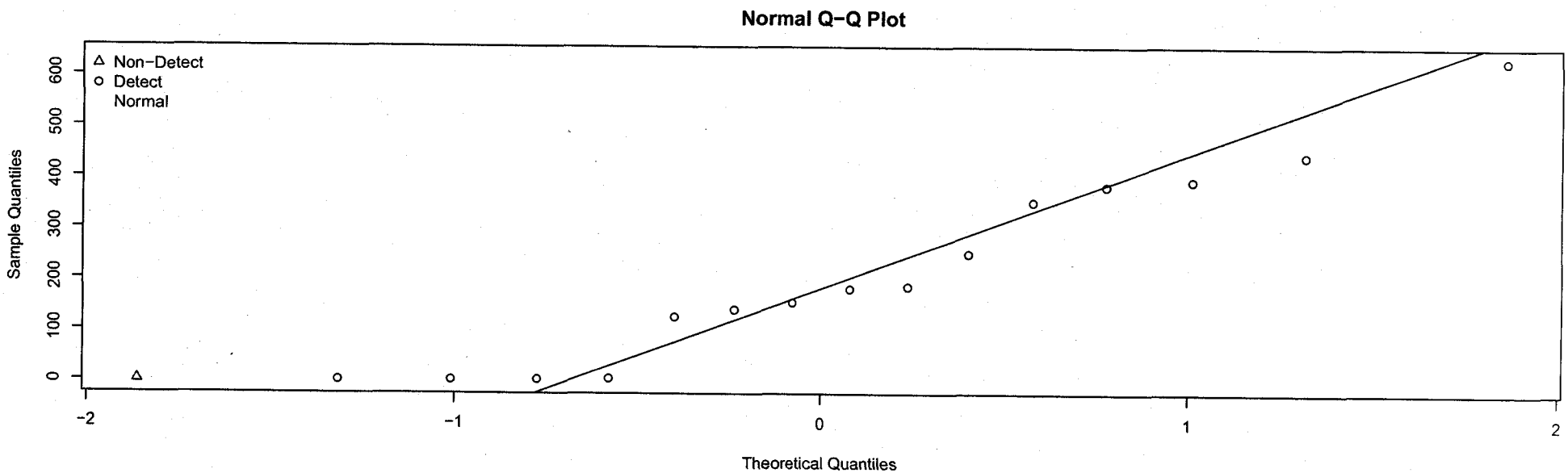


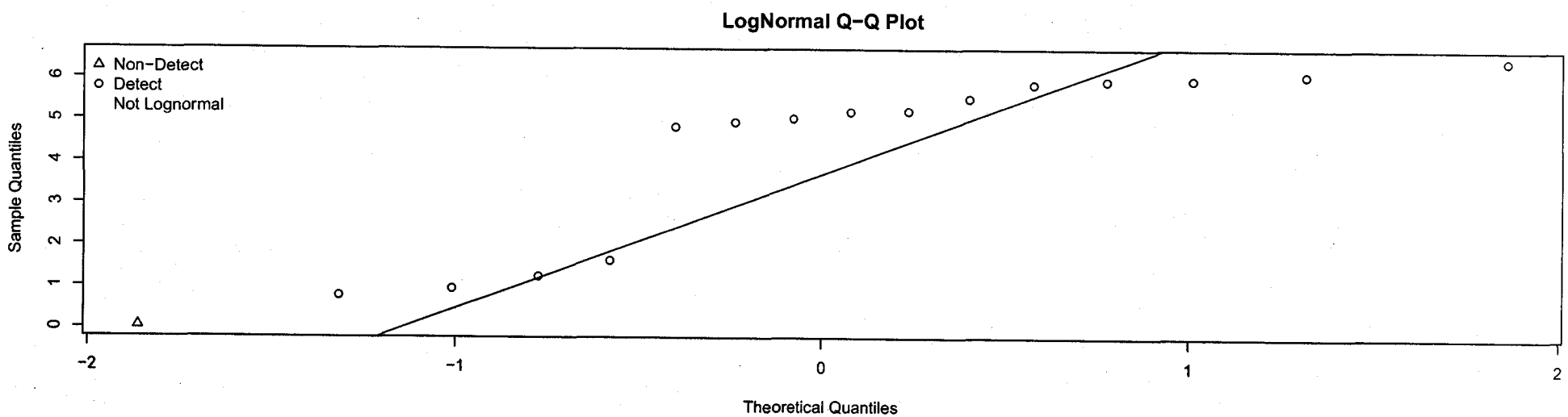
Lower Sand
Spring Groundwater
MAGNESIUM



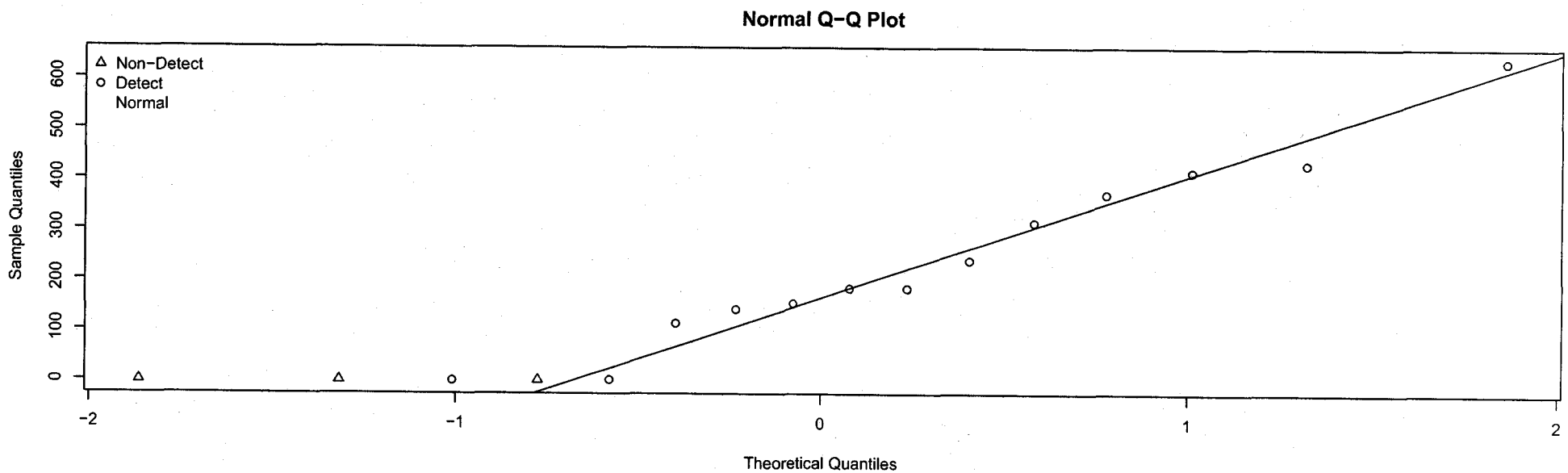


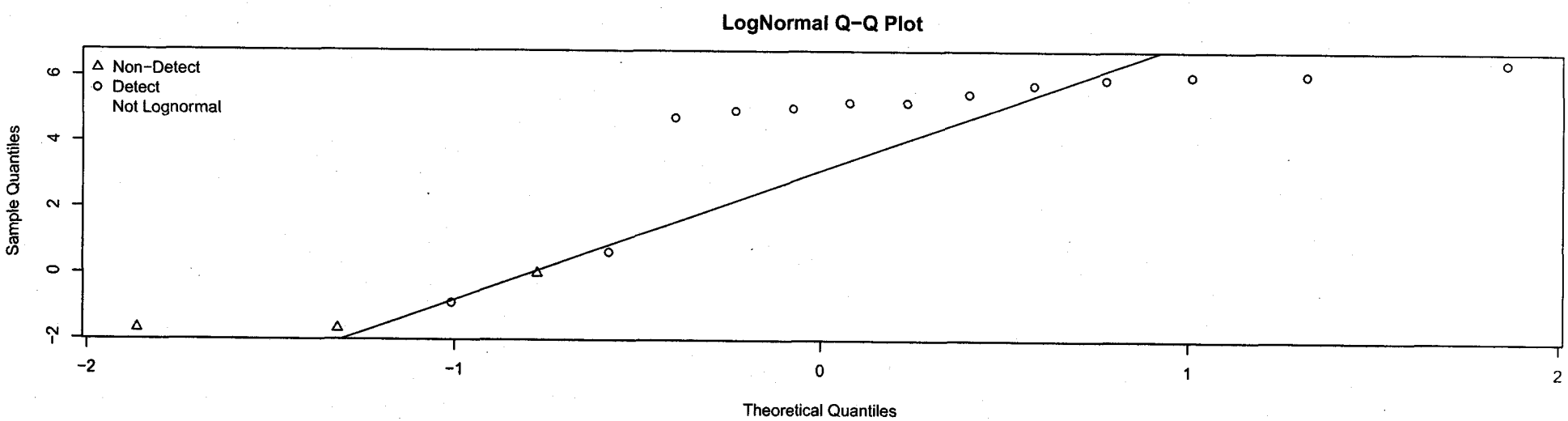
Lower Sand
Spring Groundwater
MANGANESE



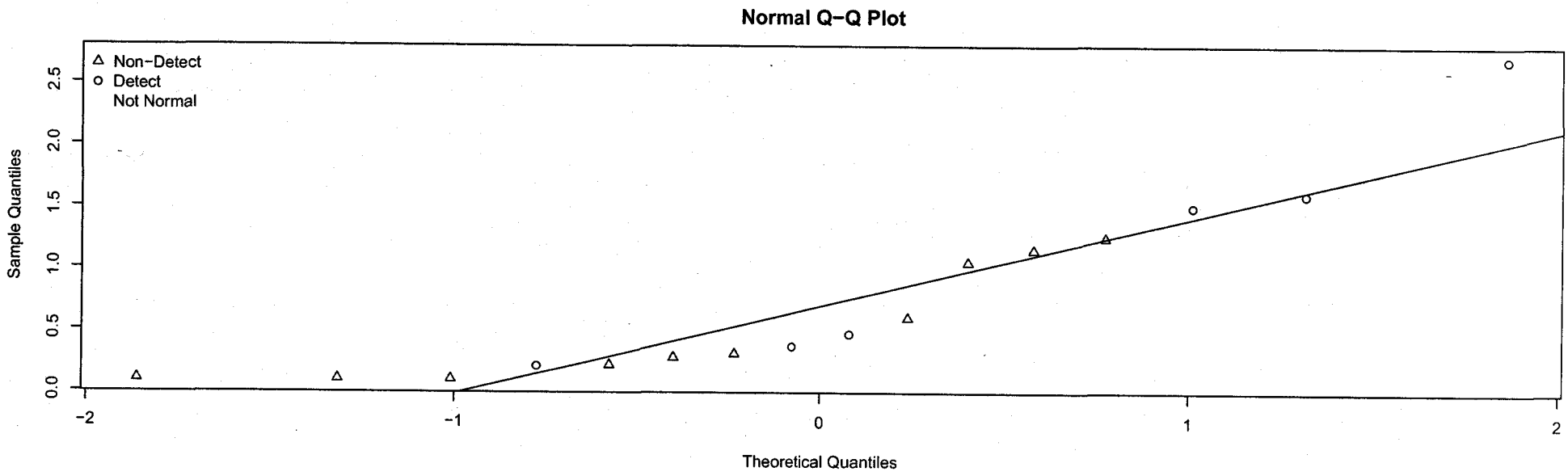


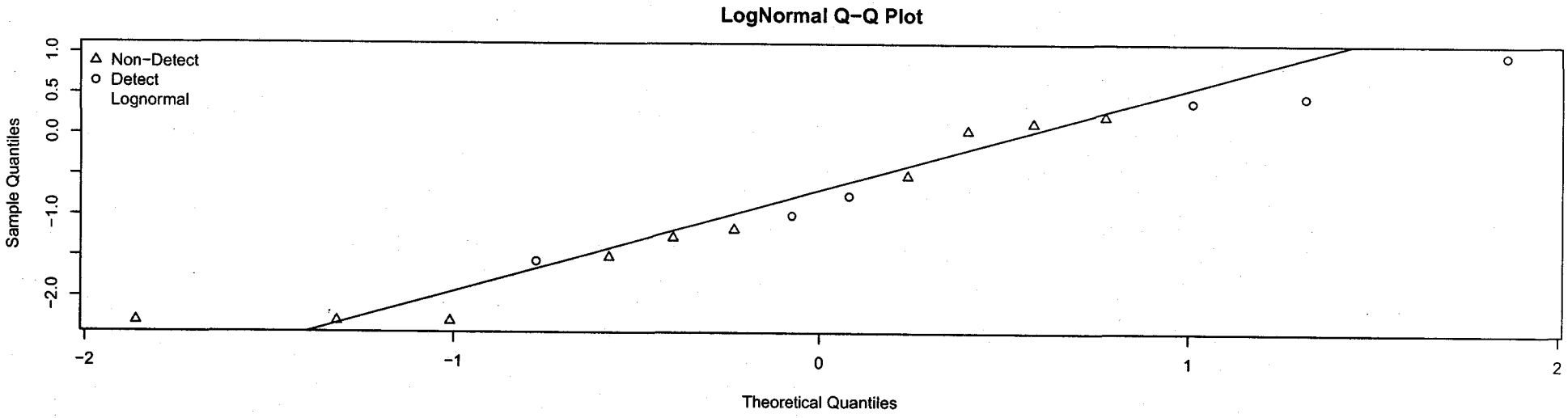
Lower Sand
Spring Groundwater
MANGANESE



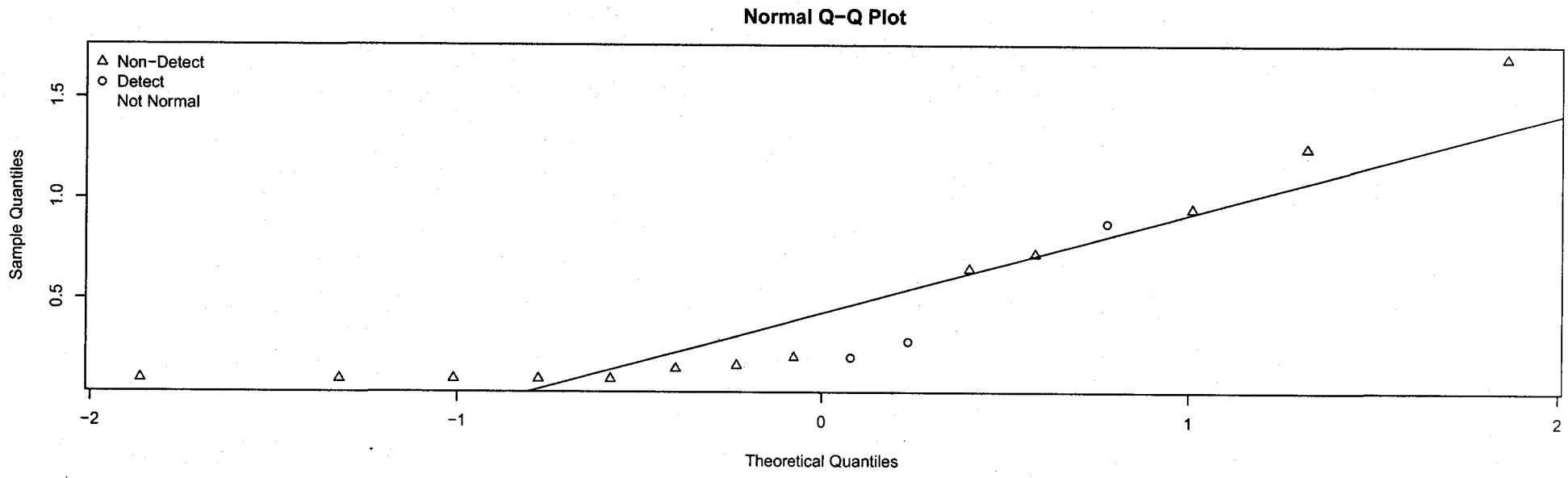


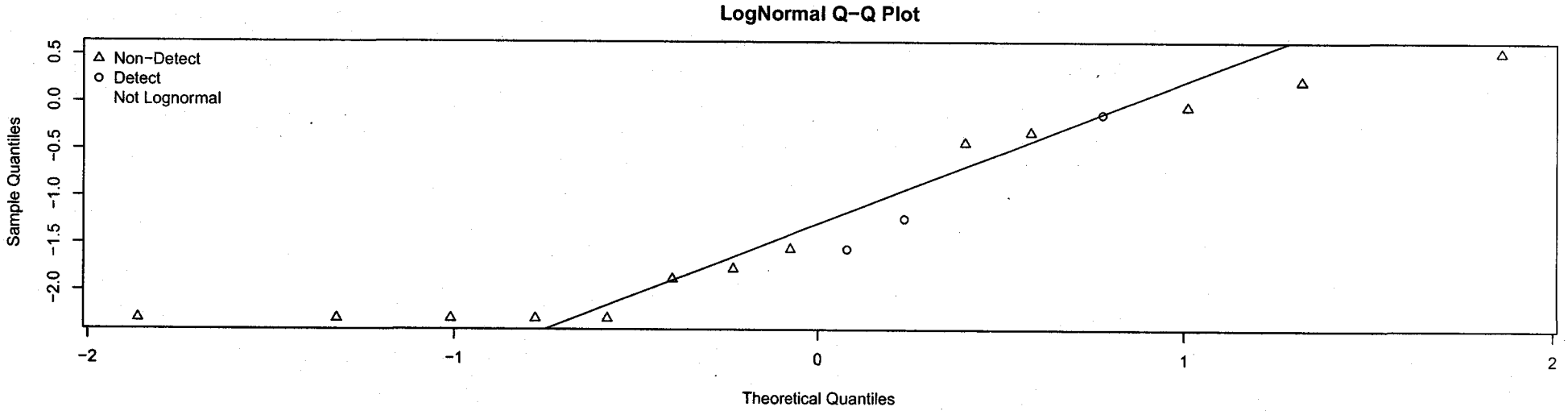
Lower Sand
Spring Groundwater
NICKEL



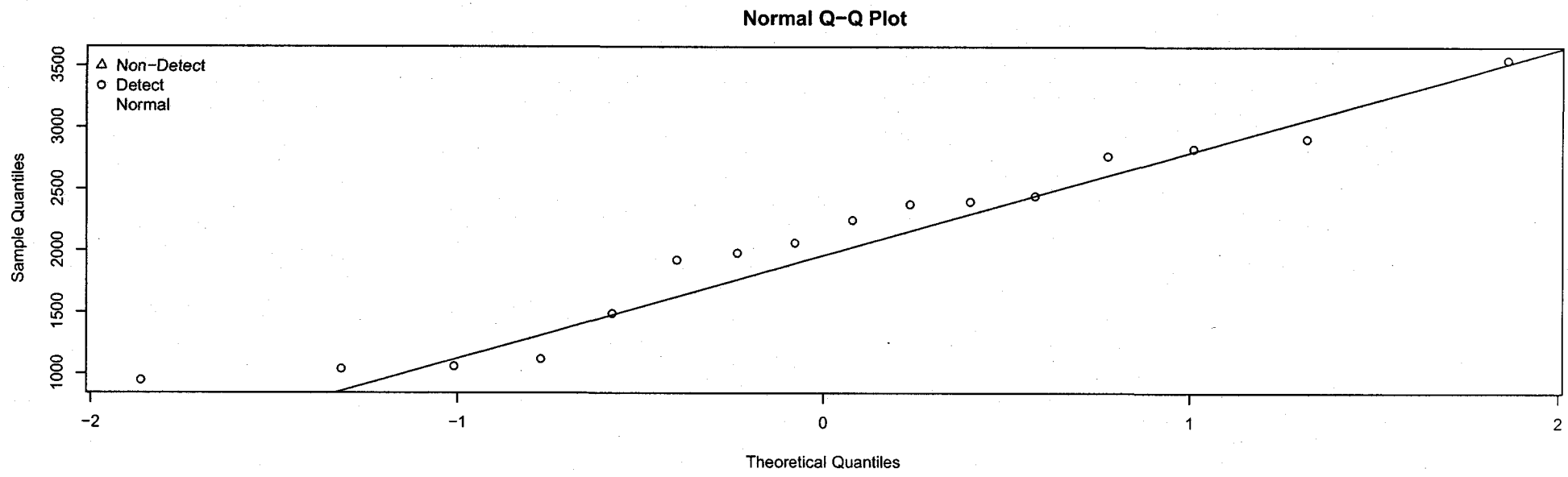


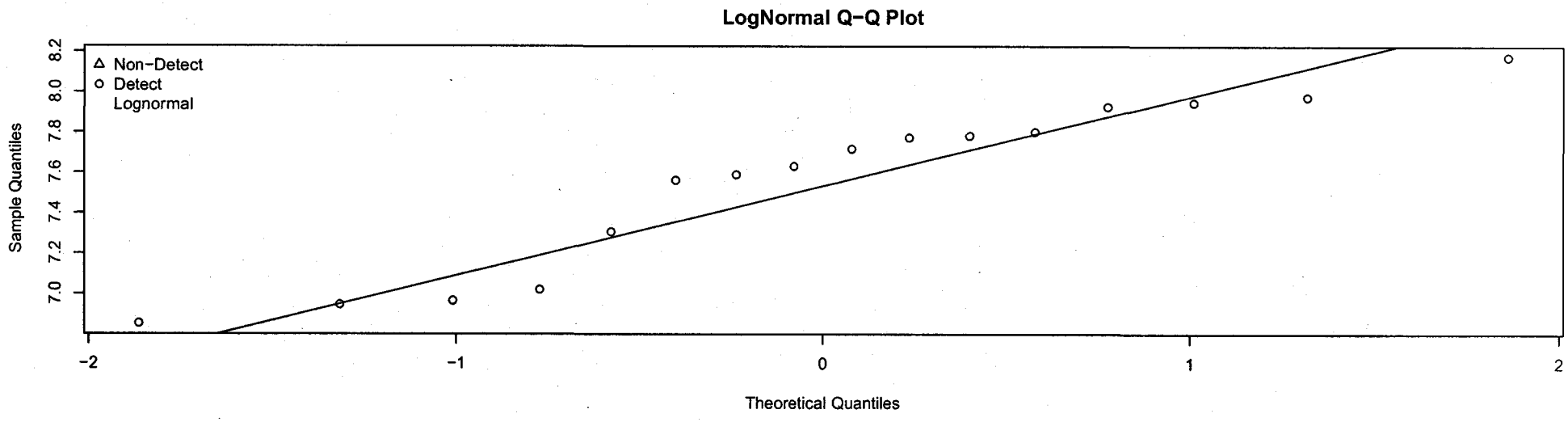
Lower Sand
Spring Groundwater
NICKEL



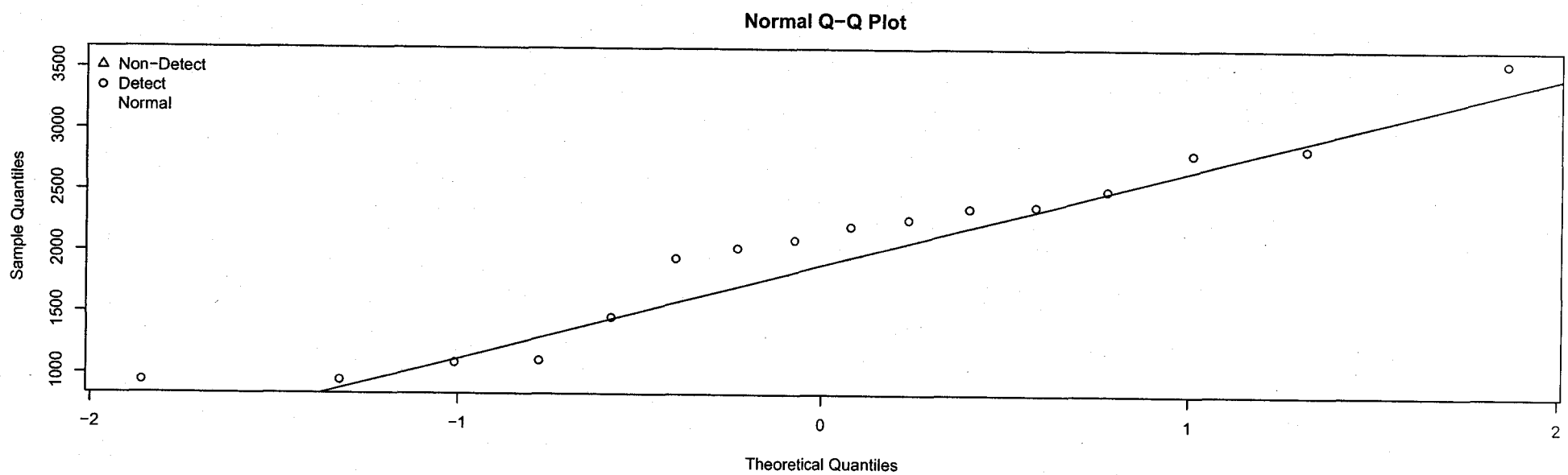


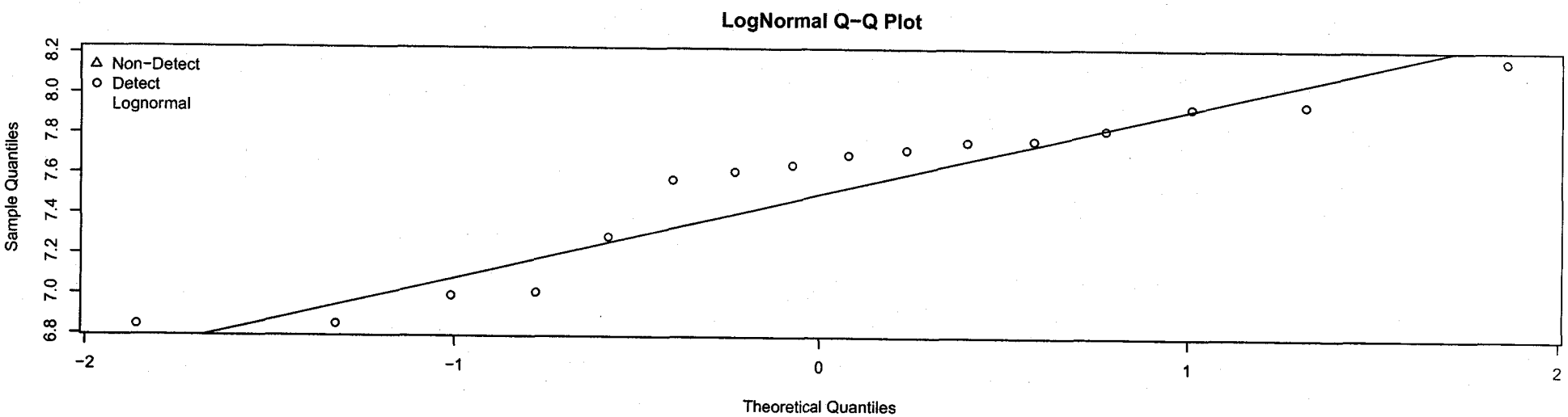
Lower Sand
Spring Groundwater
POTASSIUM



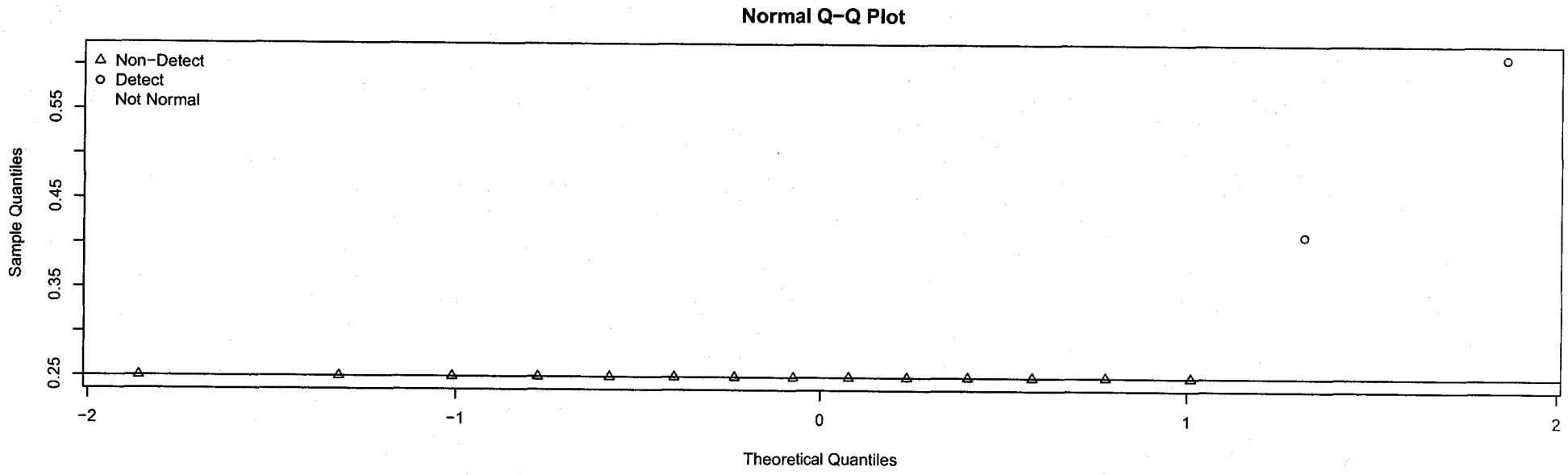


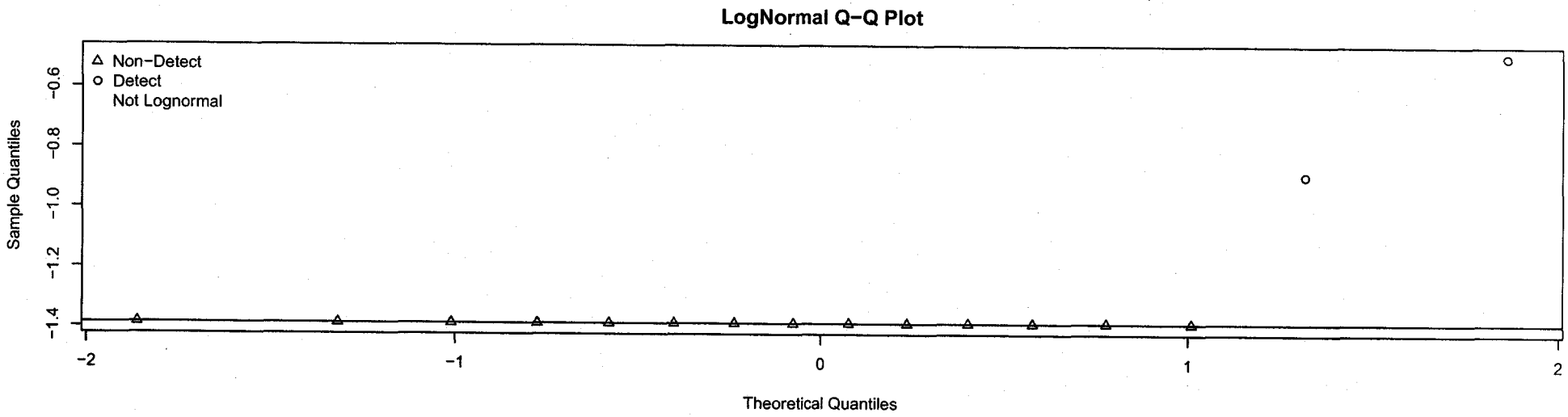
Lower Sand
Spring Groundwater
POTASSIUM



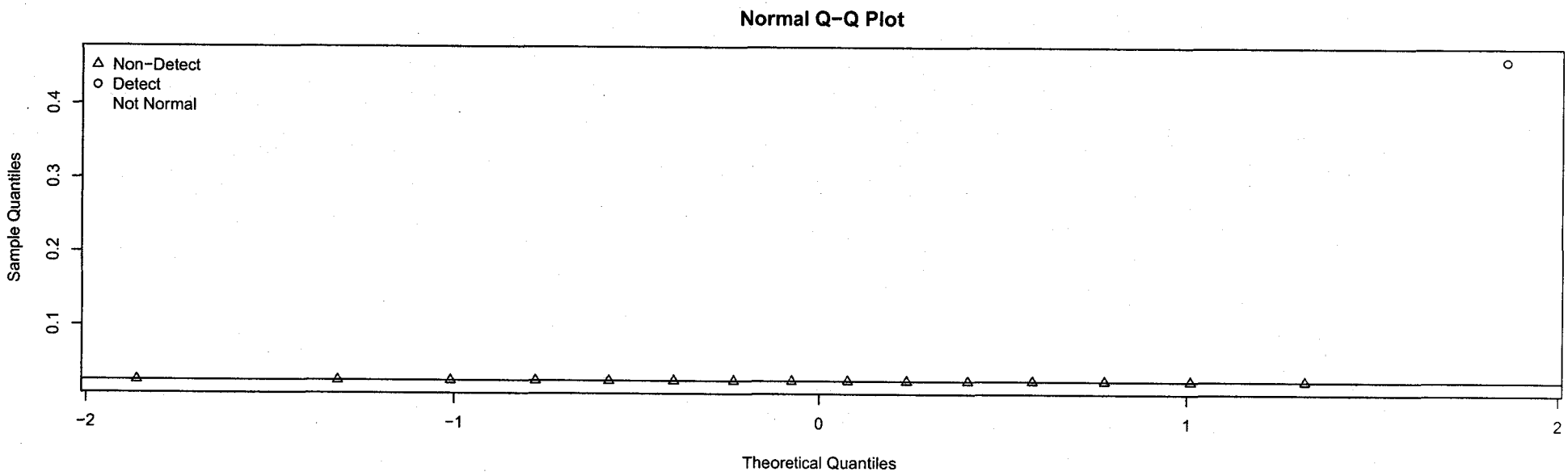


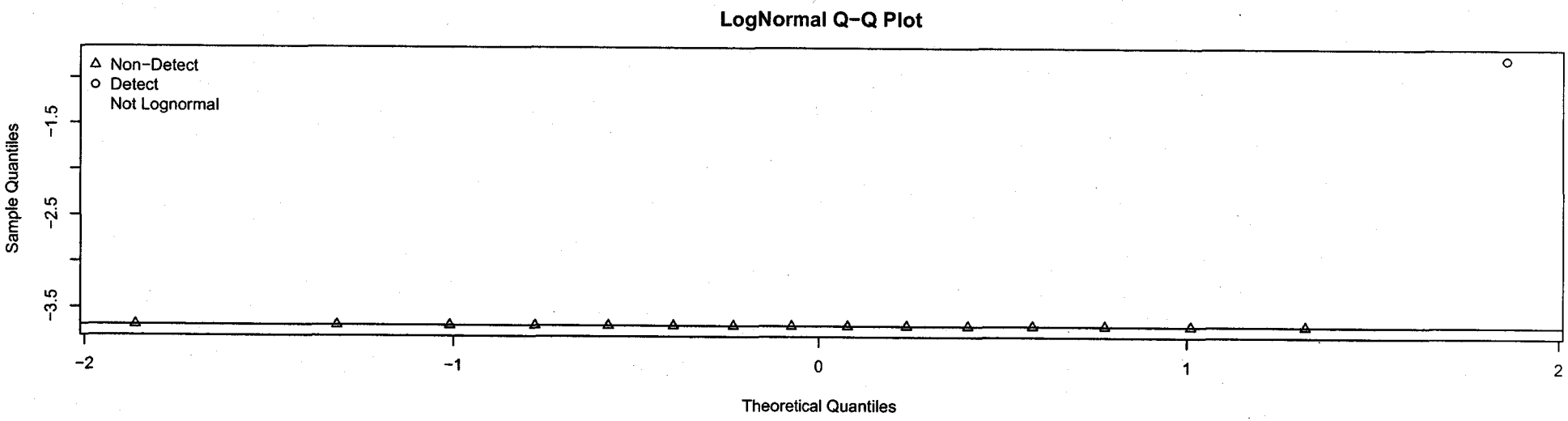
Lower Sand
Spring Groundwater
SELENIUM



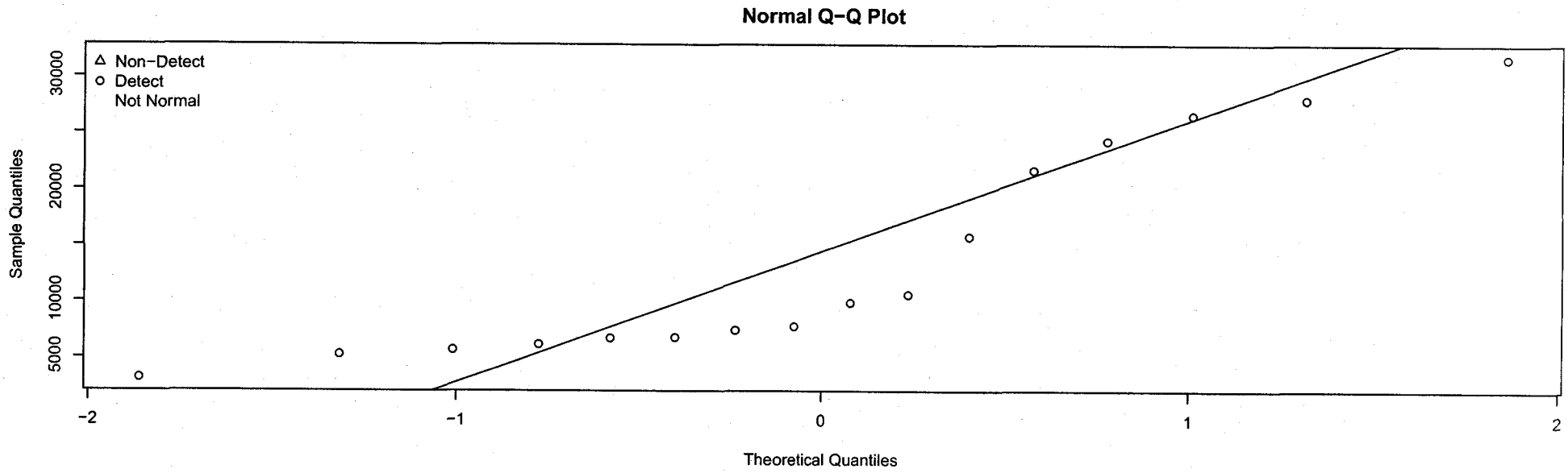


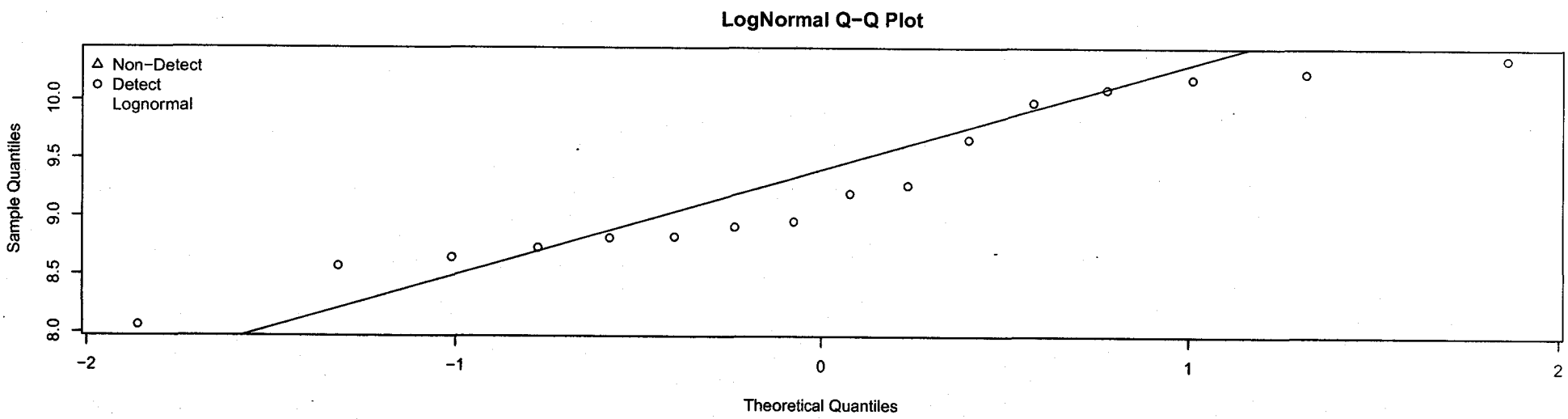
Lower Sand
Spring Groundwater
SILVER



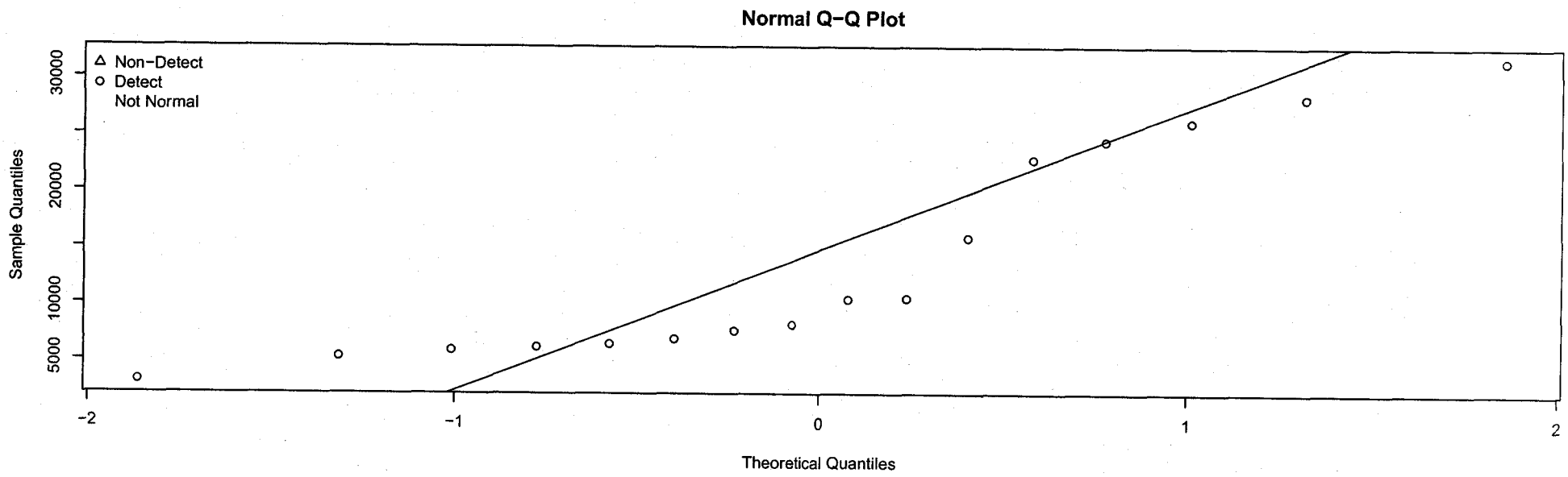


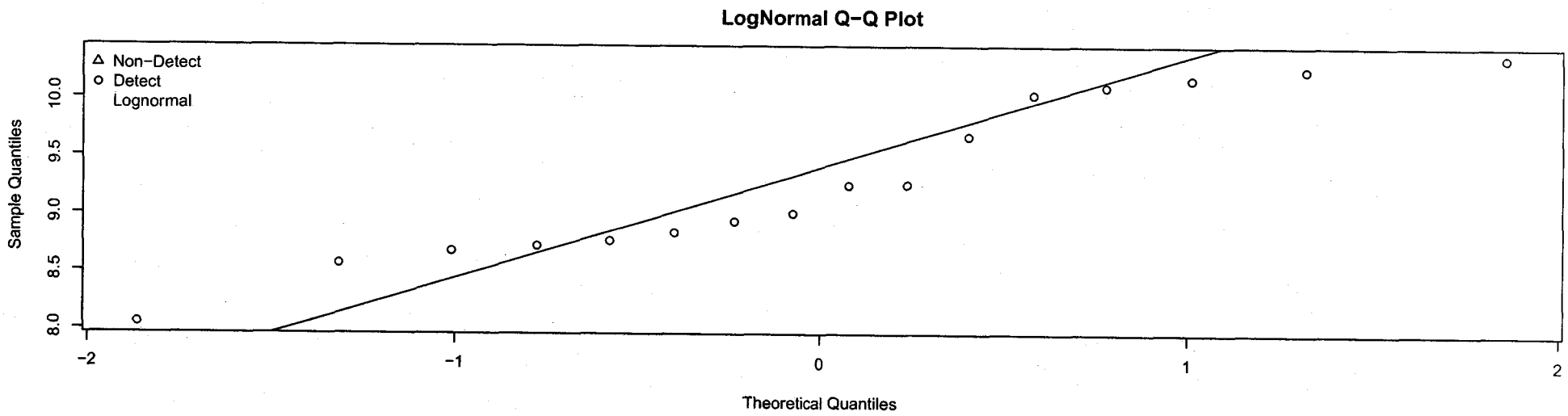
Lower Sand
Spring Groundwater
SODIUM



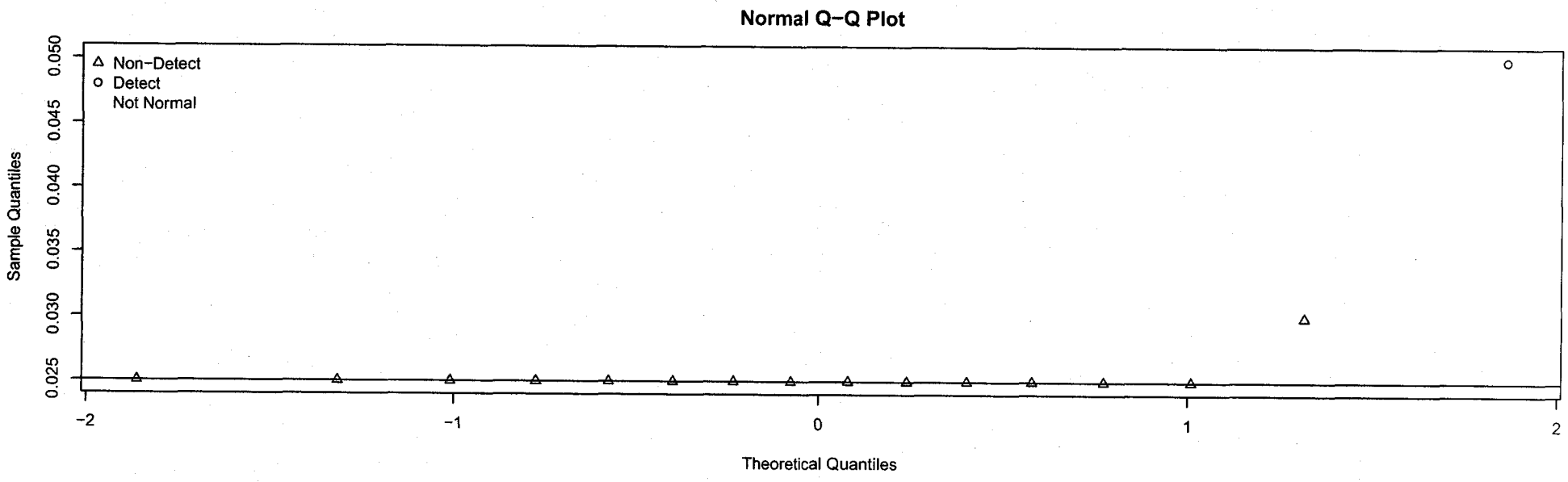


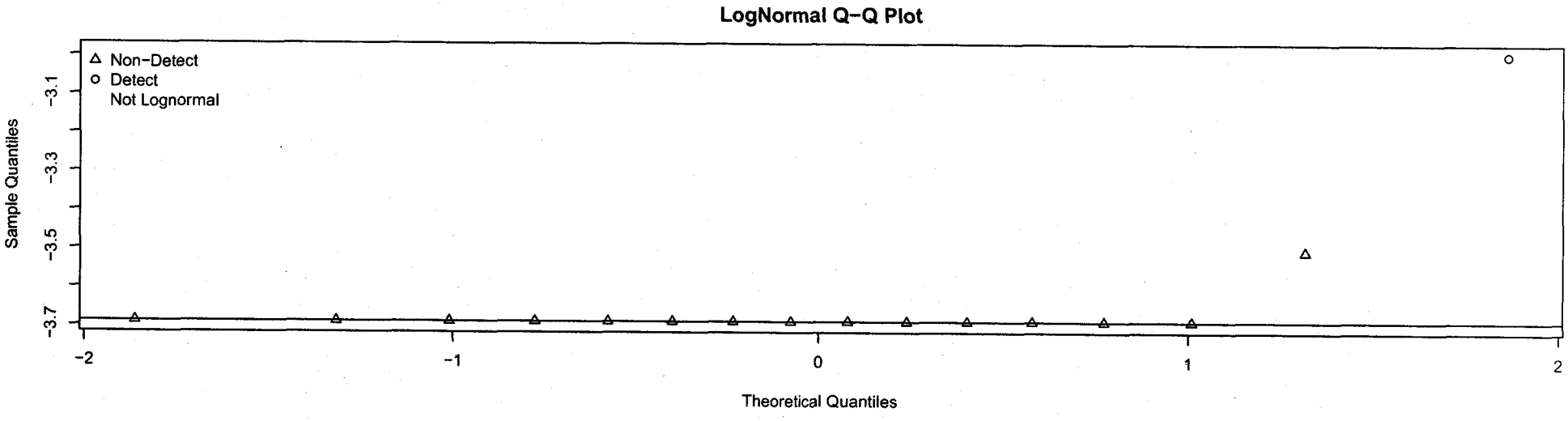
Lower Sand
Spring Groundwater
SODIUM



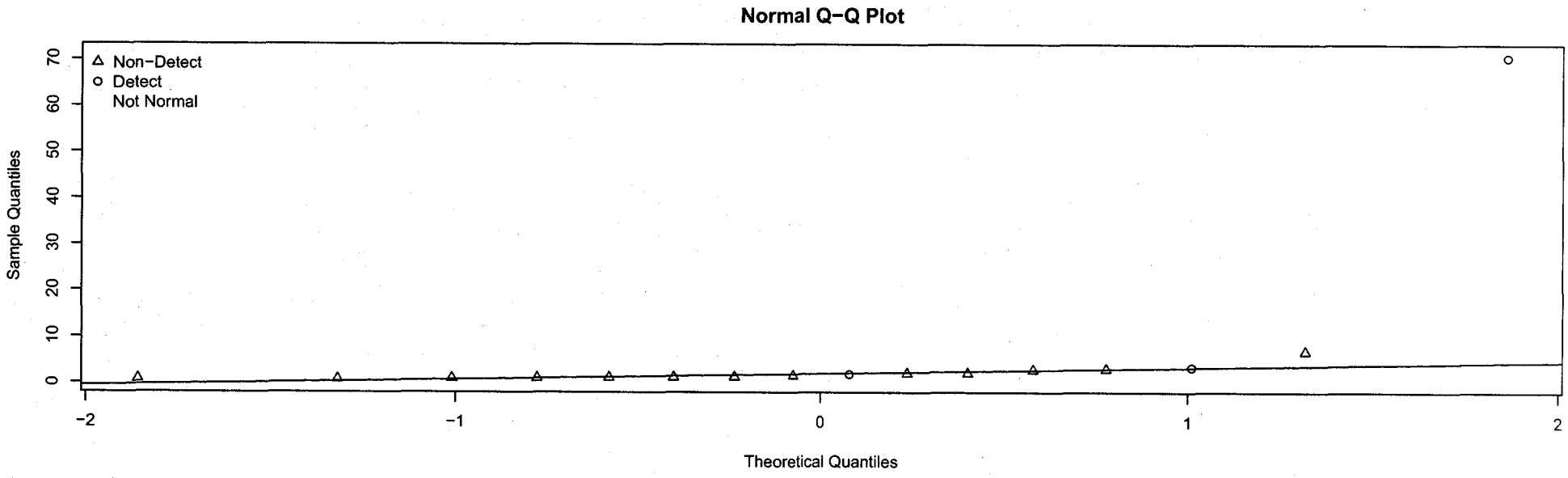


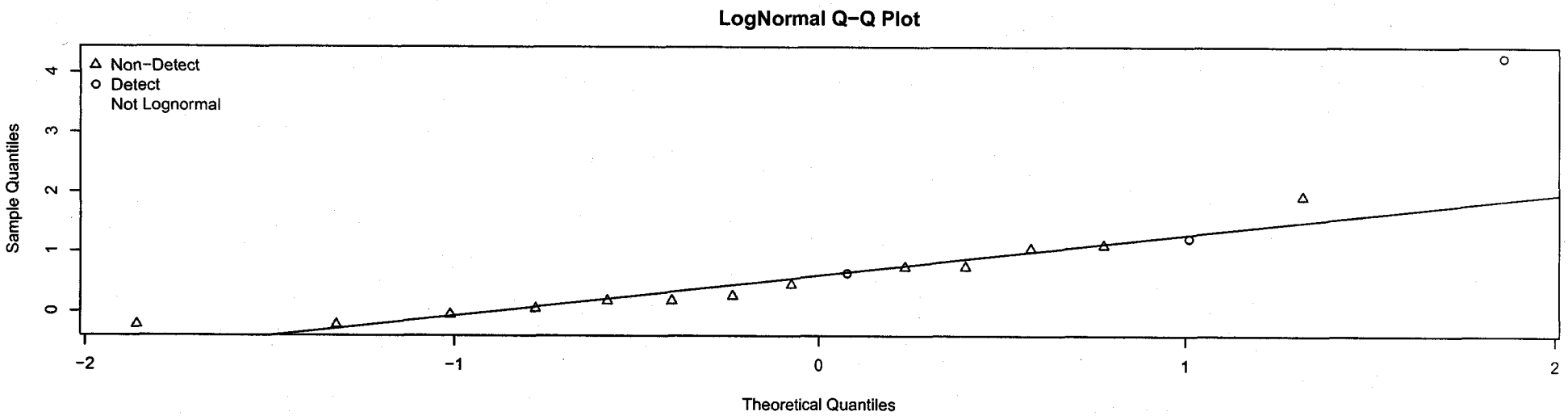
Lower Sand
Spring Groundwater
THALLIUM



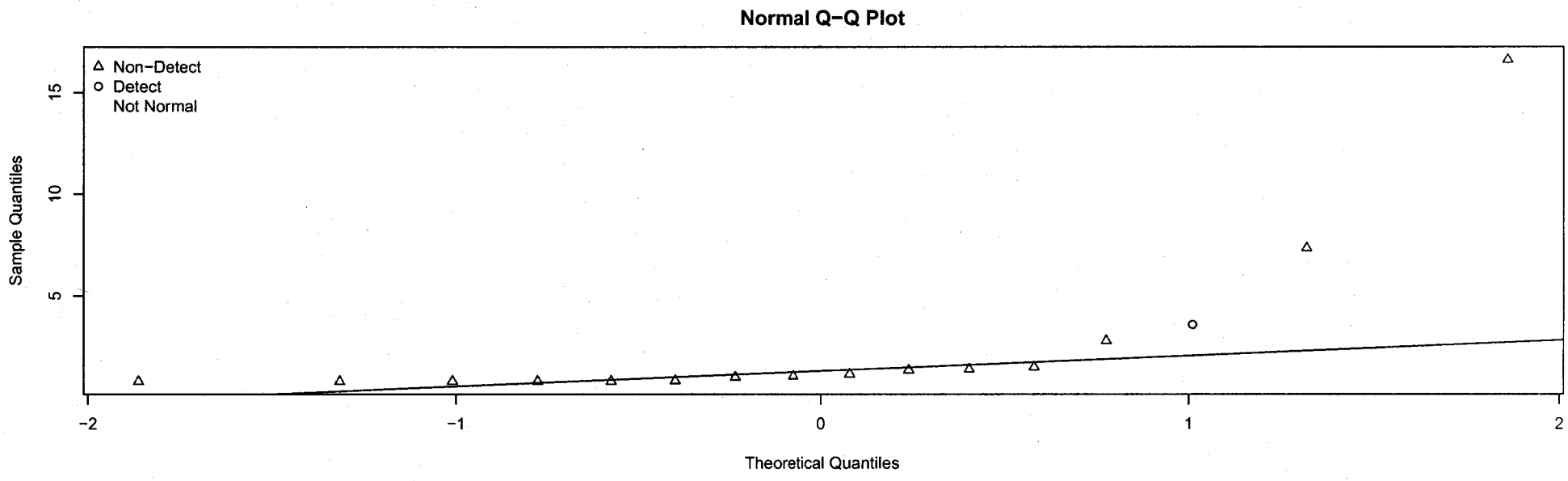


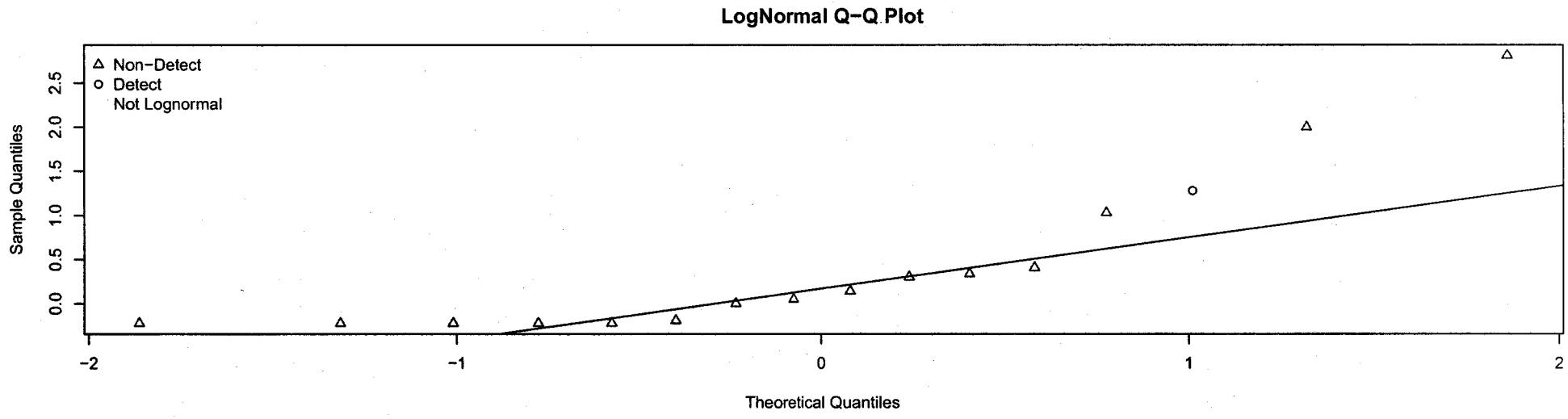
Lower Sand
Spring Groundwater
ZINC



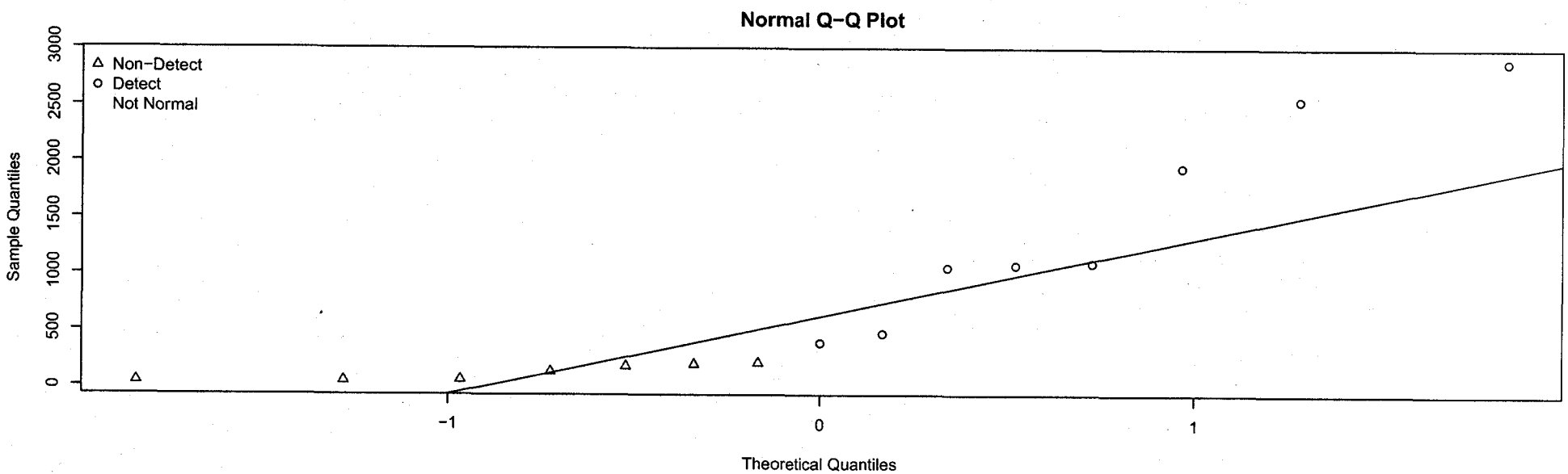


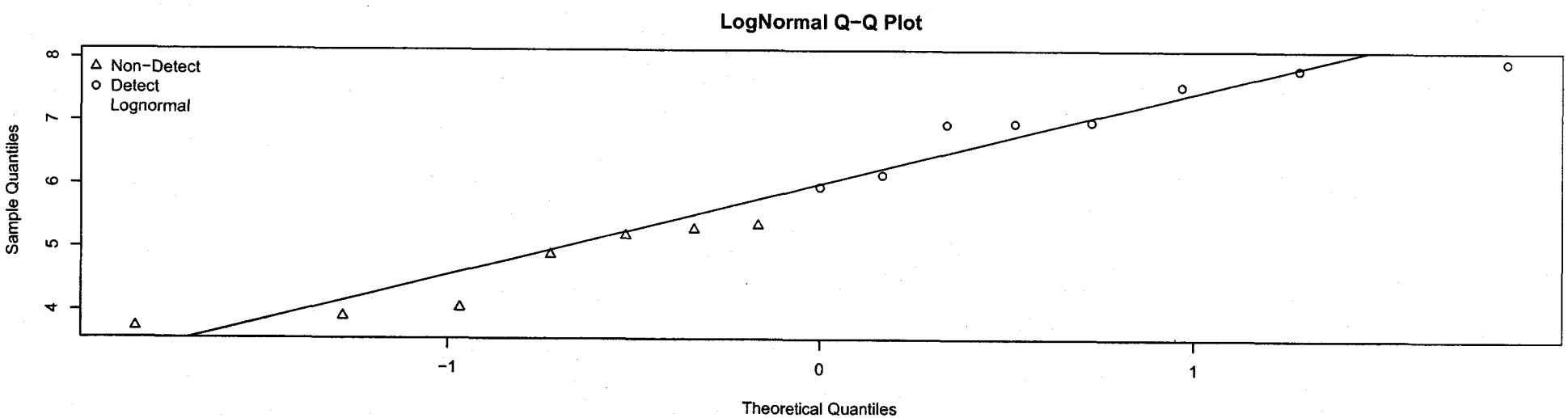
Lower Sand
Spring Groundwater
ZINC



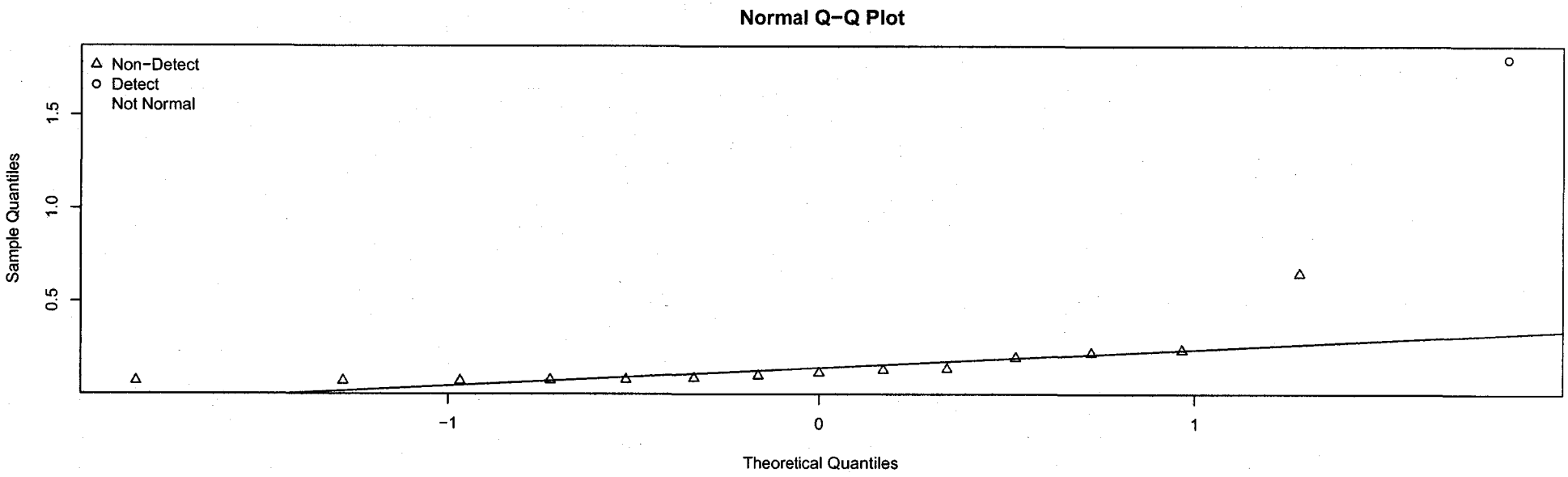


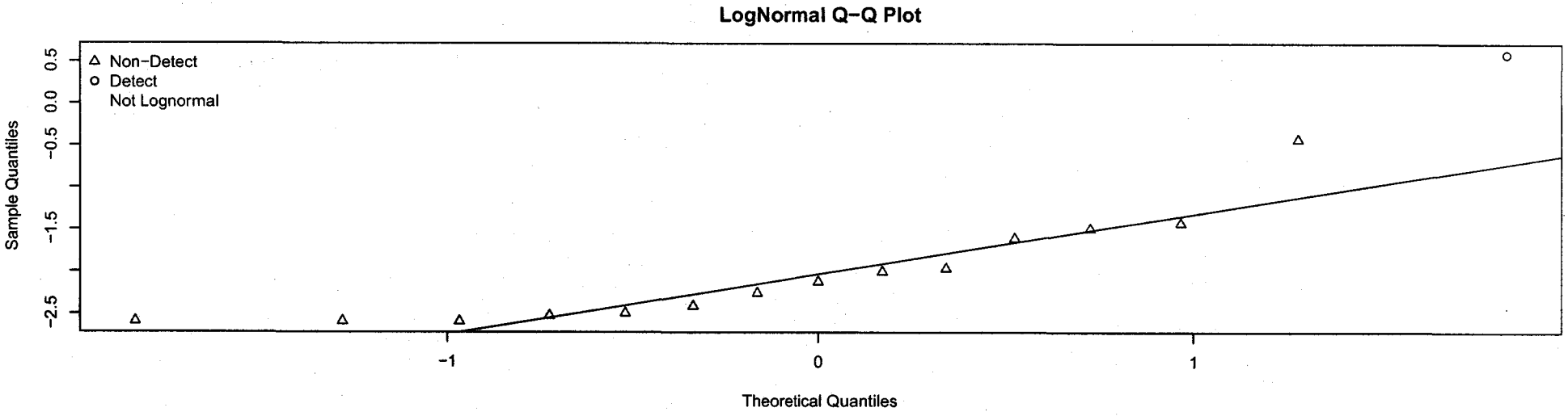
Transition
Fall Groundwater
ALUMINUM



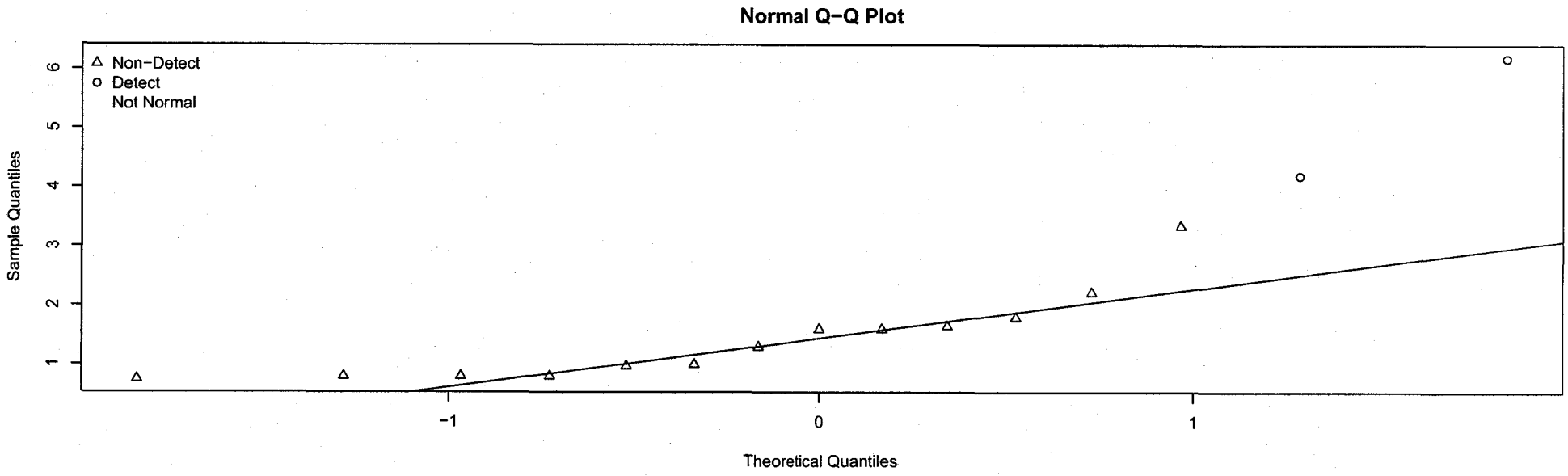


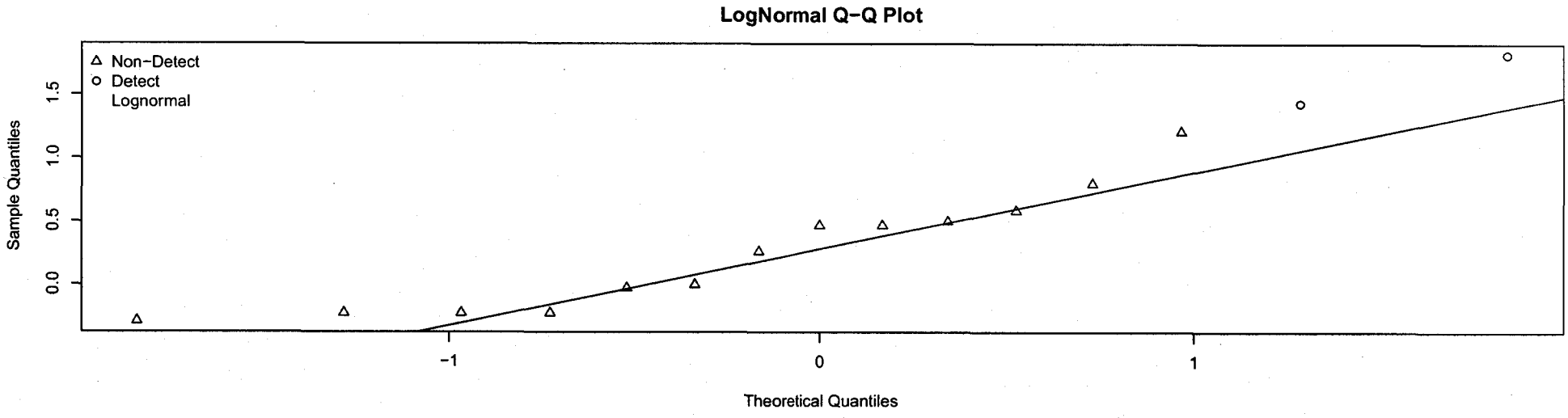
Transition
Fall Groundwater
ANTIMONY



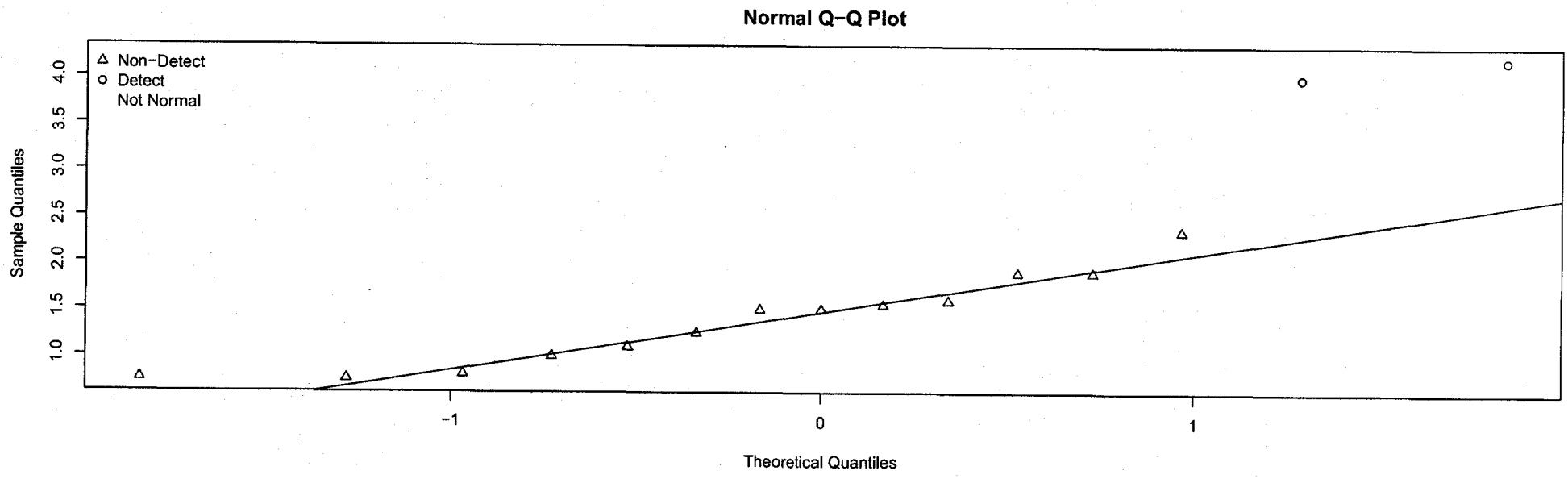


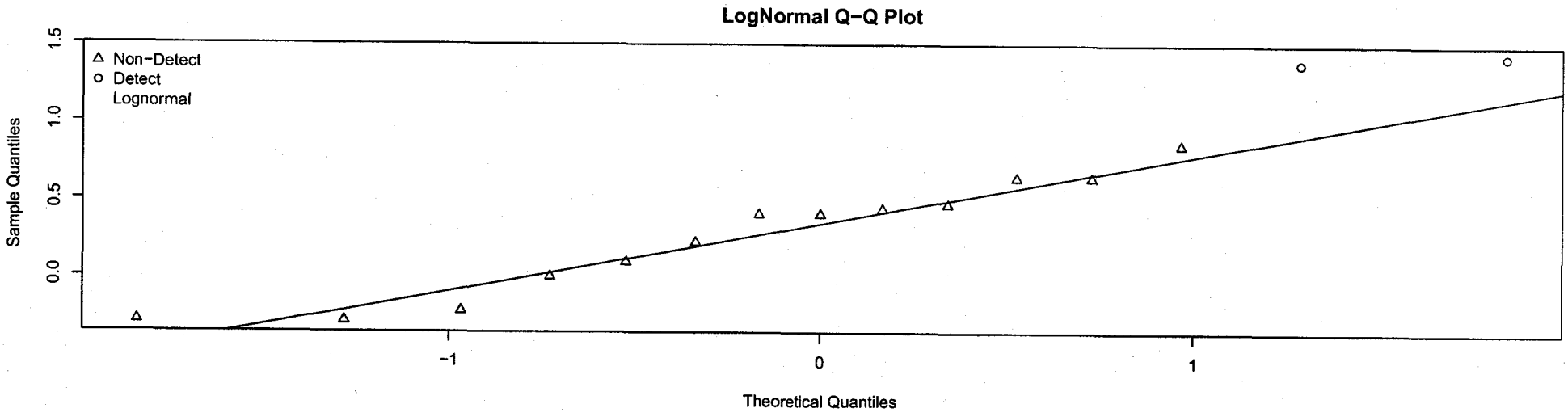
Transition
Fall Groundwater
ARSENIC



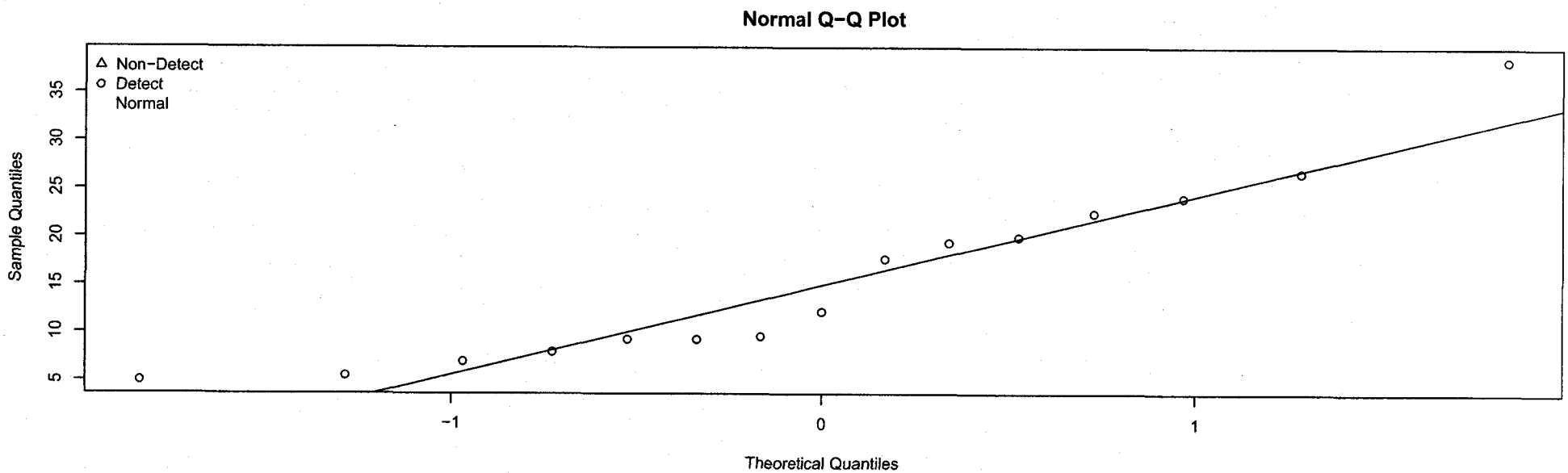


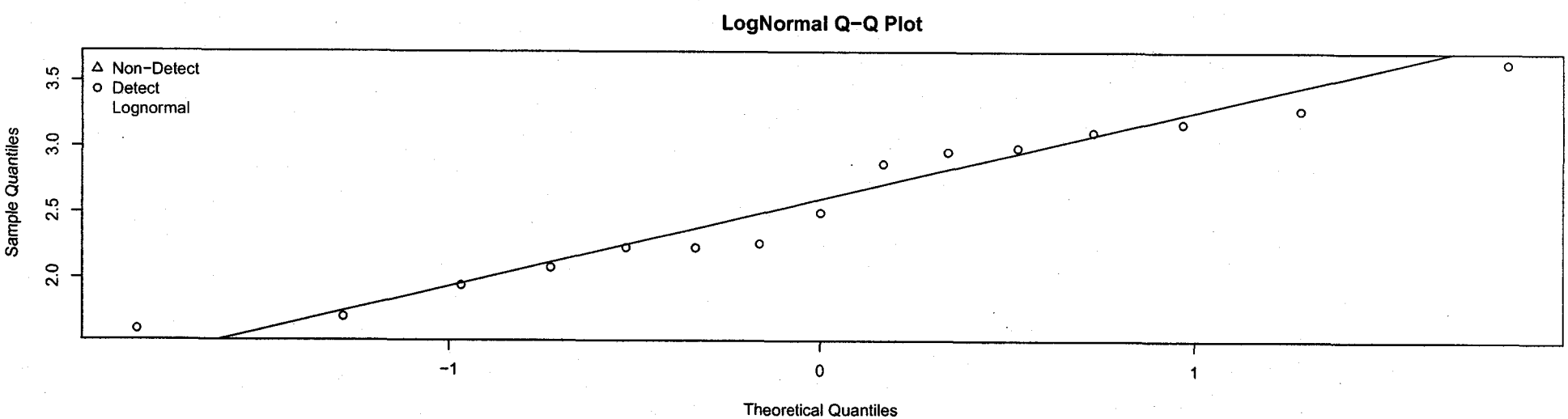
Transition
Fall Groundwater
ARSENIC



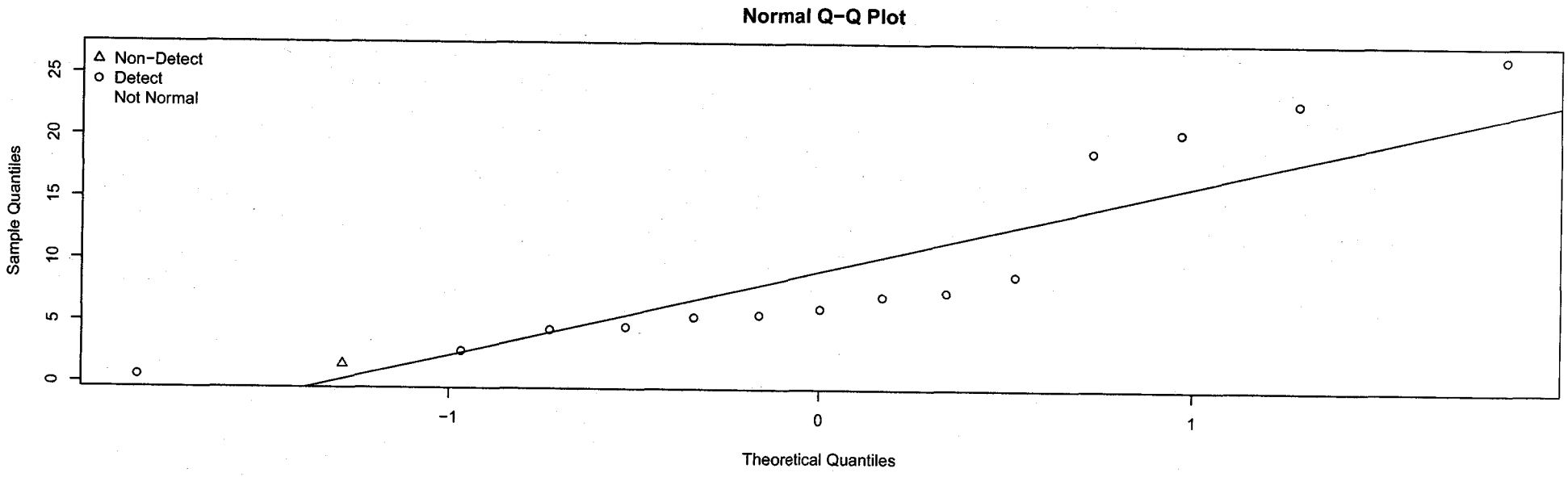


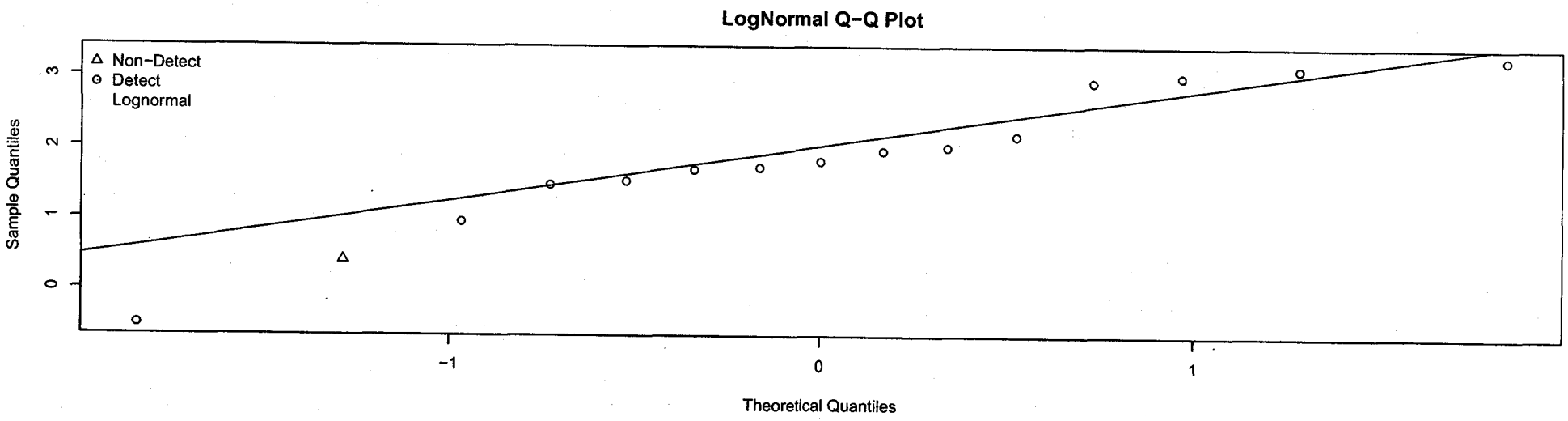
Transition
Fall Groundwater
BARIUM



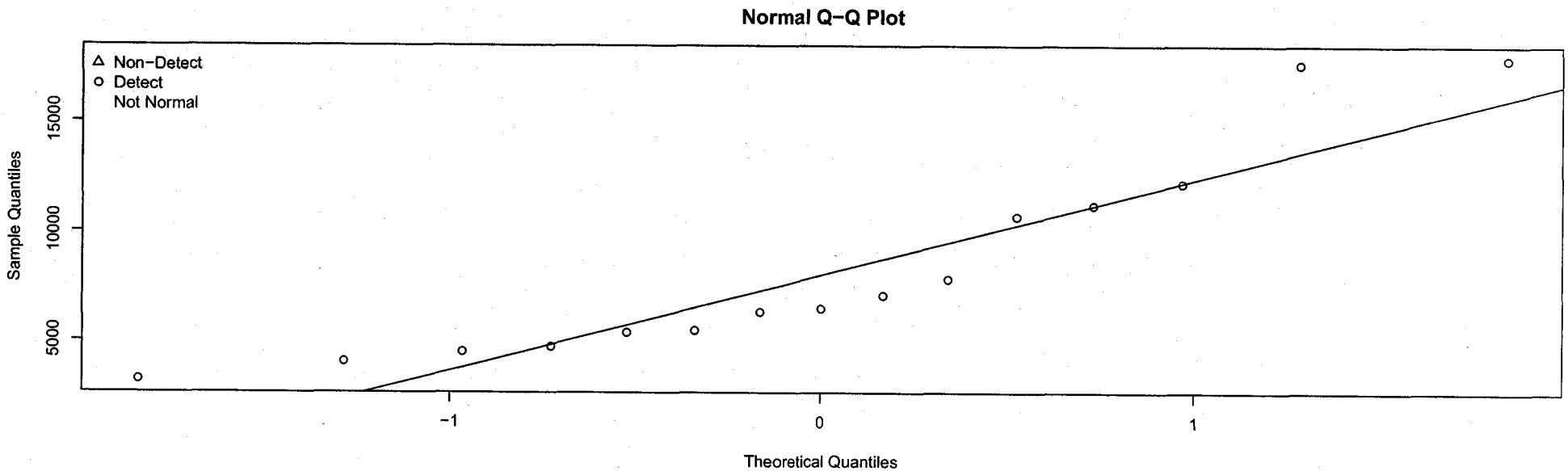


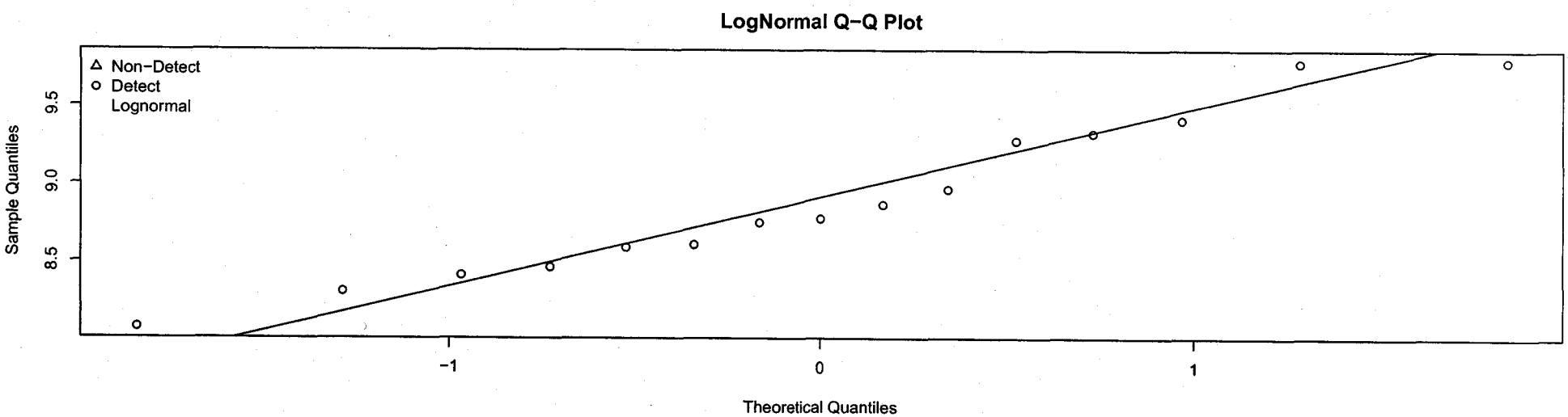
Transition
Fall Groundwater
BARIUM



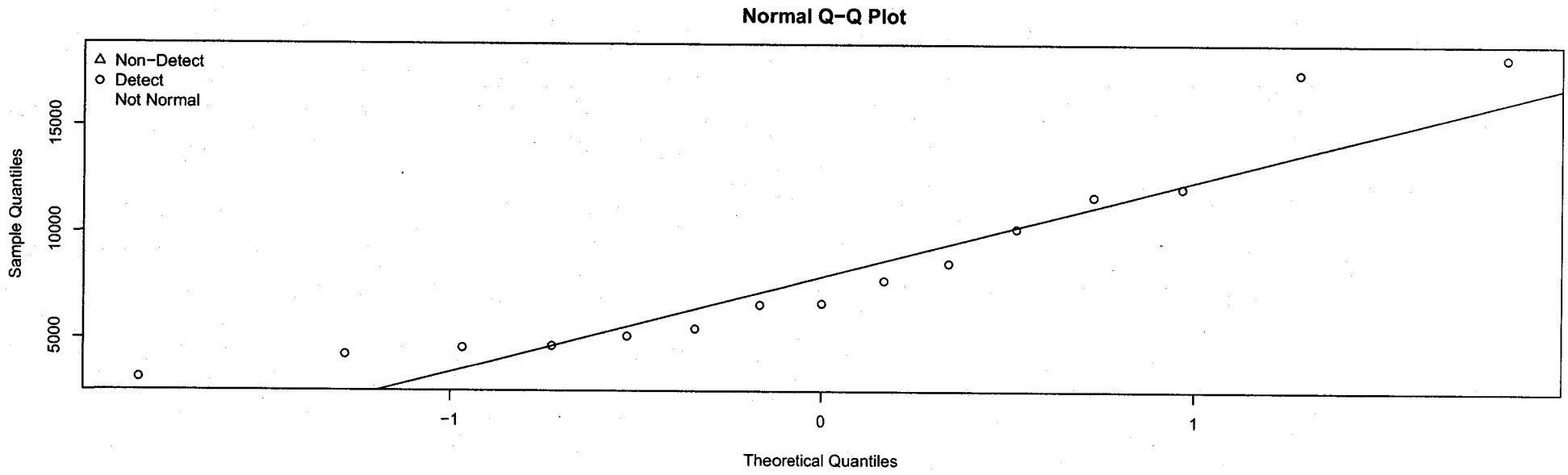


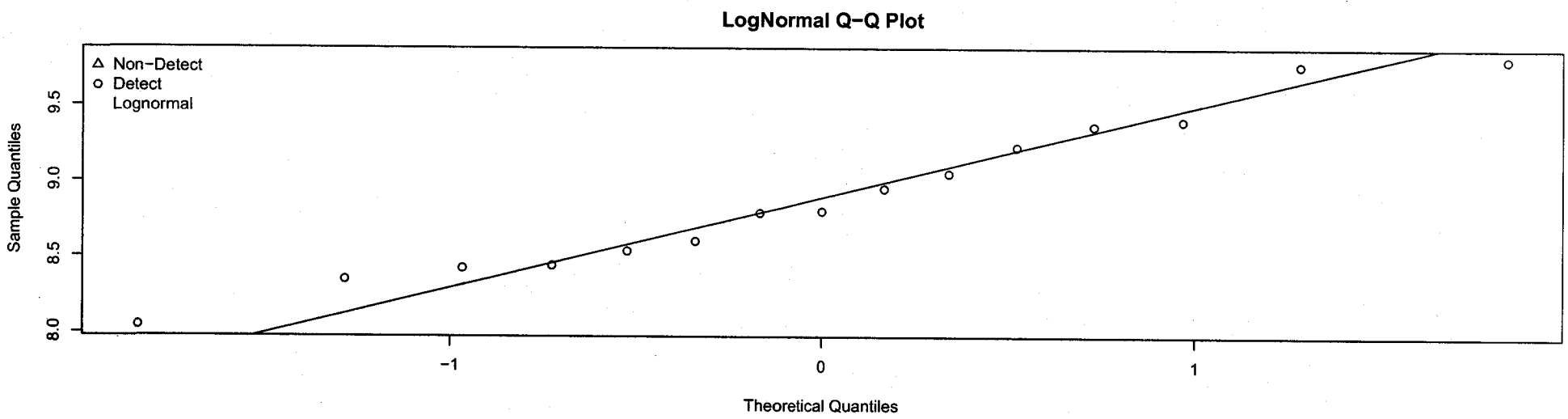
Transition
Fall Groundwater
CALCIUM



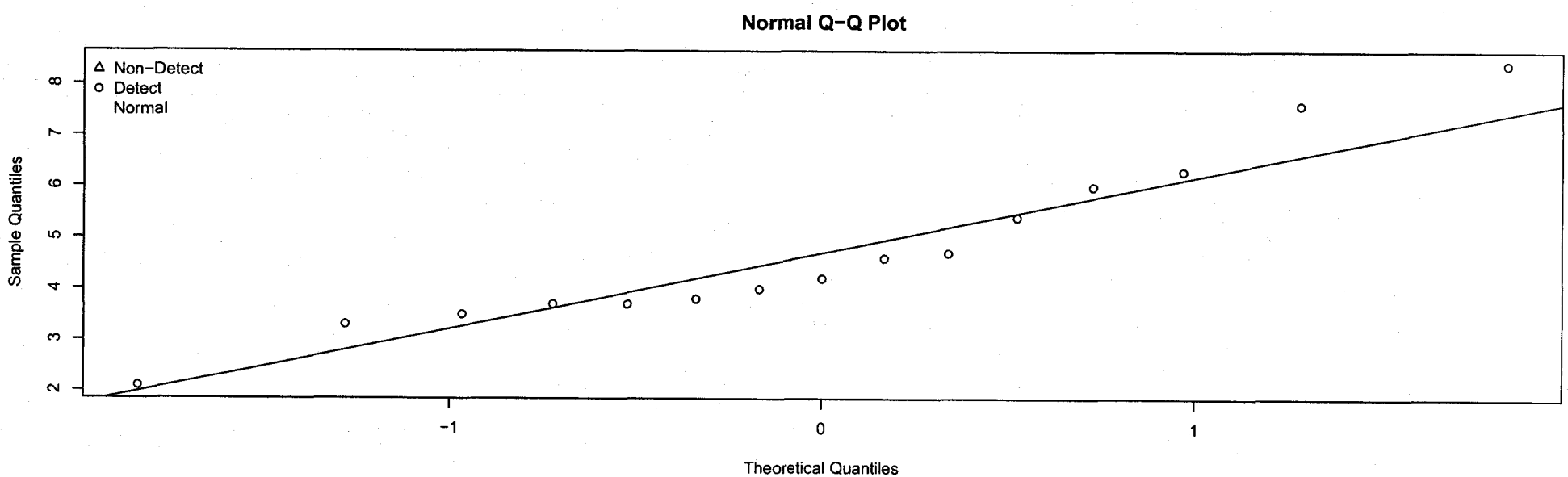


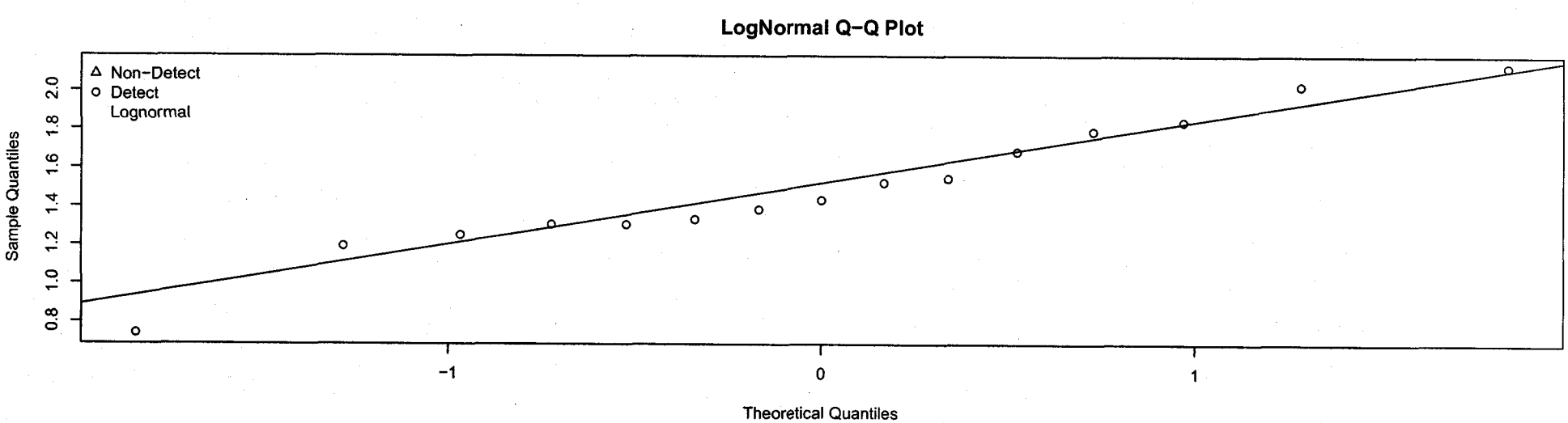
Transition
Fall Groundwater
CALCIUM



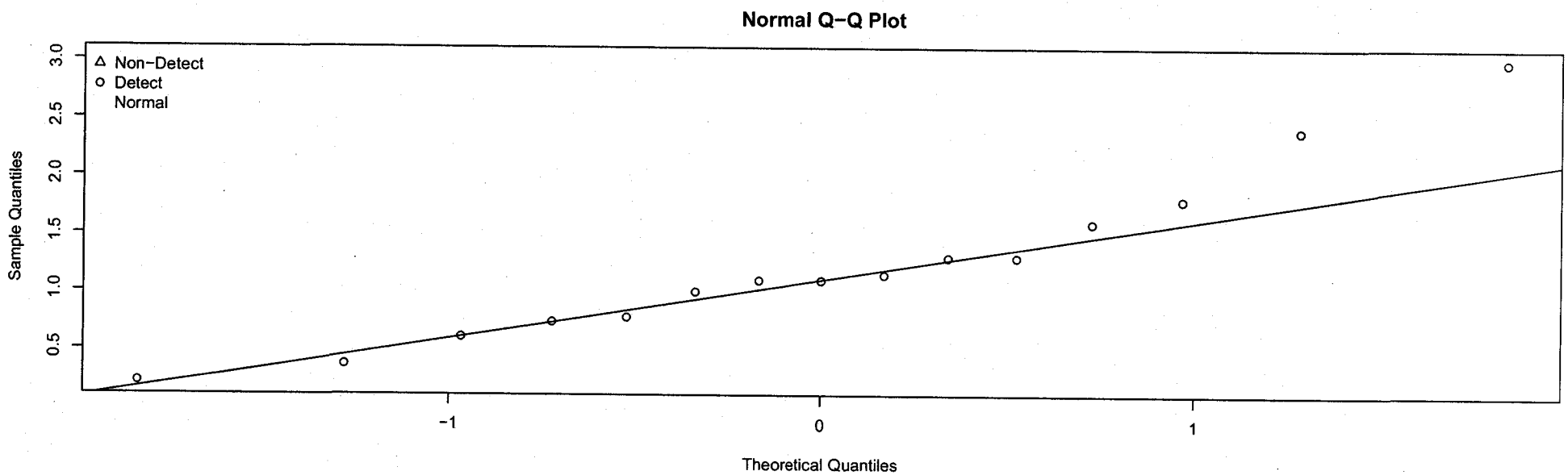


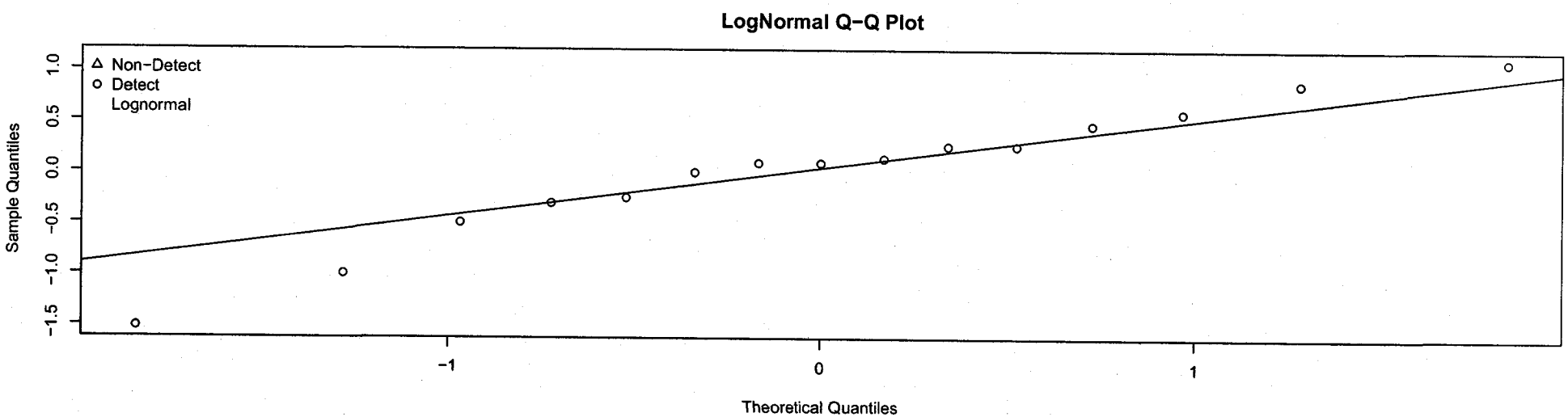
Transition
Fall Groundwater
CHLORIDE



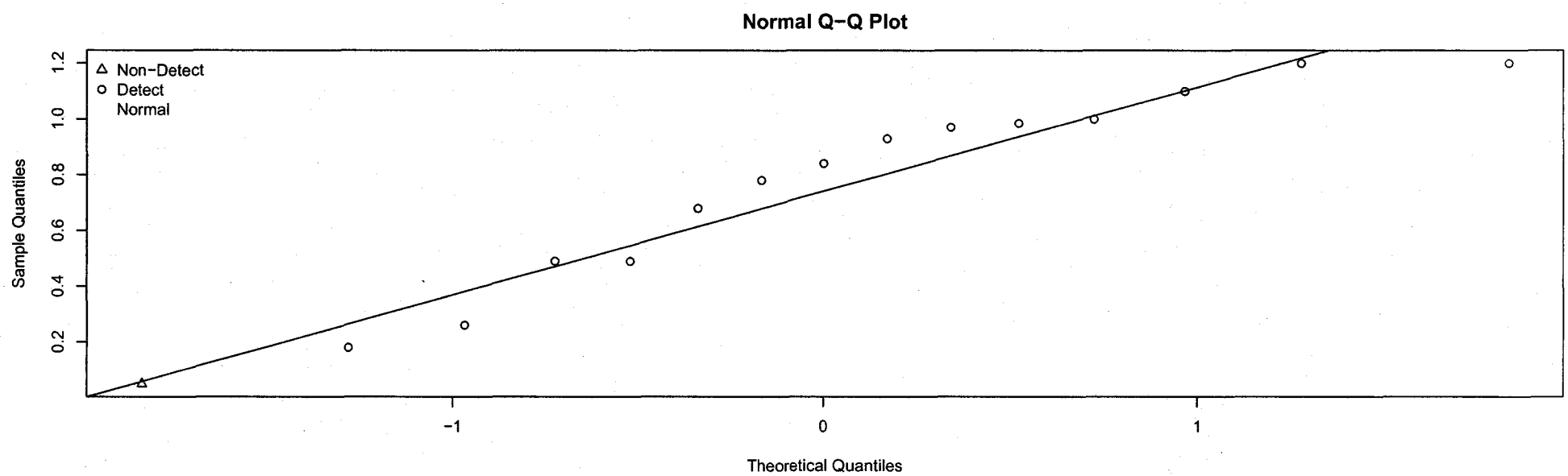


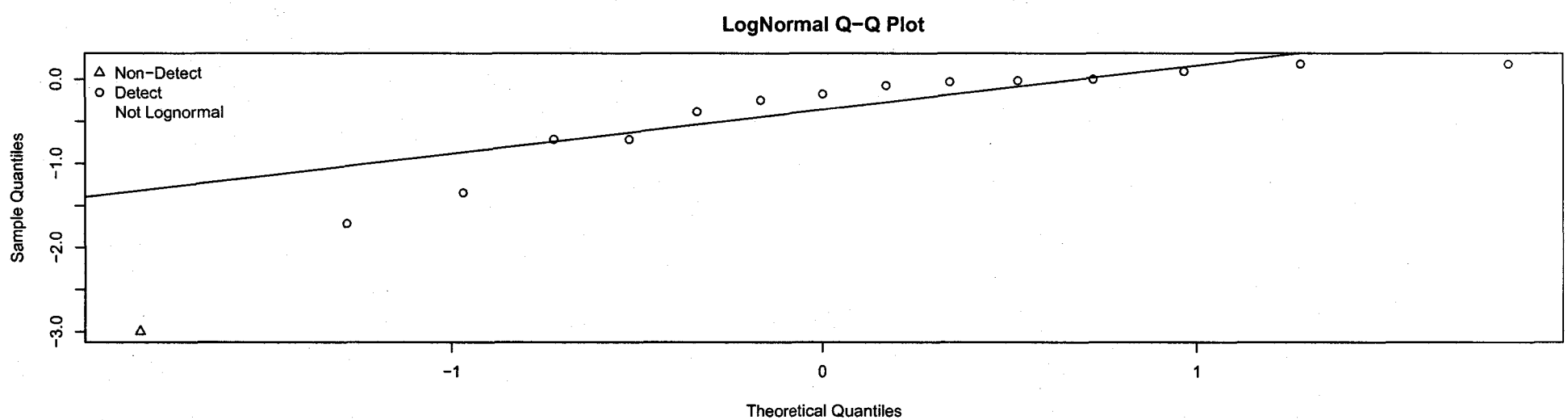
Transition
Fall Groundwater
COBALT



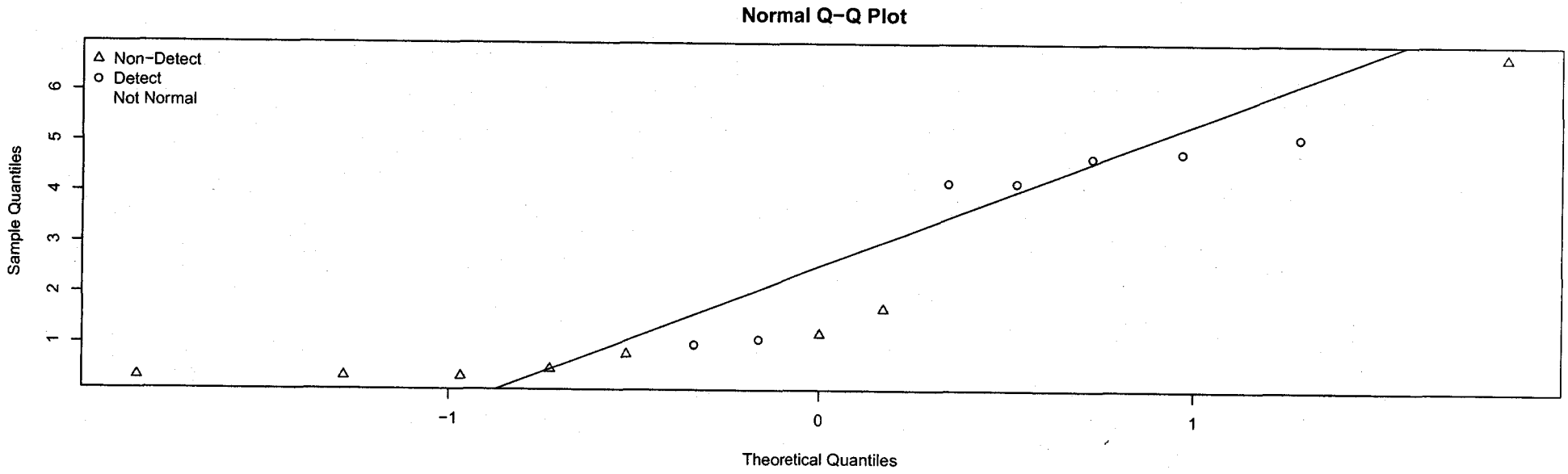


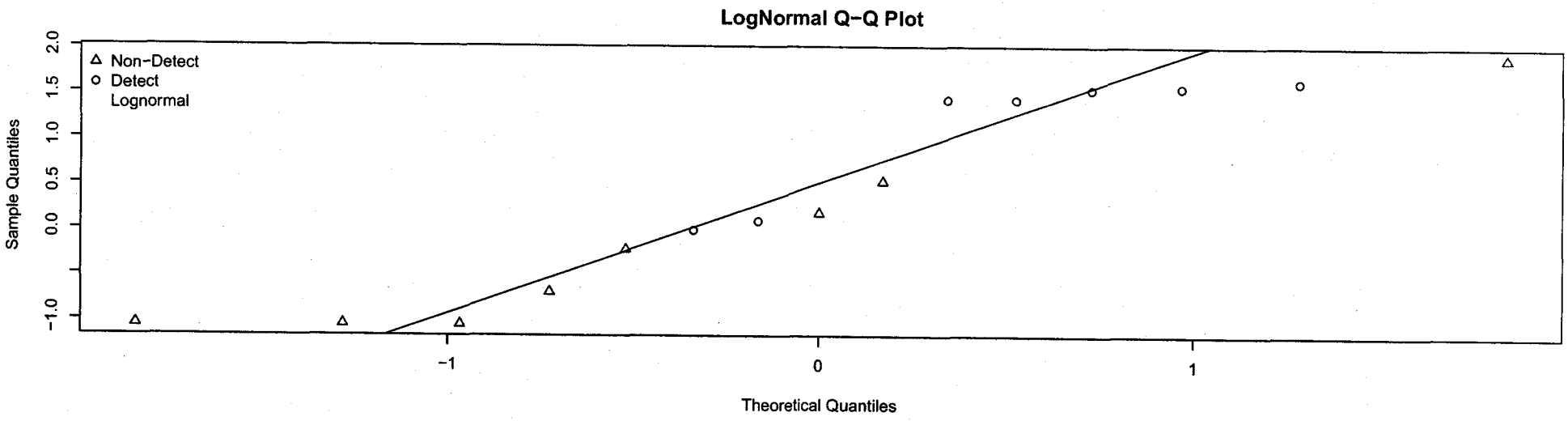
Transition
Fall Groundwater
COBALT



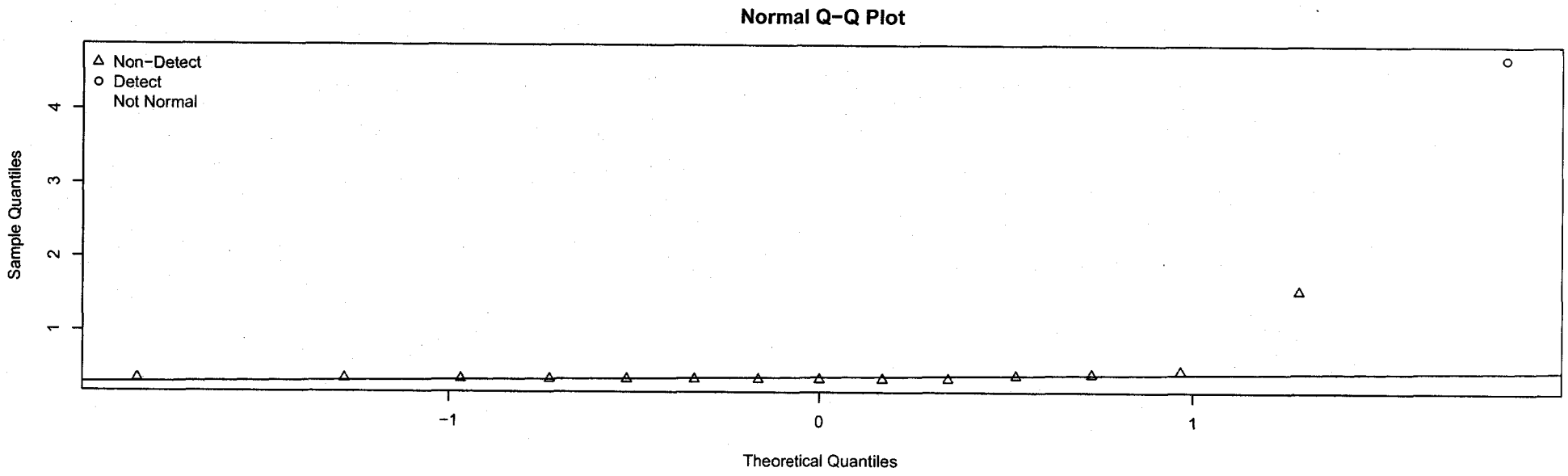


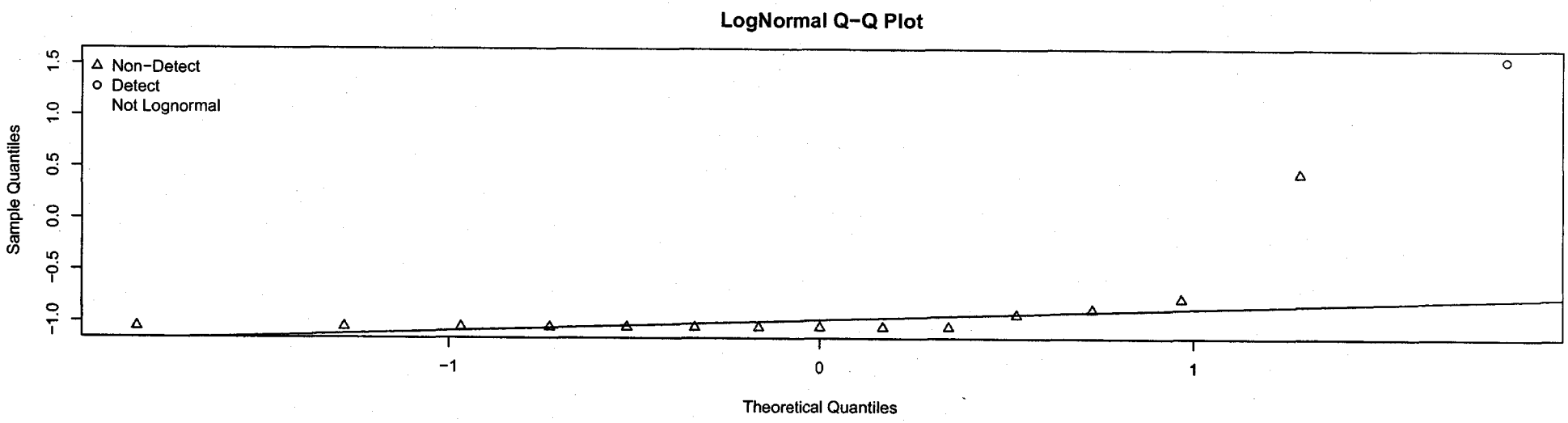
Transition
Fall Groundwater
COPPER



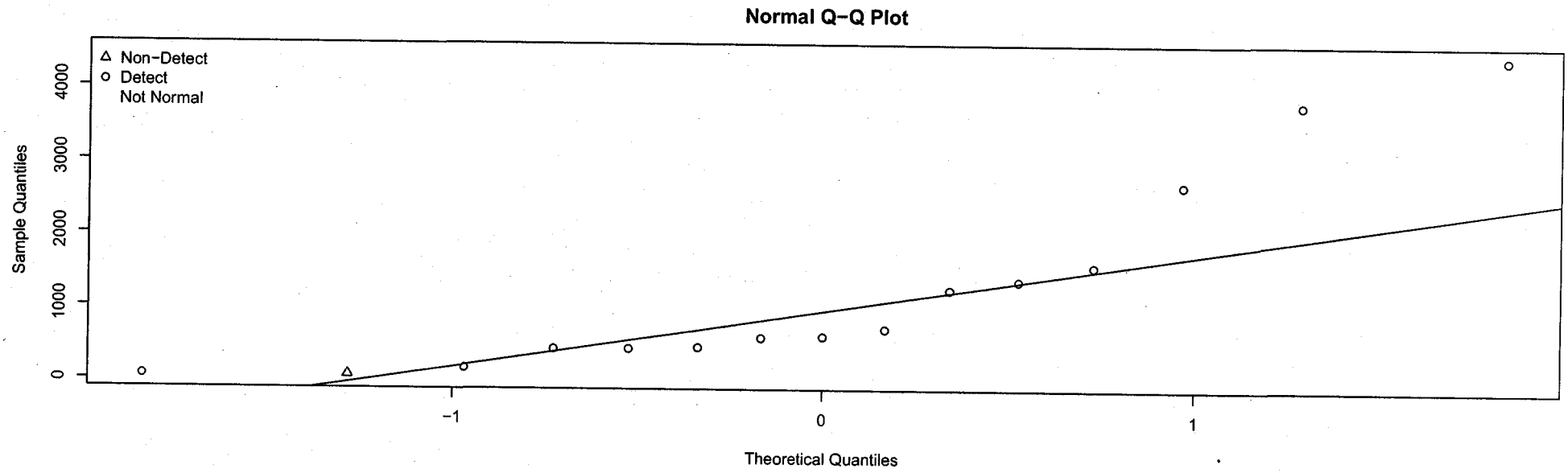


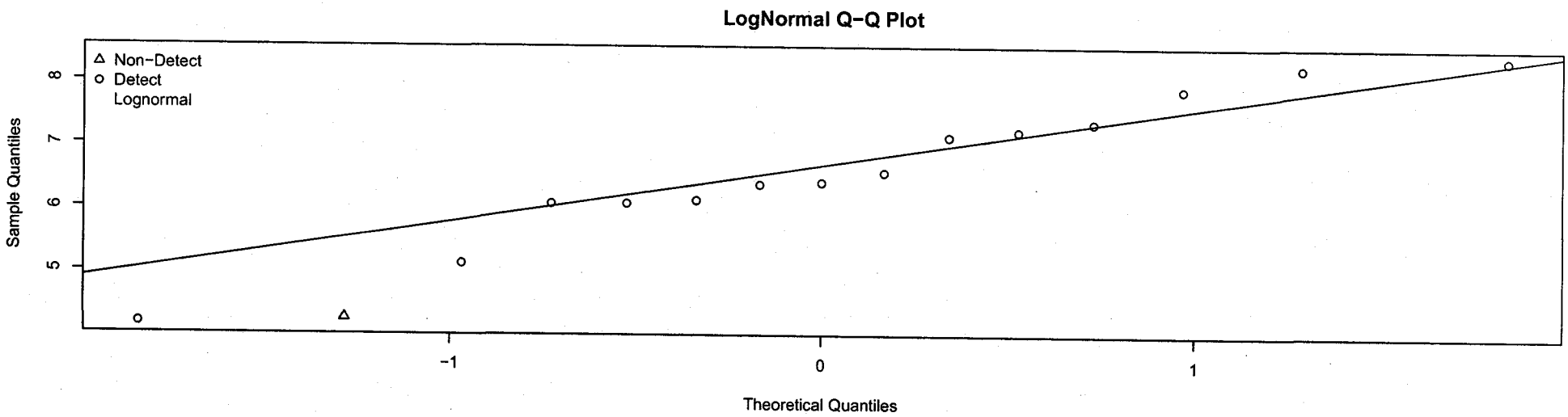
Transition
Fall Groundwater
COPPER



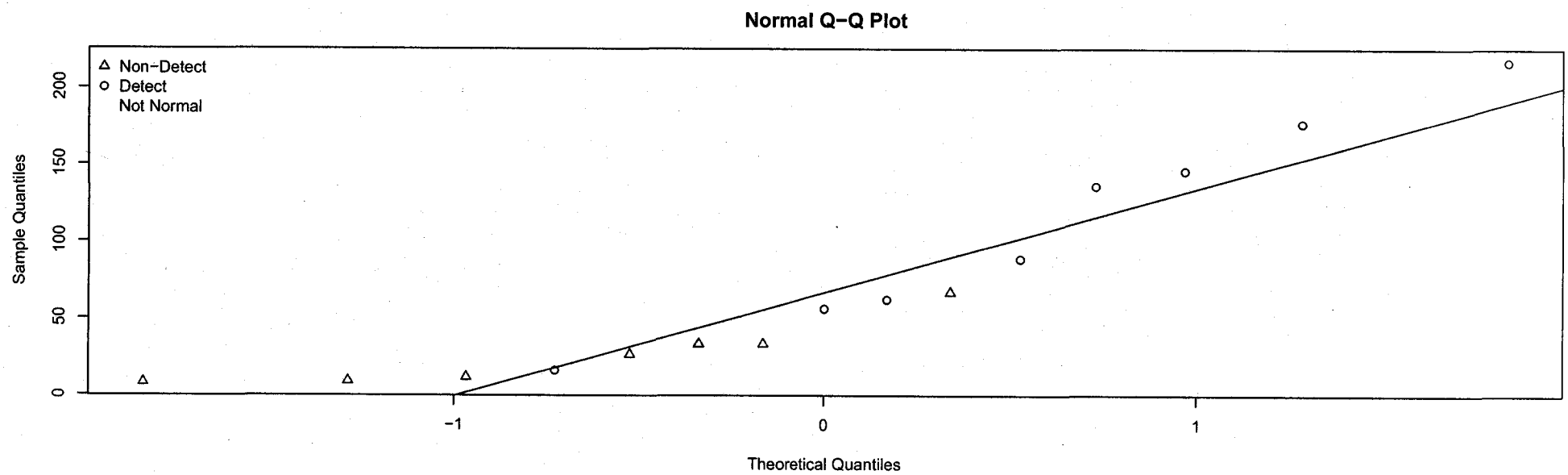


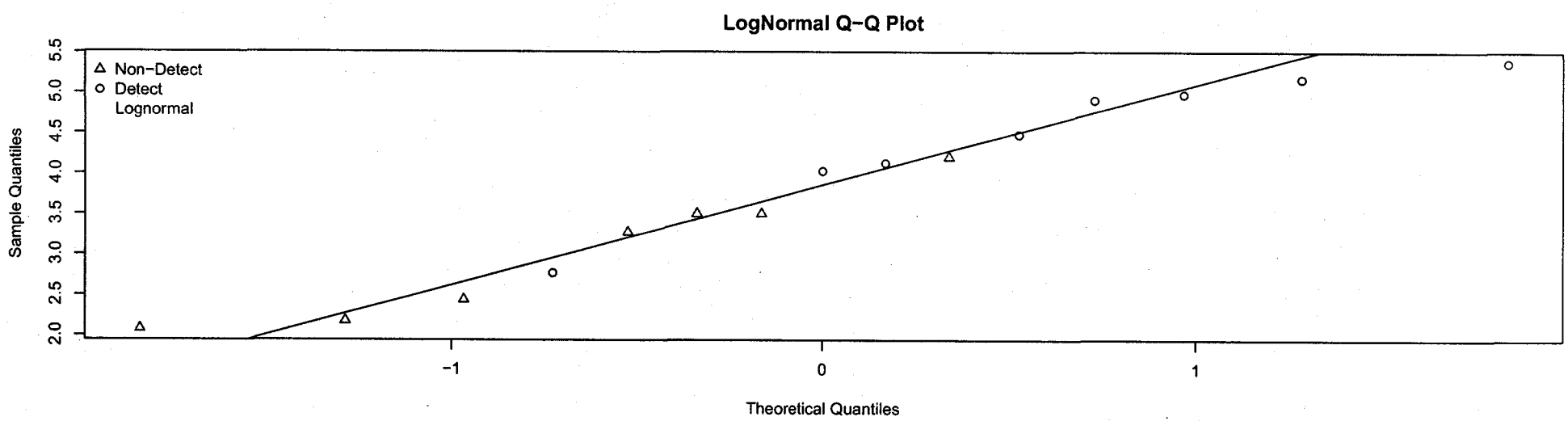
Transition
Fall Groundwater
IRON



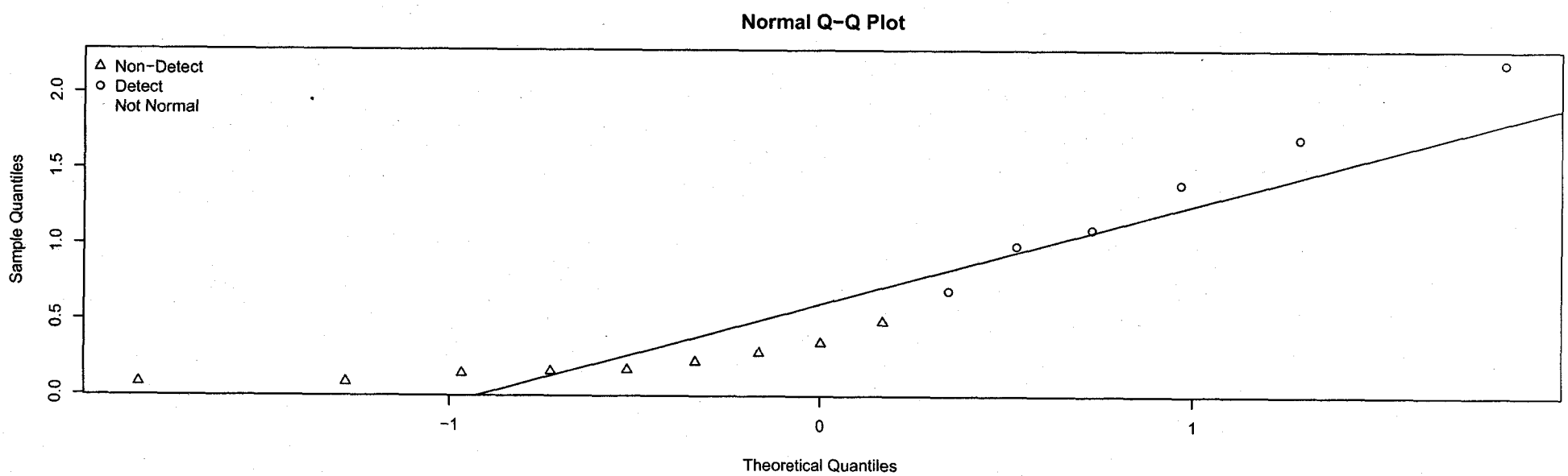


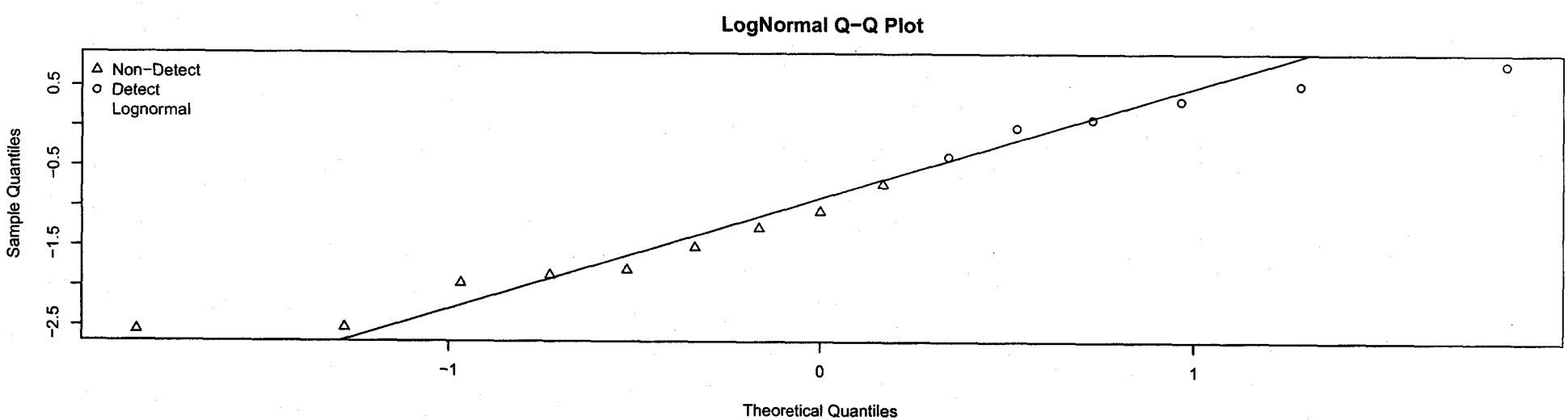
Transition
Fall Groundwater
IRON





Transition
Fall Groundwater
LEAD





Transition
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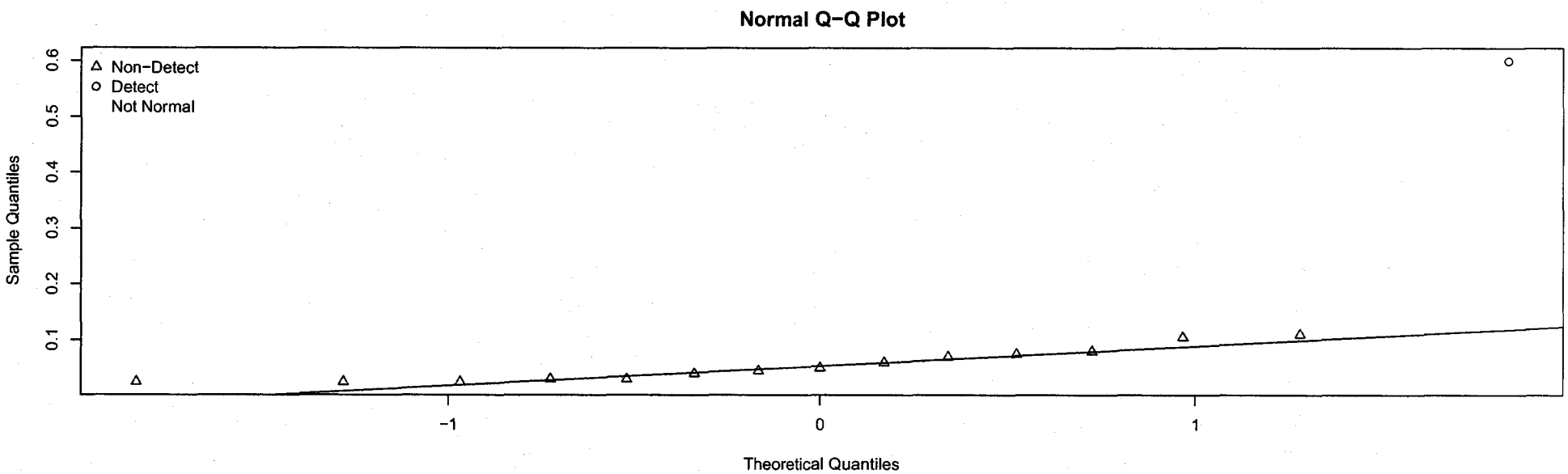
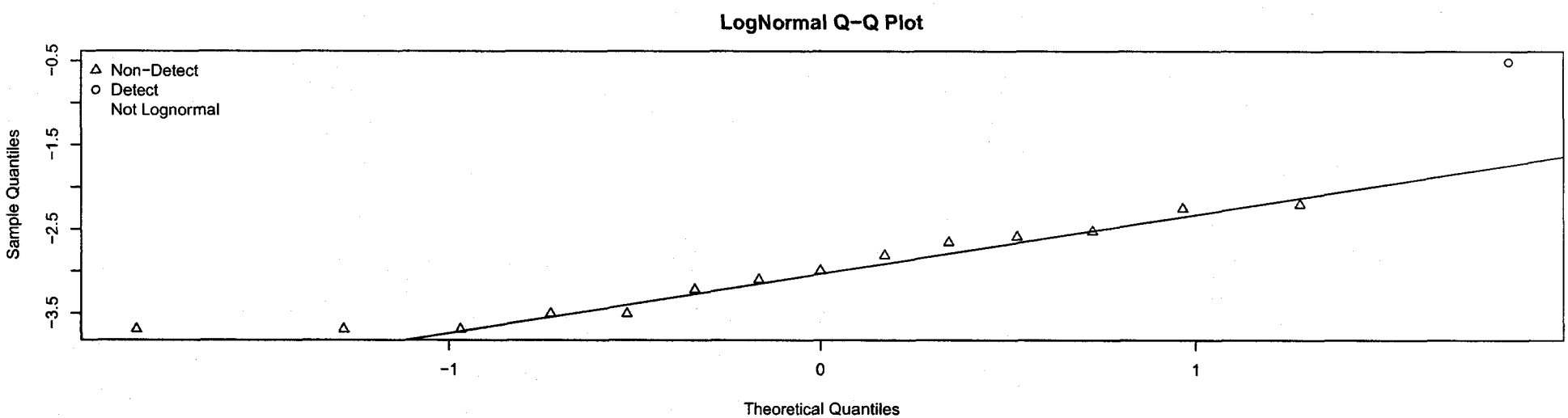
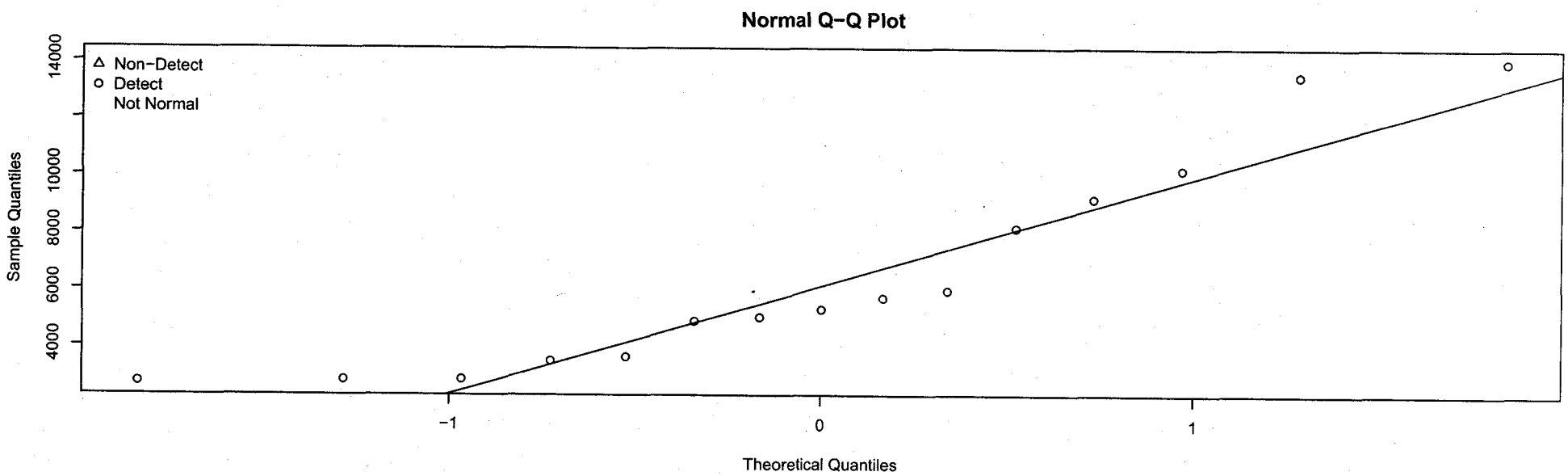
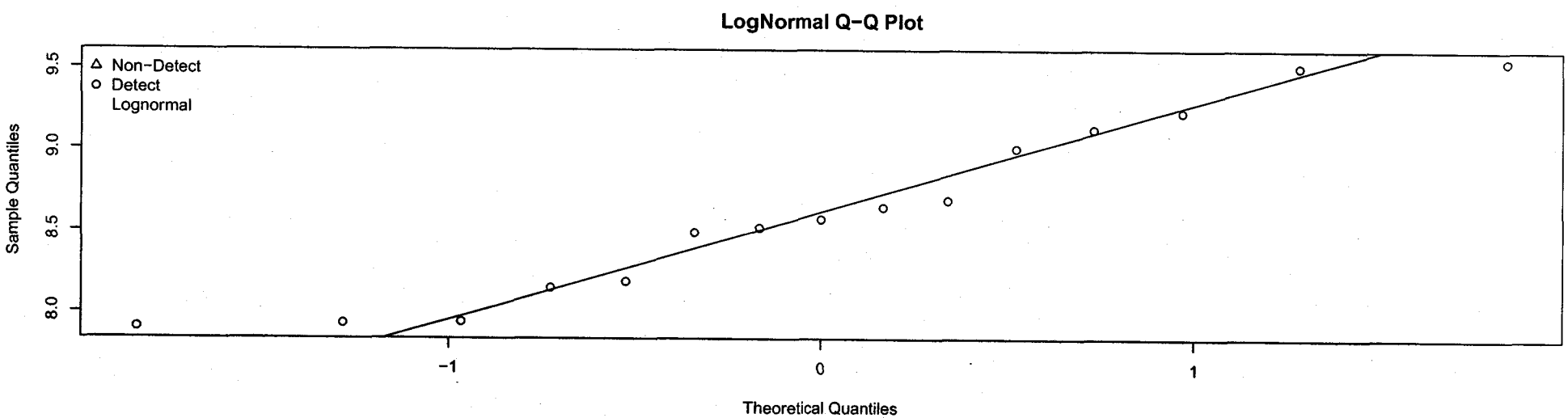
LEAD





Transition
Fall Groundwater
MAGNESIUM





Transition
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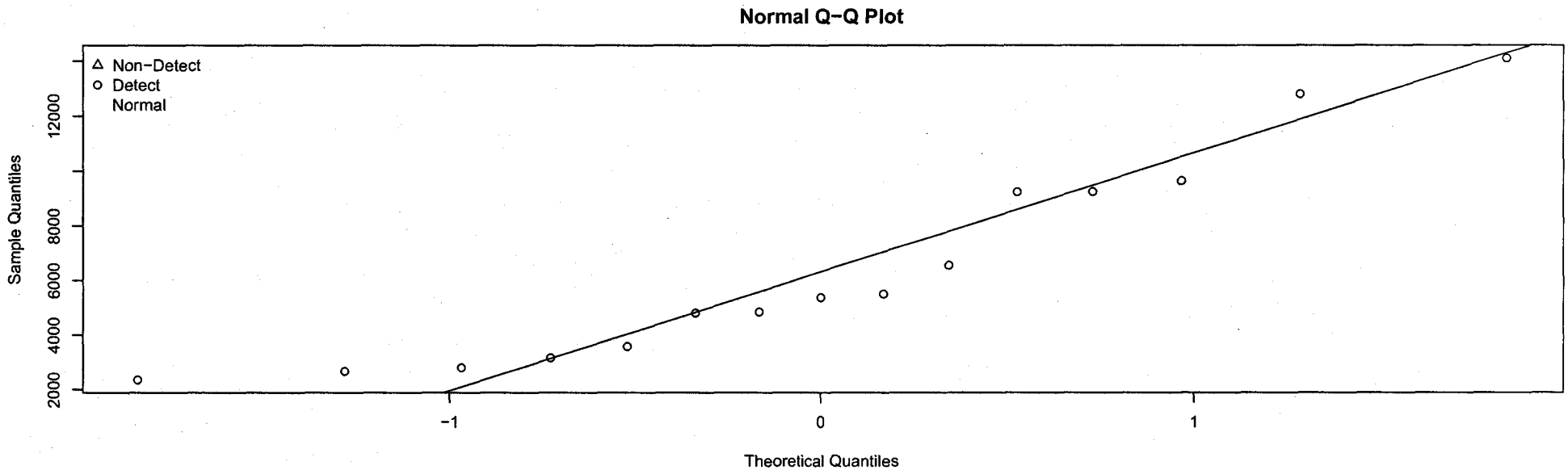
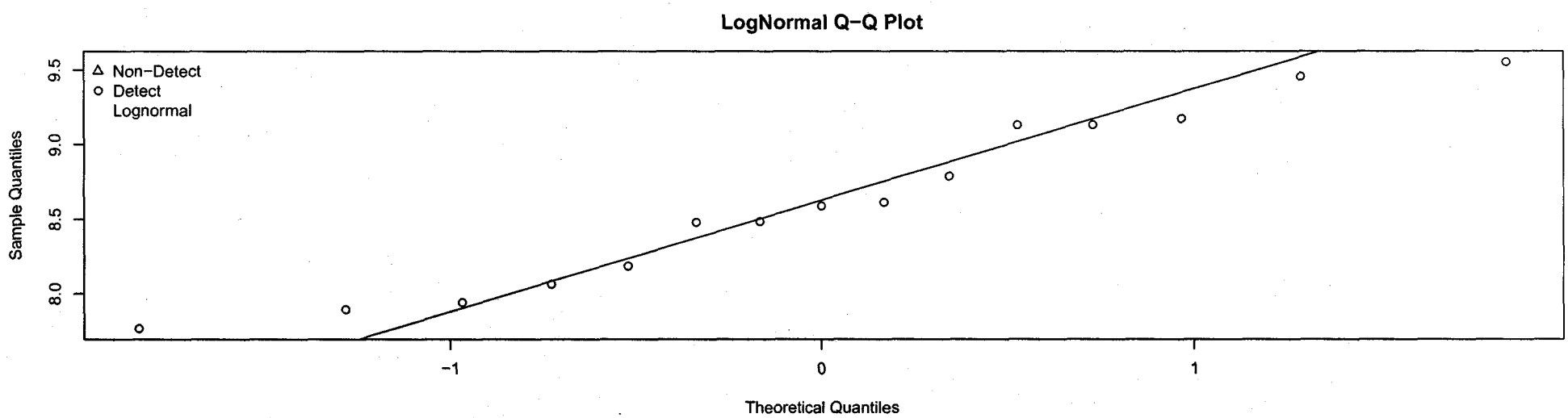
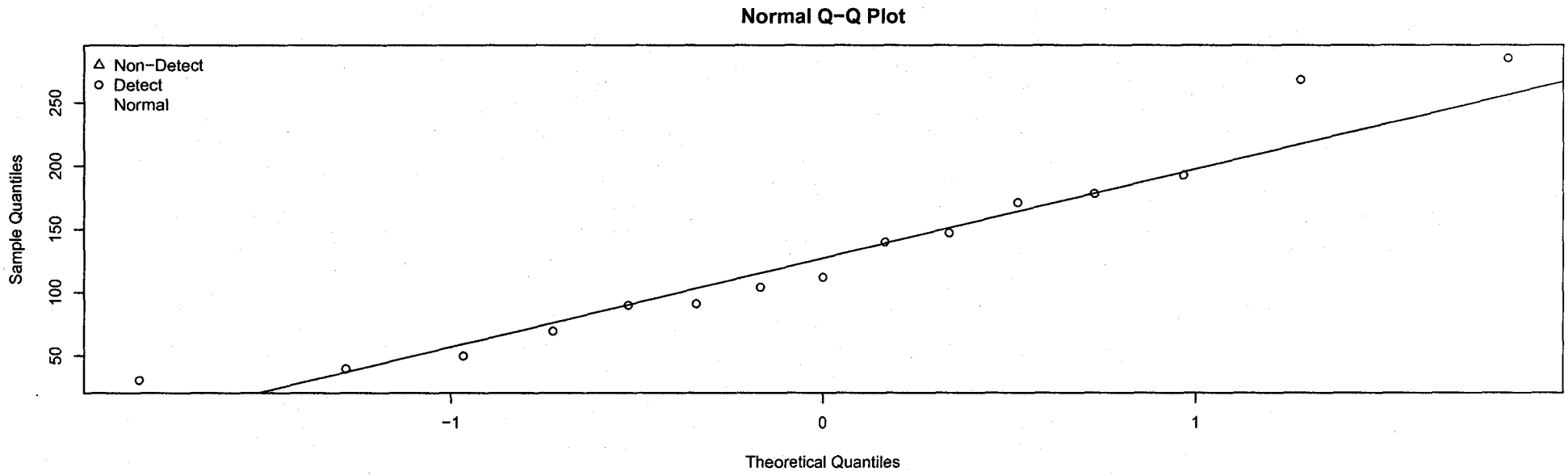
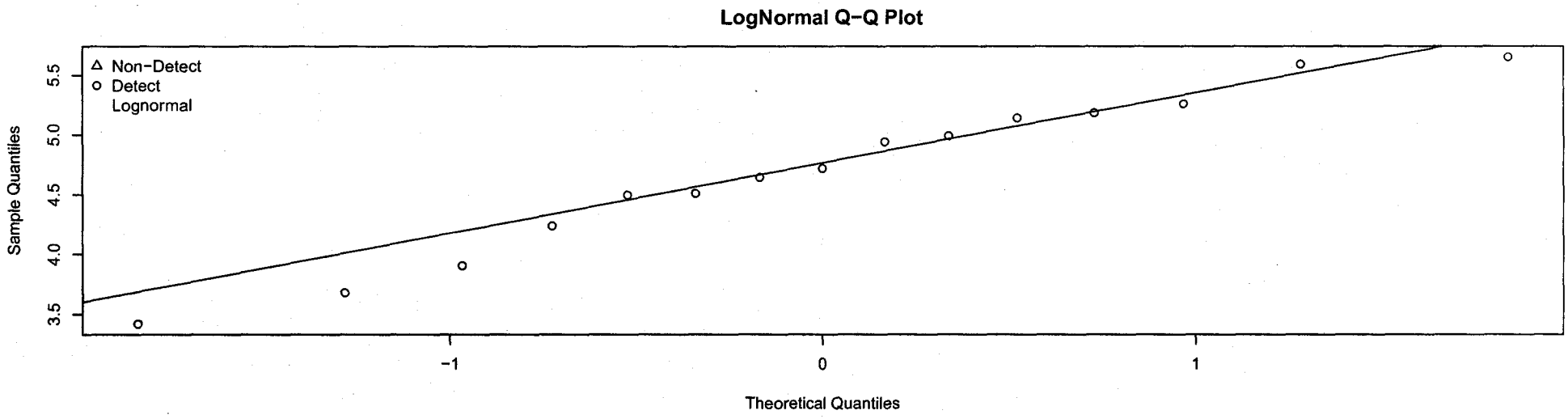
MAGNESIUM





Transition
Fall Groundwater
MANGANESE





Transition
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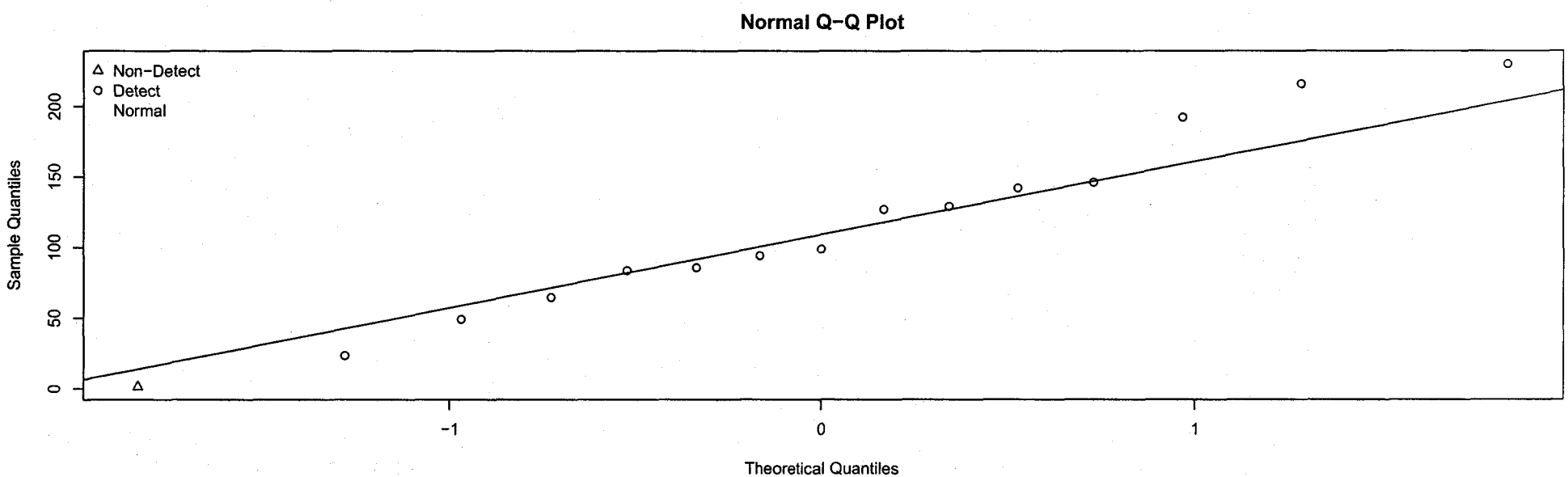
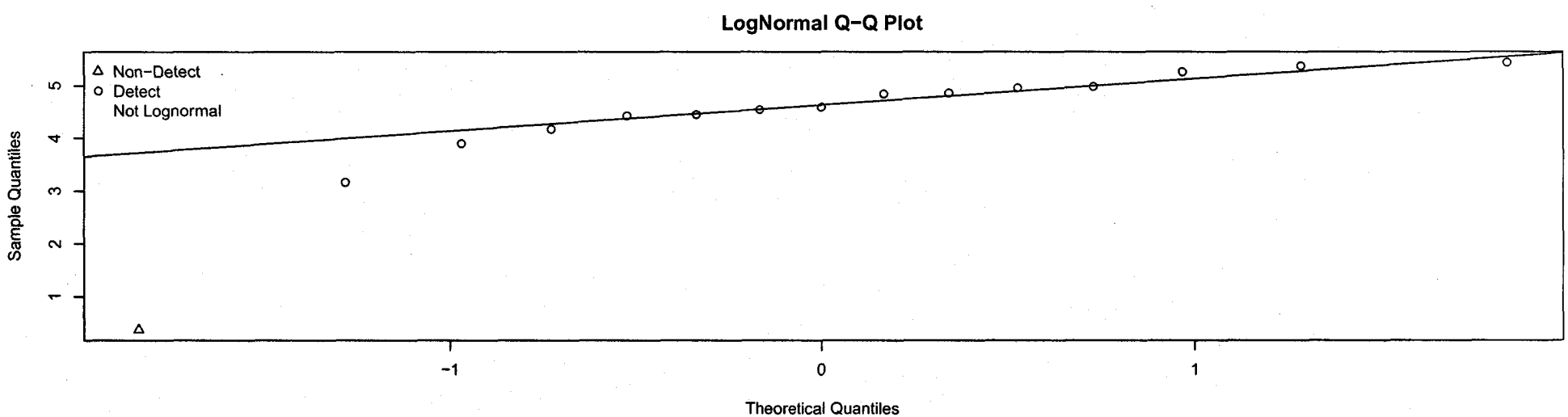
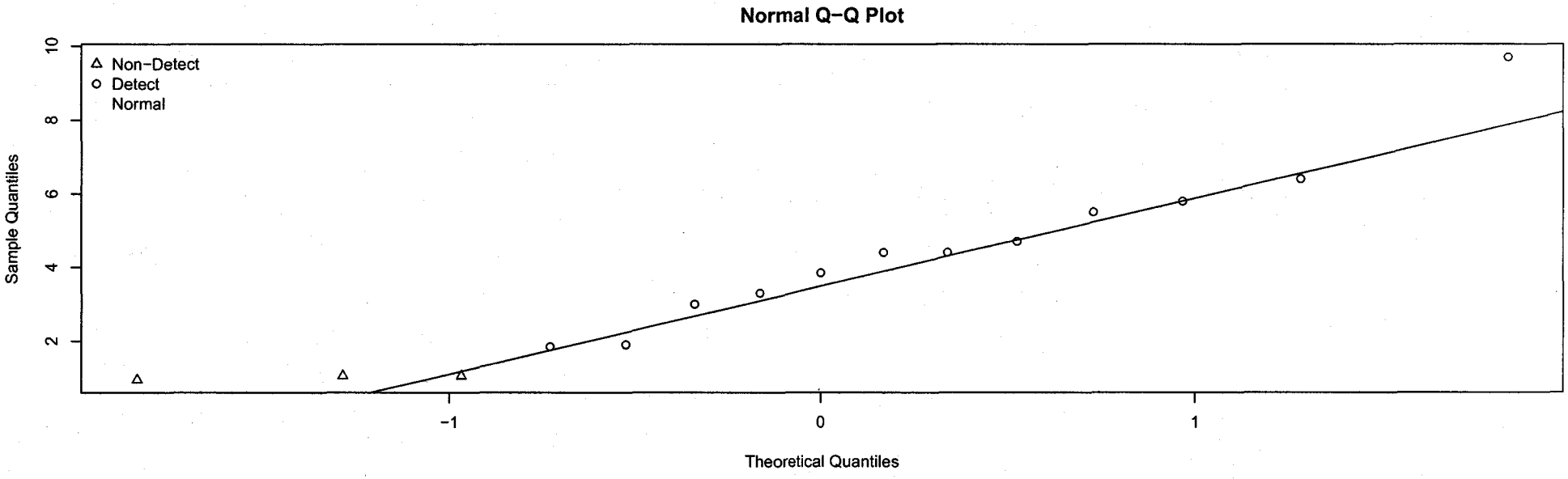
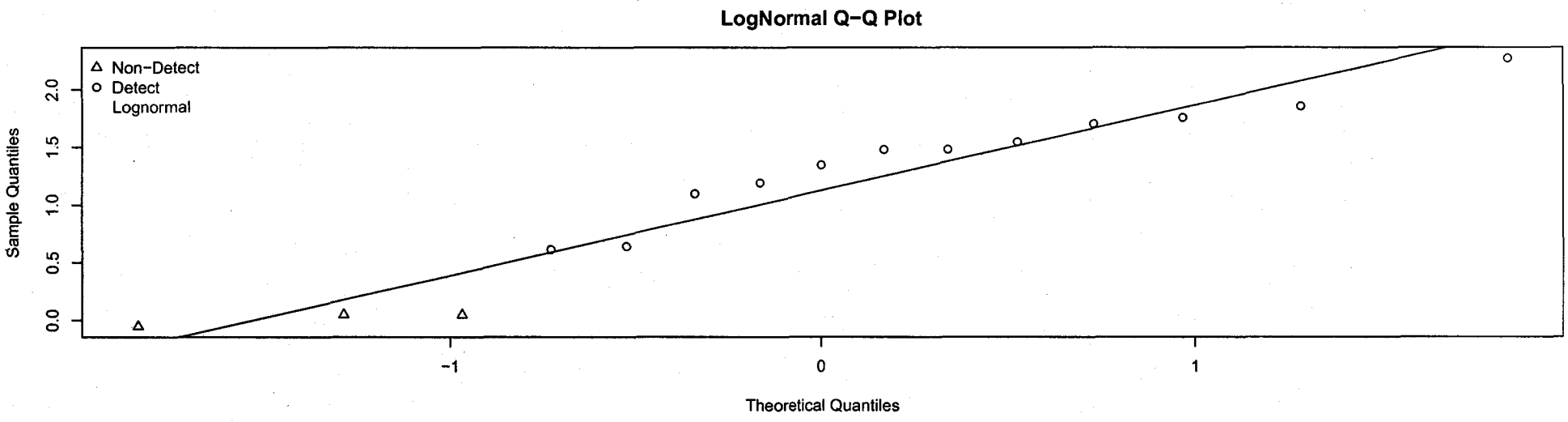
MANGANESE



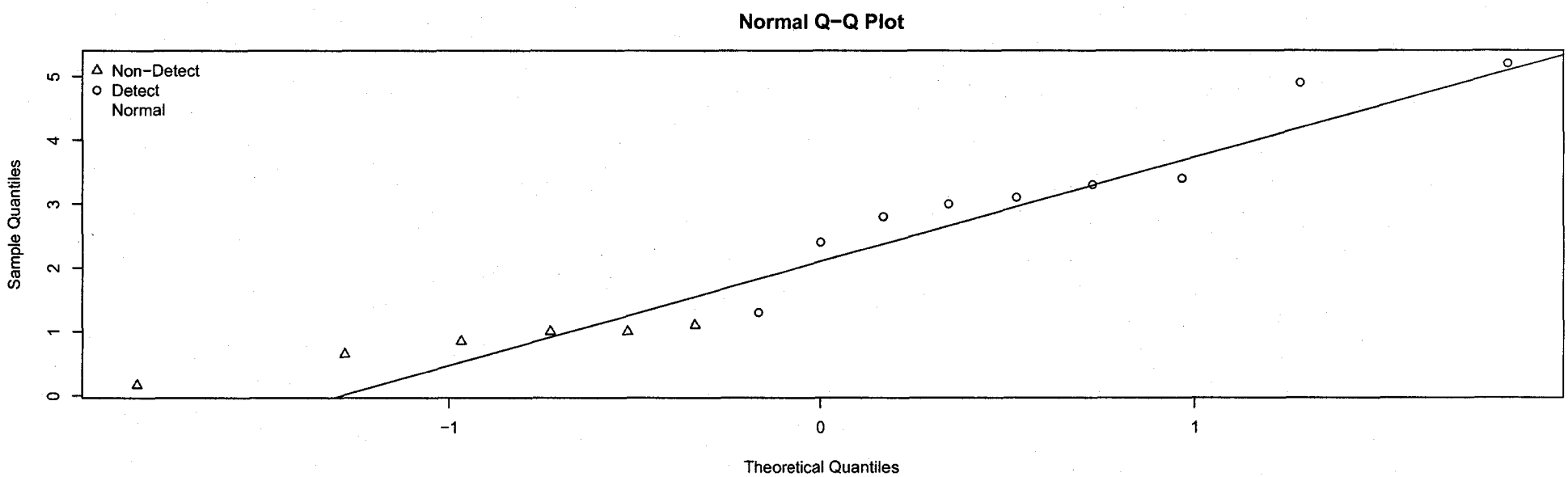


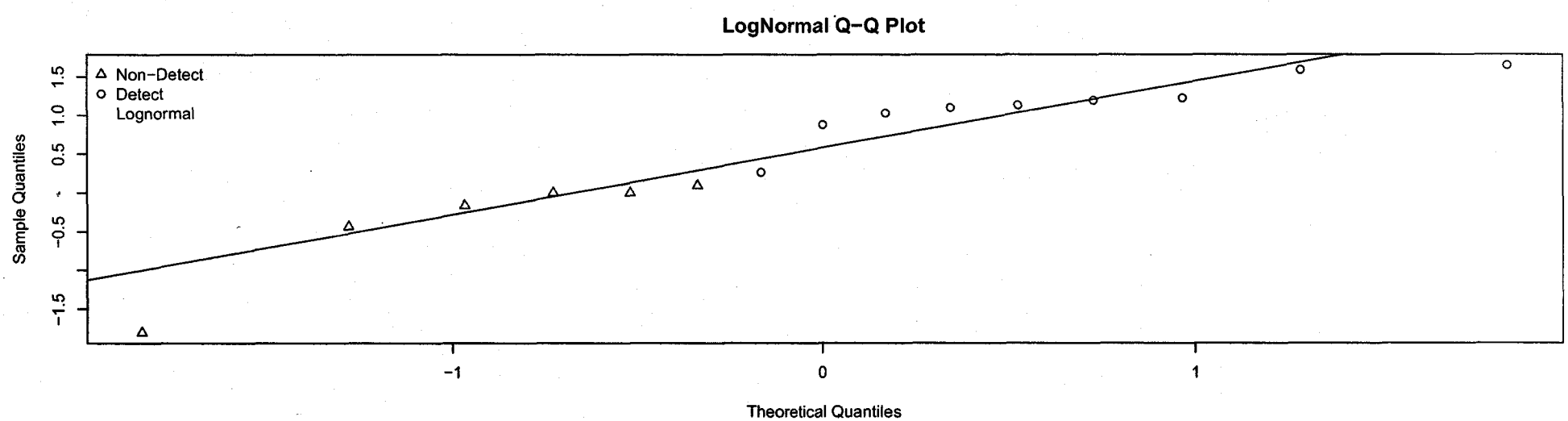
Transition
Fall Groundwater
NICKEL



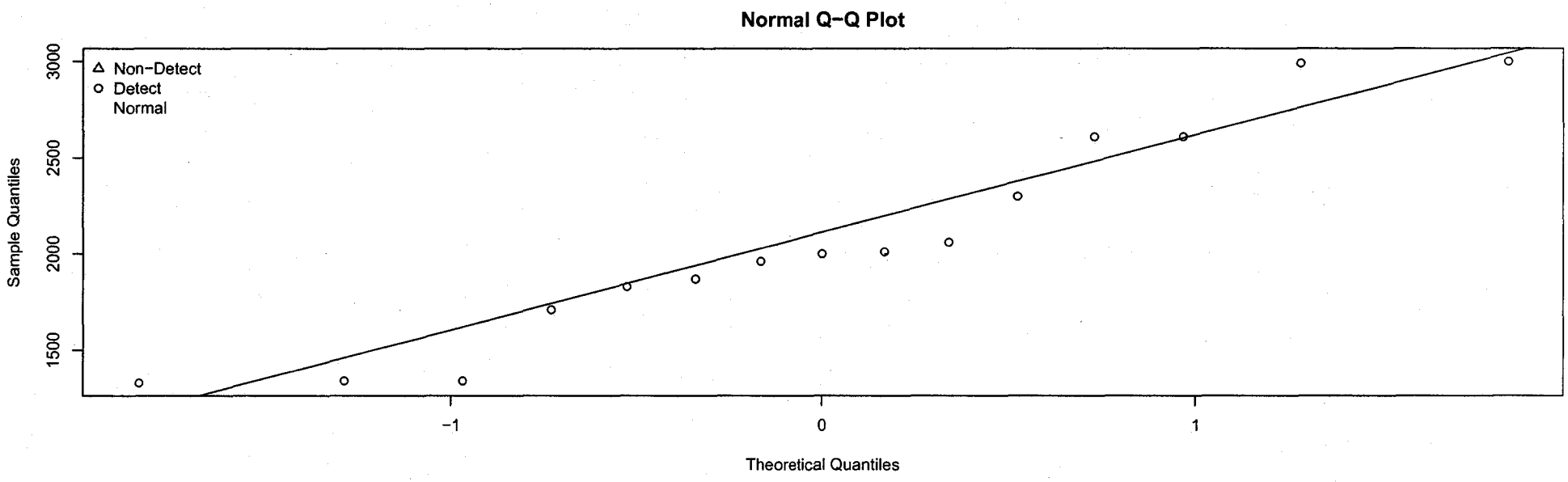


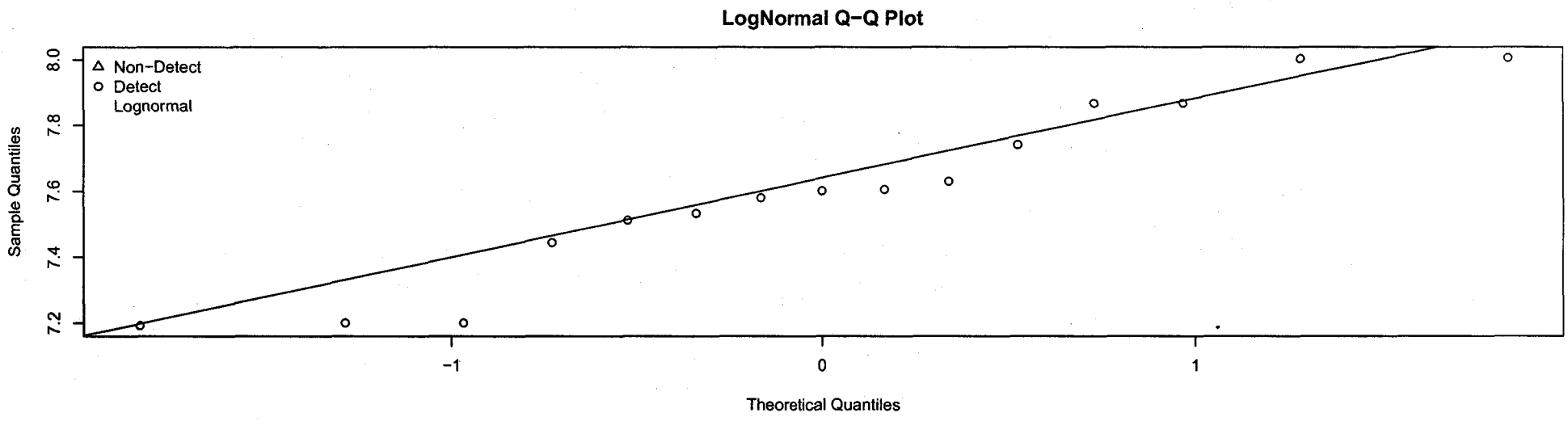
Transition
Fall Groundwater
NICKEL



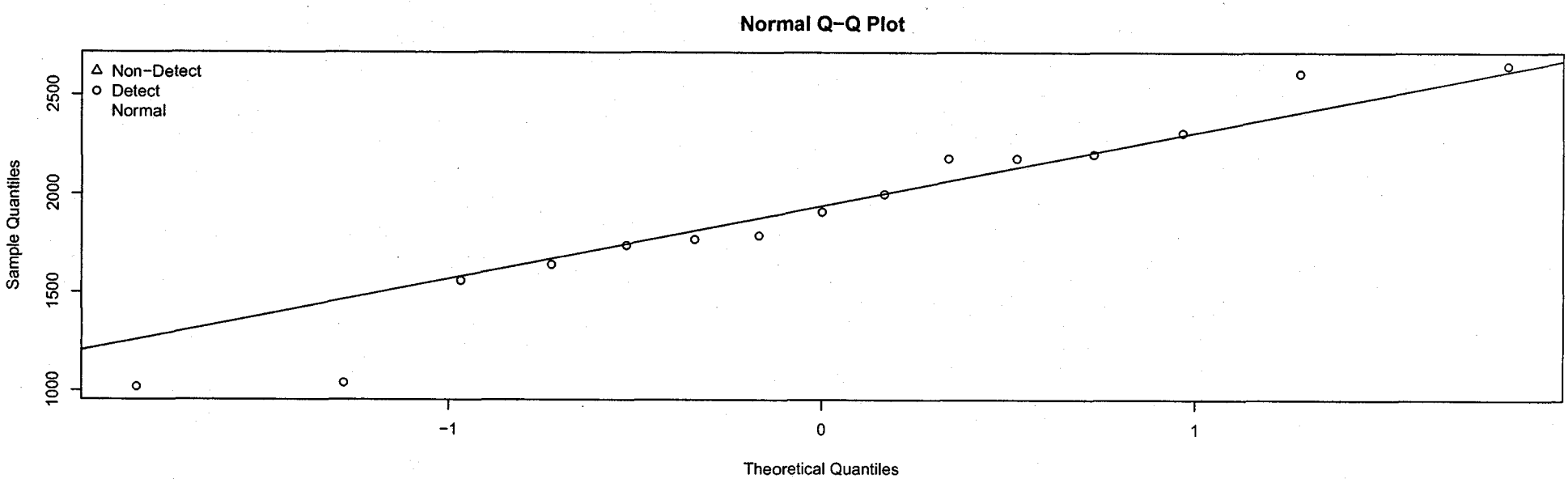


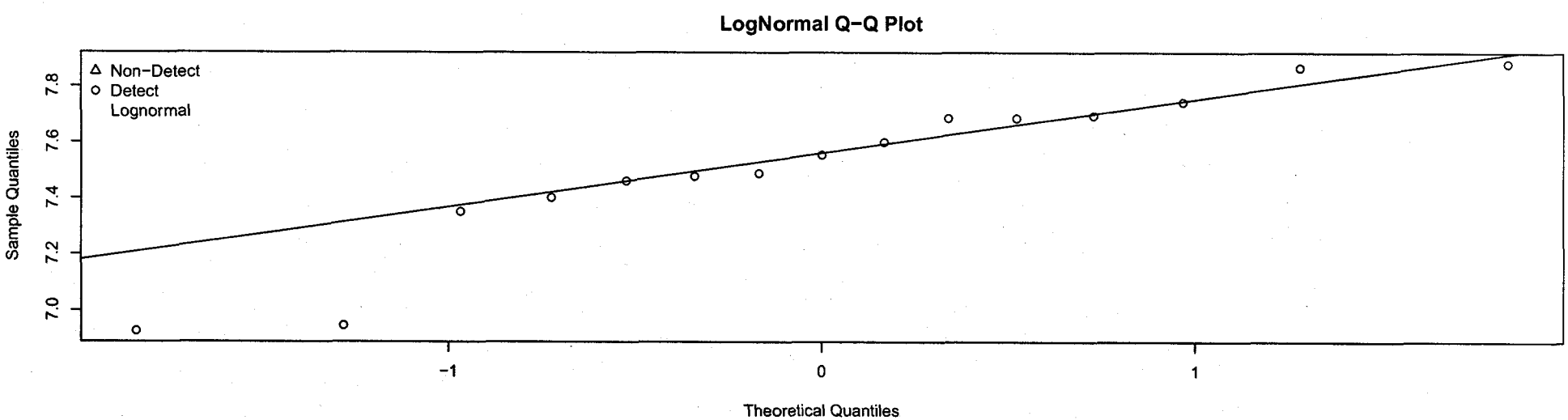
Transition
Fall Groundwater
POTASSIUM



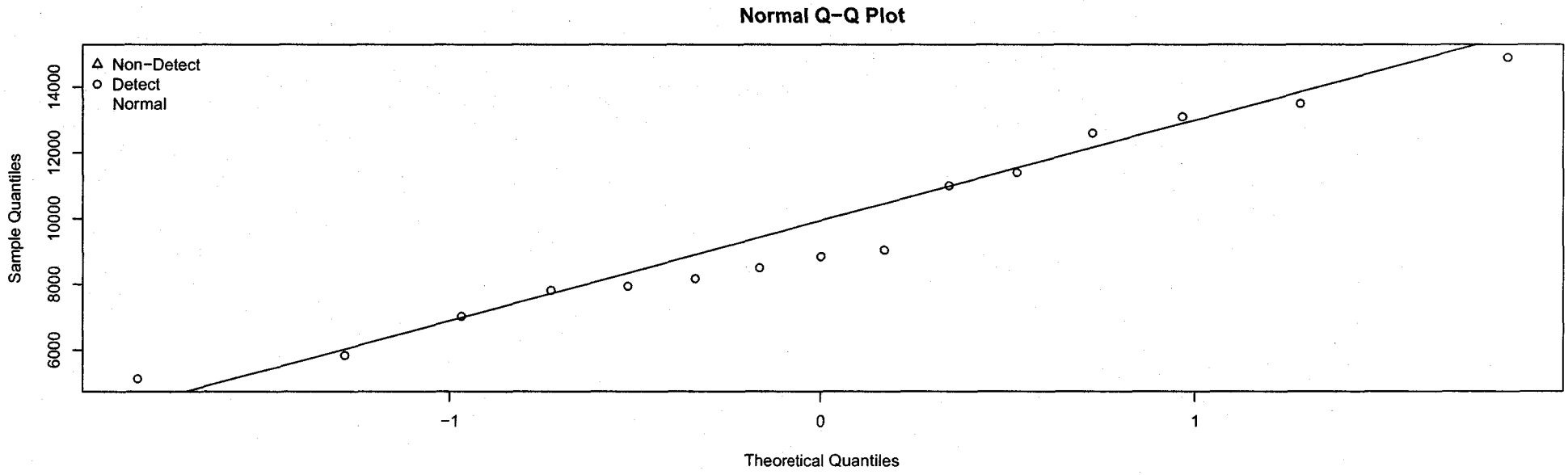


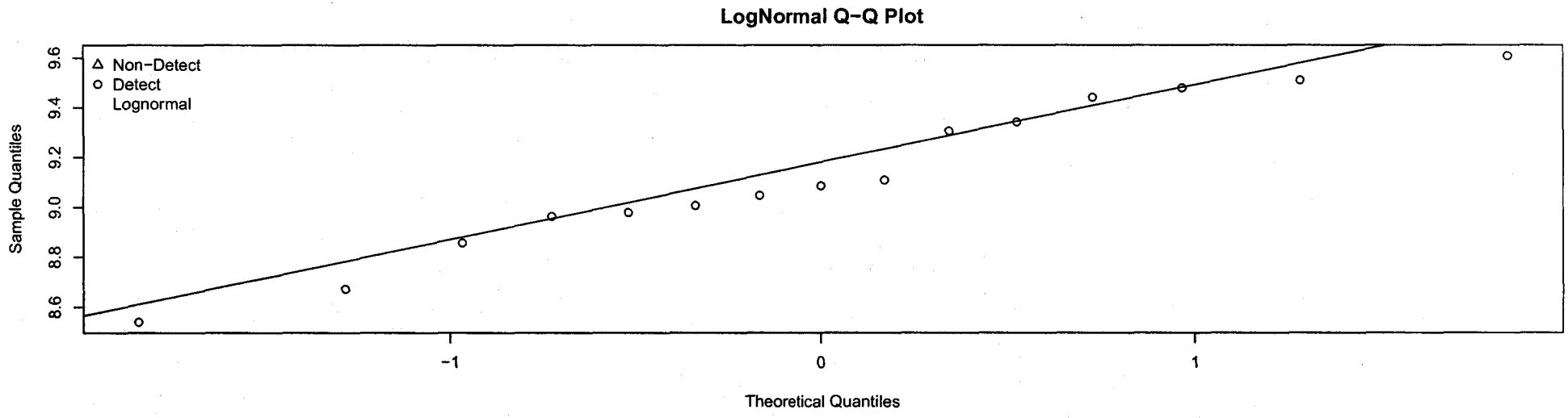
Transition
Fall Groundwater
POTASSIUM



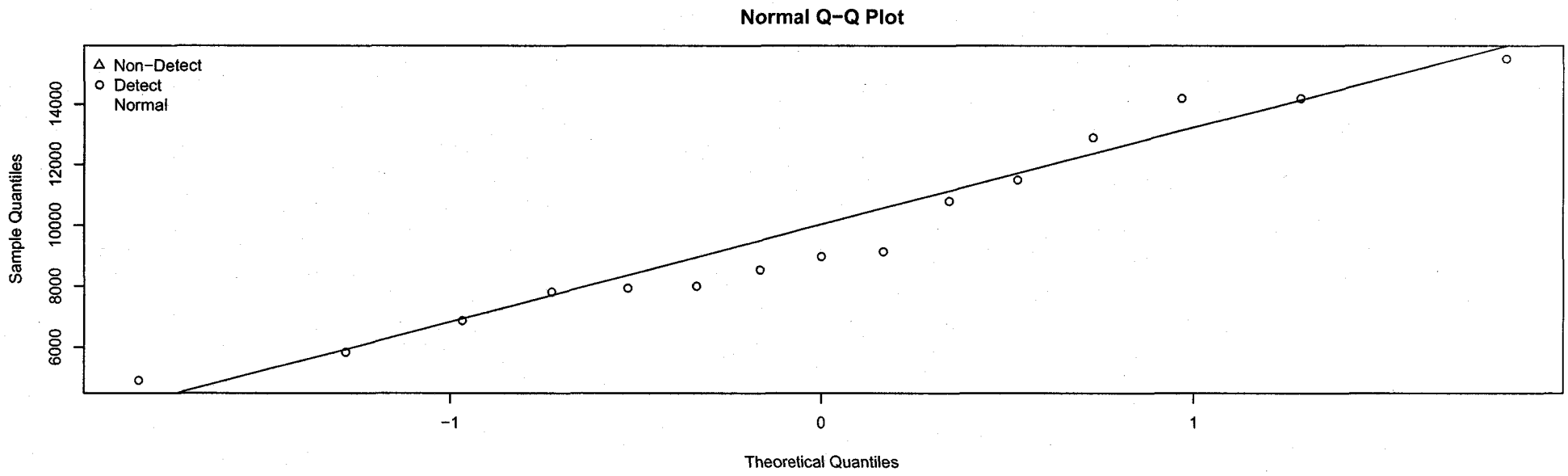


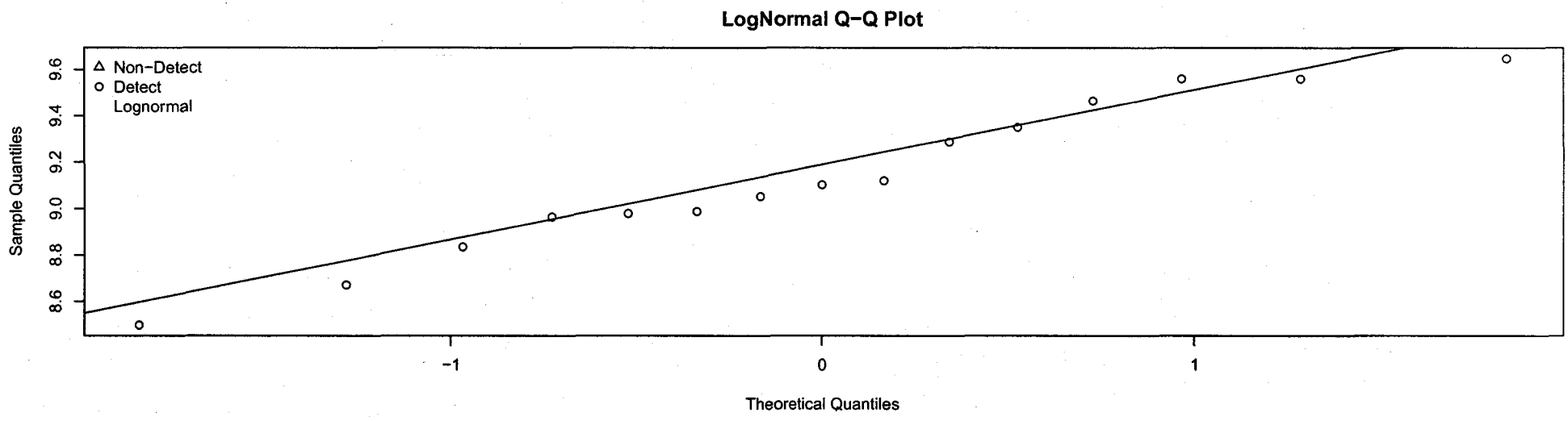
Transition
Fall Groundwater
SODIUM



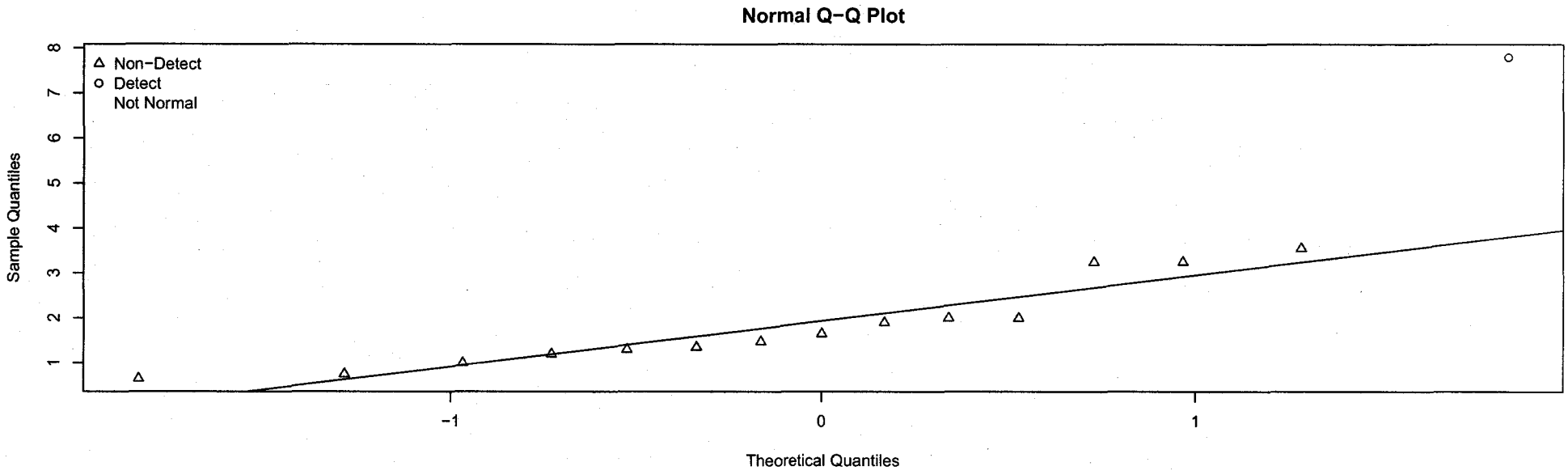


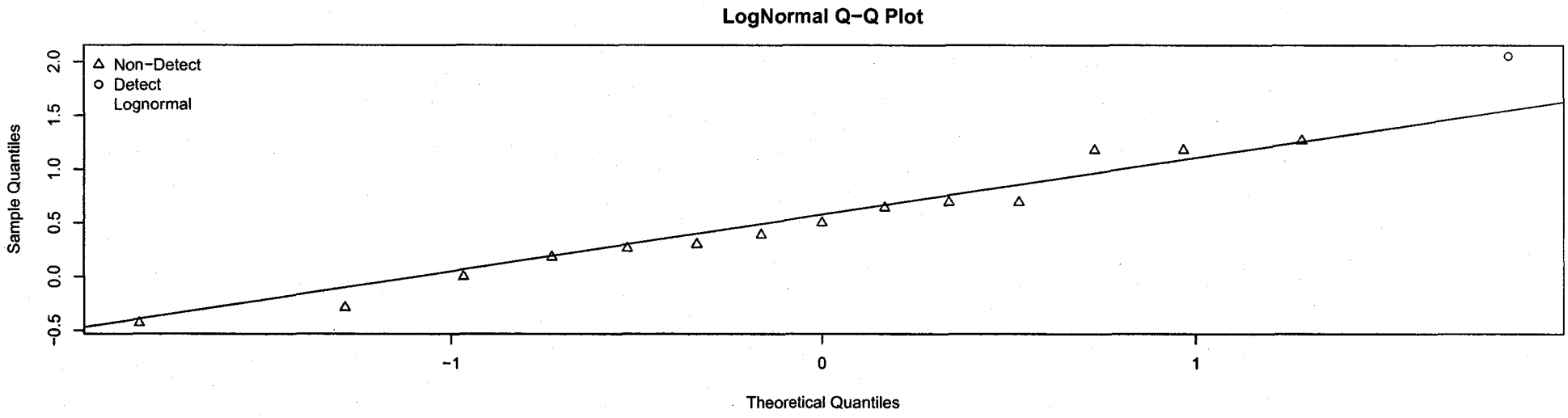
Transition
Fall Groundwater
SODIUM



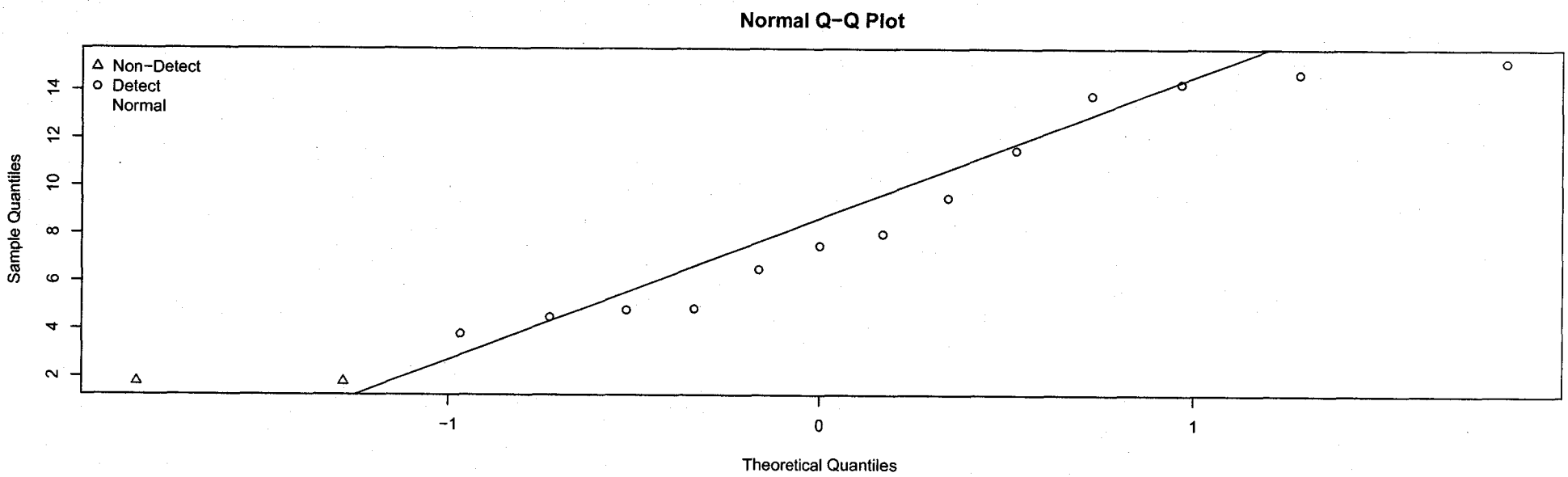


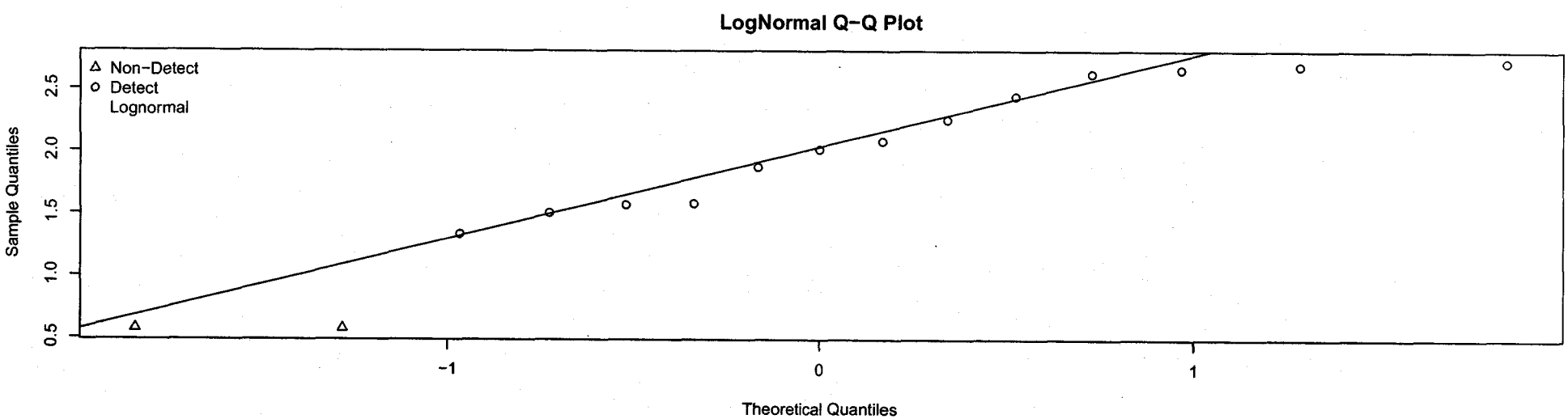
Transition
Fall Groundwater
VANADIUM



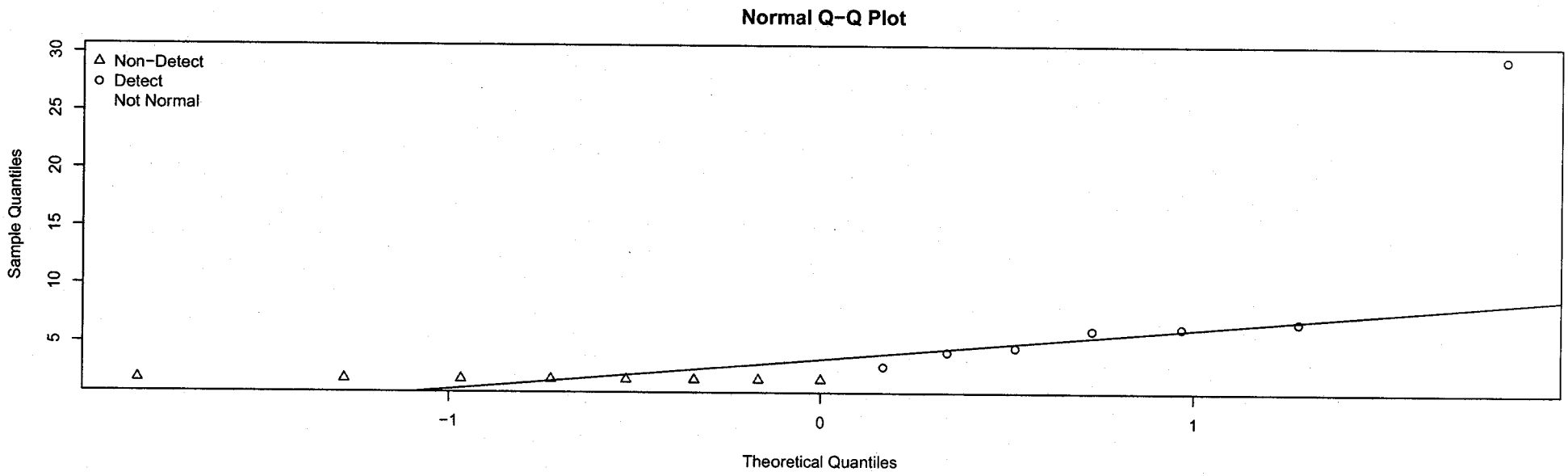


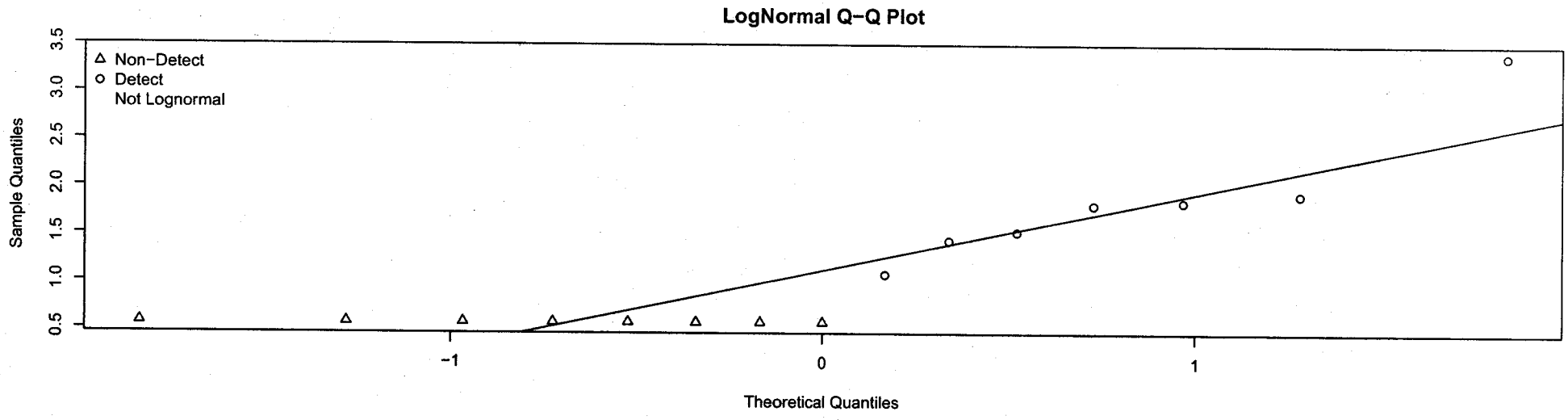
Transition
Fall Groundwater
ZINC



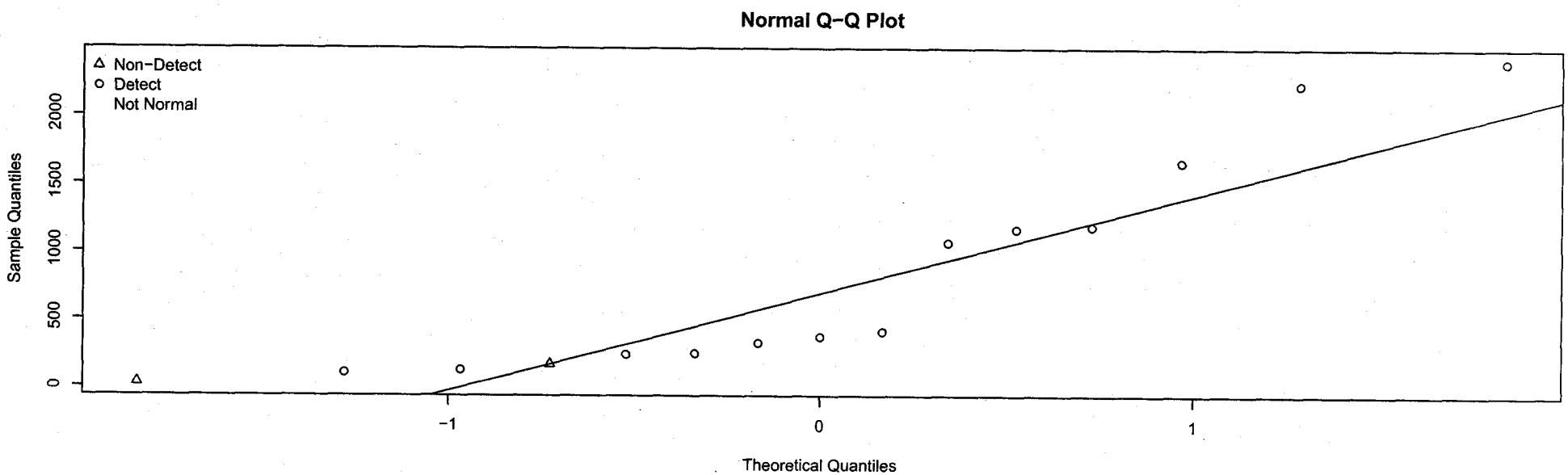


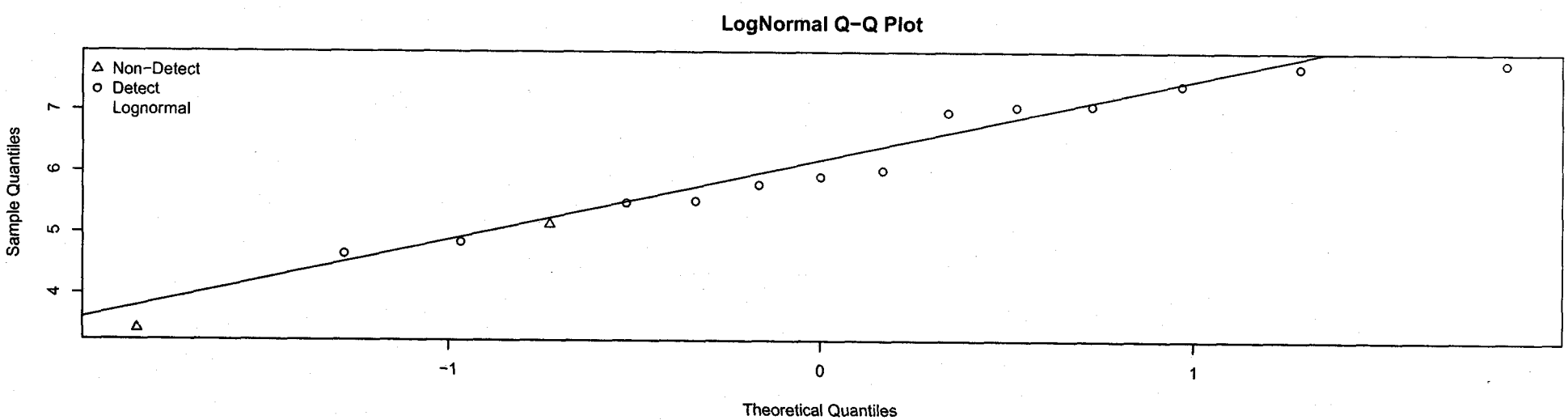
Transition
Fall Groundwater
ZINC





Transition
Spring Groundwater
ALUMINUM





Transition
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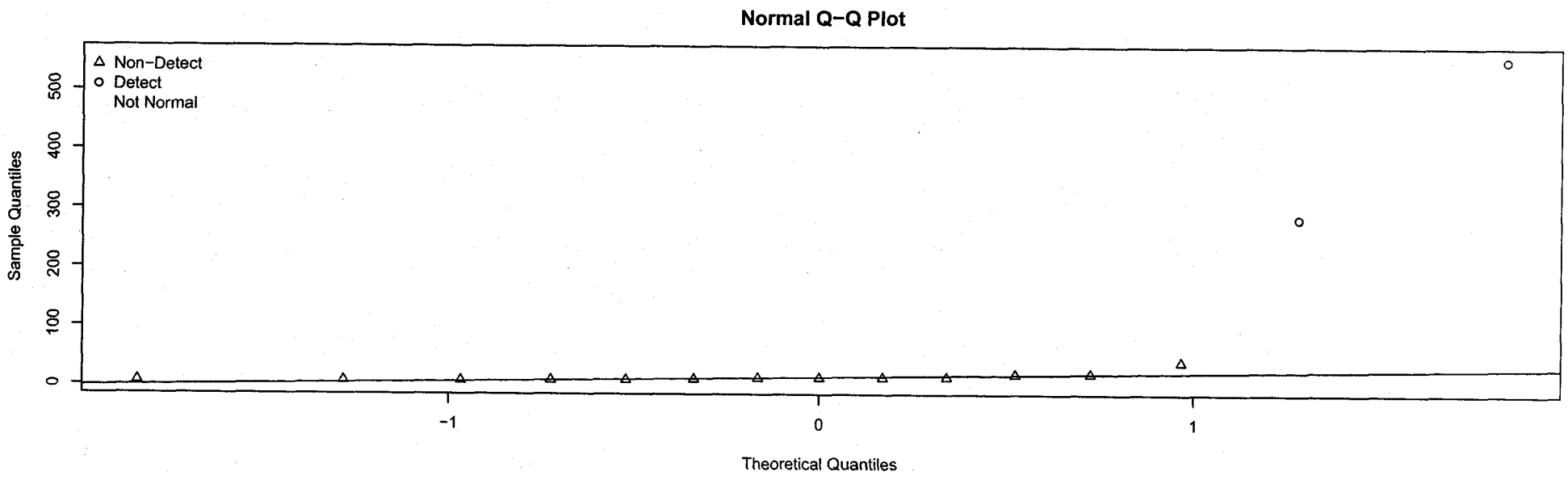
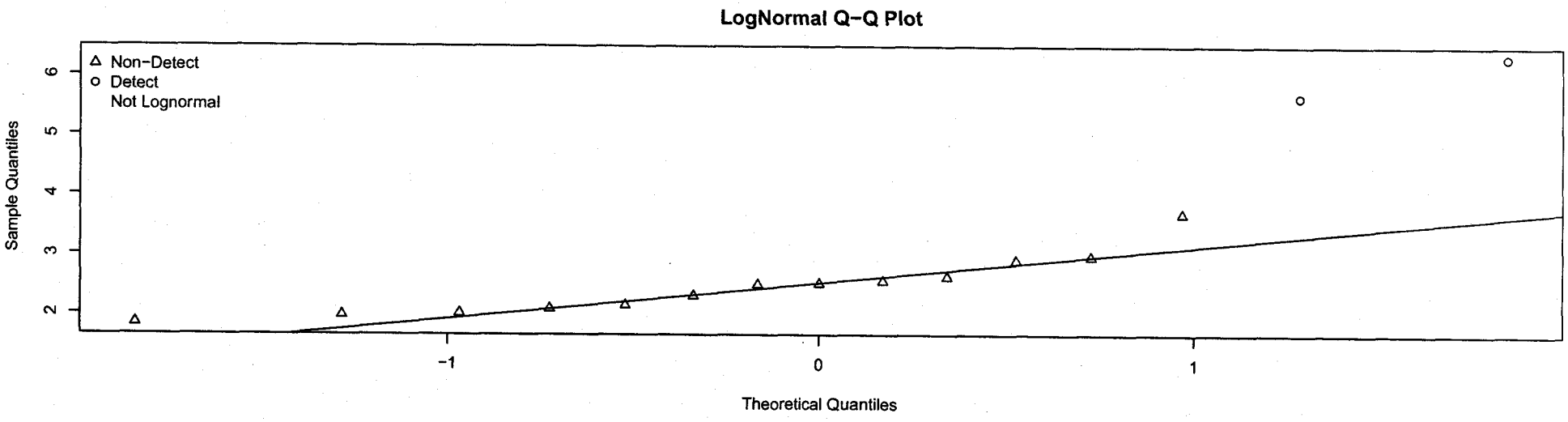
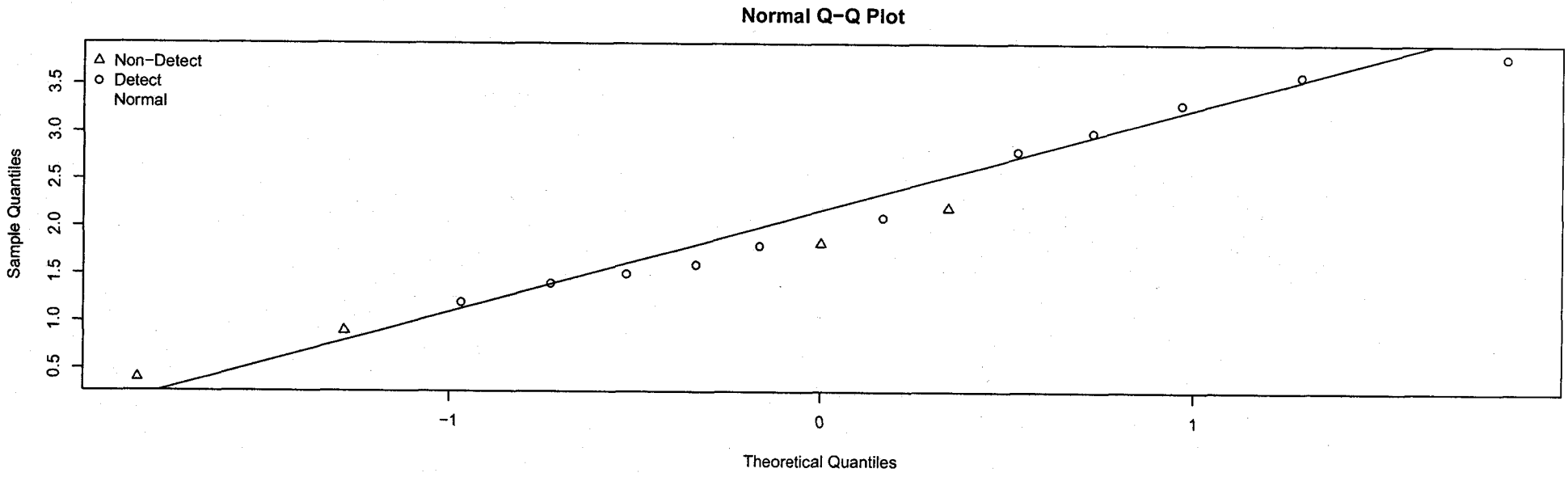
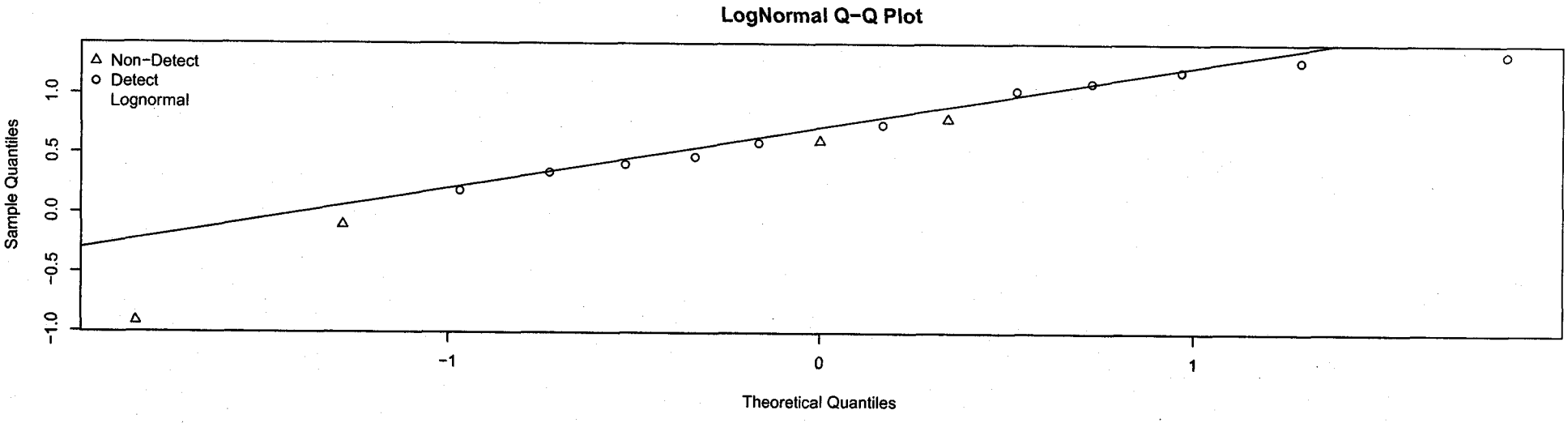
ALUMINUM



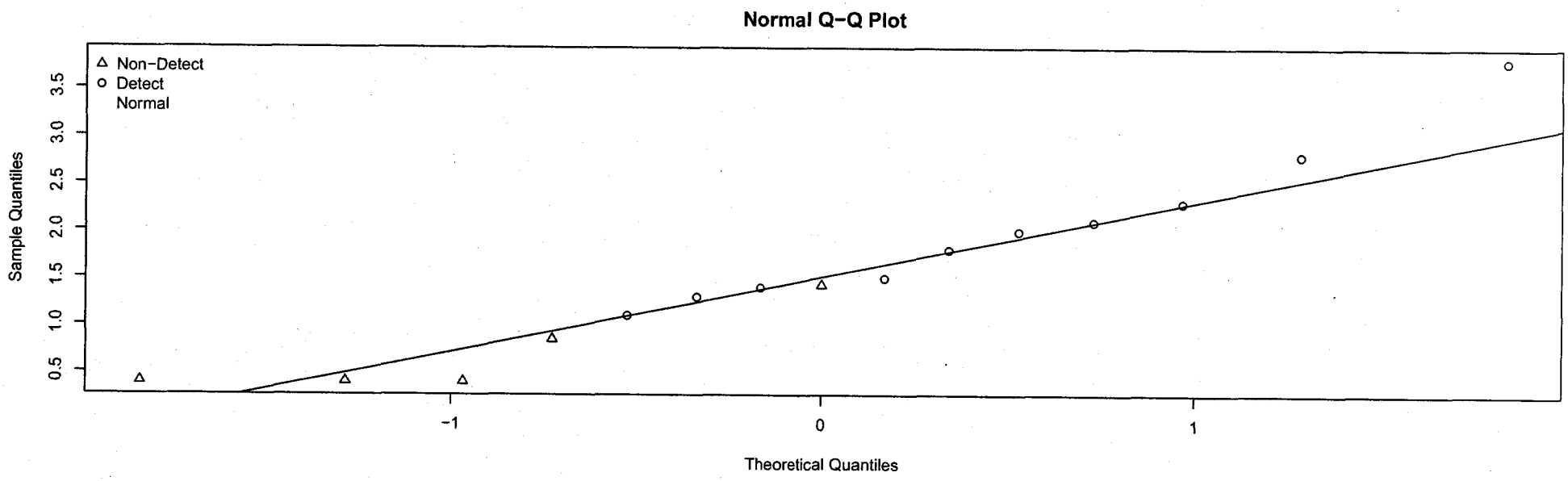


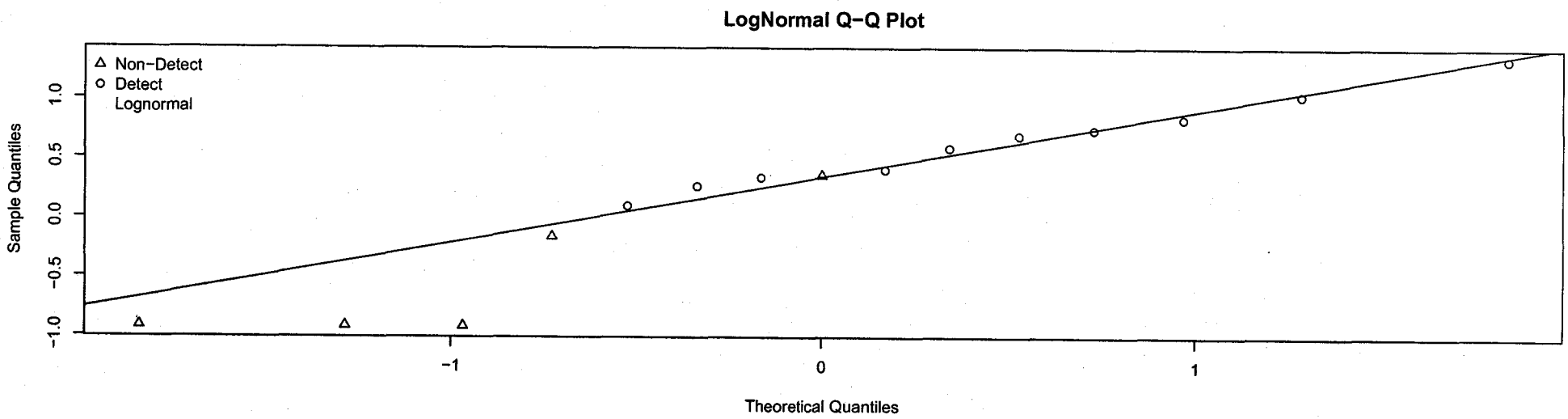
Transition
Spring Groundwater
ARSENIC



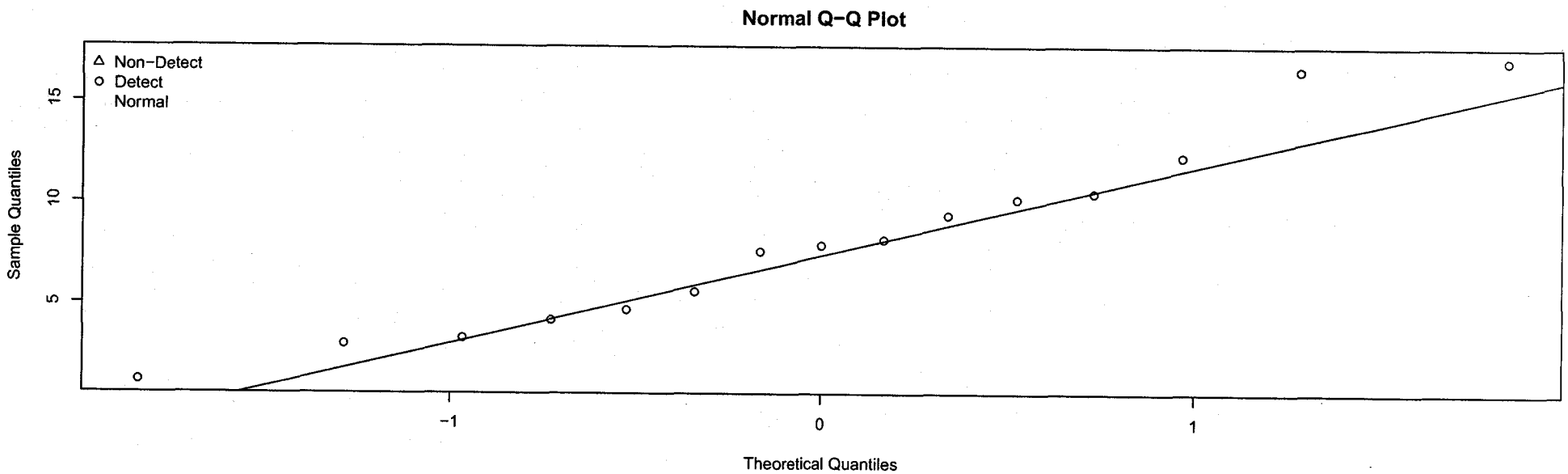


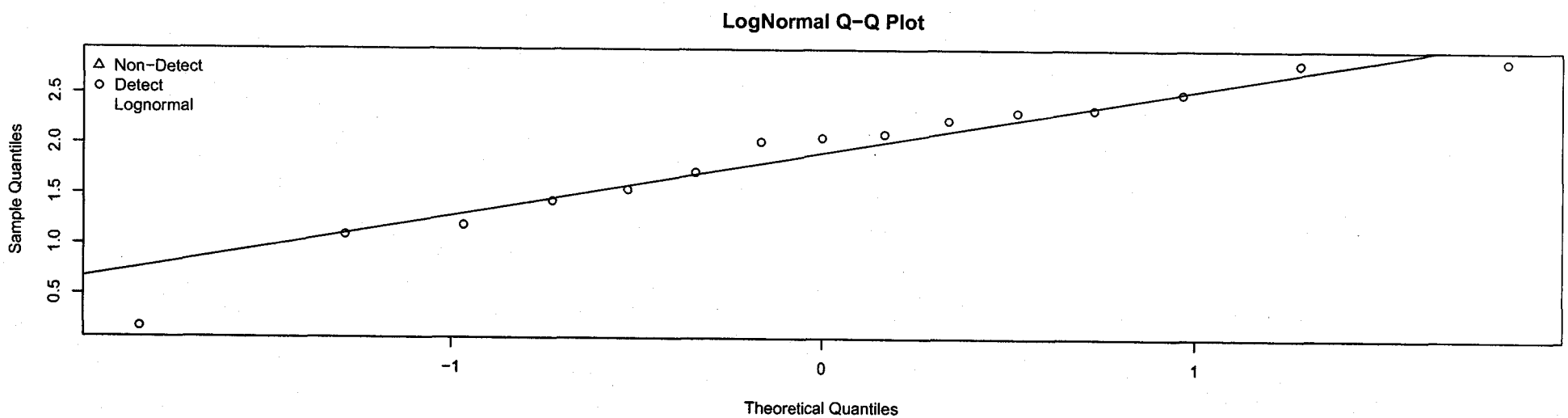
Transition
Spring Groundwater
ARSENIC





Transition
Spring Groundwater
BARIUM





Transition
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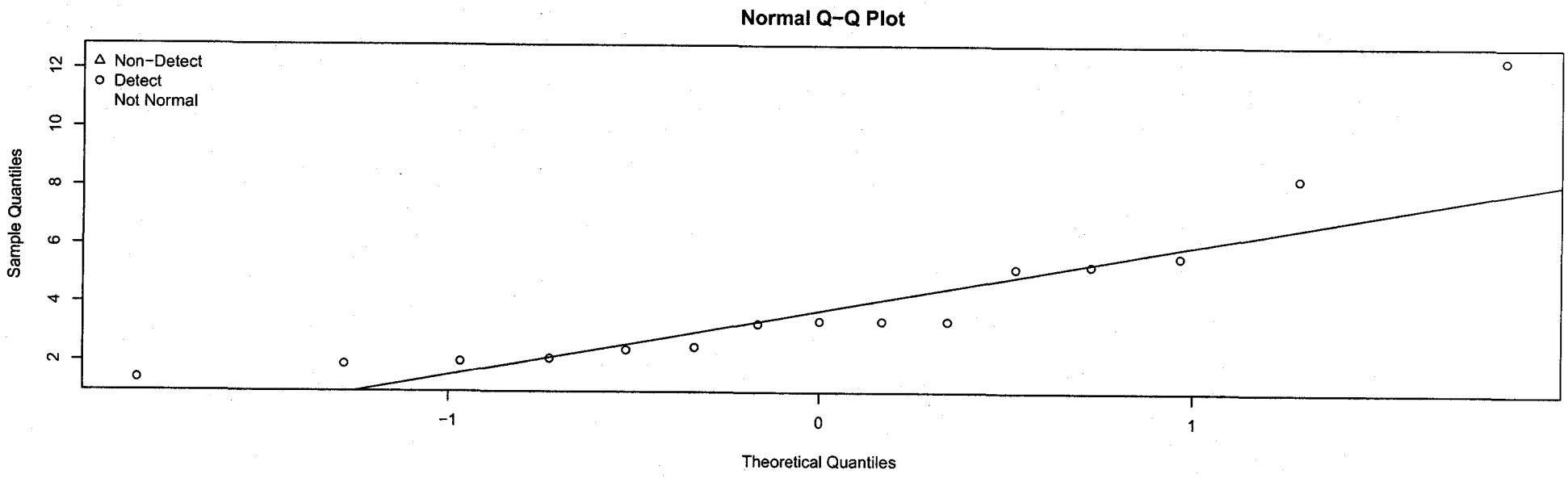
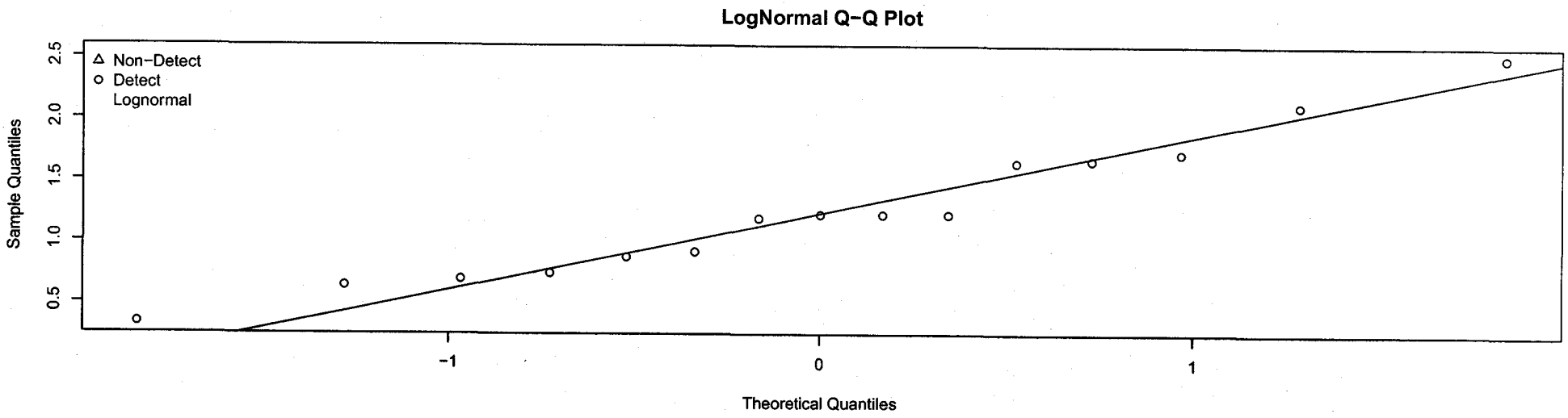
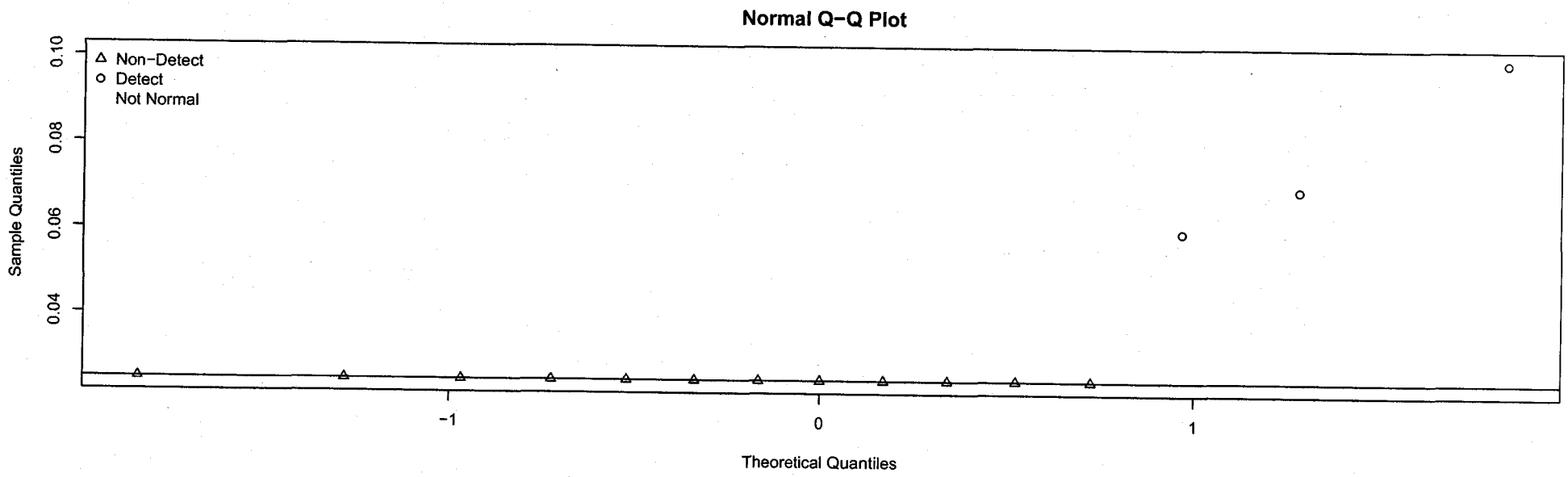
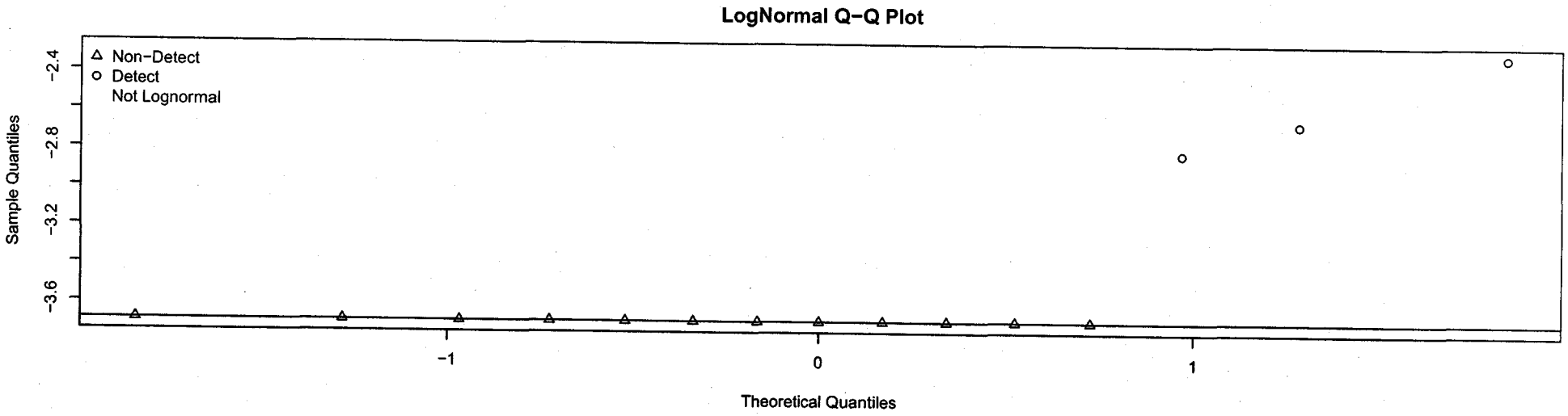
BARIUM



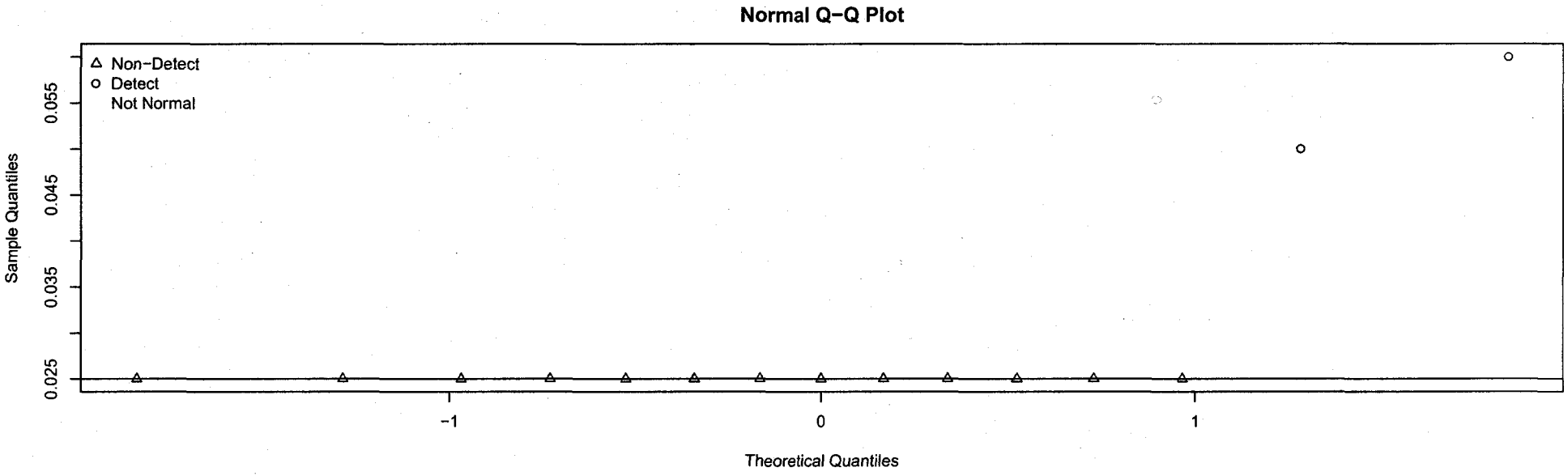


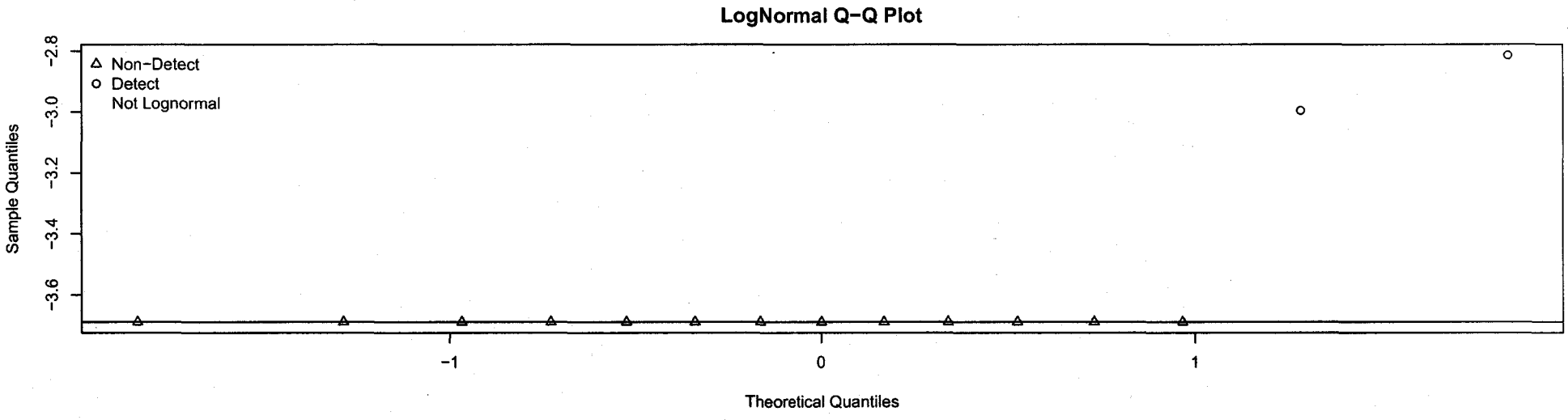
Transition
Spring Groundwater
BERYLLIUM



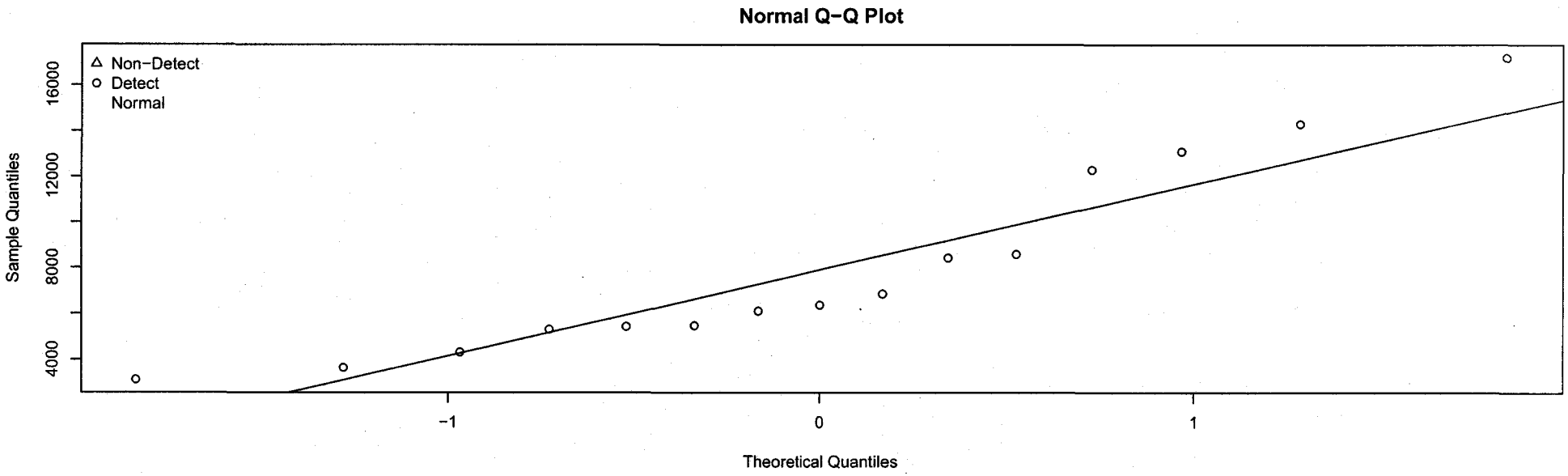


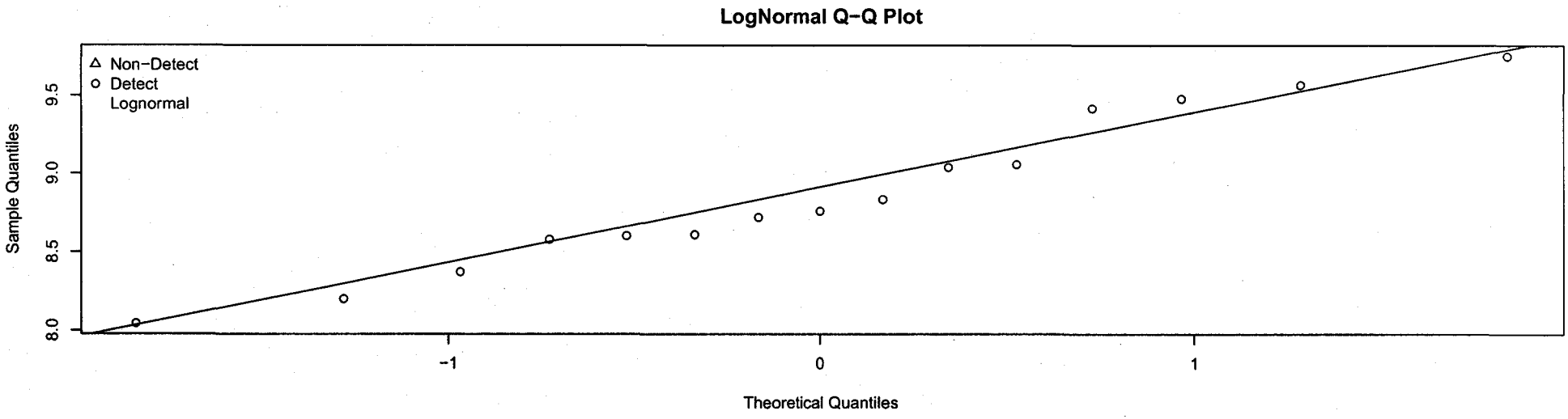
Transition
Spring Groundwater
CADMIUM



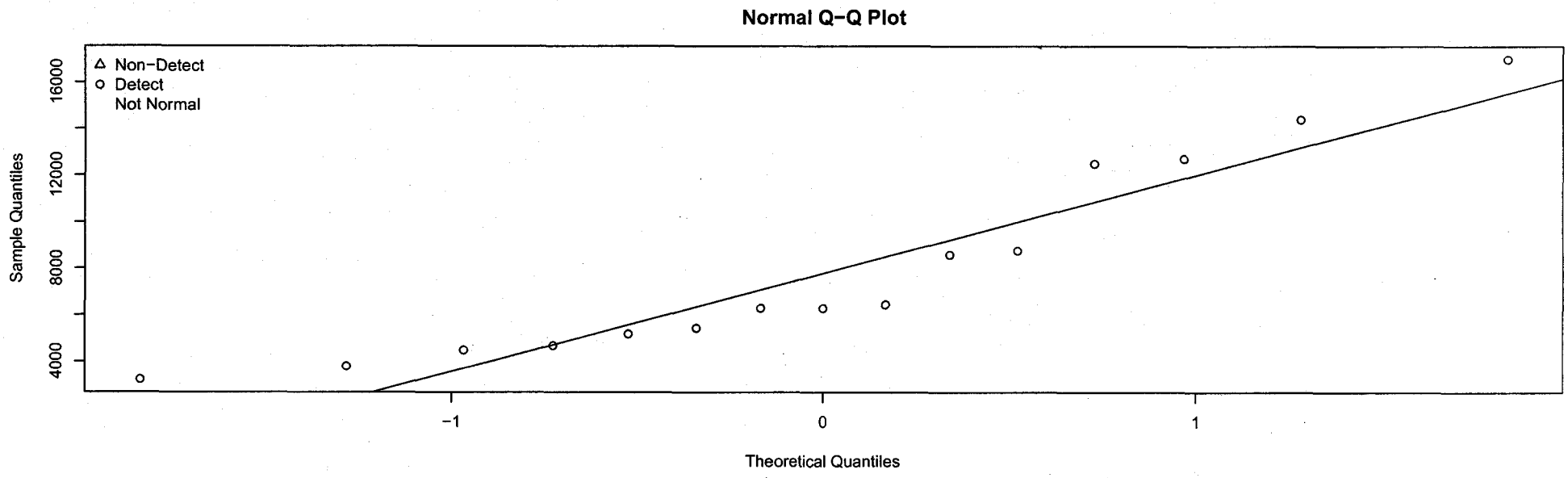


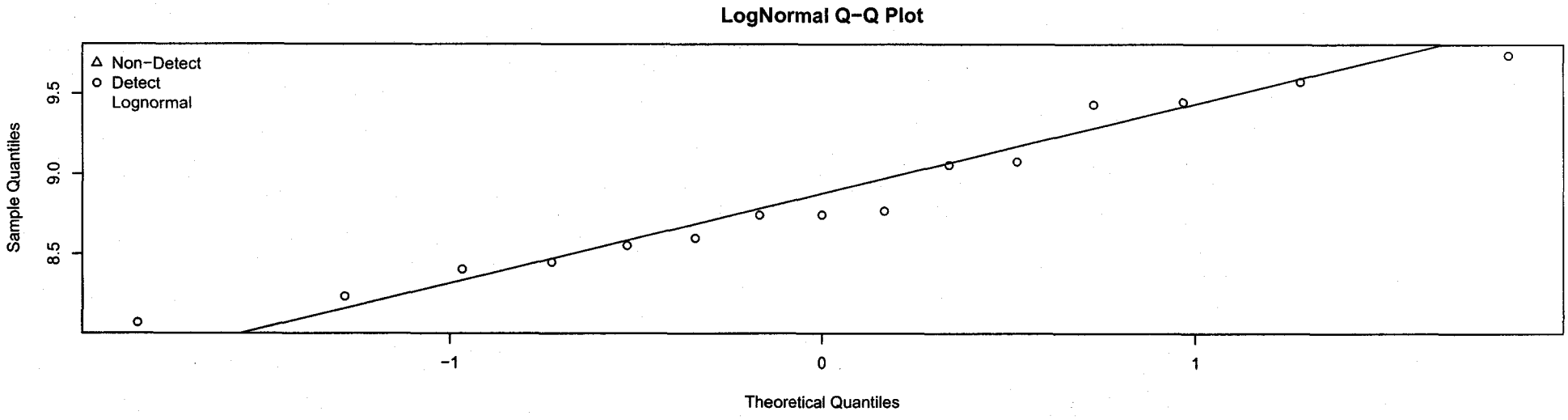
Transition
Spring Groundwater
CALCIUM



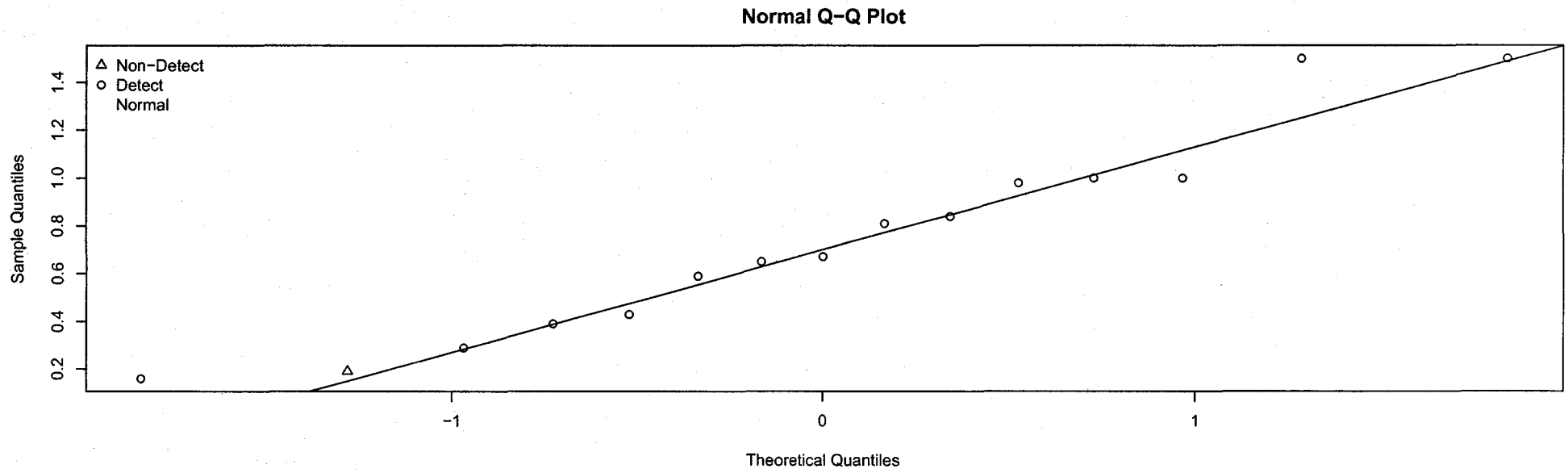


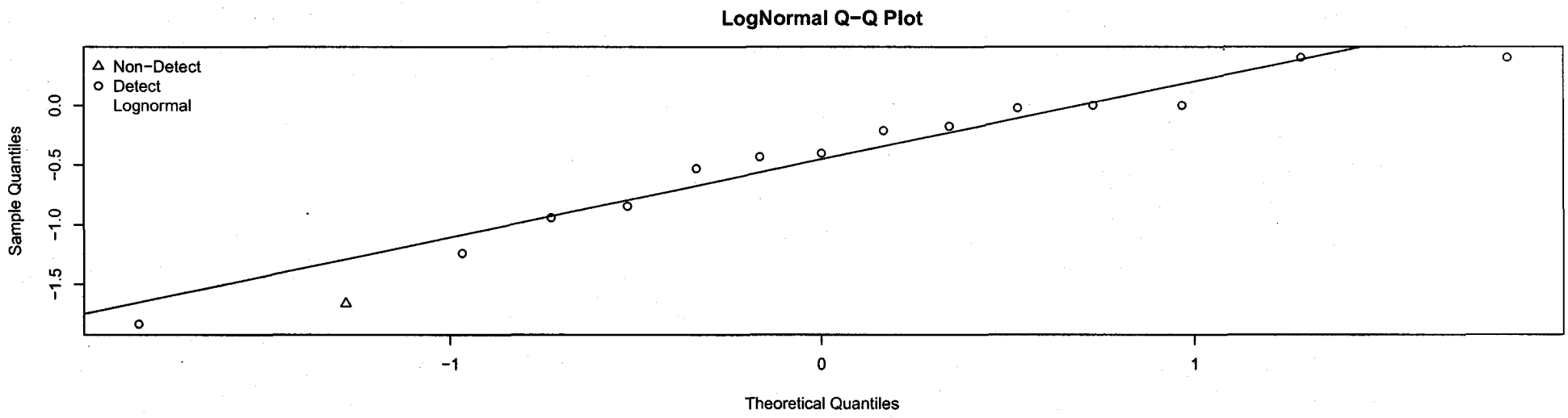
Transition
Spring Groundwater
CALCIUM



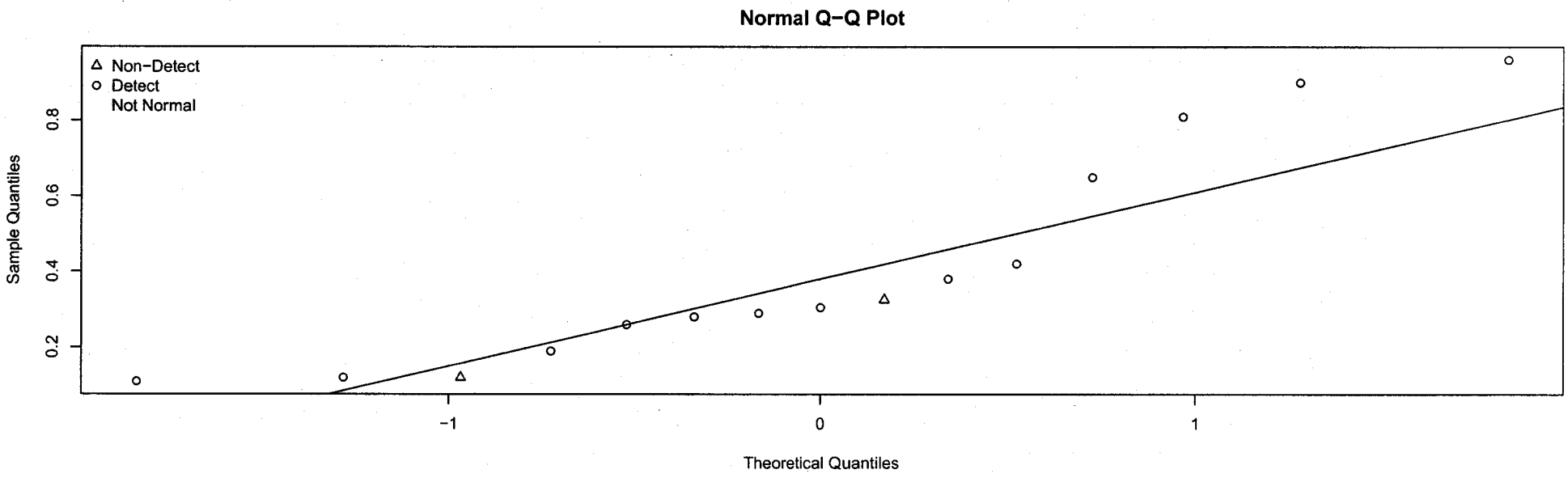


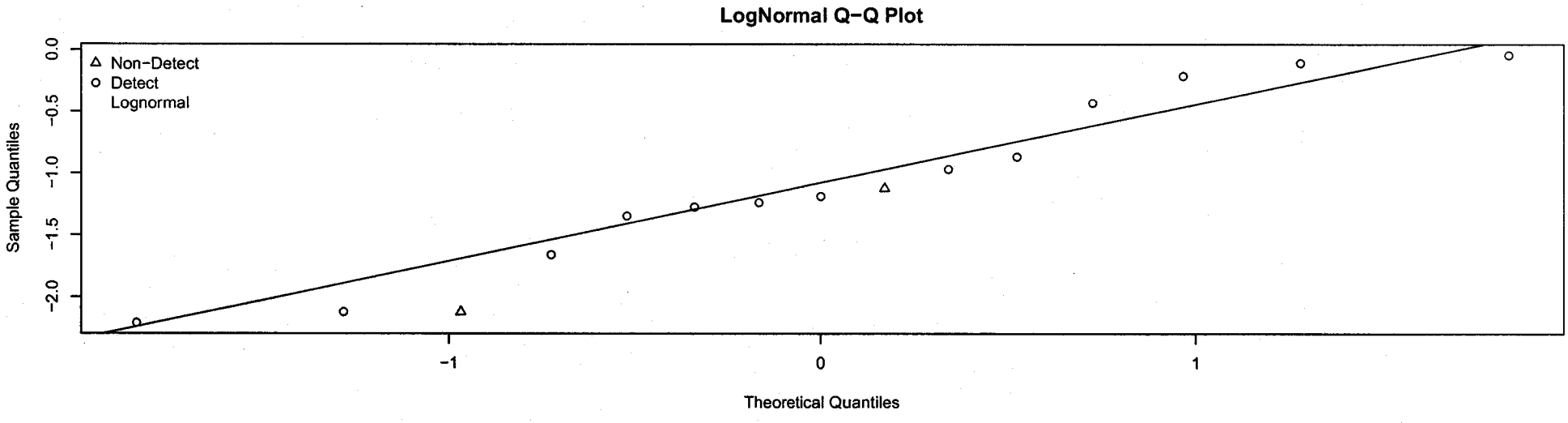
Transition
Spring Groundwater
COBALT



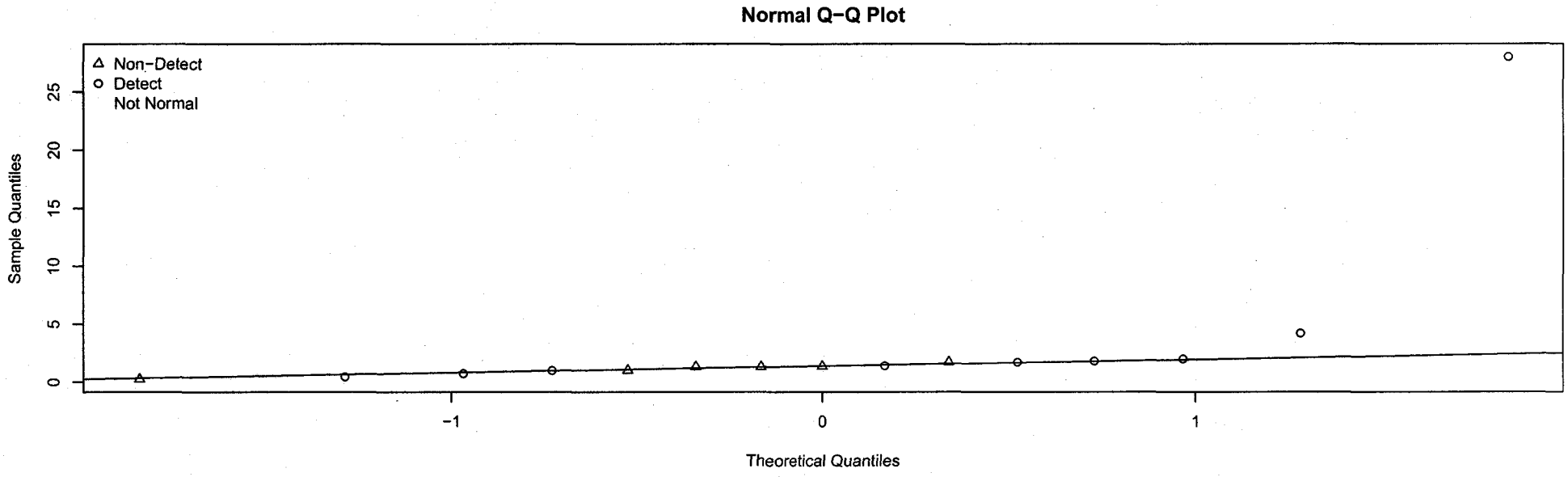


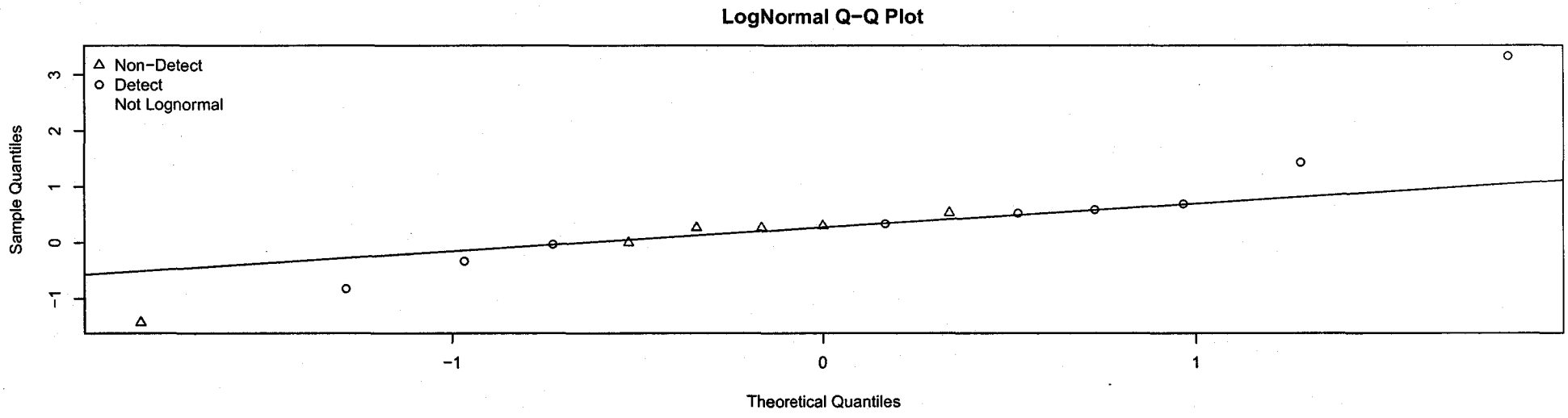
Transition
Spring Groundwater
COBALT





Transition
Spring Groundwater
COPPER





Transition
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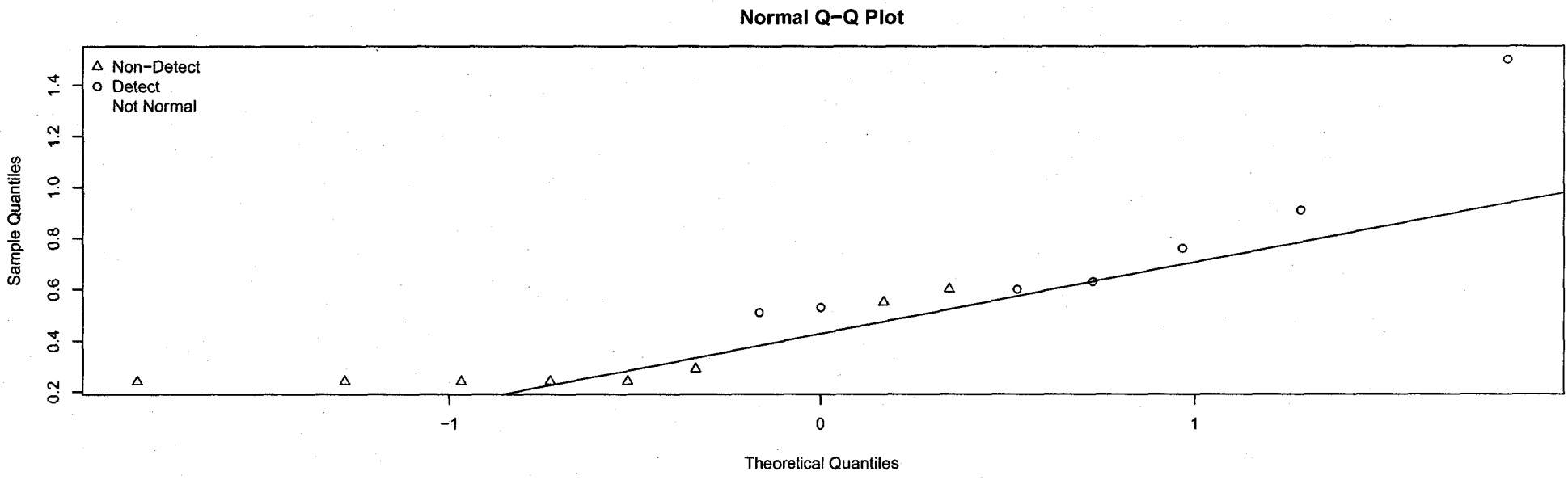
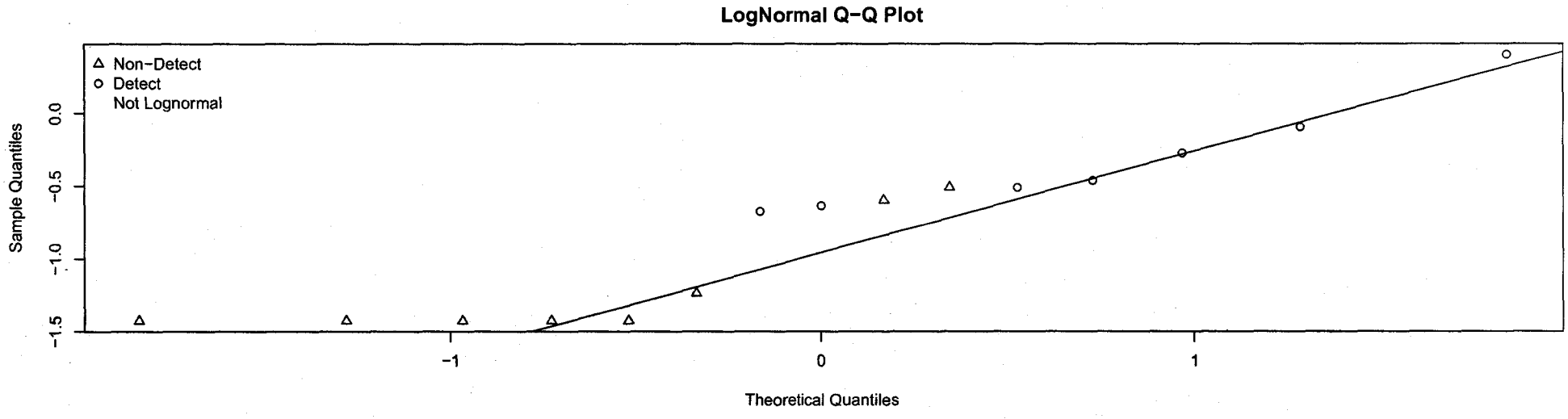
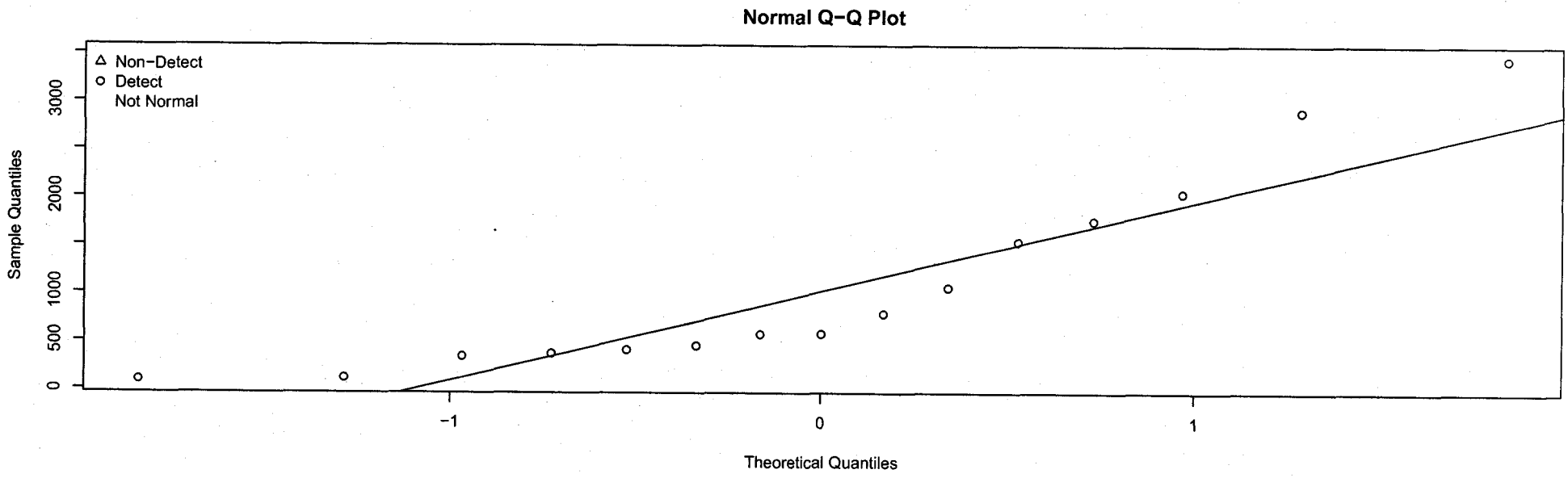
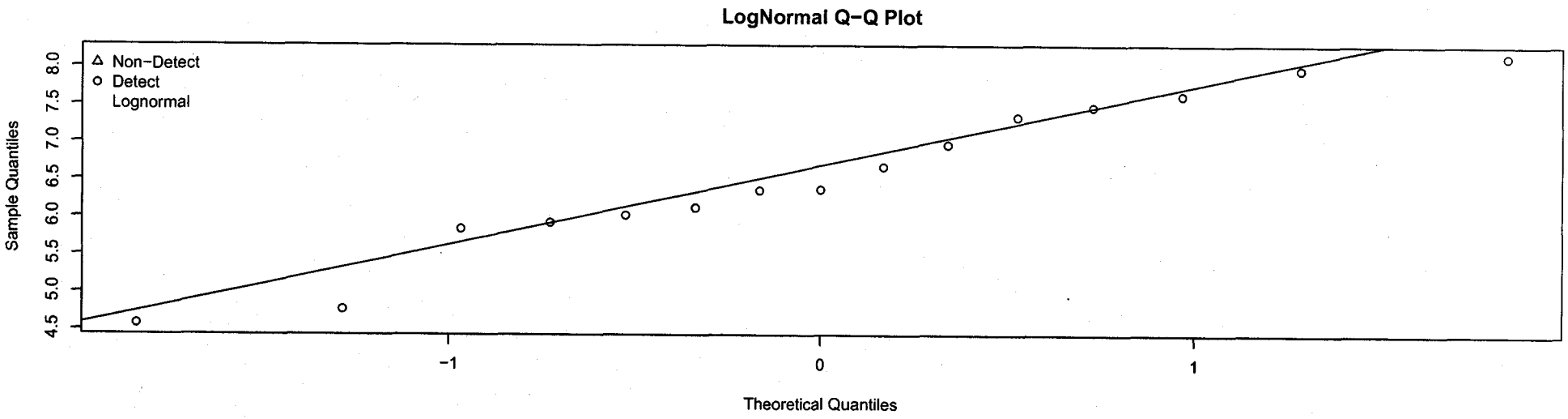


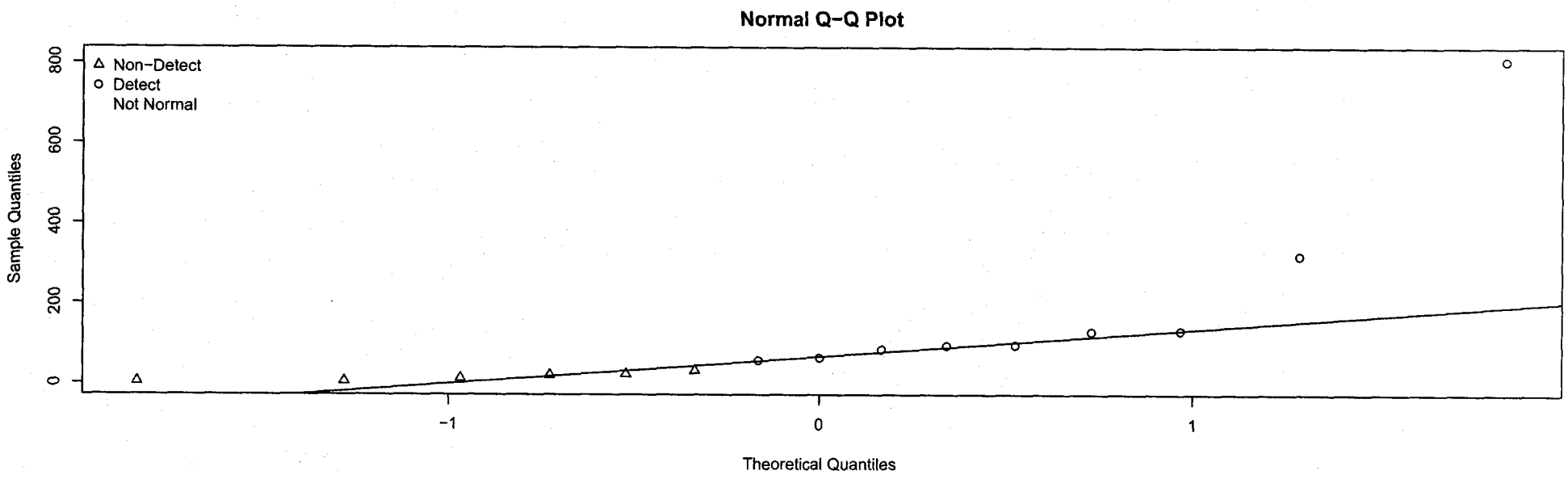


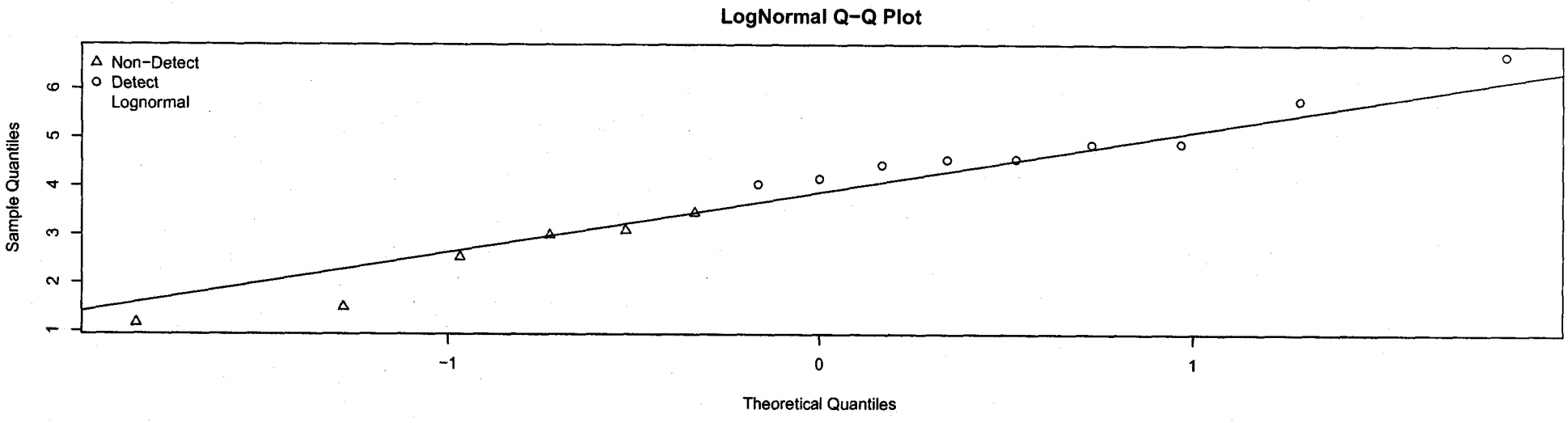
Transition
Spring Groundwater
IRON



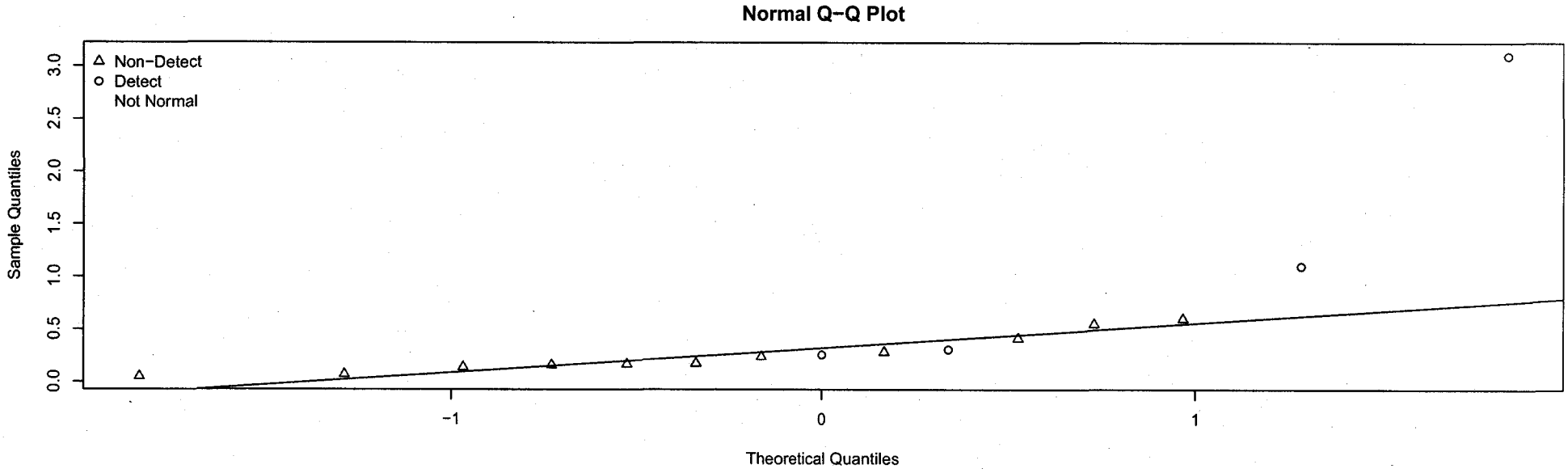


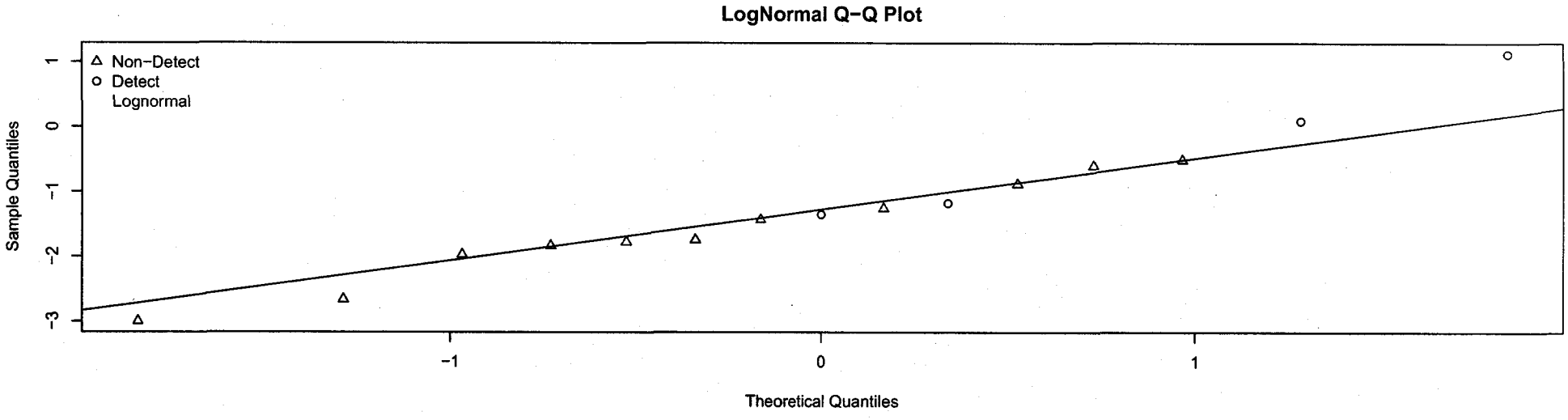
Transition
Spring Groundwater
IRON



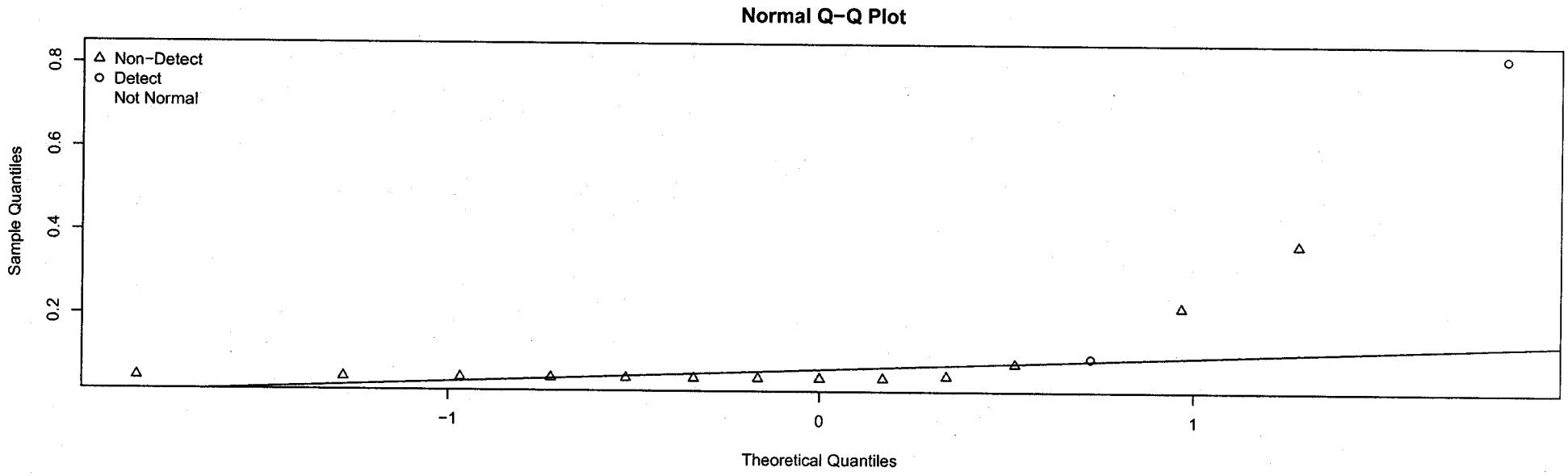


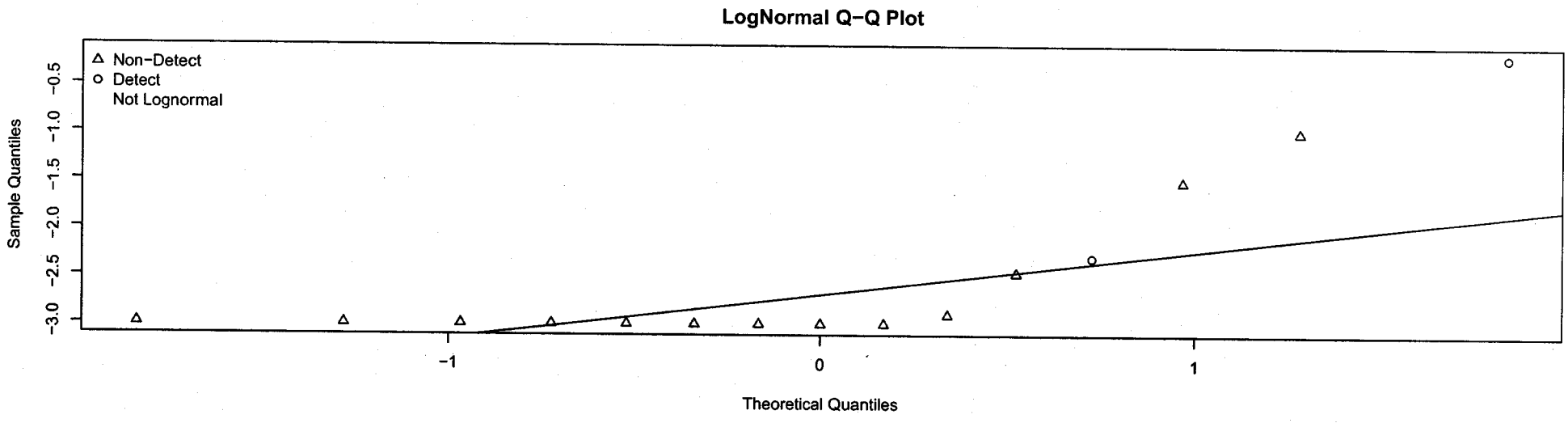
Transition
Spring Groundwater
LEAD



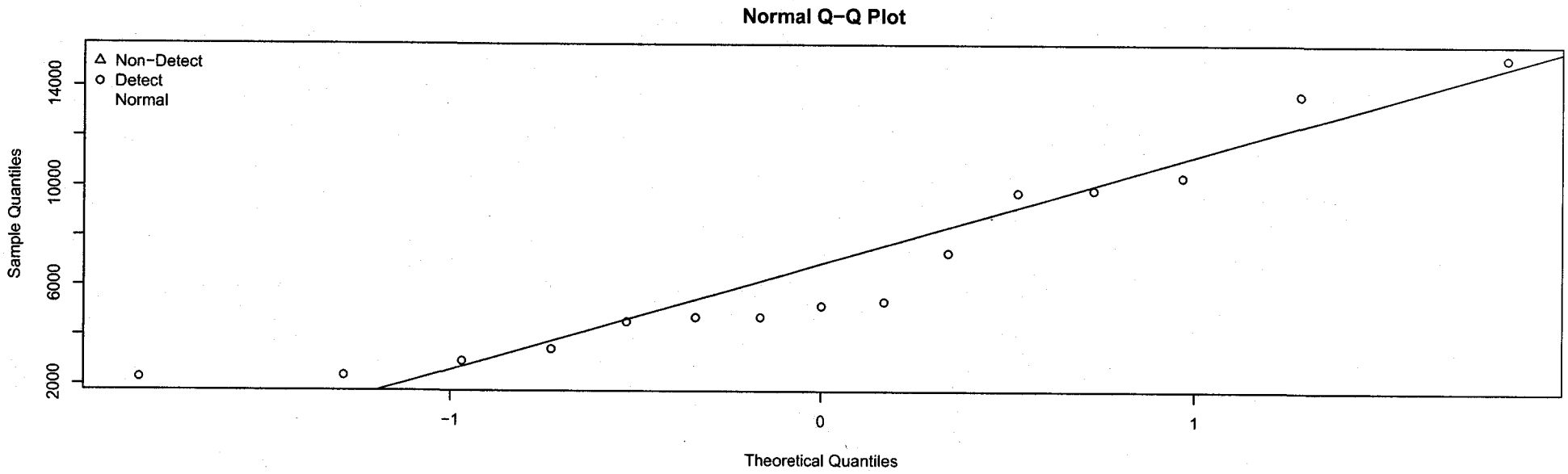


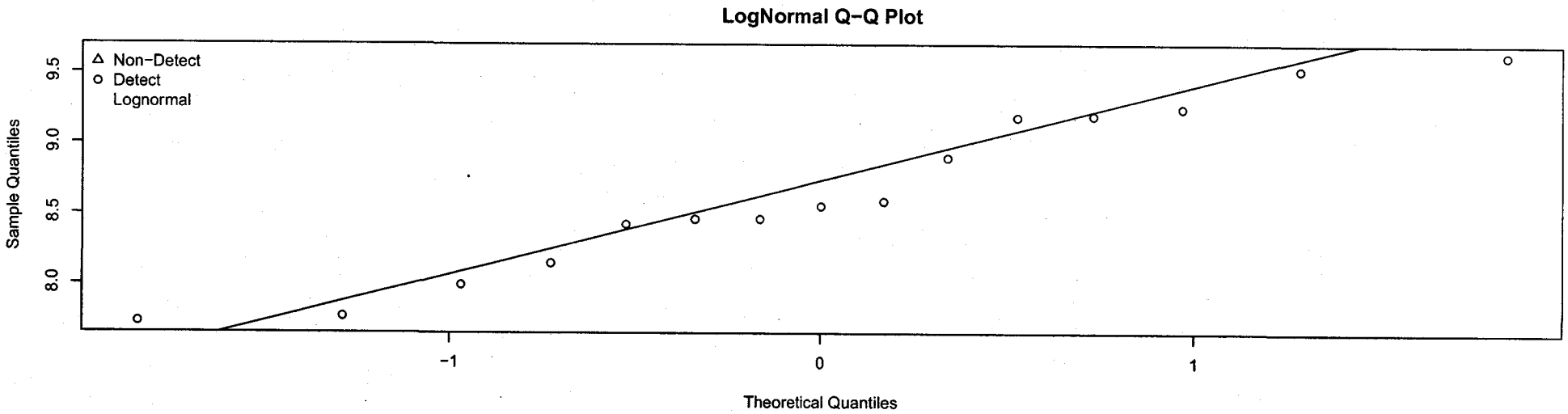
Transition
Spring Groundwater
LEAD





Transition
Spring Groundwater
MAGNESIUM





Transition
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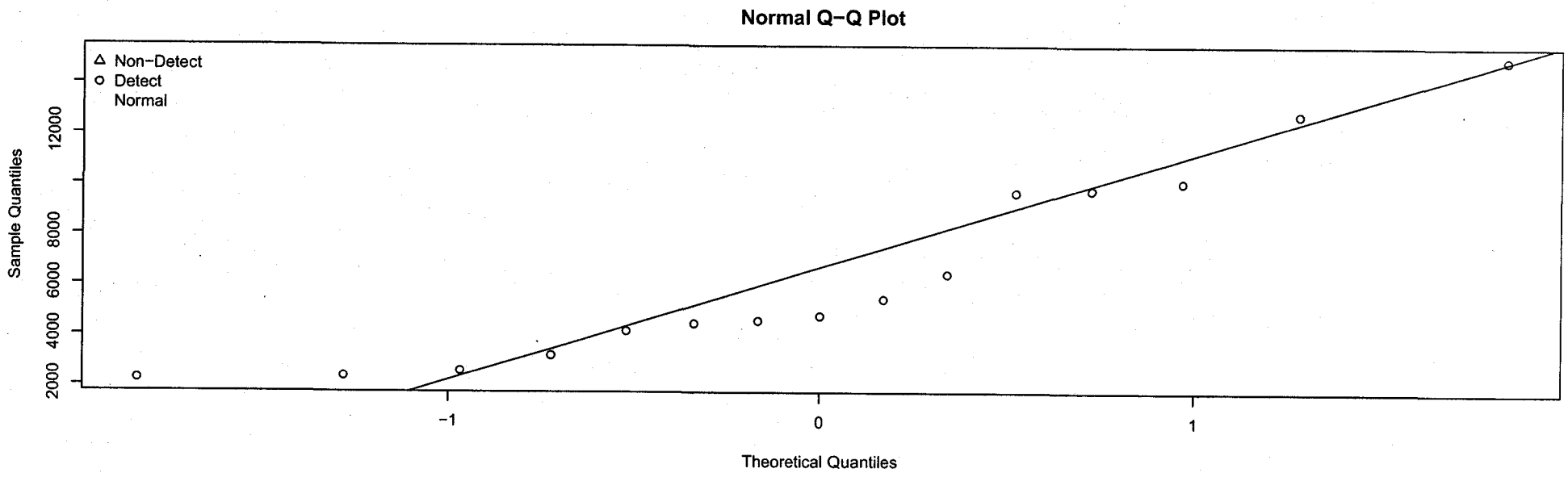
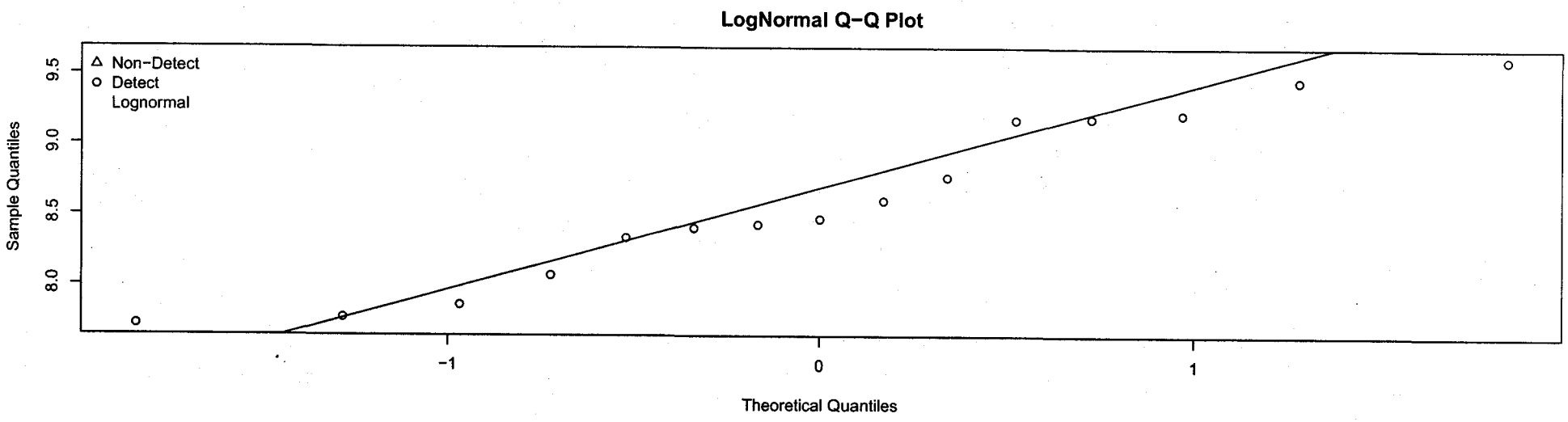
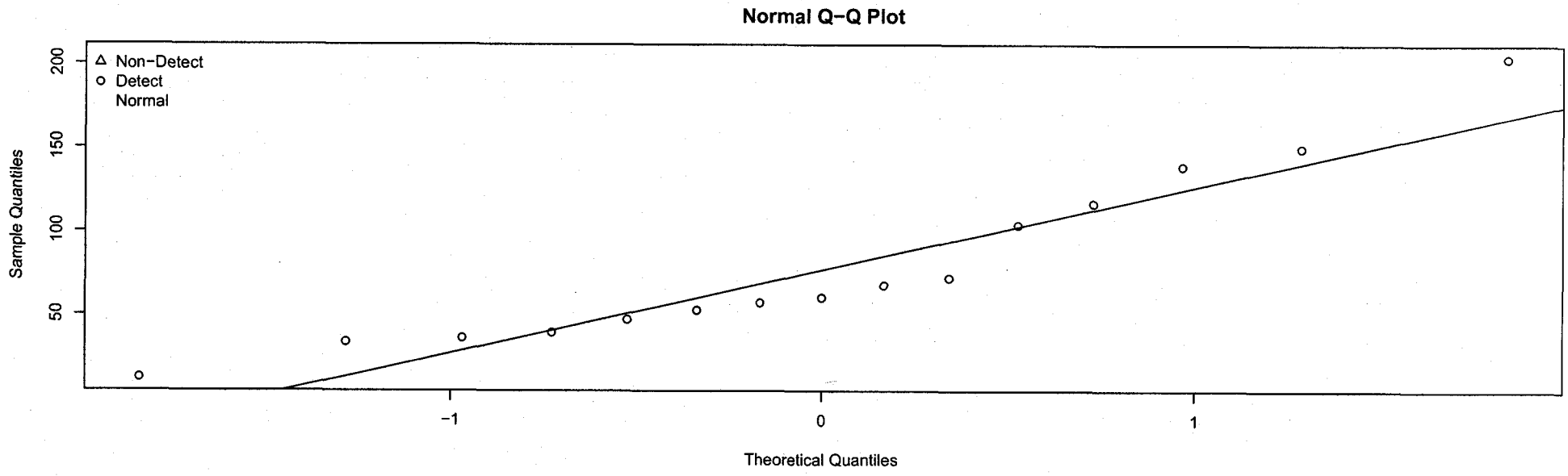
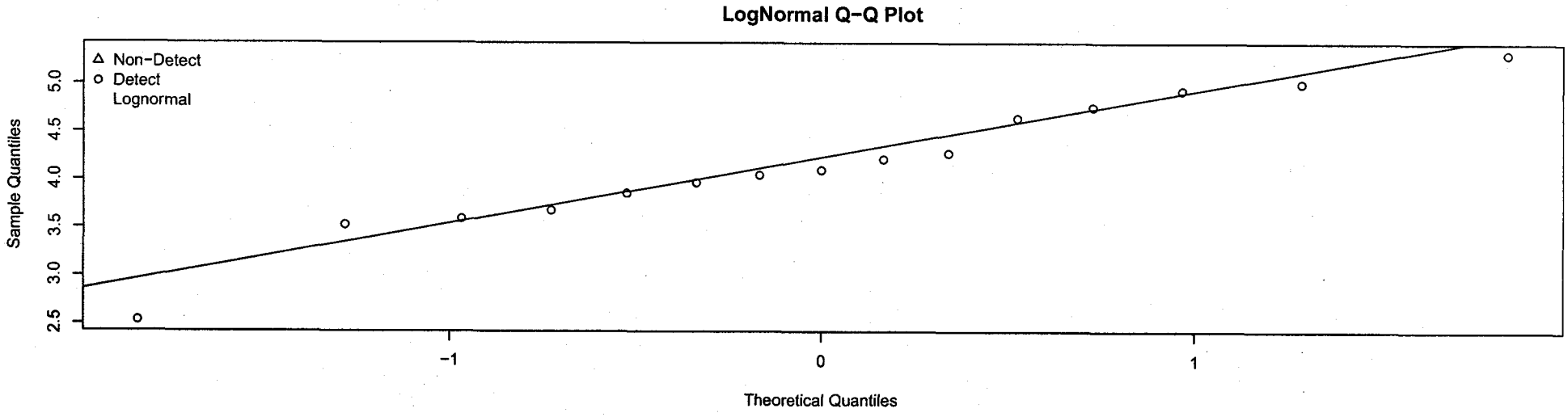
MAGNESIUM



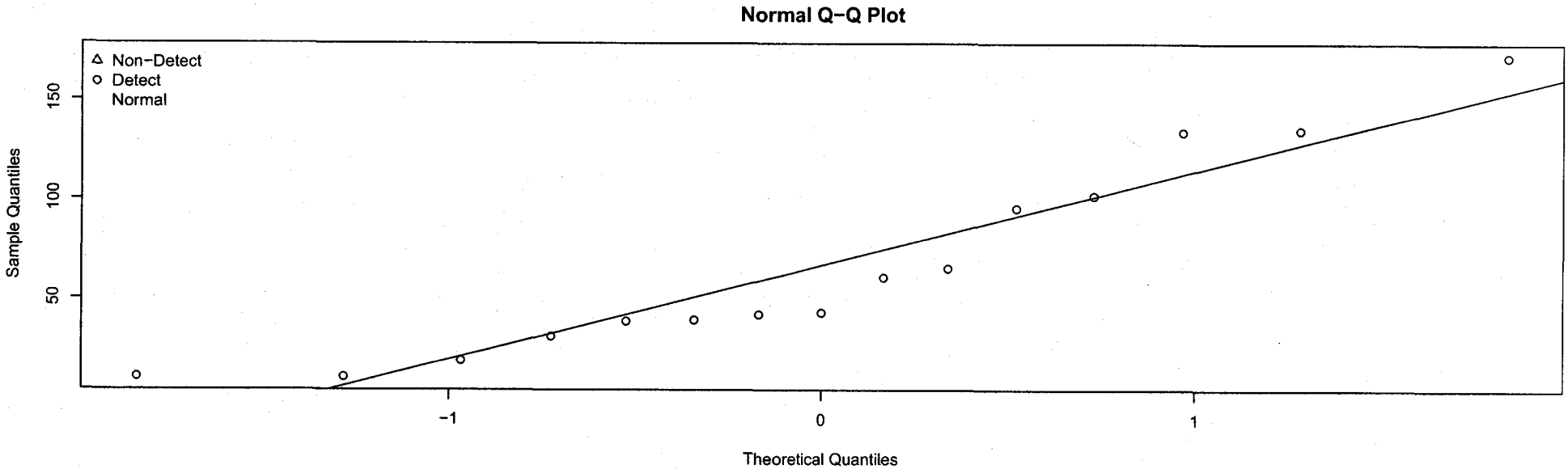


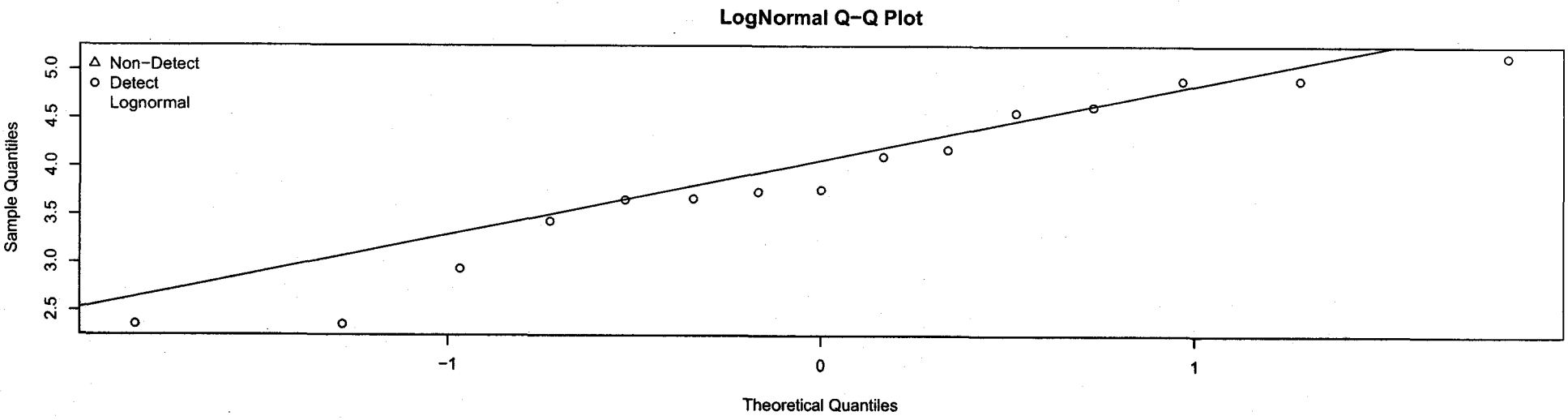
Transition
Spring Groundwater
MANGANESE



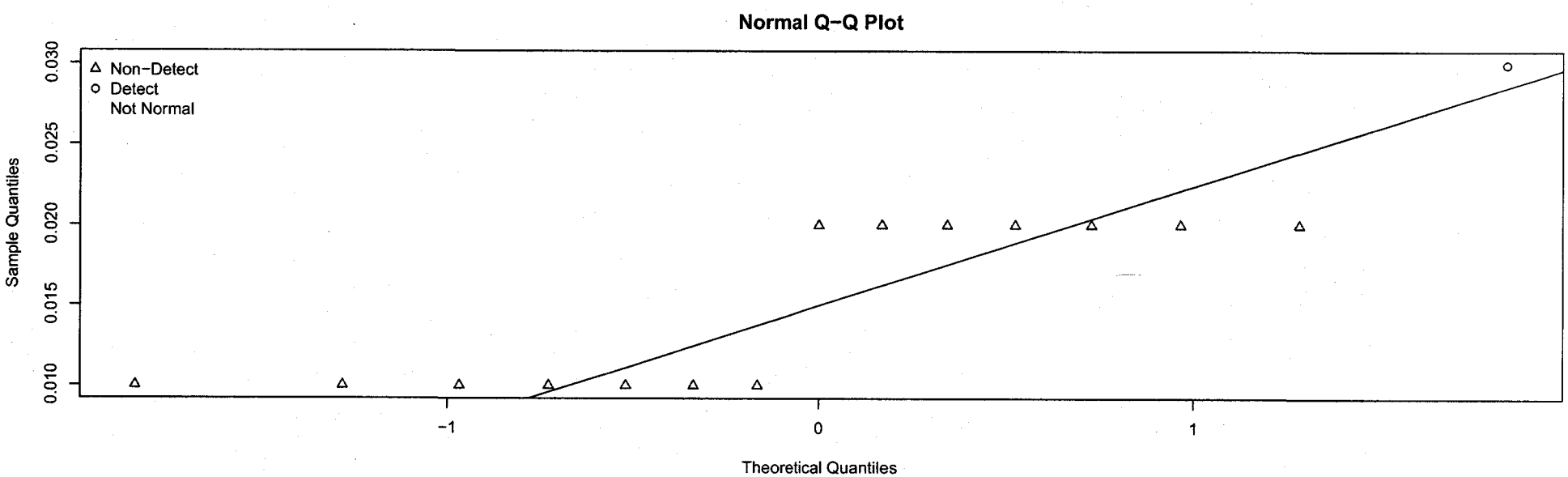


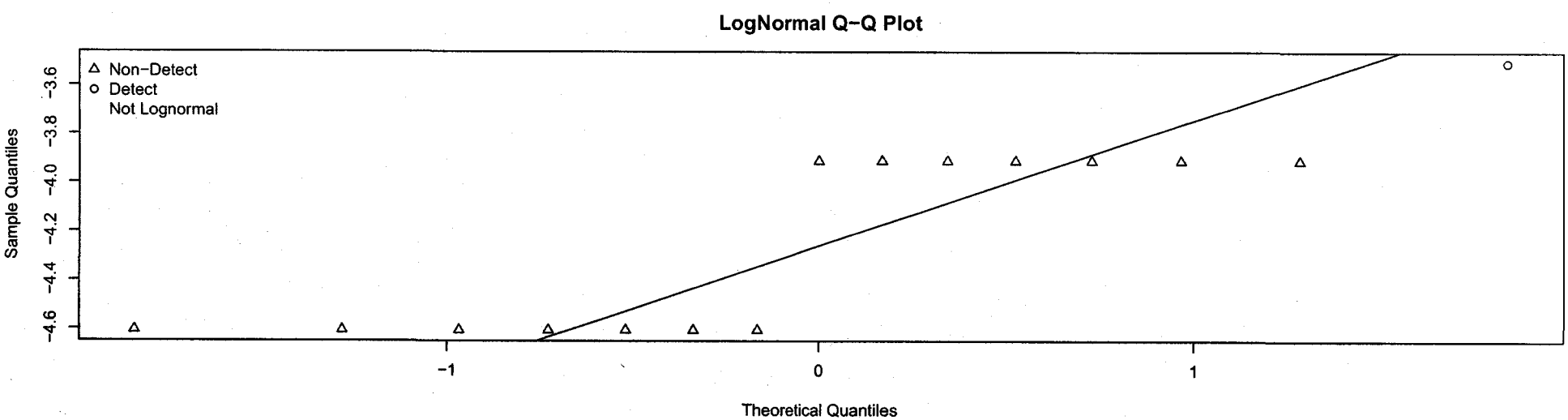
Transition
Spring Groundwater
MANGANESE



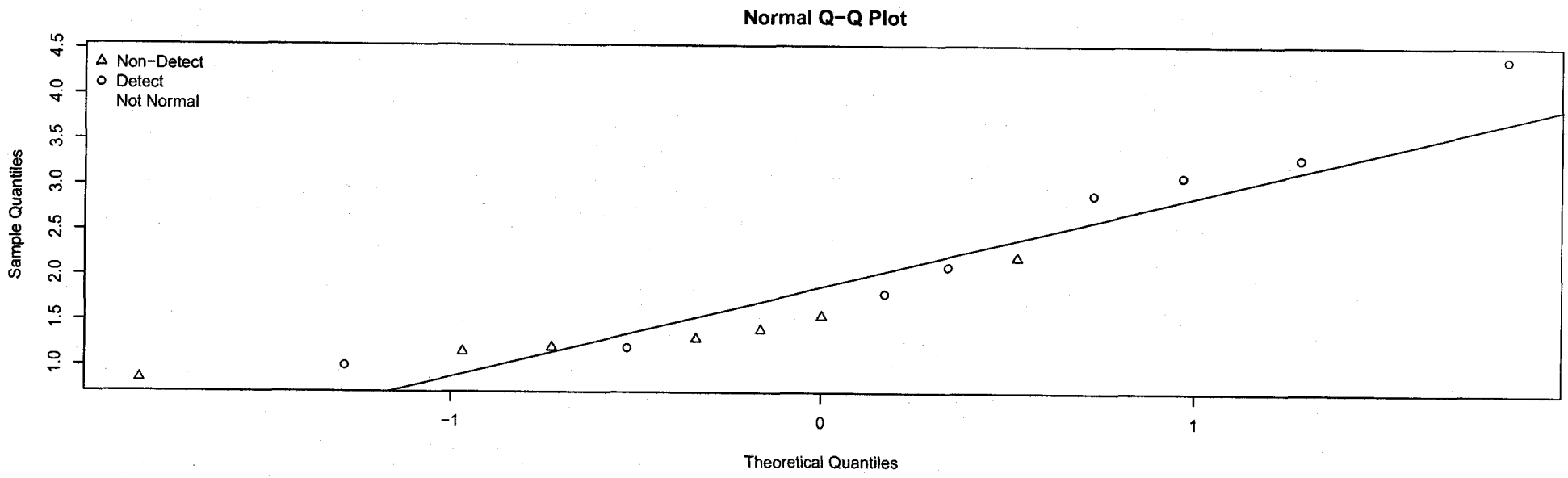


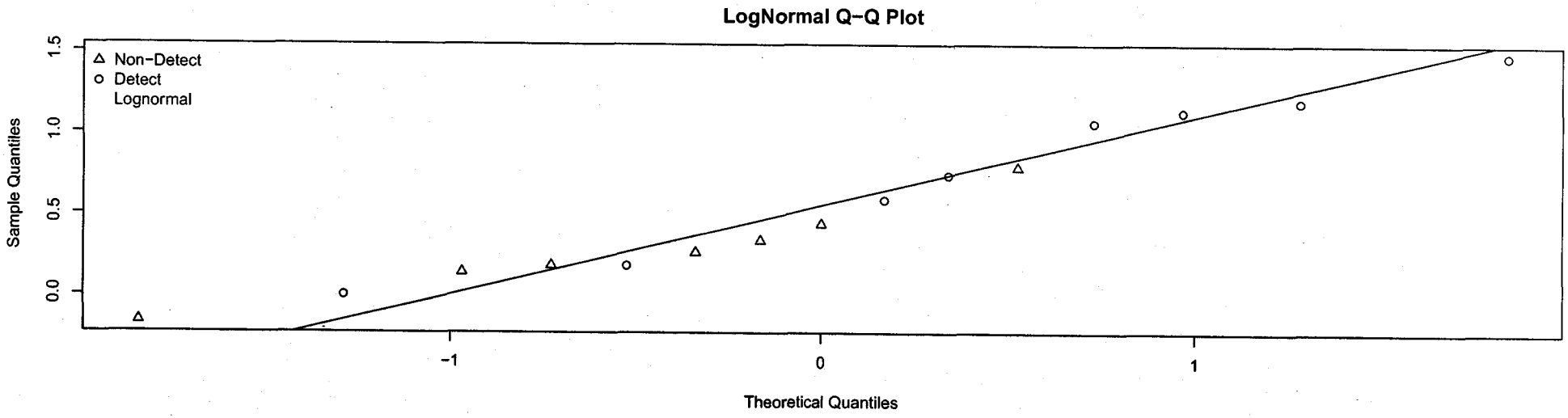
Transition
Spring Groundwater
MERCURY



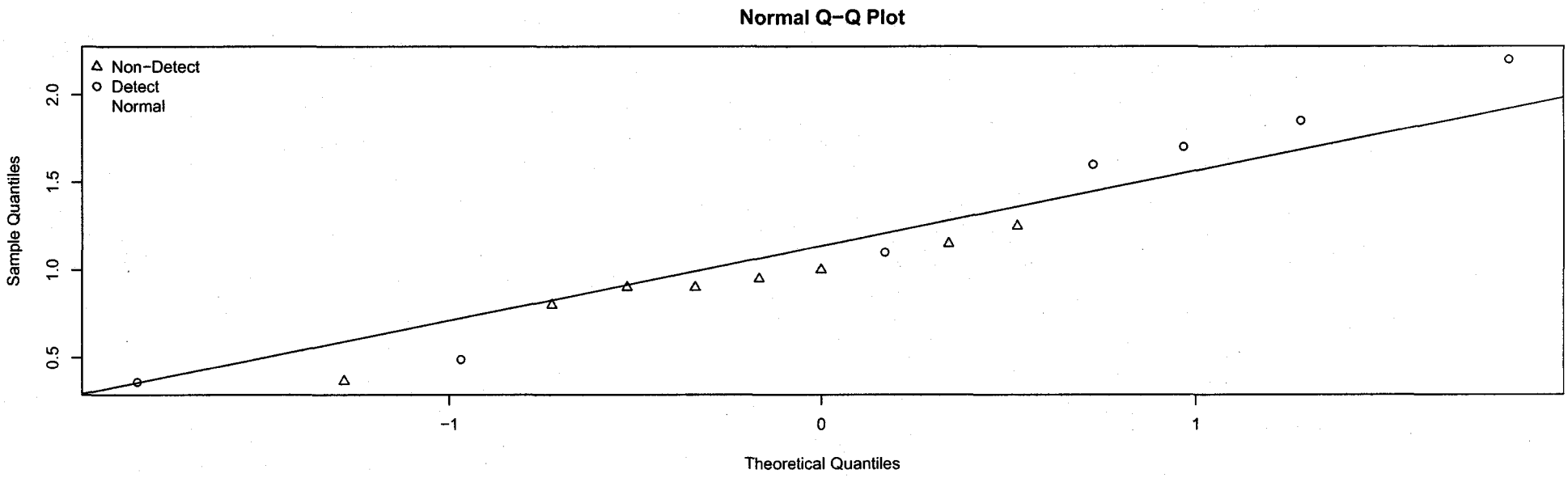


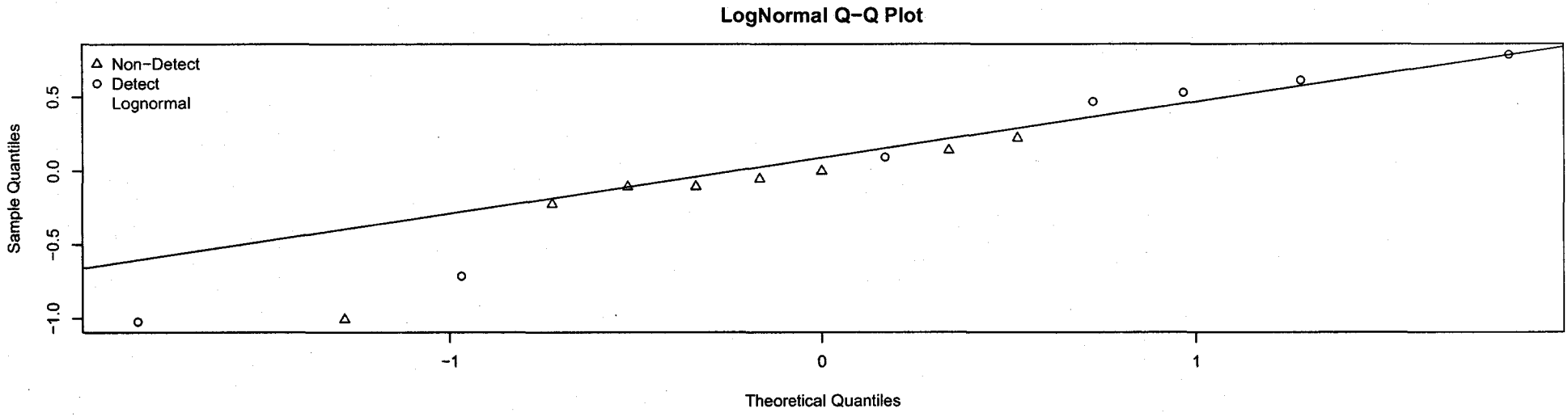
Transition
Spring Groundwater
NICKEL



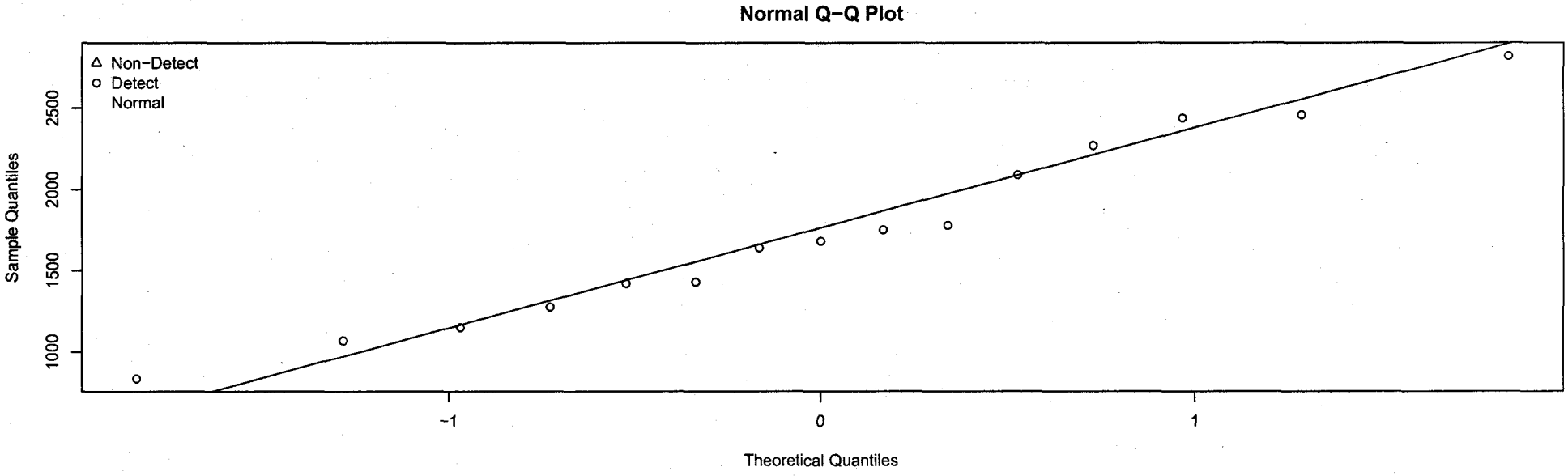


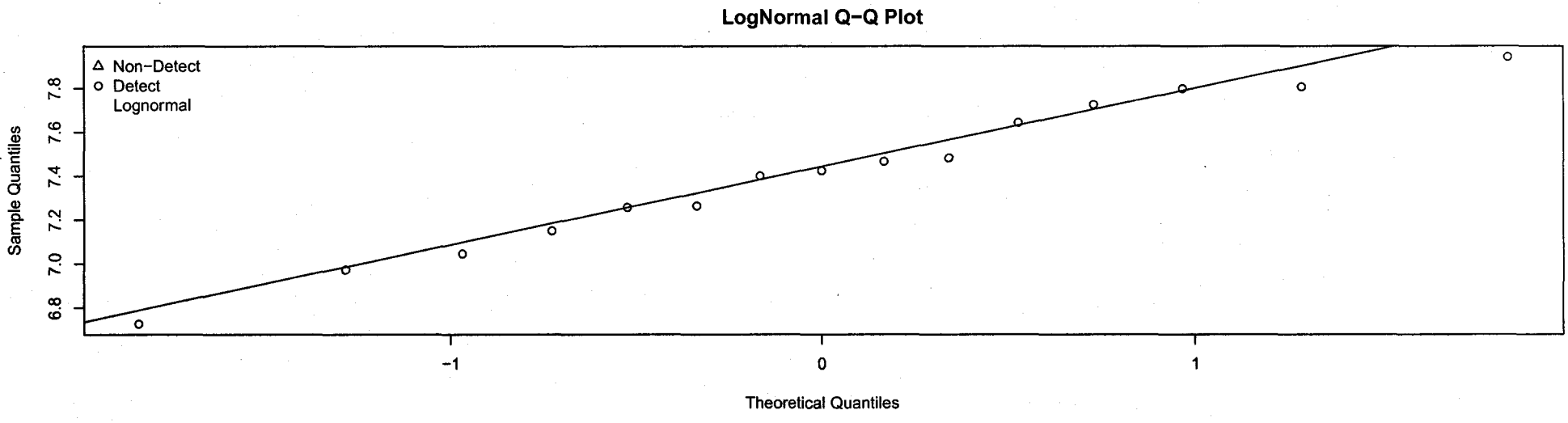
Transition
Spring Groundwater
NICKEL



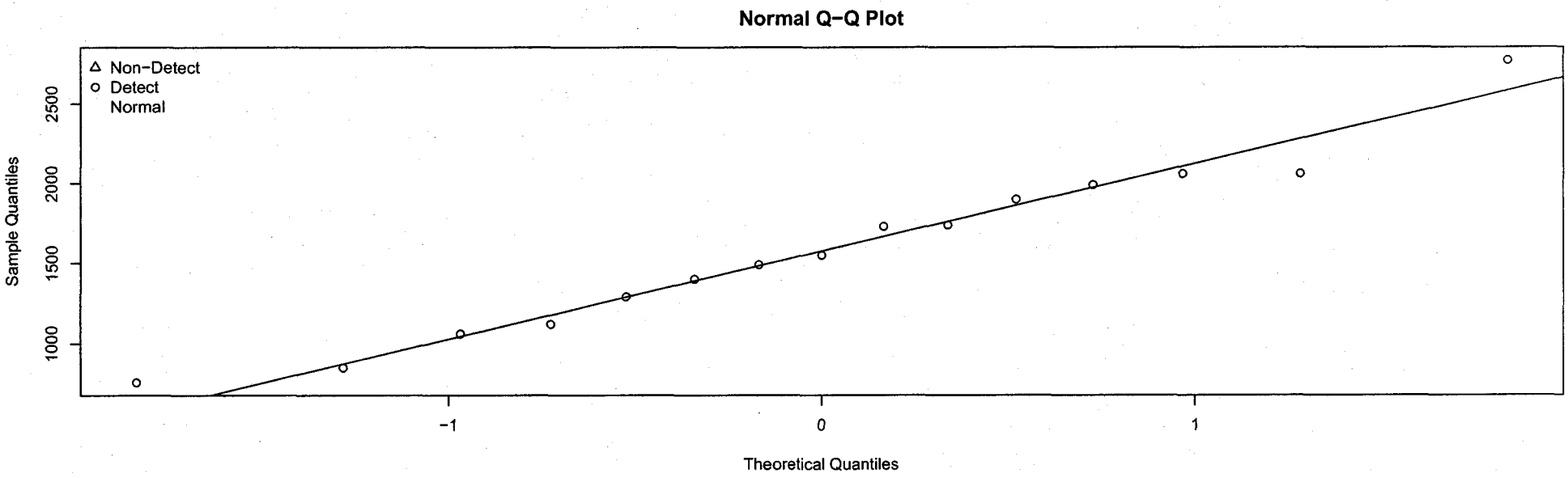


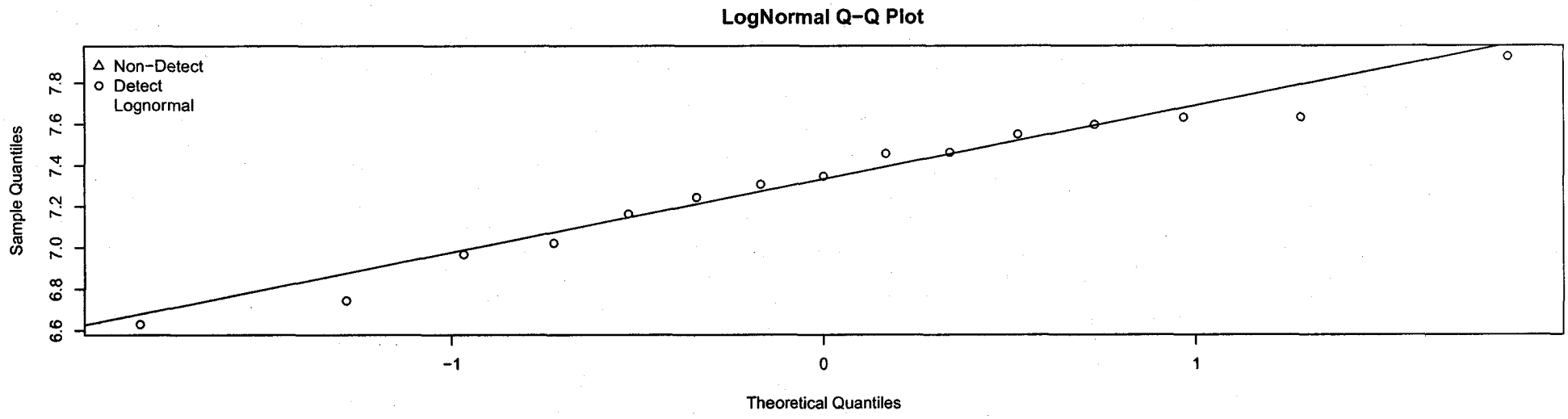
Transition
Spring Groundwater
POTASSIUM



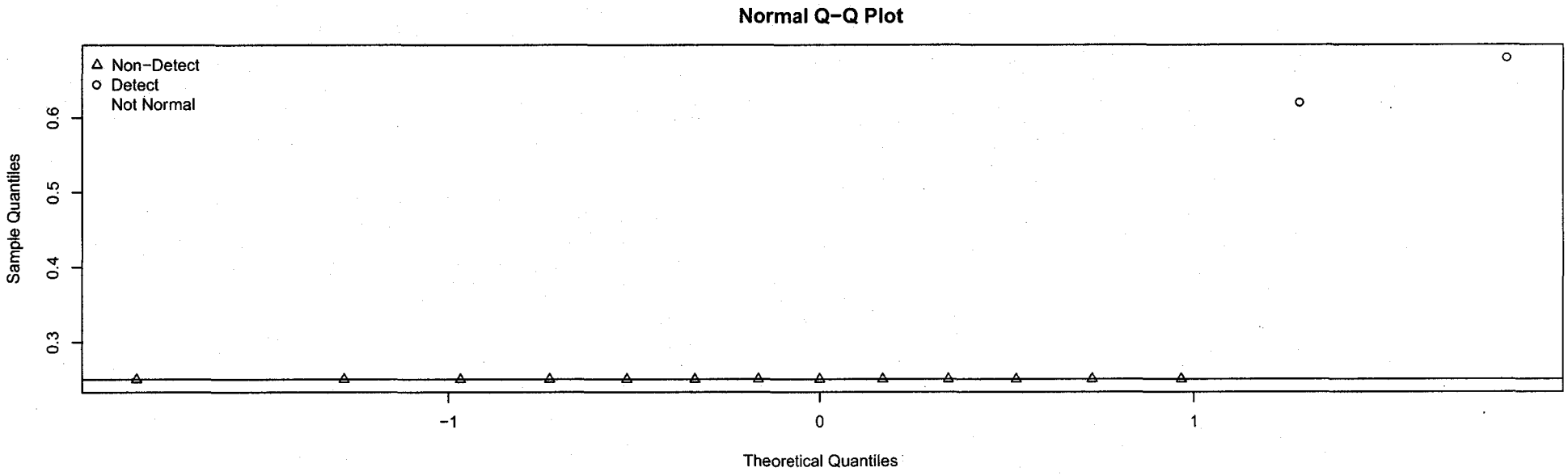


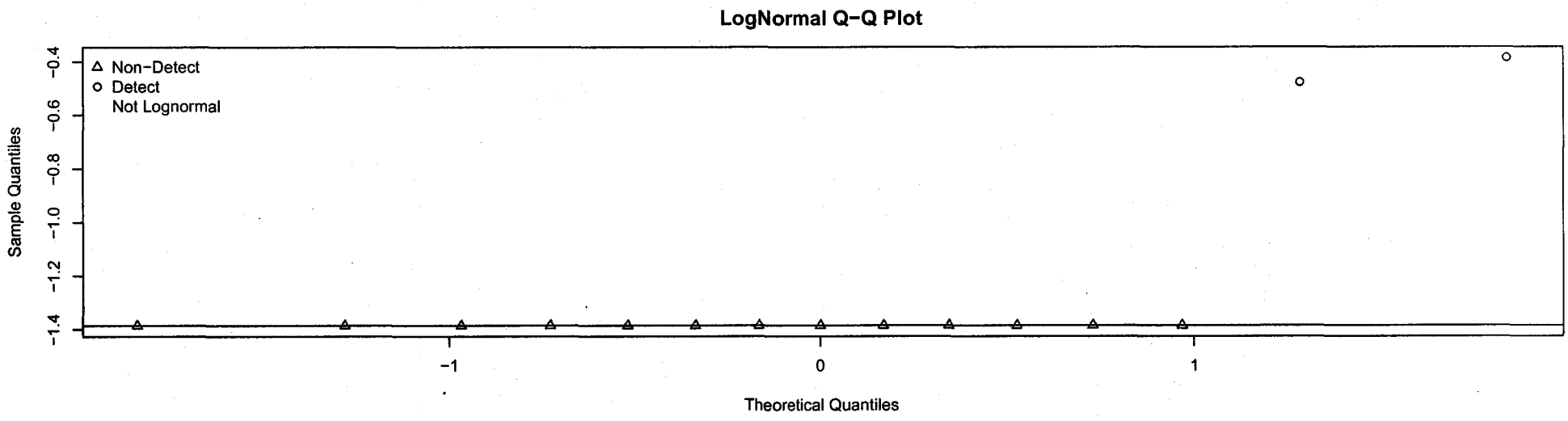
Transition
Spring Groundwater
POTASSIUM



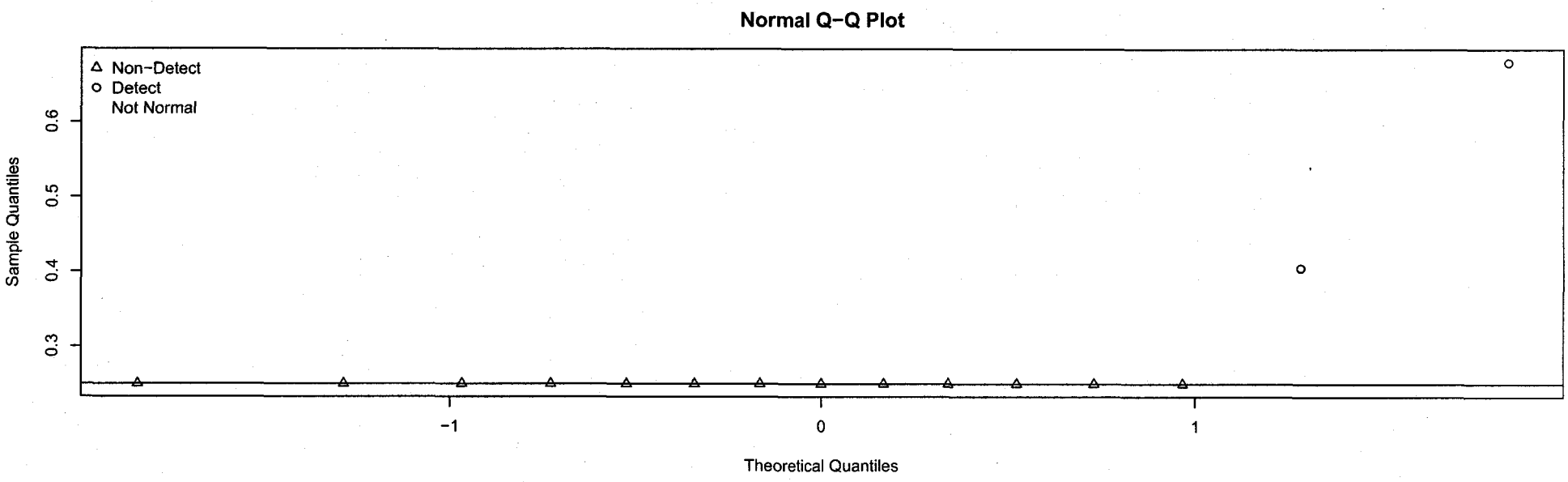


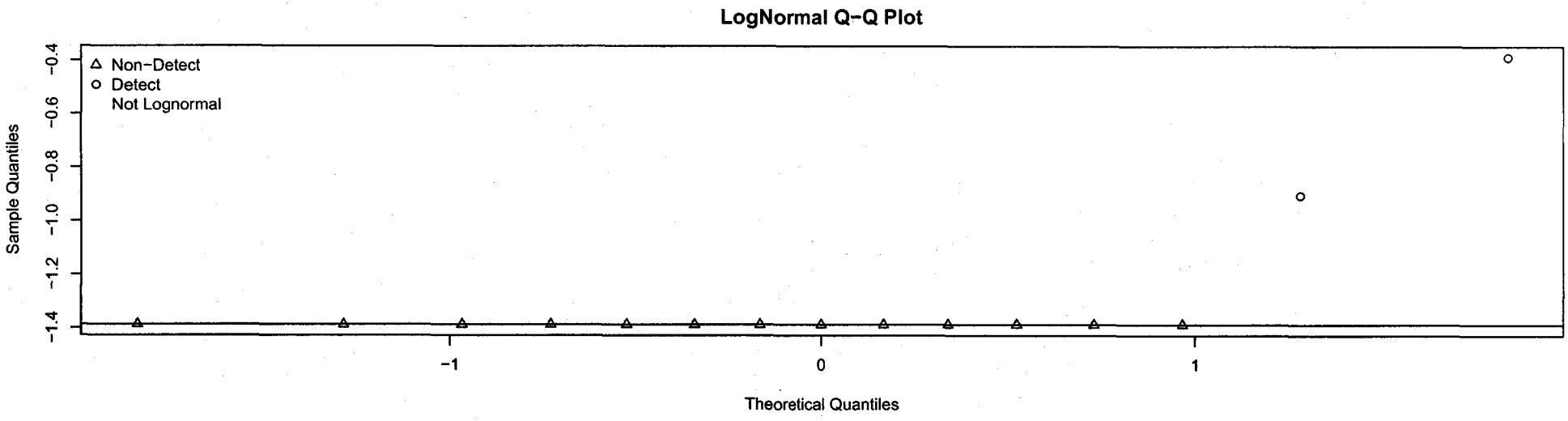
Transition
Spring Groundwater
SELENIUM



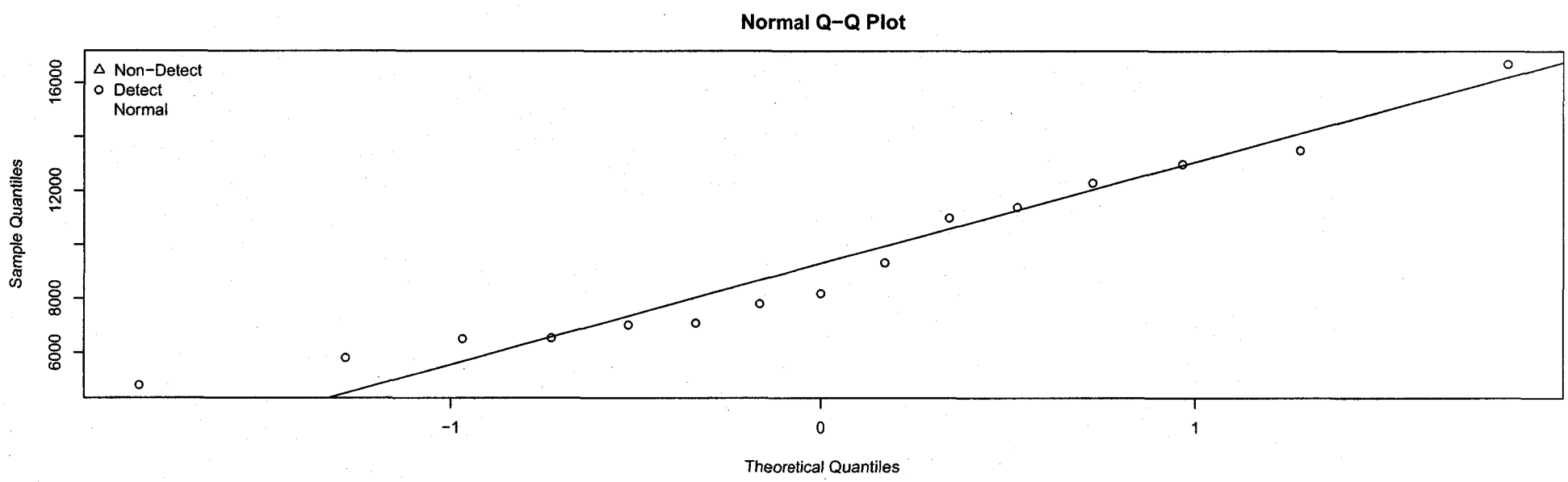


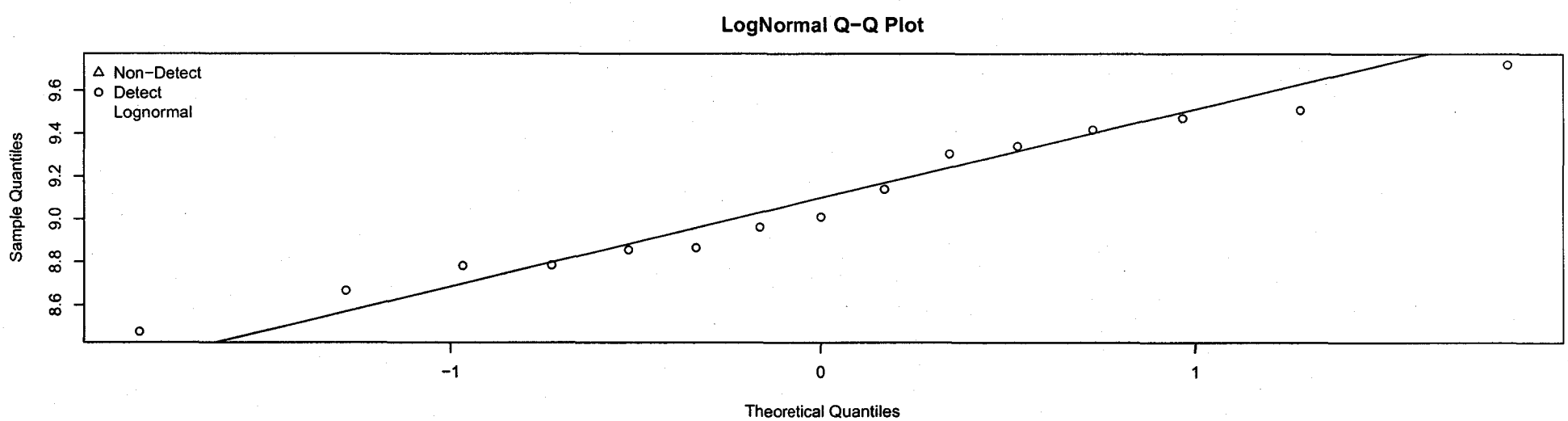
Transition
Spring Groundwater
SELENIUM



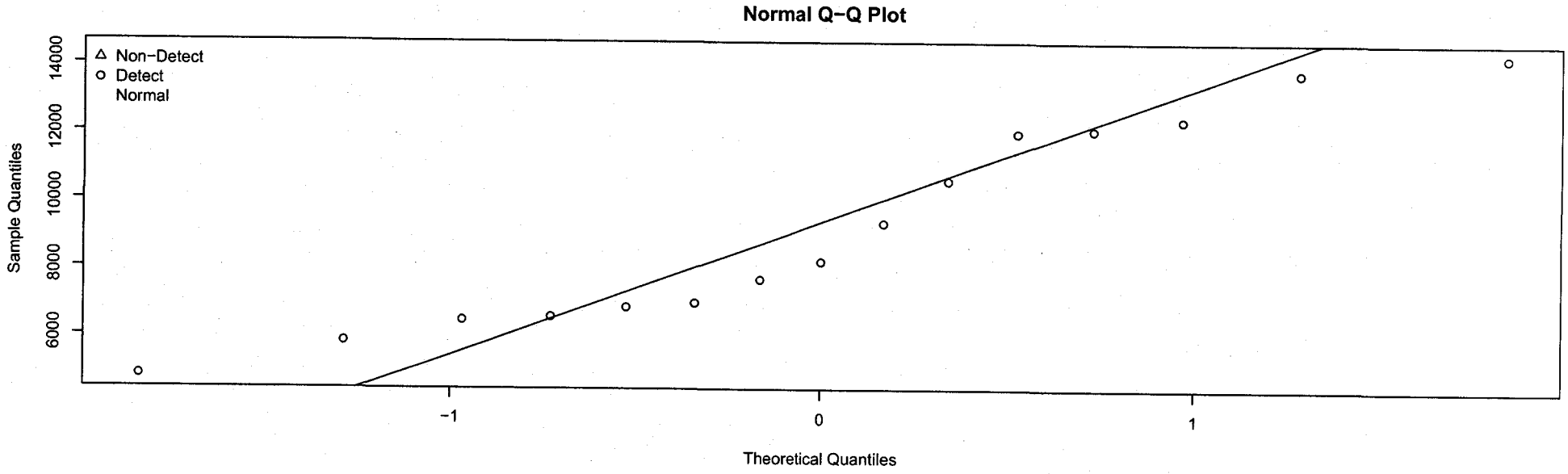


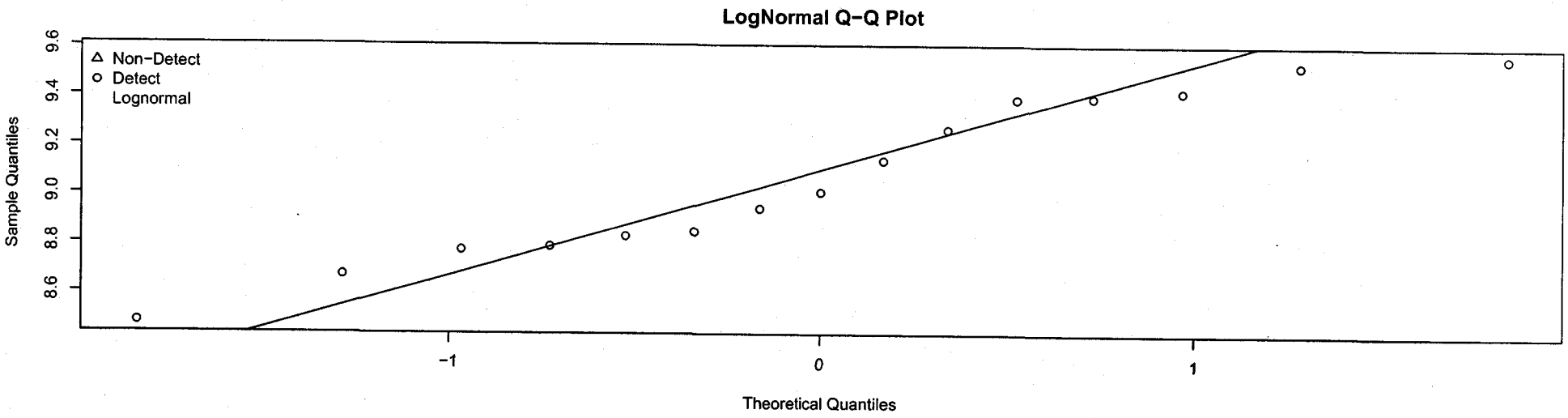
Transition
Spring Groundwater
SODIUM



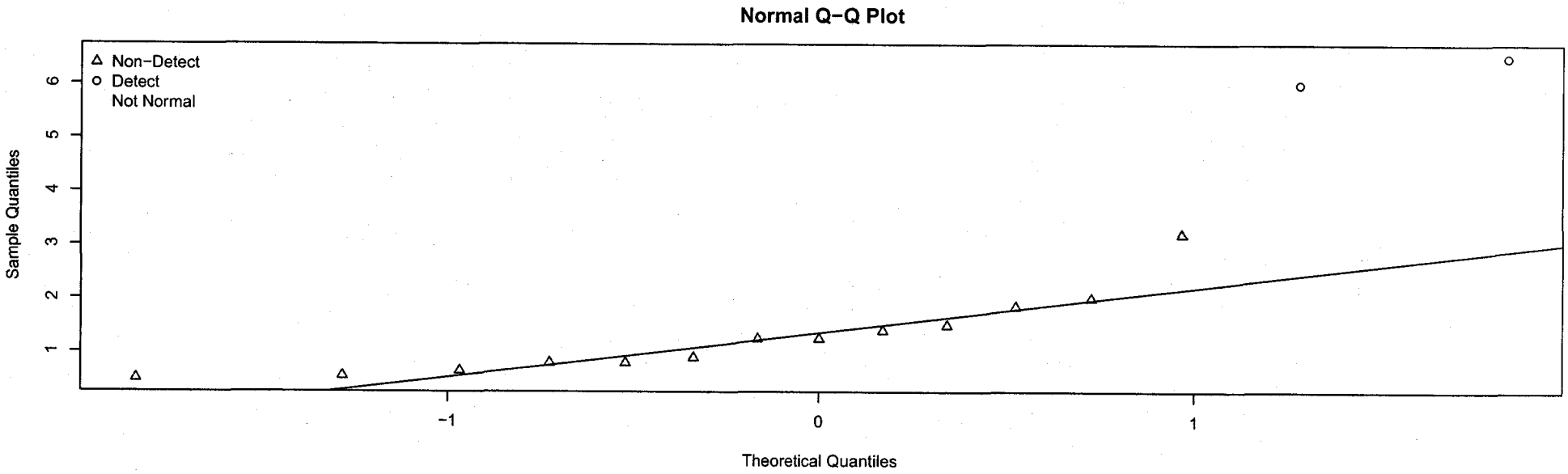


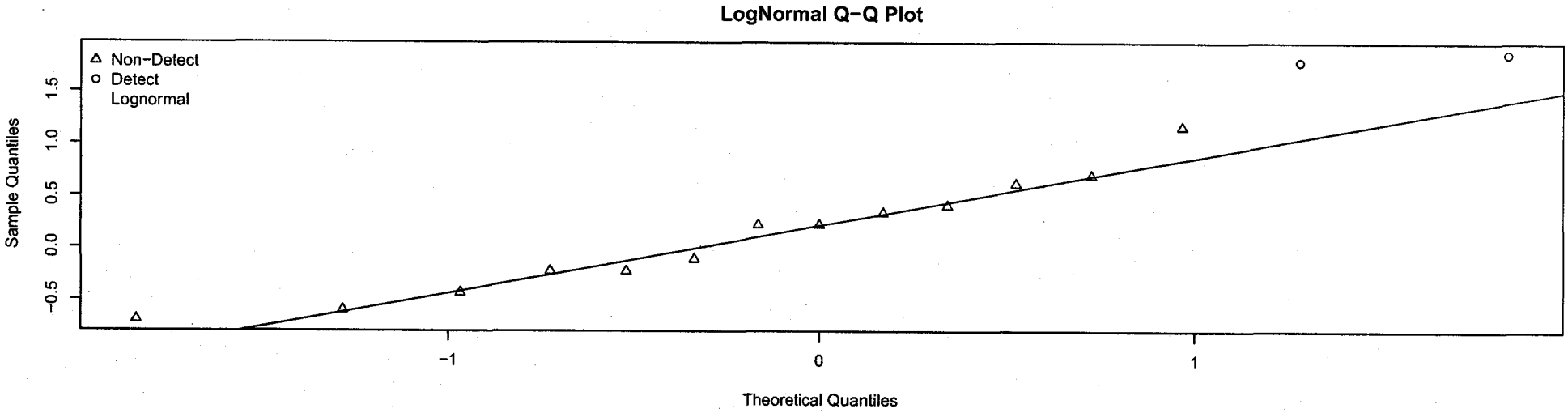
Transition
Spring Groundwater
SODIUM



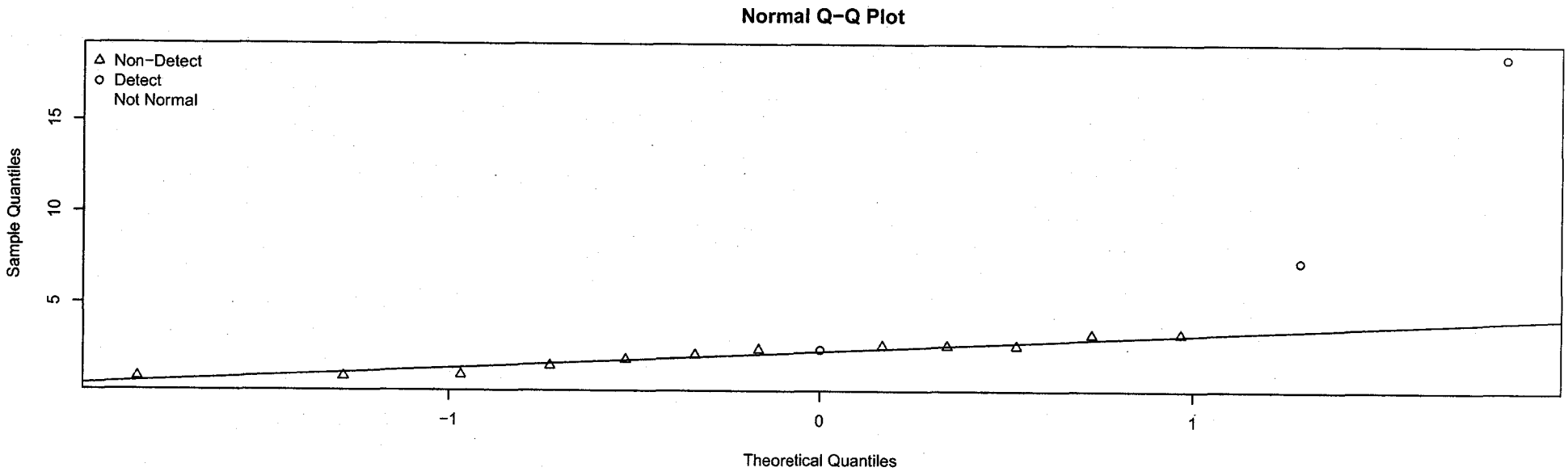


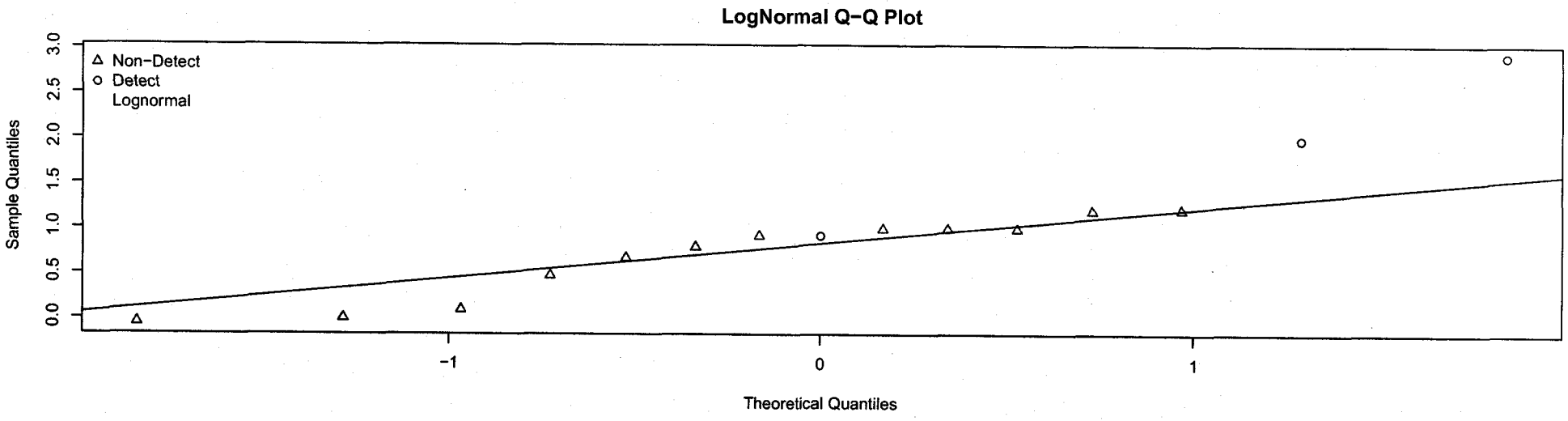
Transition
Spring Groundwater
VANADIUM



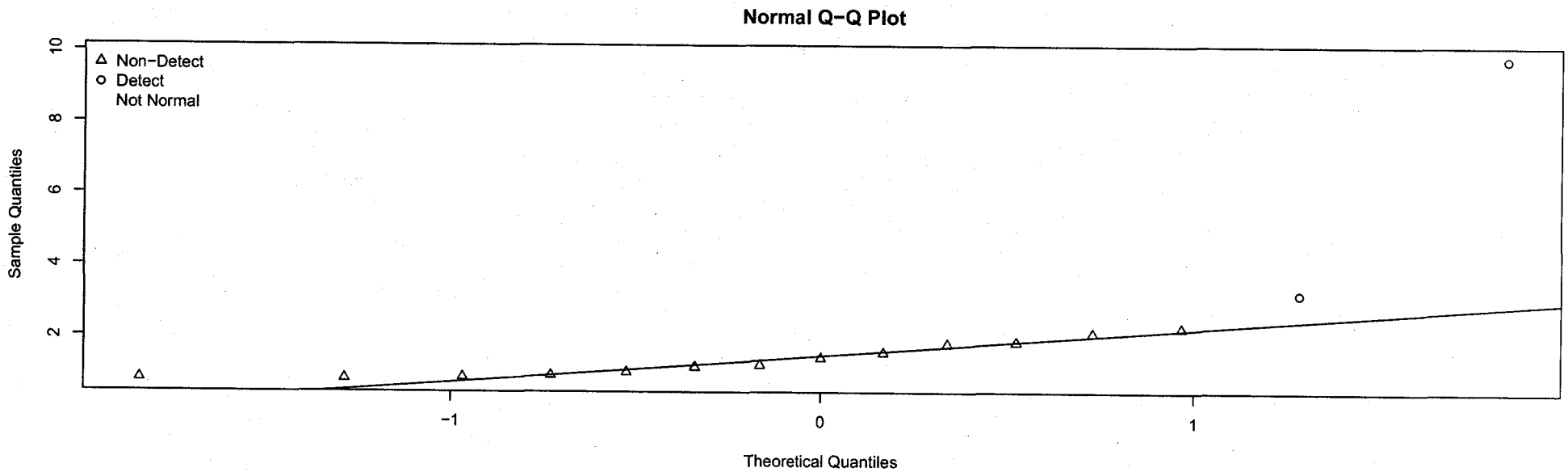


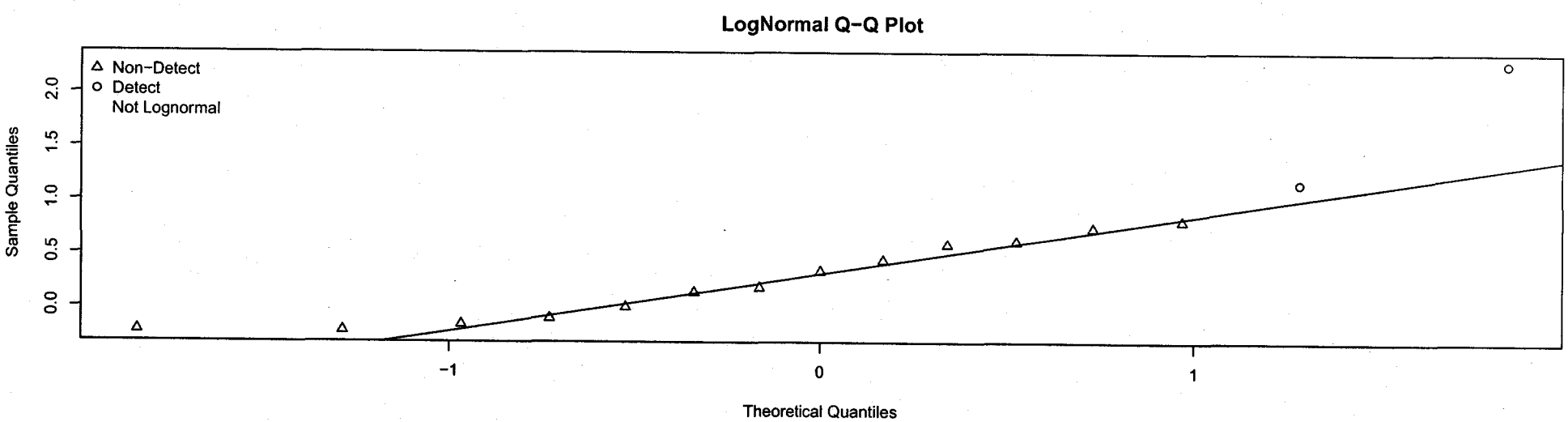
Transition
Spring Groundwater
ZINC



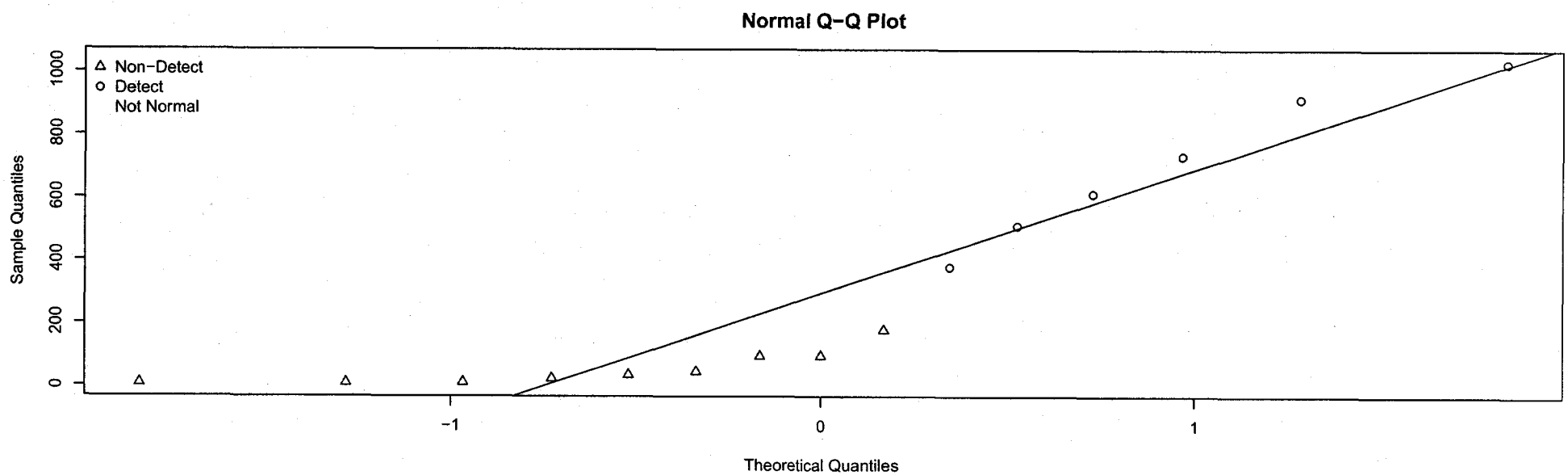


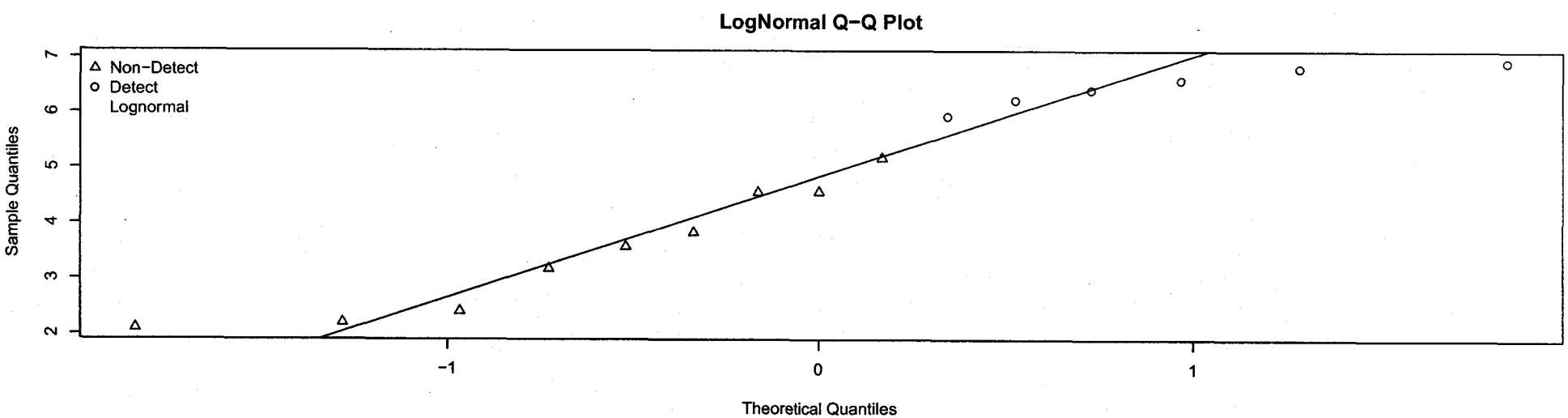
Transition
Spring Groundwater
ZINC



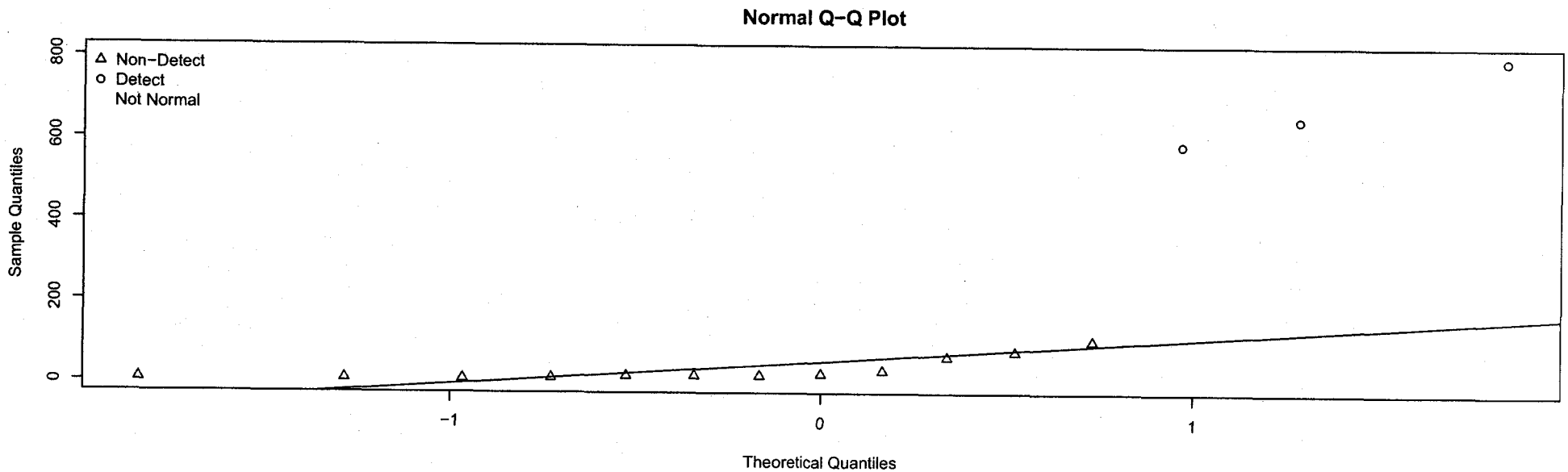


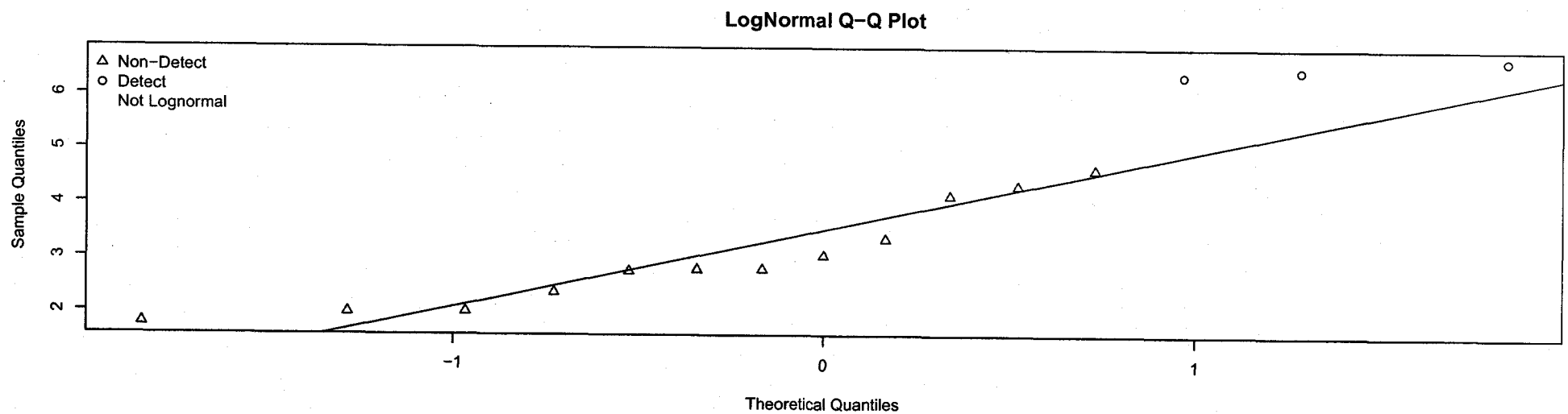
Upper Sand
Fall Groundwater
ALUMINUM



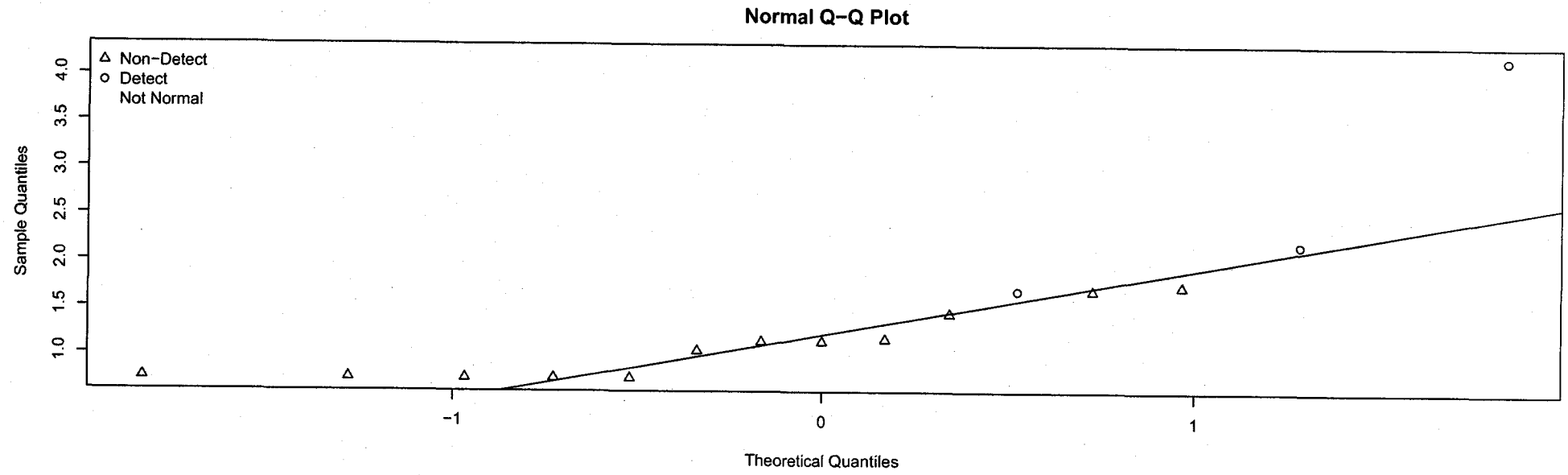


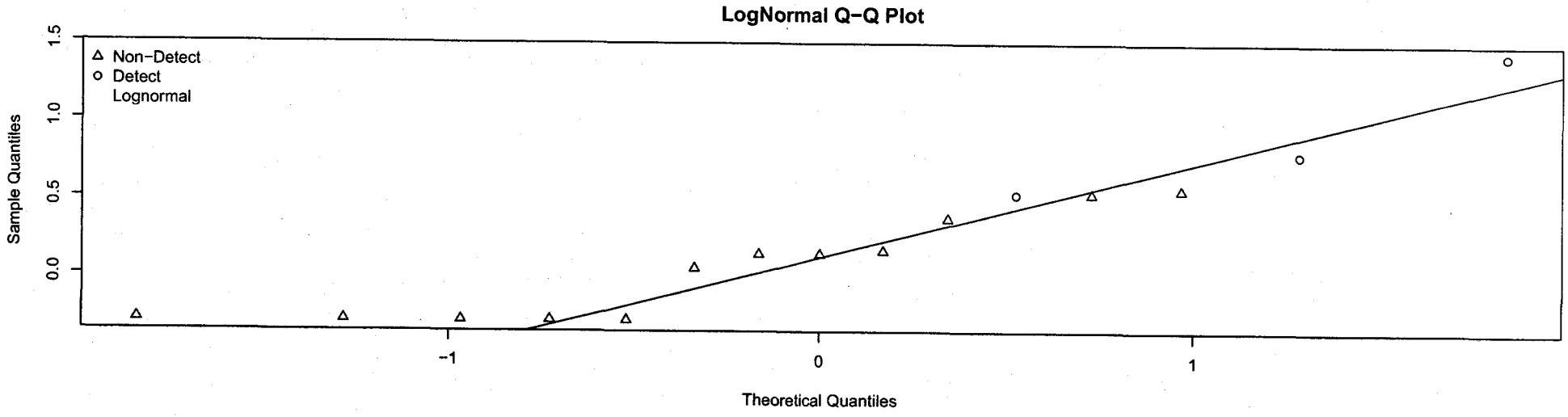
Upper Sand
Fall Groundwater
ALUMINUM



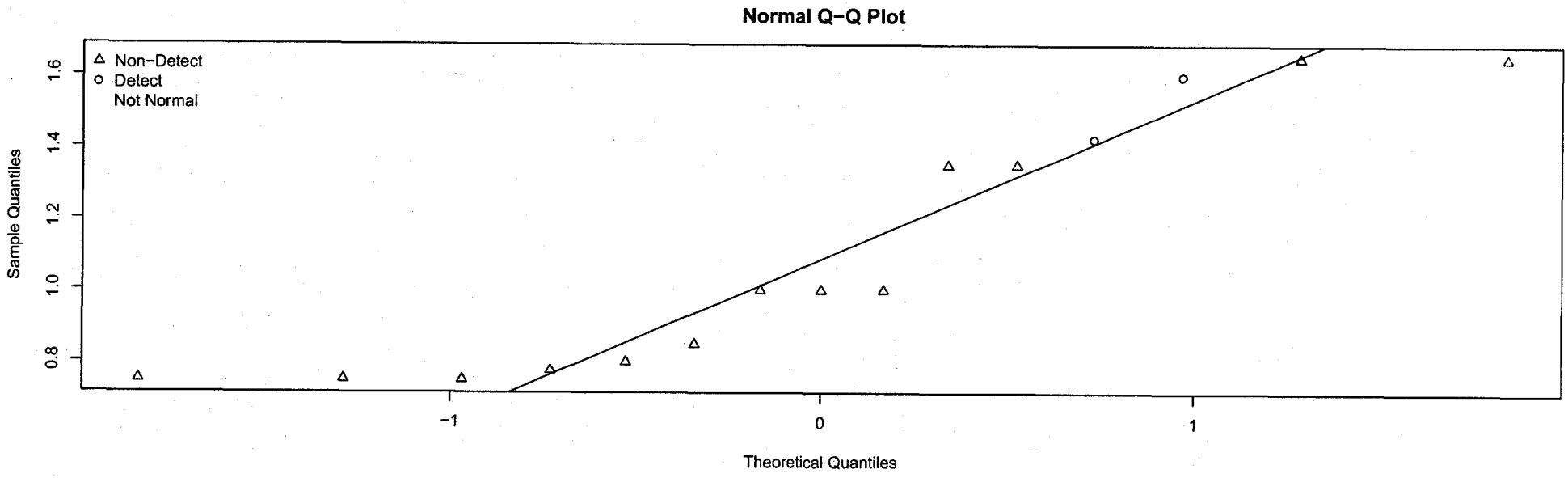


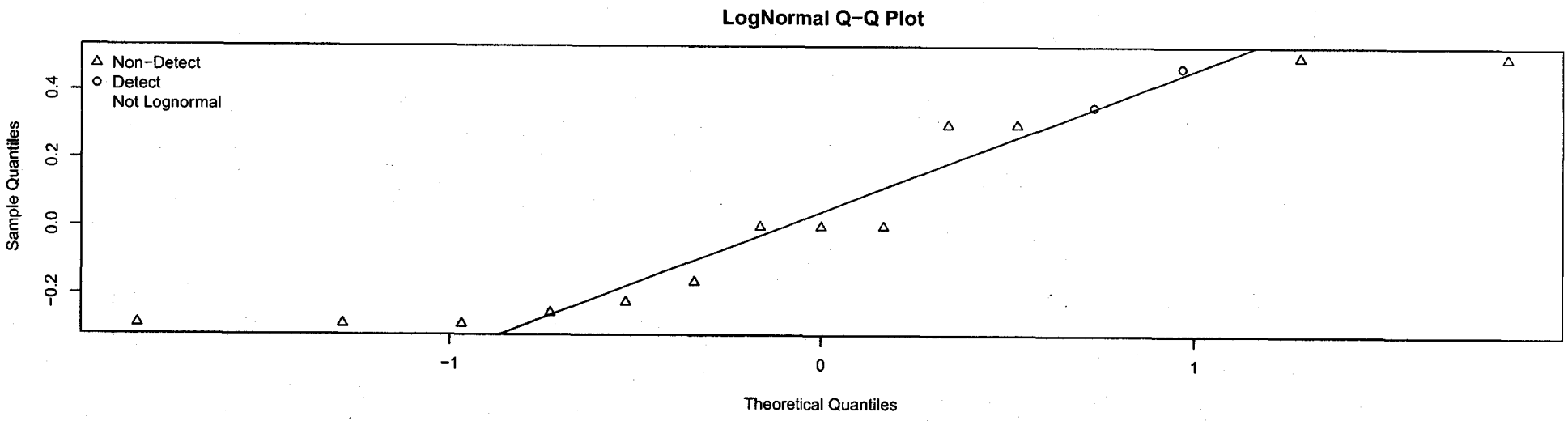
Upper Sand
Fall Groundwater
ARSENIC



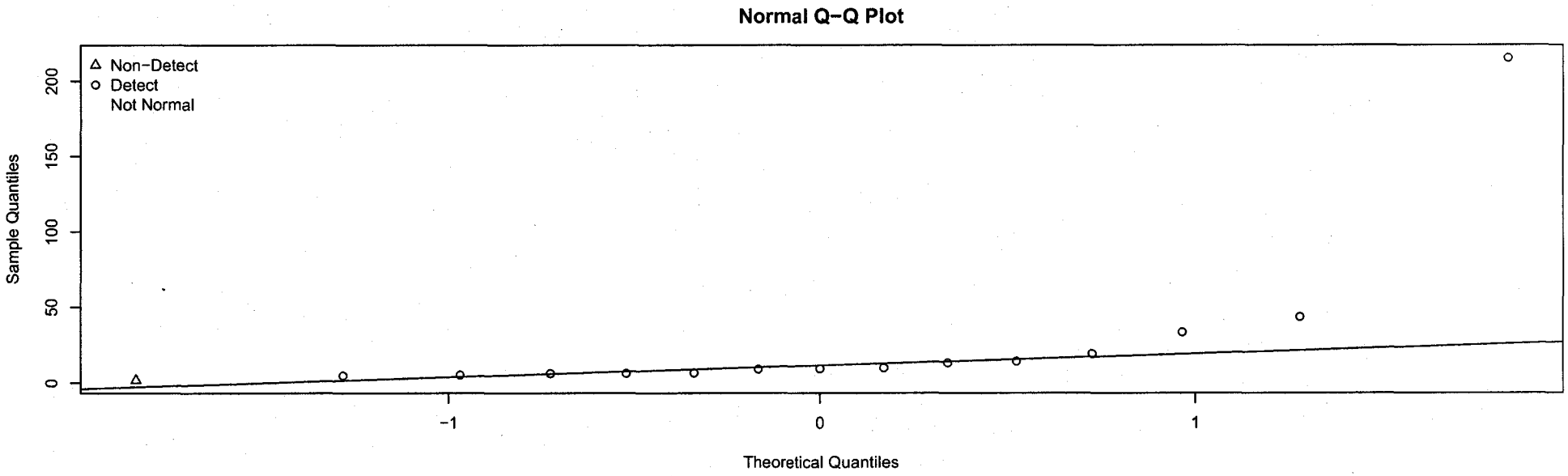


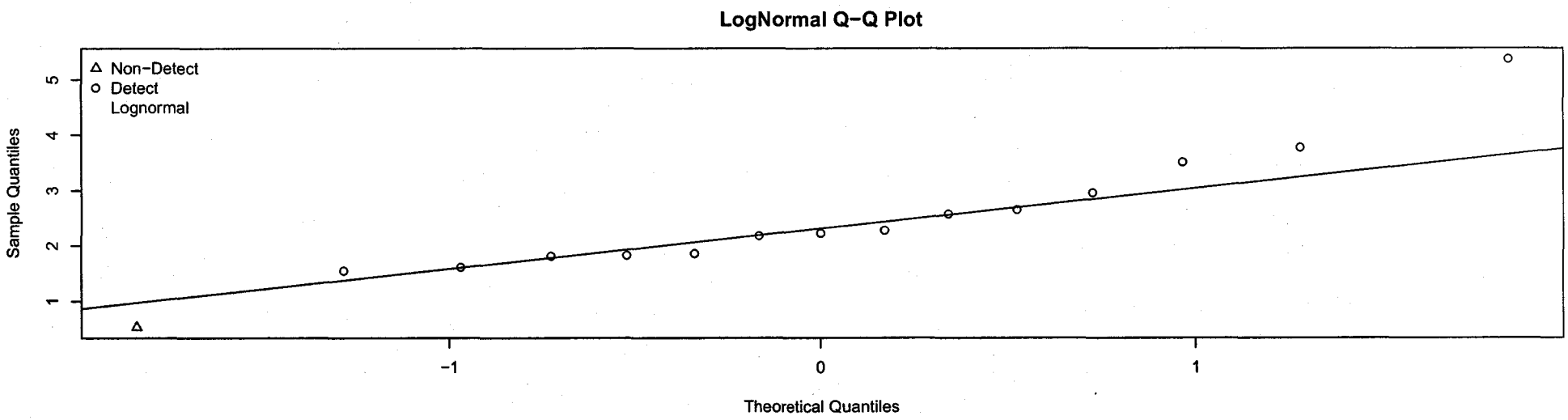
Upper Sand
Fall Groundwater
ARSENIC



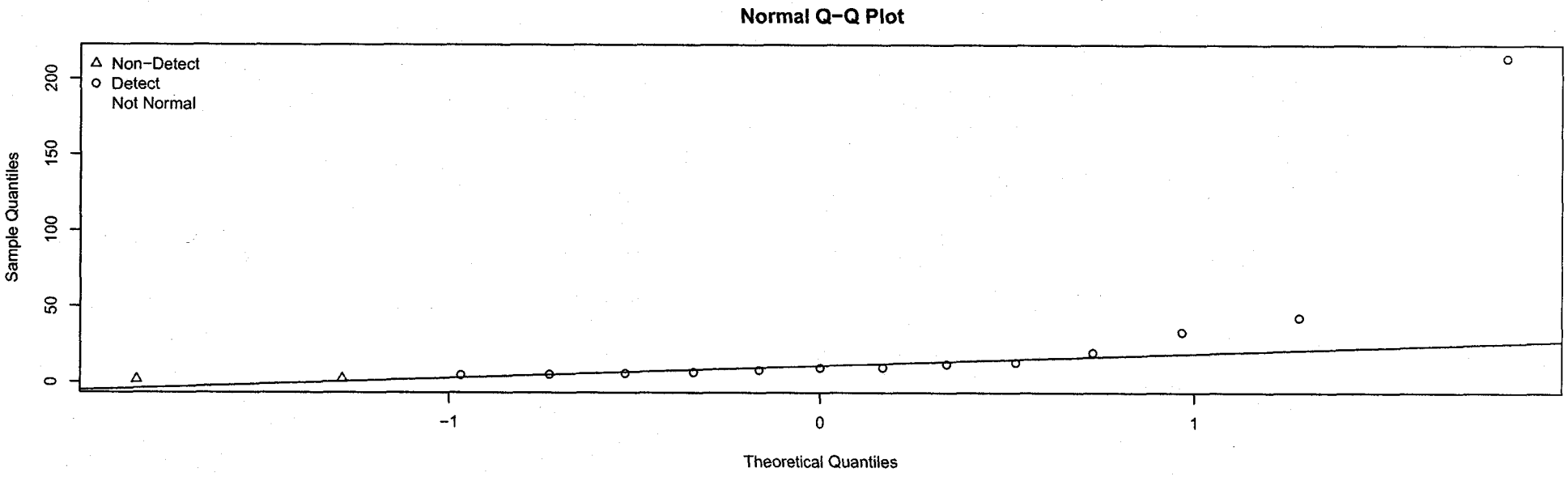


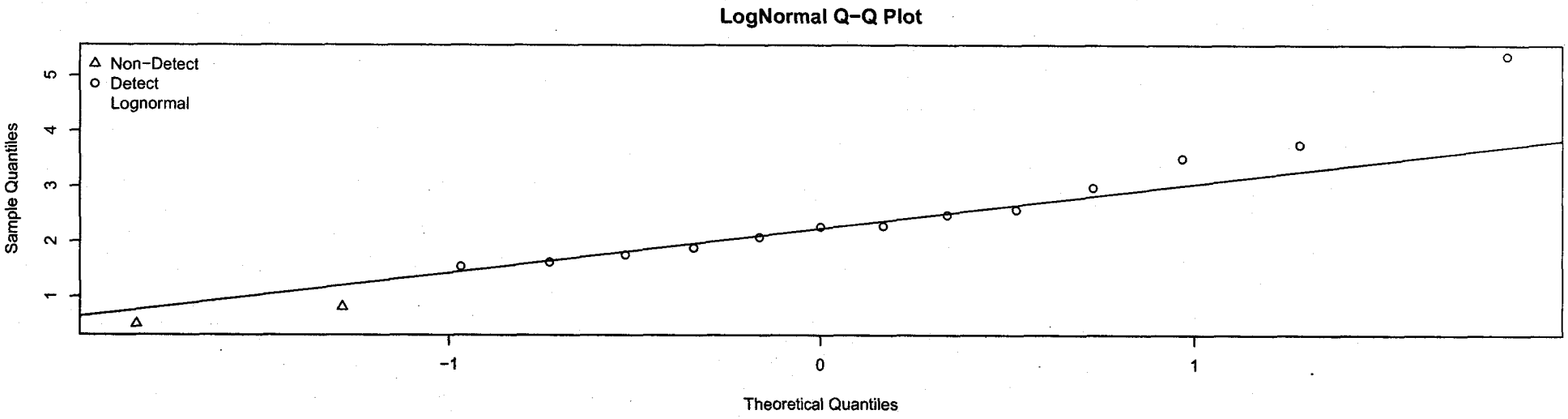
Upper Sand
Fall Groundwater
BARIUM





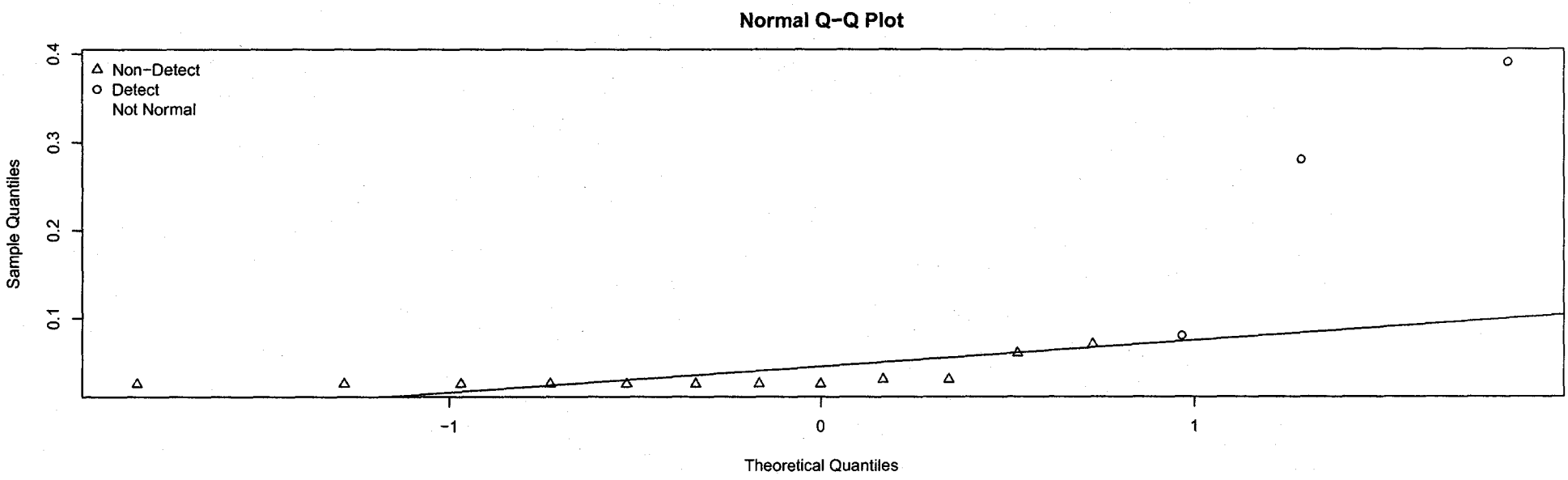
Upper Sand
Fall Groundwater
BARIUM

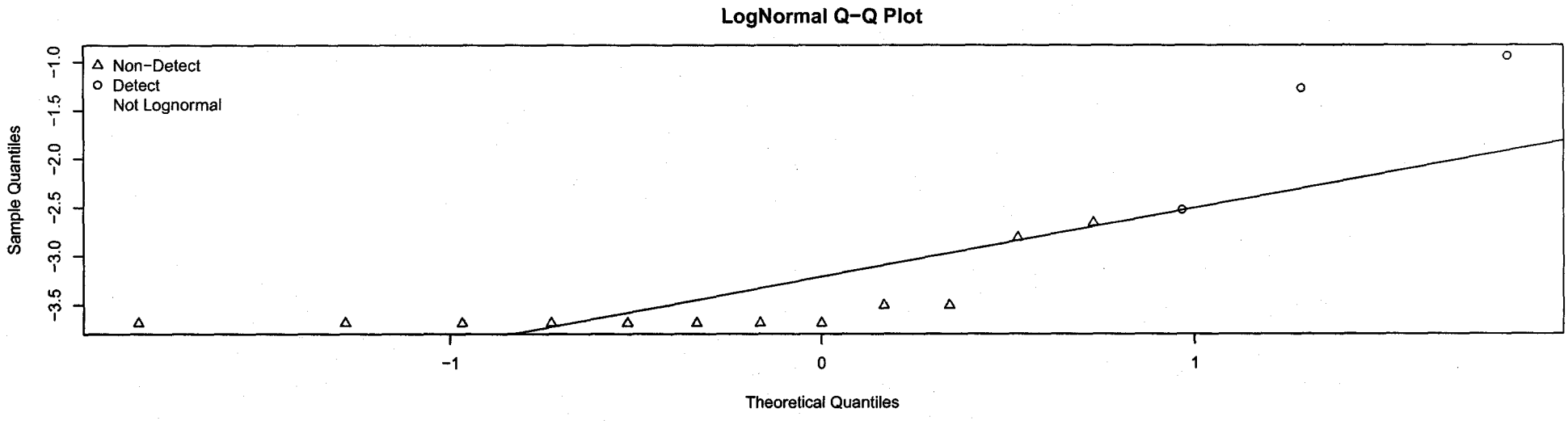




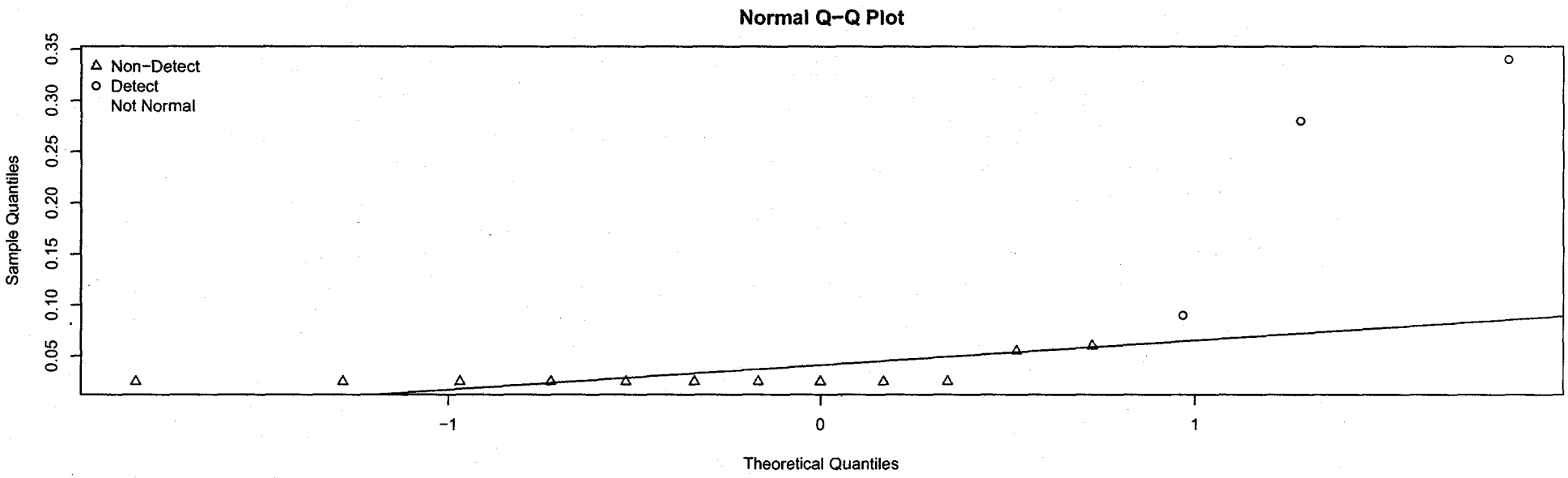
Upper Sand
Fall Groundwater

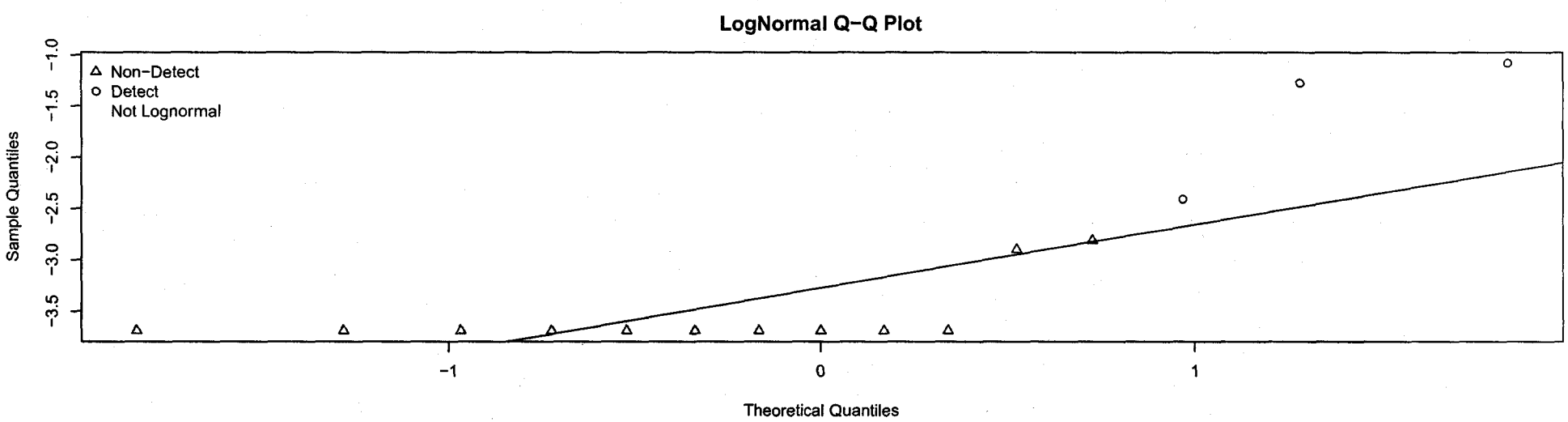
BERYLLIUM



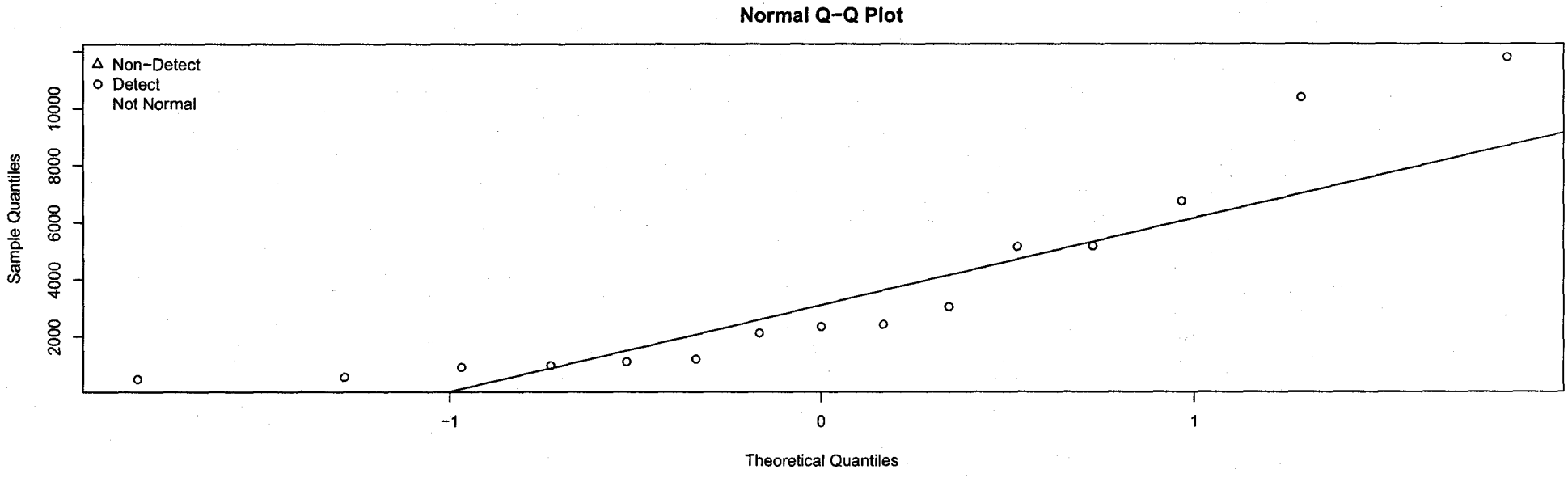


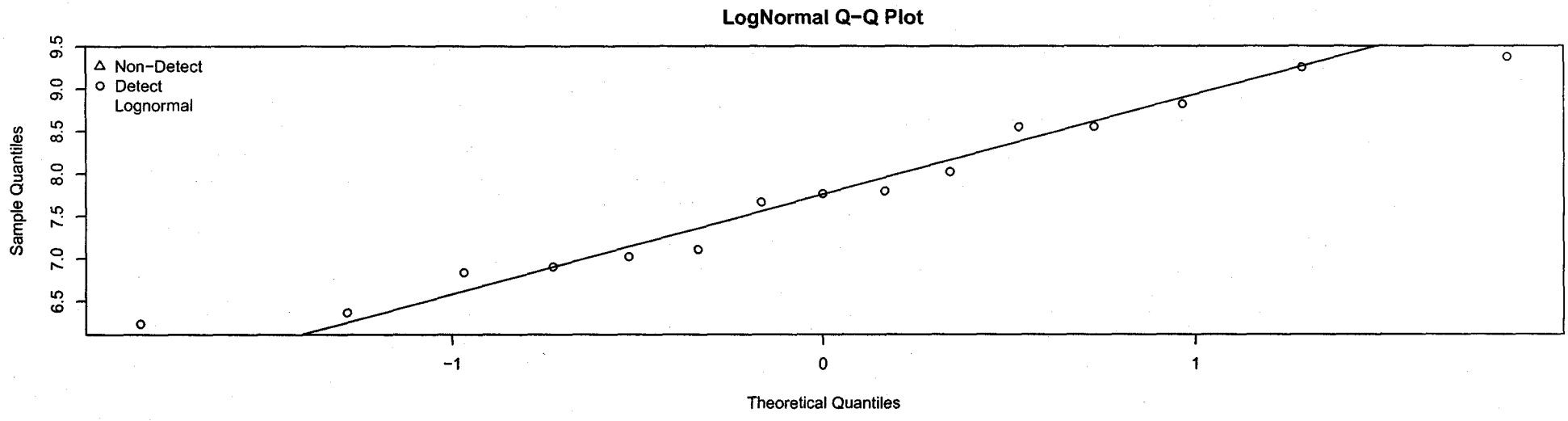
Upper Sand
Fall Groundwater
BERYLLIUM



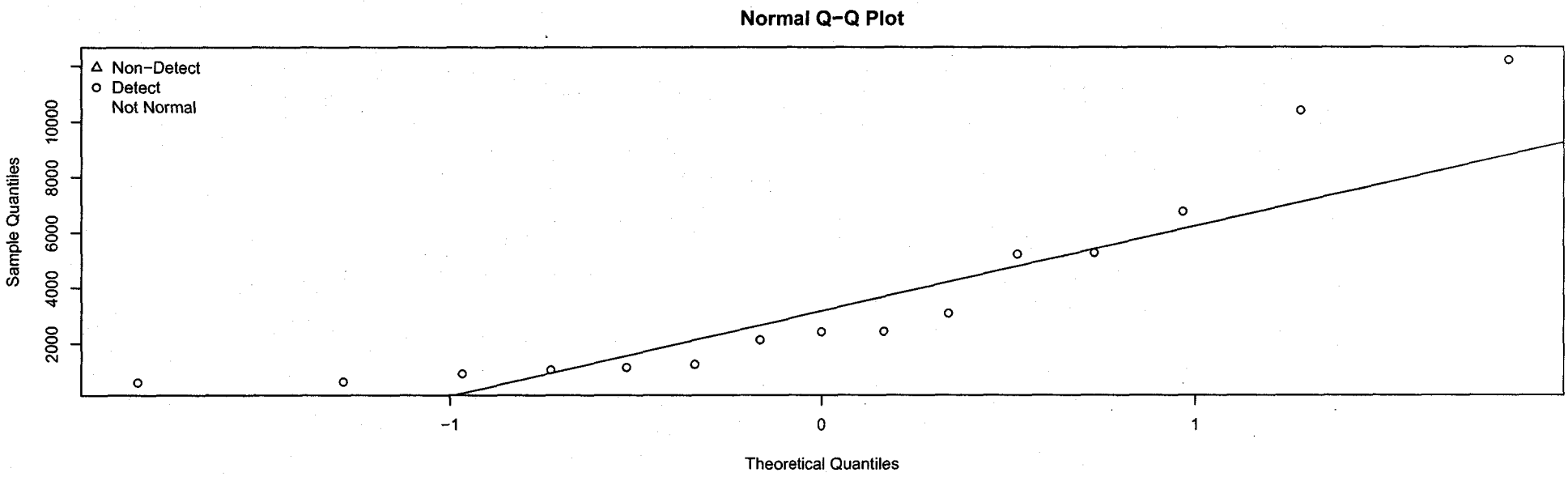


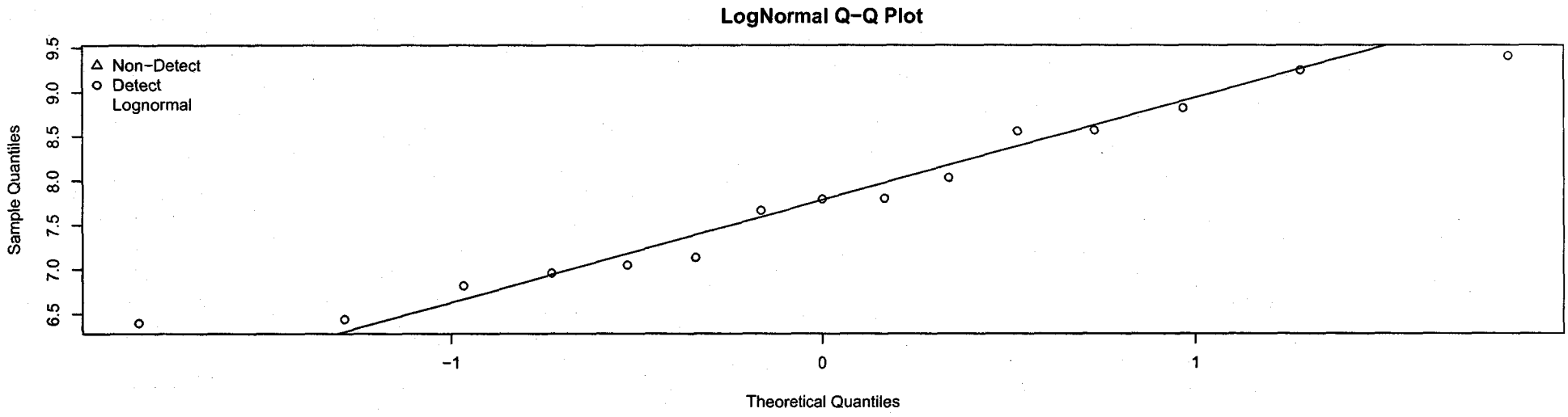
Upper Sand
Fall Groundwater
CALCIUM





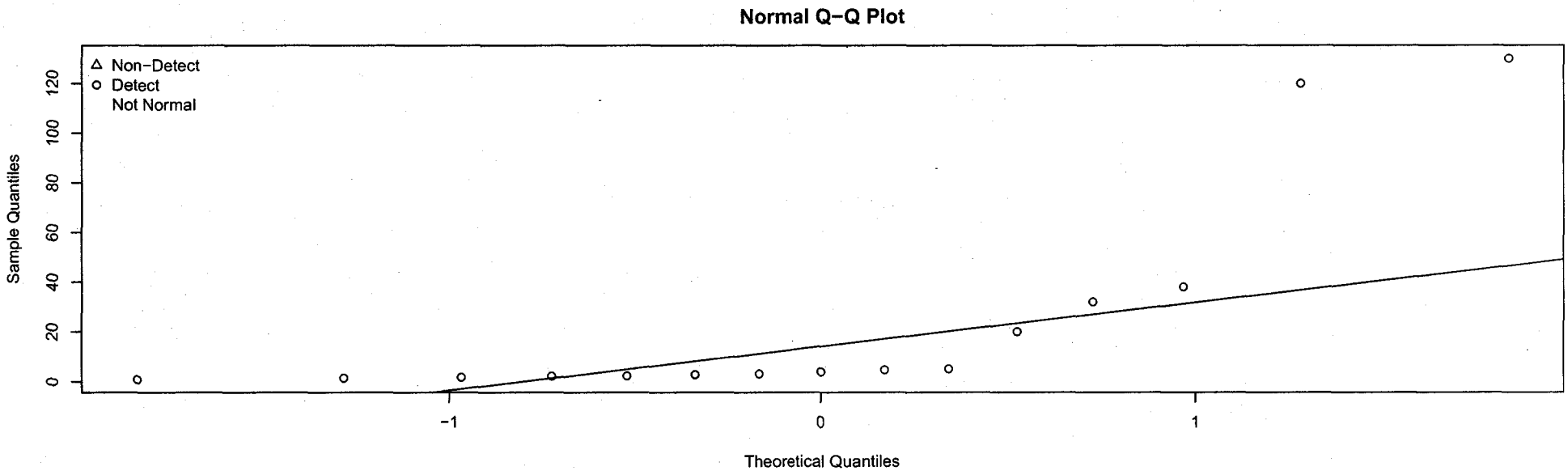
Upper Sand
Fall Groundwater
CALCIUM

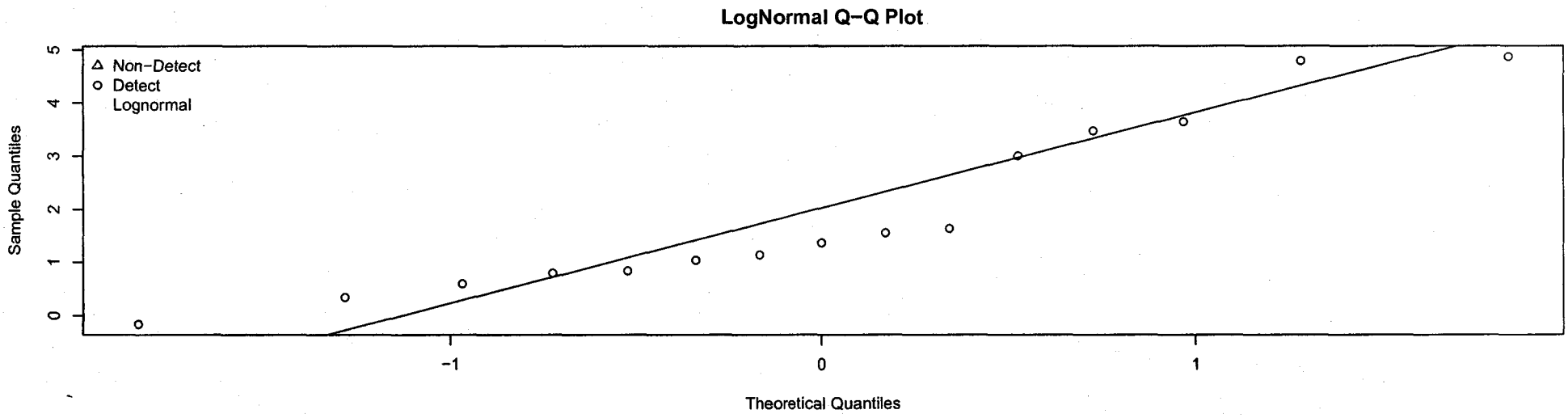




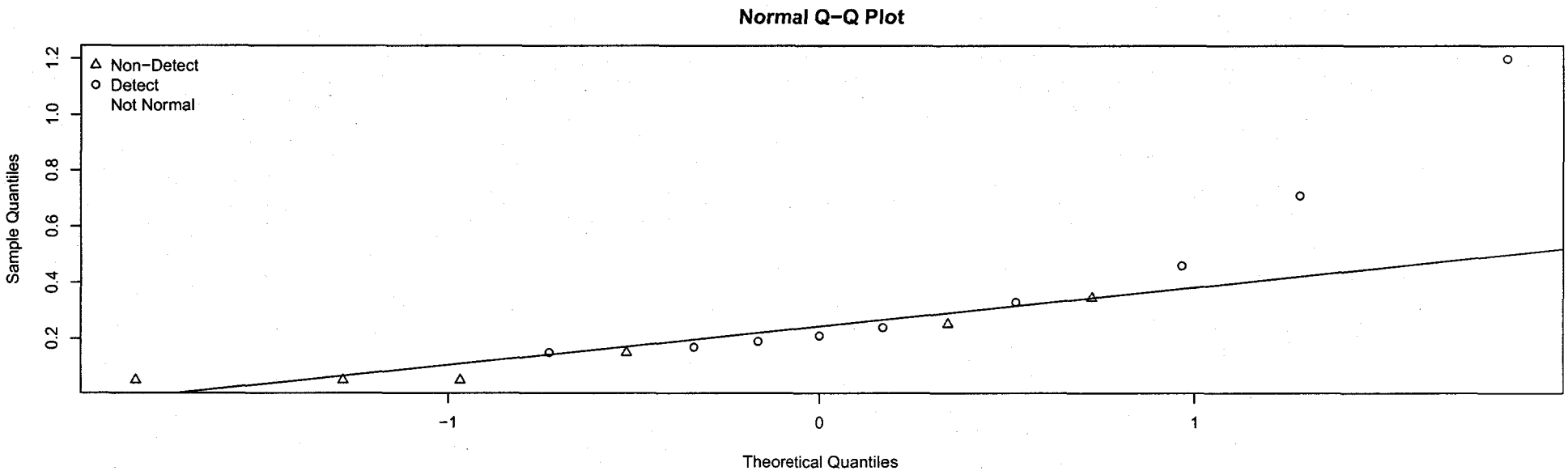
Upper Sand
Fall Groundwater

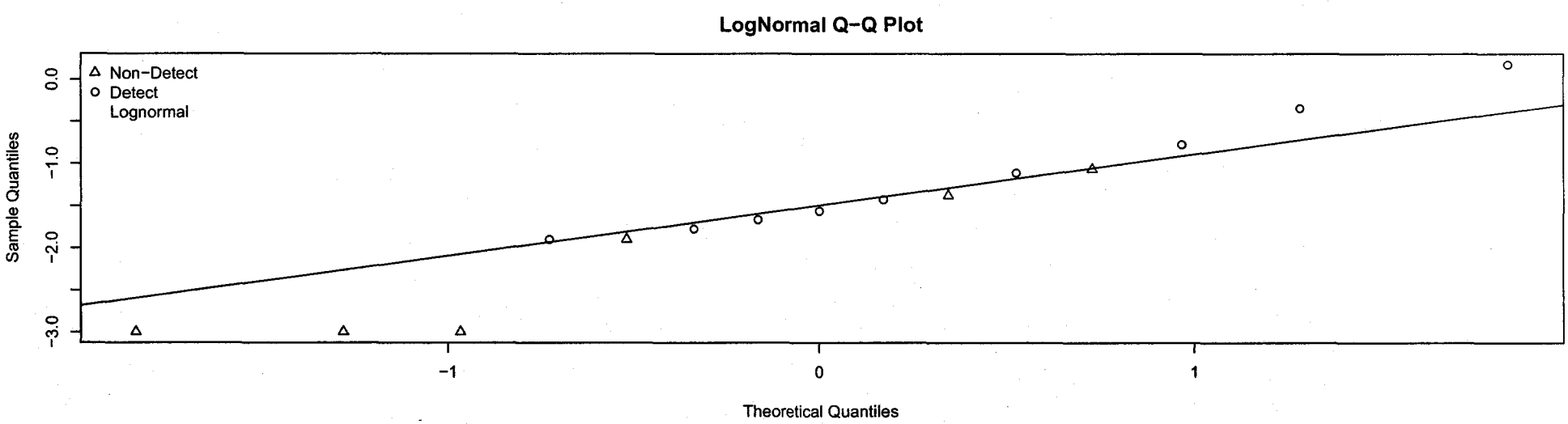
CHLORIDE





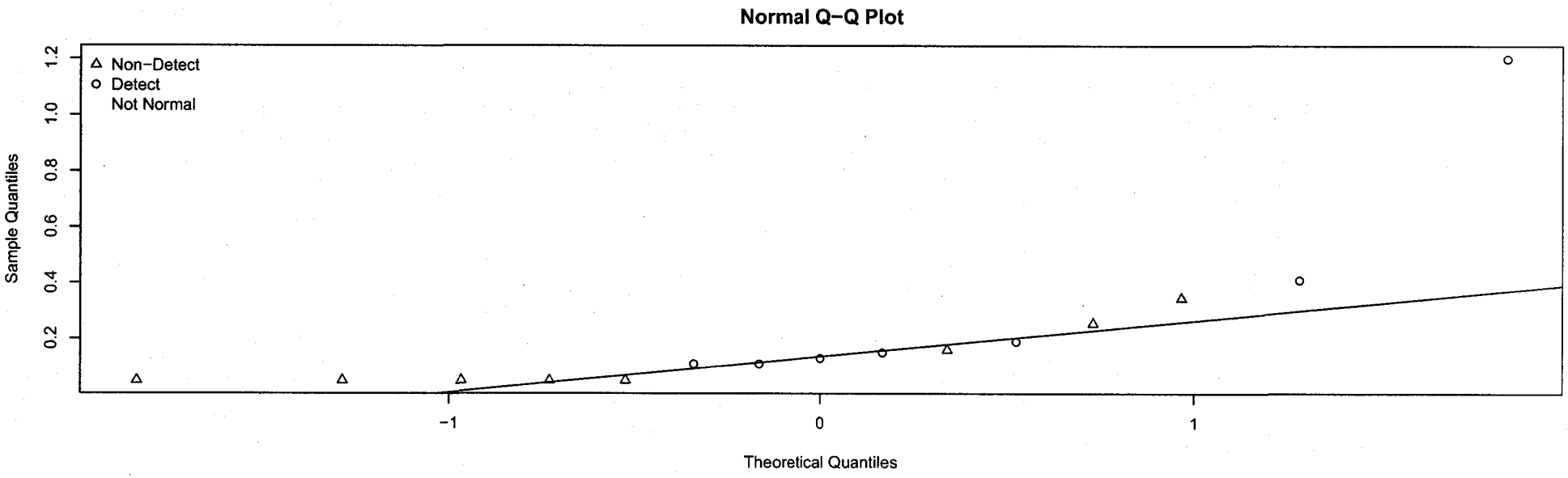
Upper Sand
Fall Groundwater
COBALT

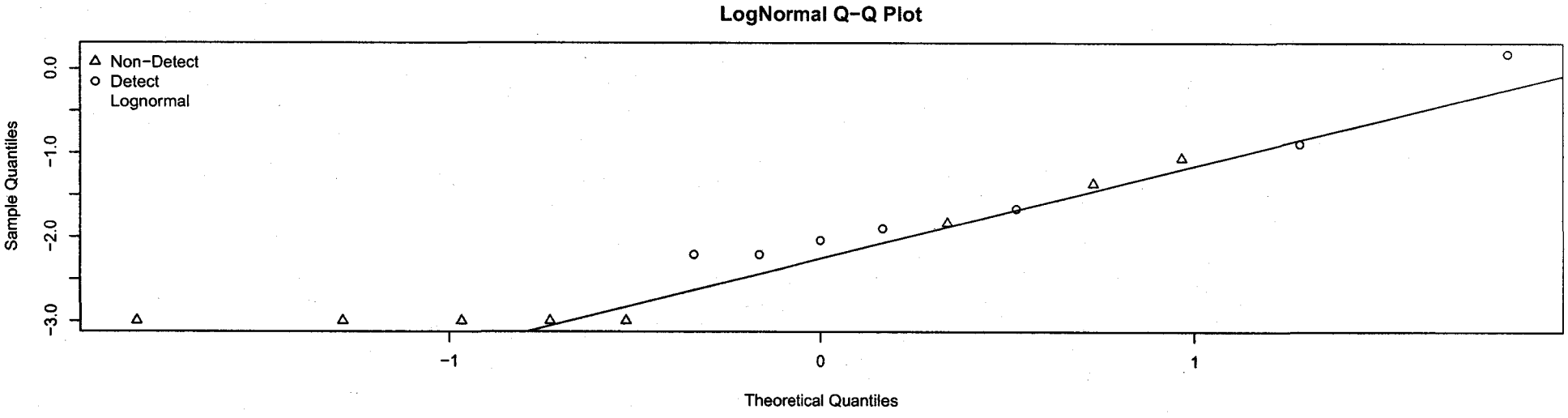




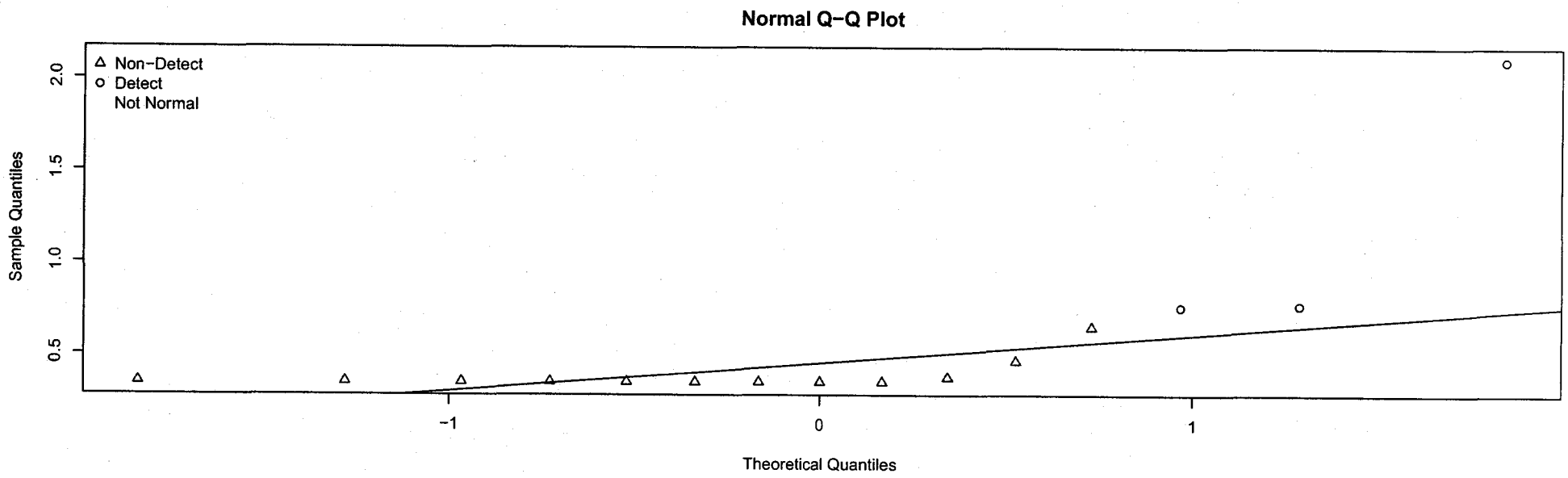
Upper Sand
Fall Groundwater

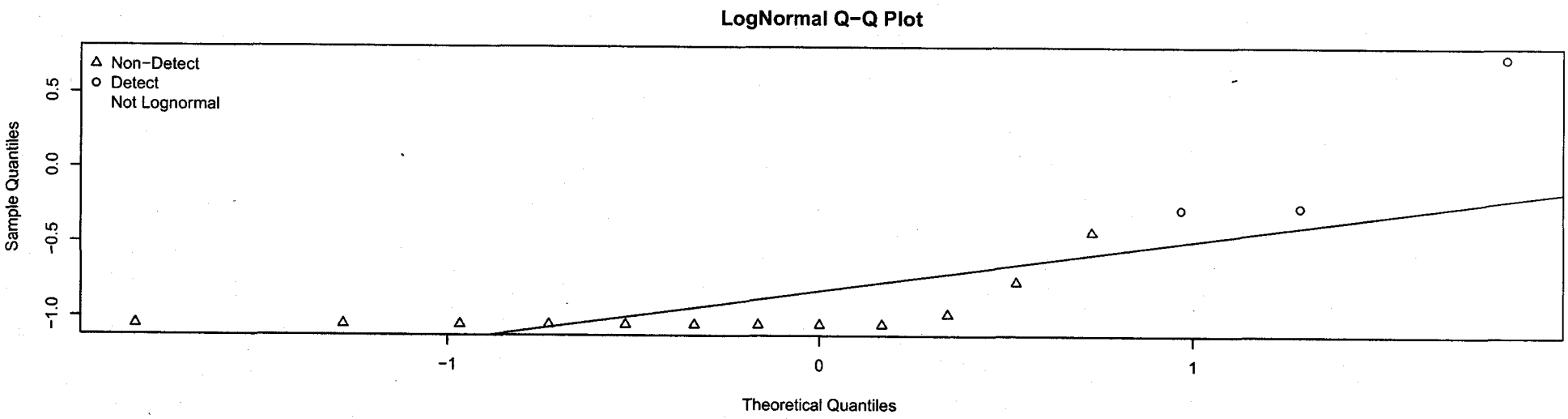
COBALT



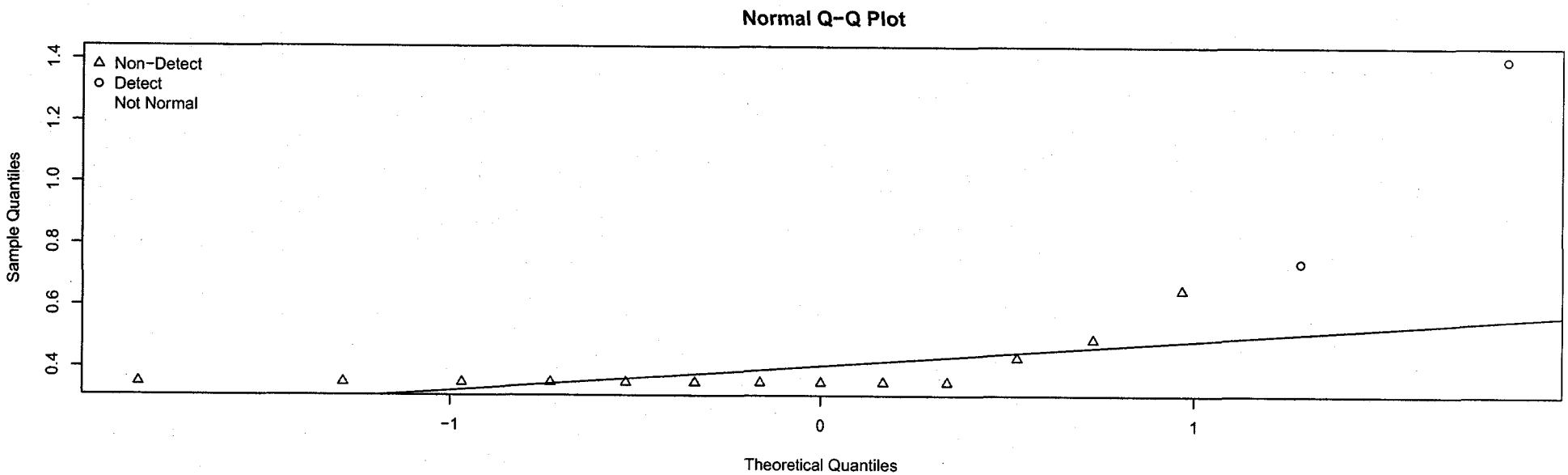


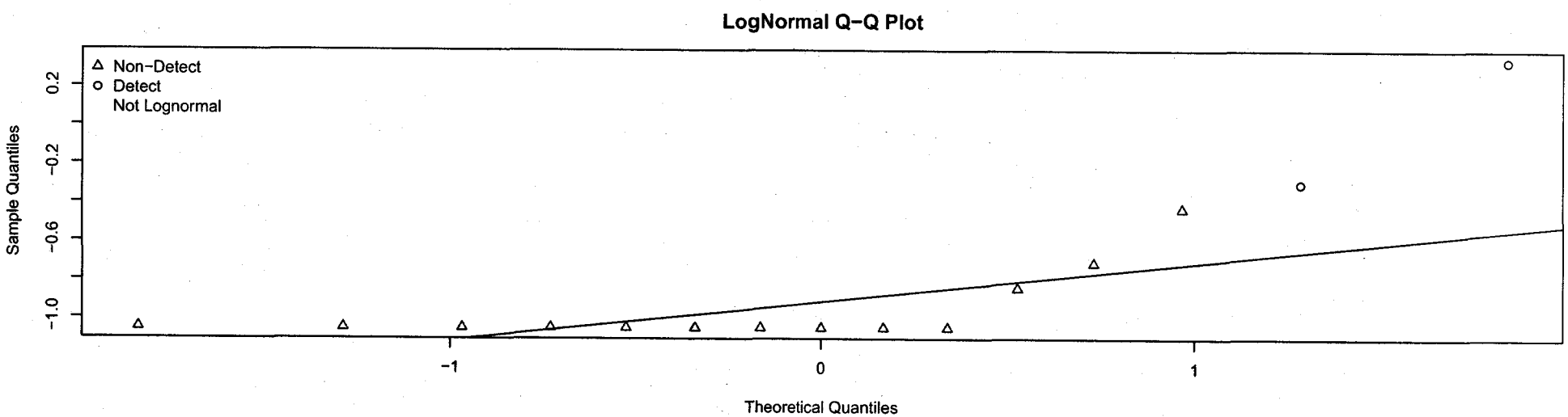
Upper Sand
Fall Groundwater
COPPER





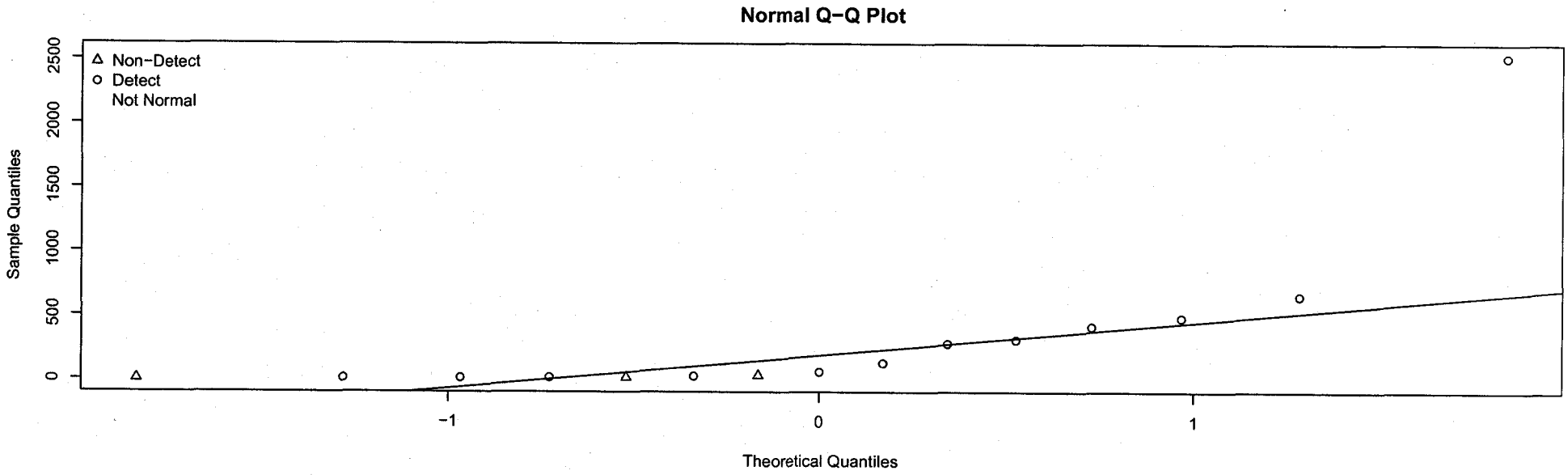
Upper Sand
Fall Groundwater
COPPER

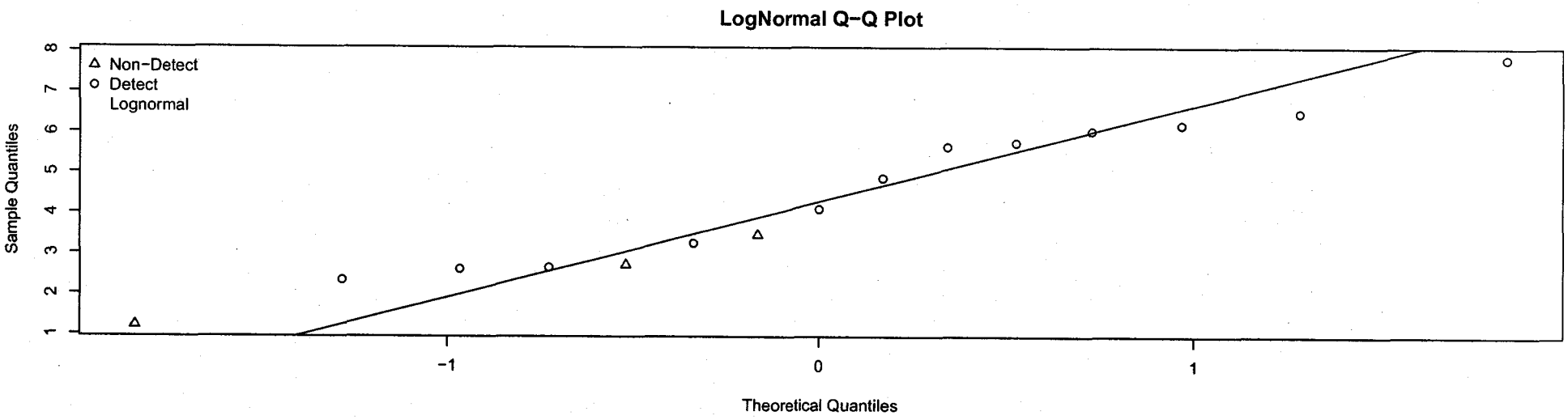




Upper Sand
Fall Groundwater

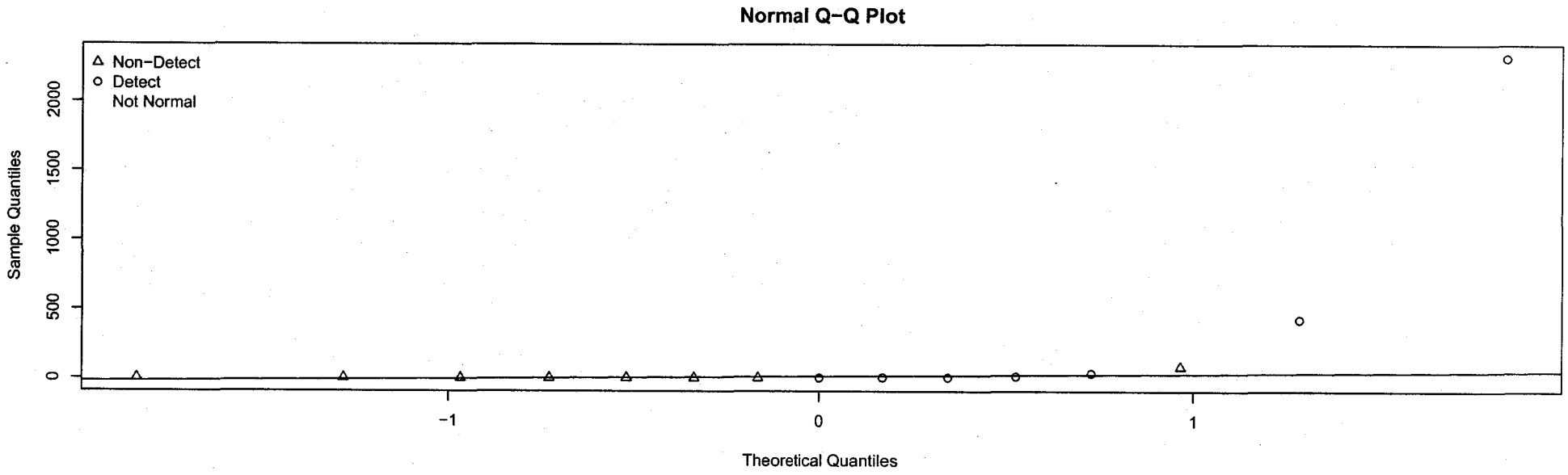
IRON

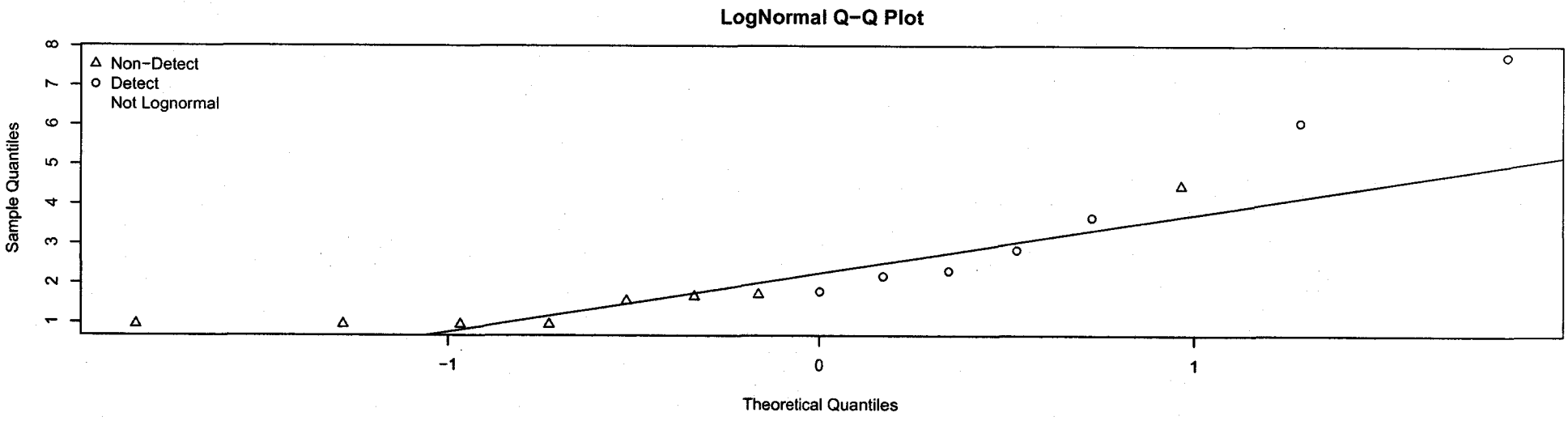




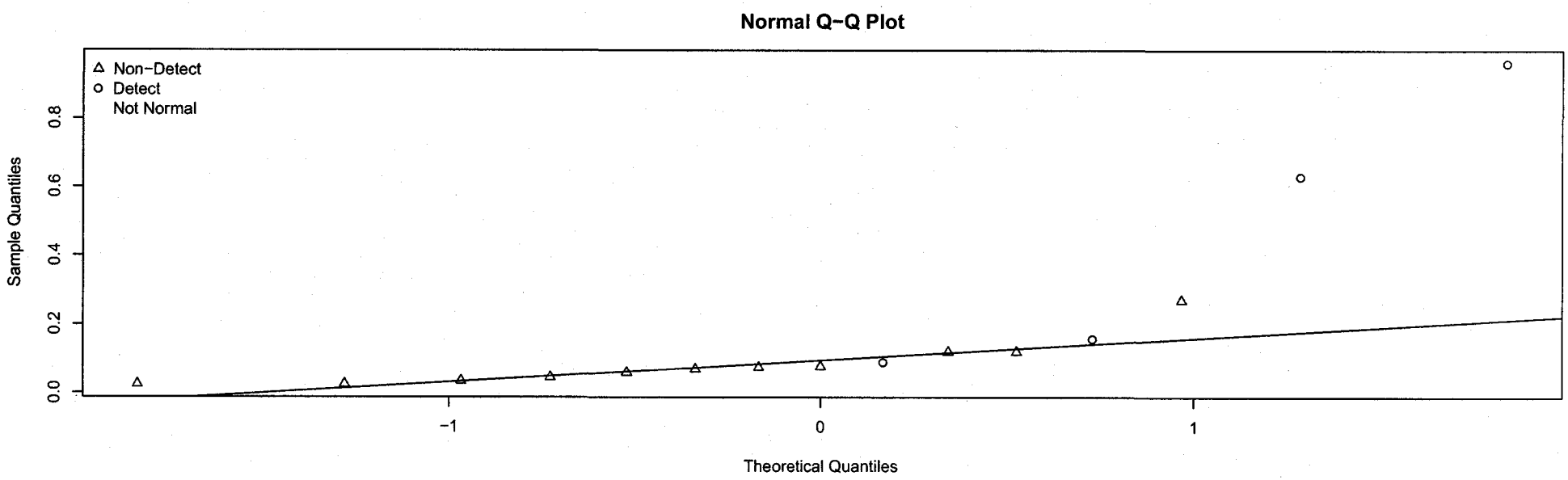
Upper Sand
Fall Groundwater

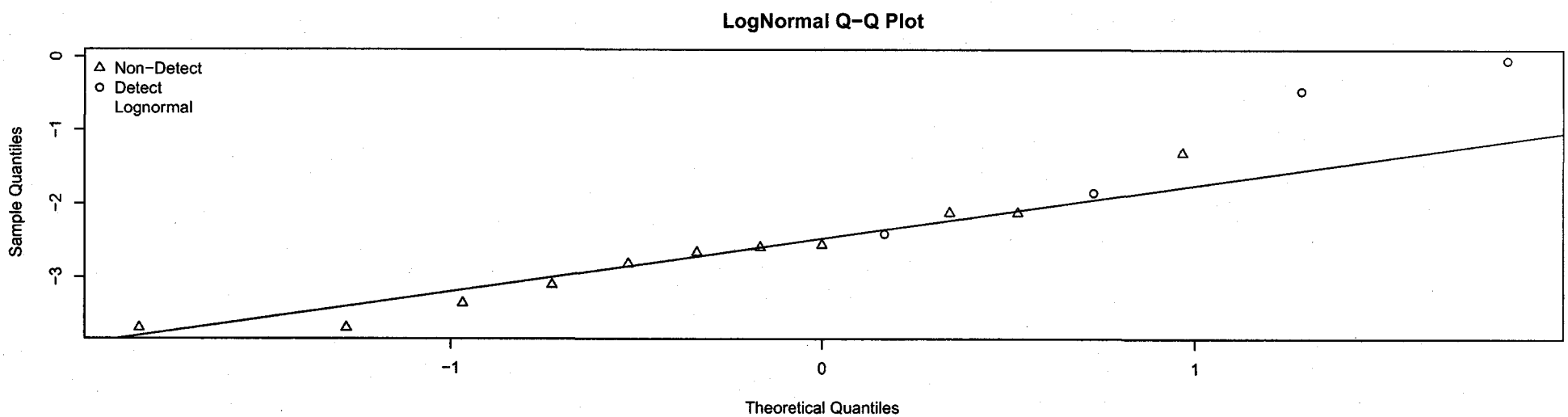
IRON





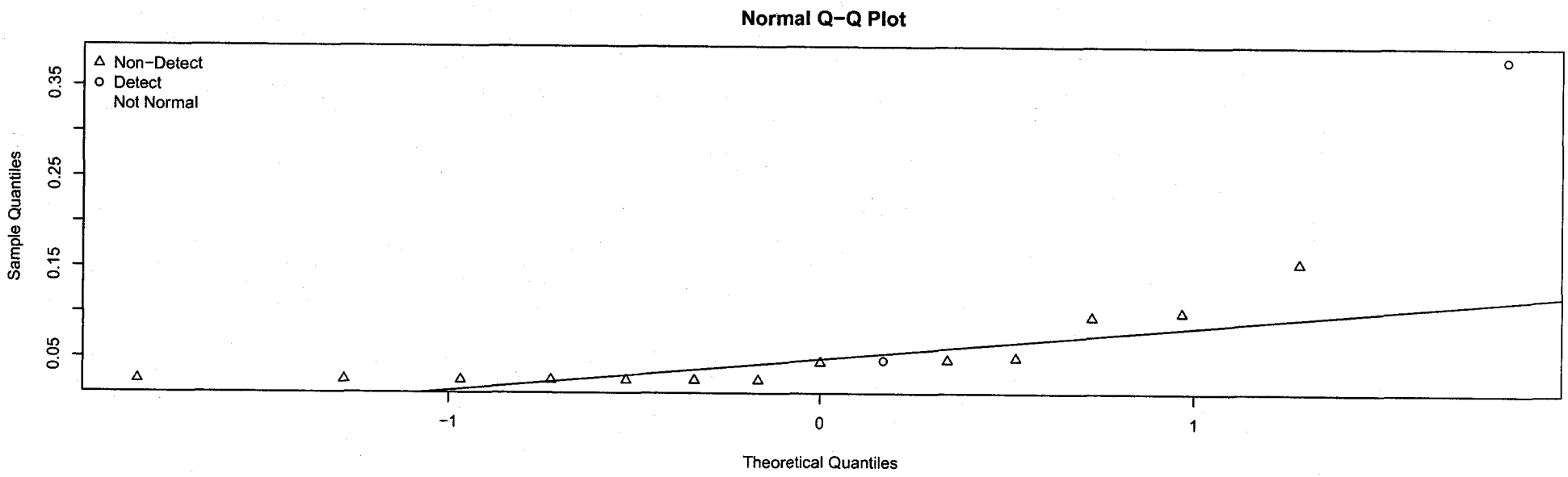
Upper Sand
Fall Groundwater
LEAD

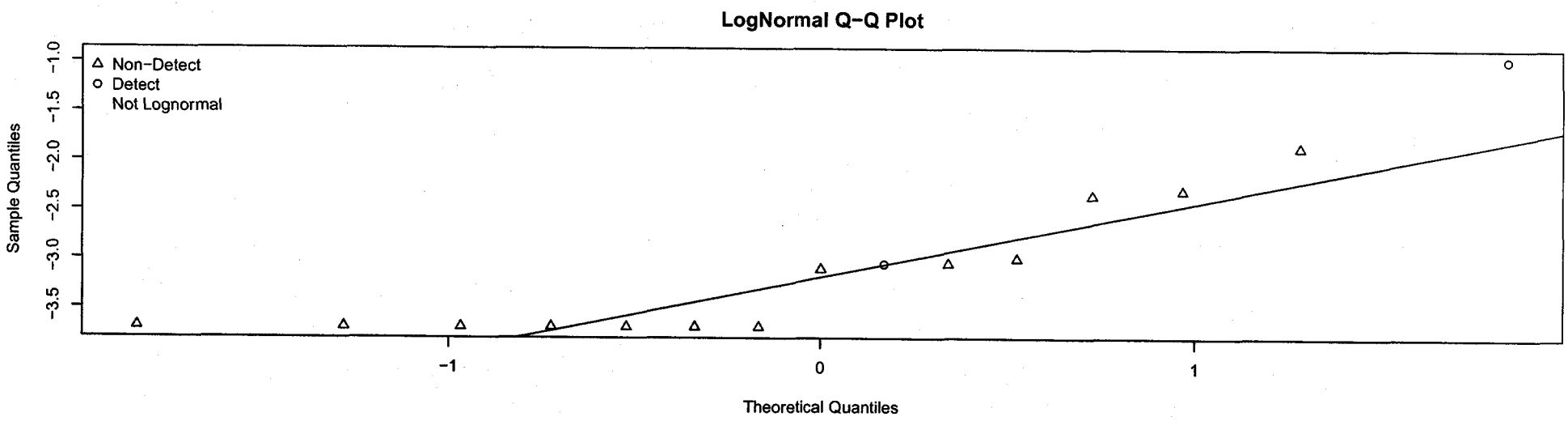




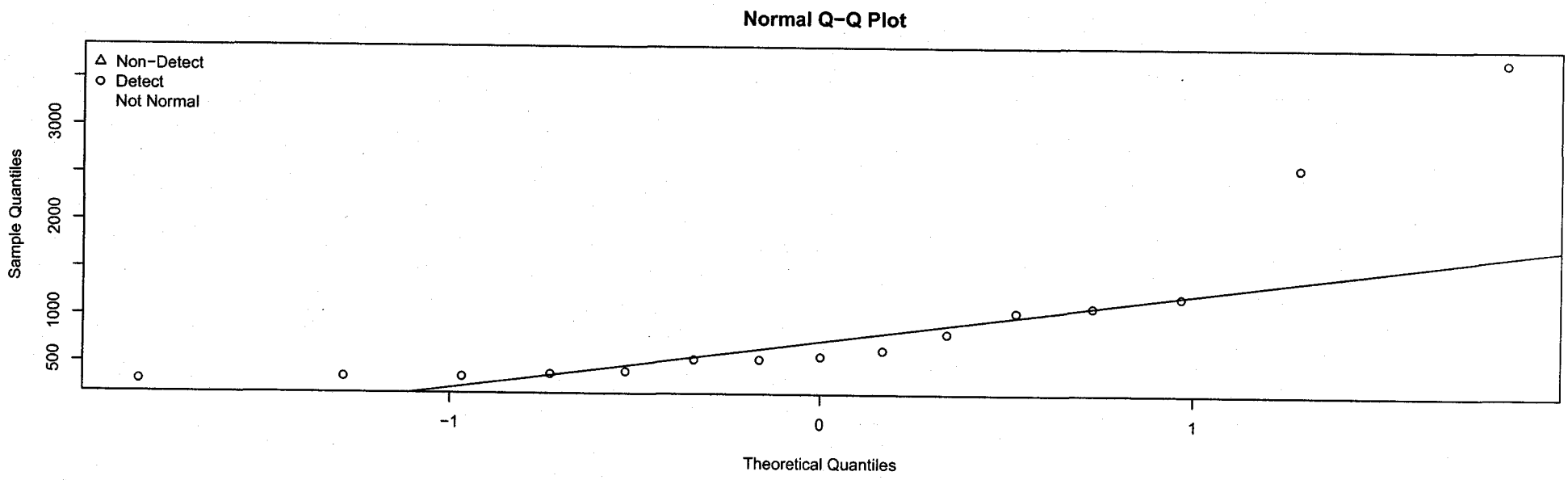
Upper Sand
Fall Groundwater

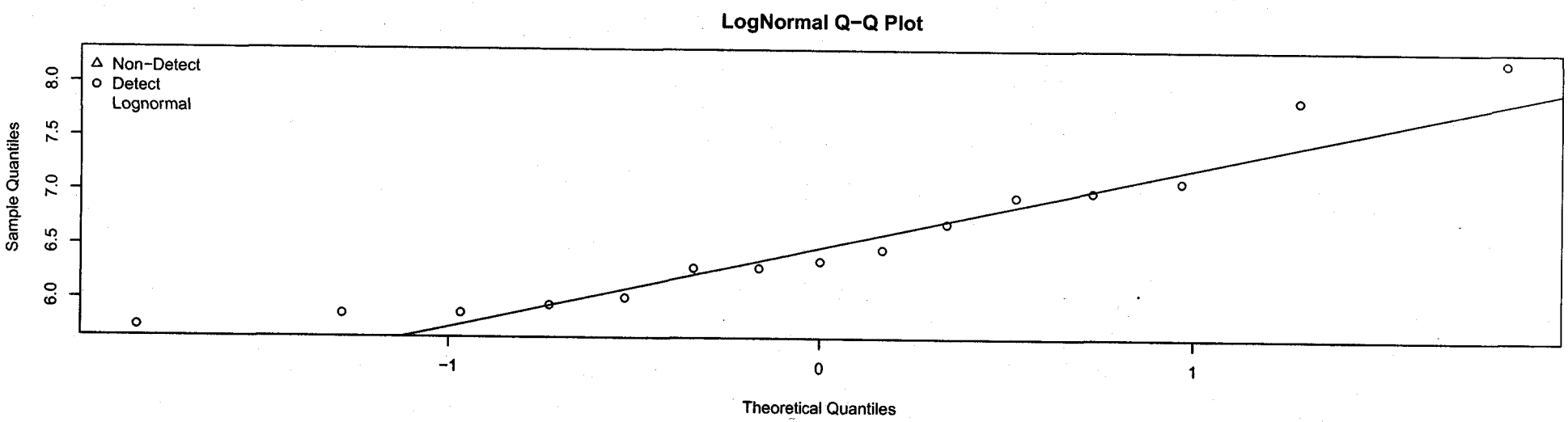
LEAD



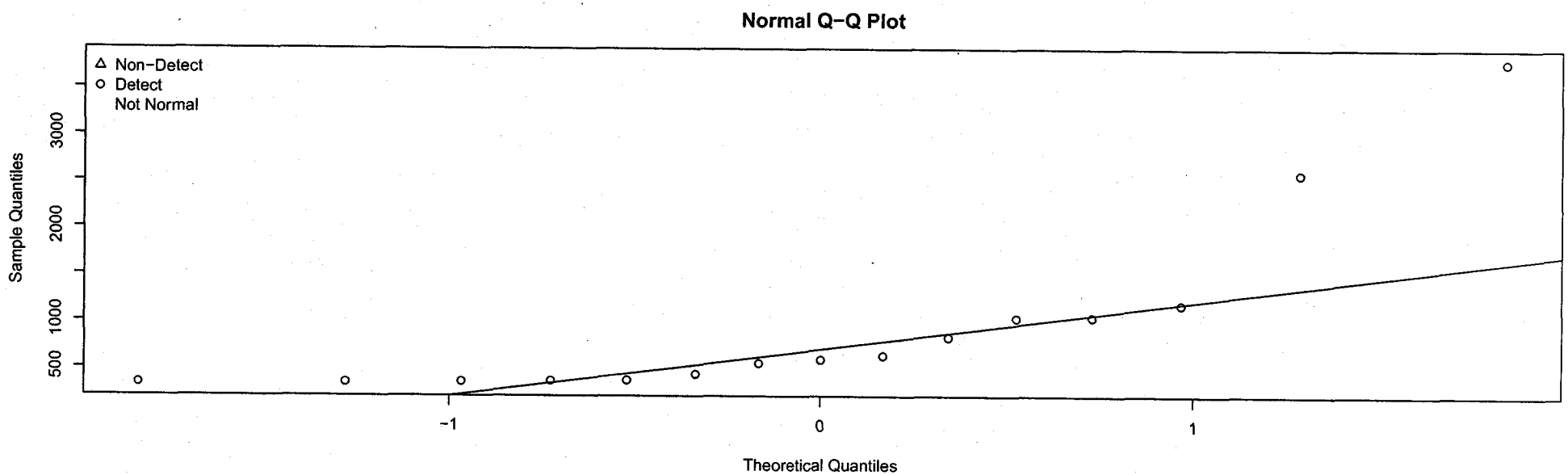


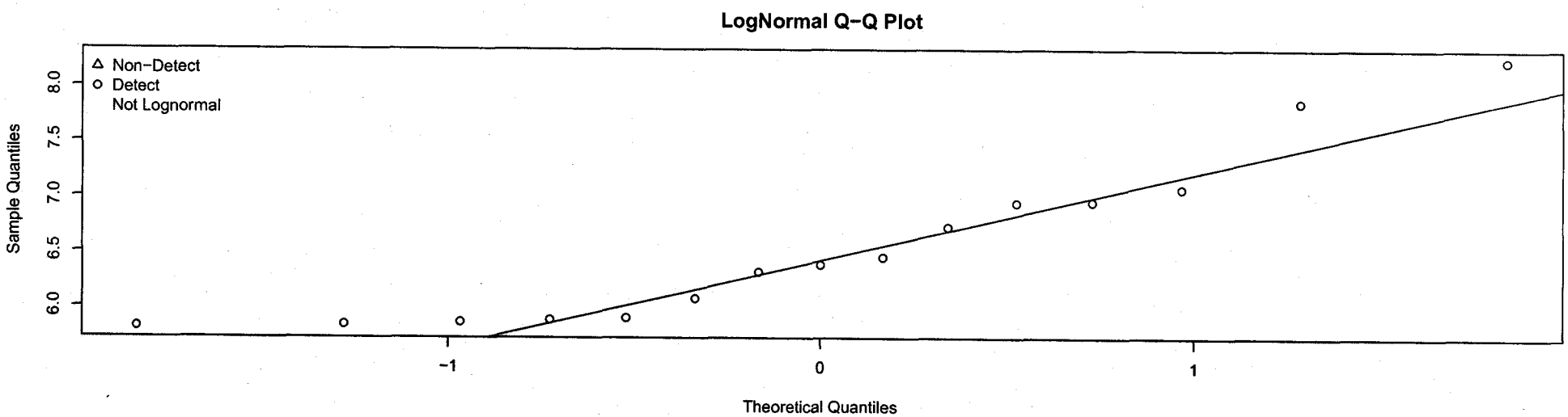
Upper Sand
Fall Groundwater
MAGNESIUM



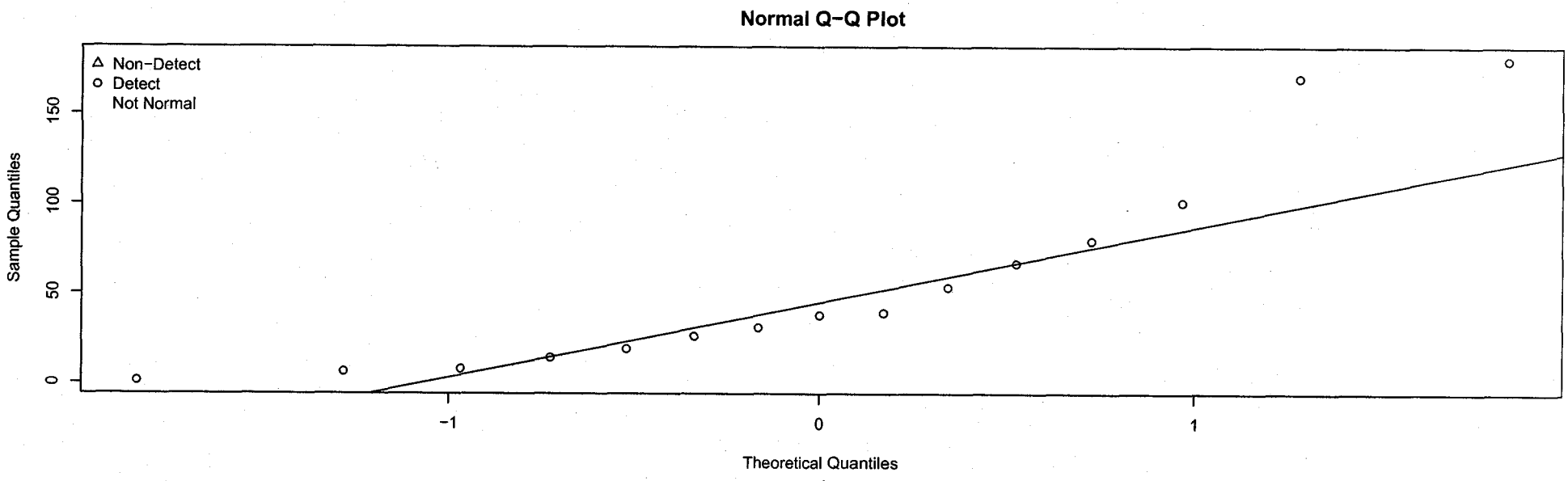


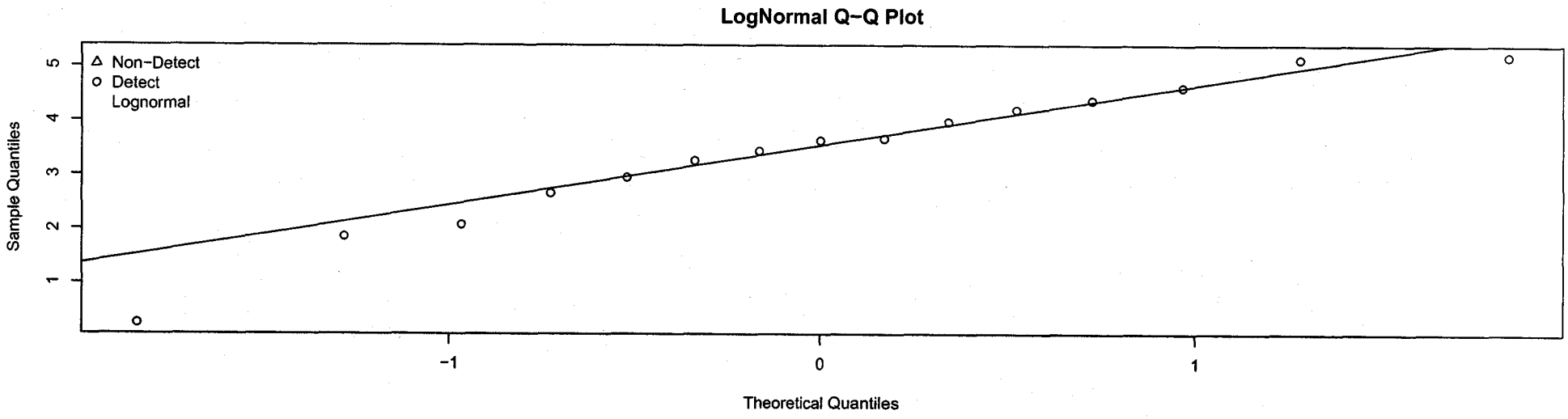
Upper Sand
Fall Groundwater
MAGNESIUM



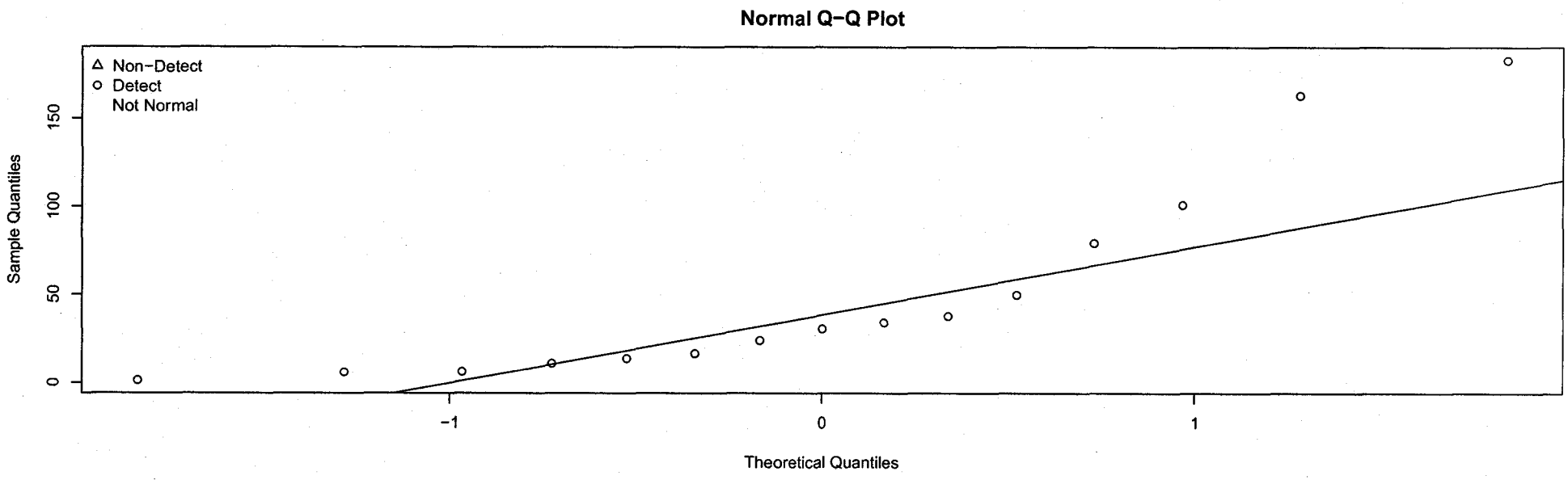


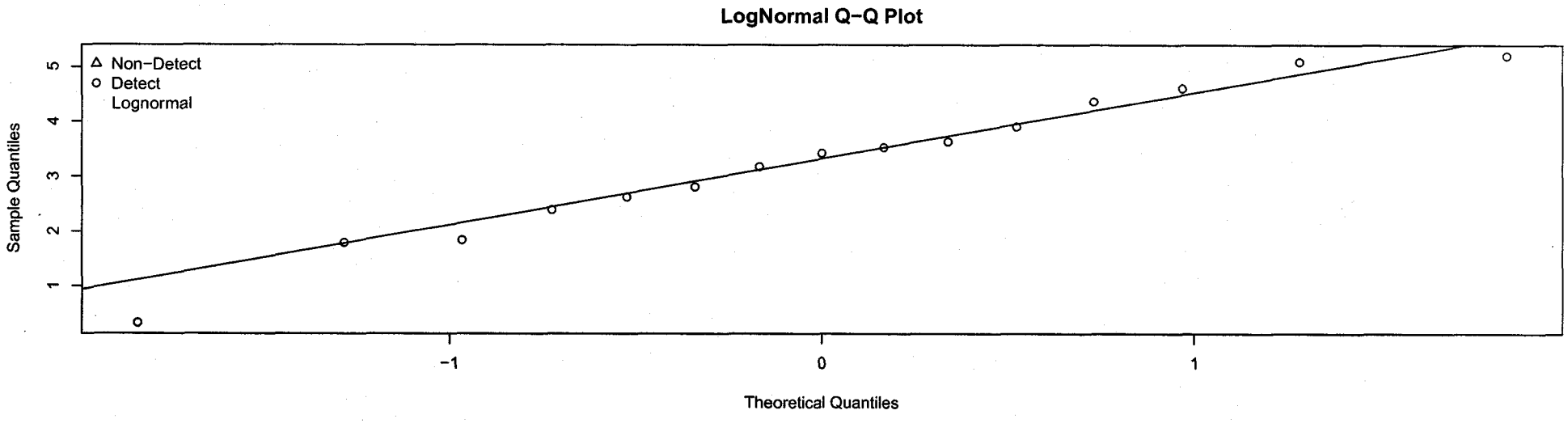
Upper Sand
Fall Groundwater
MANGANESE





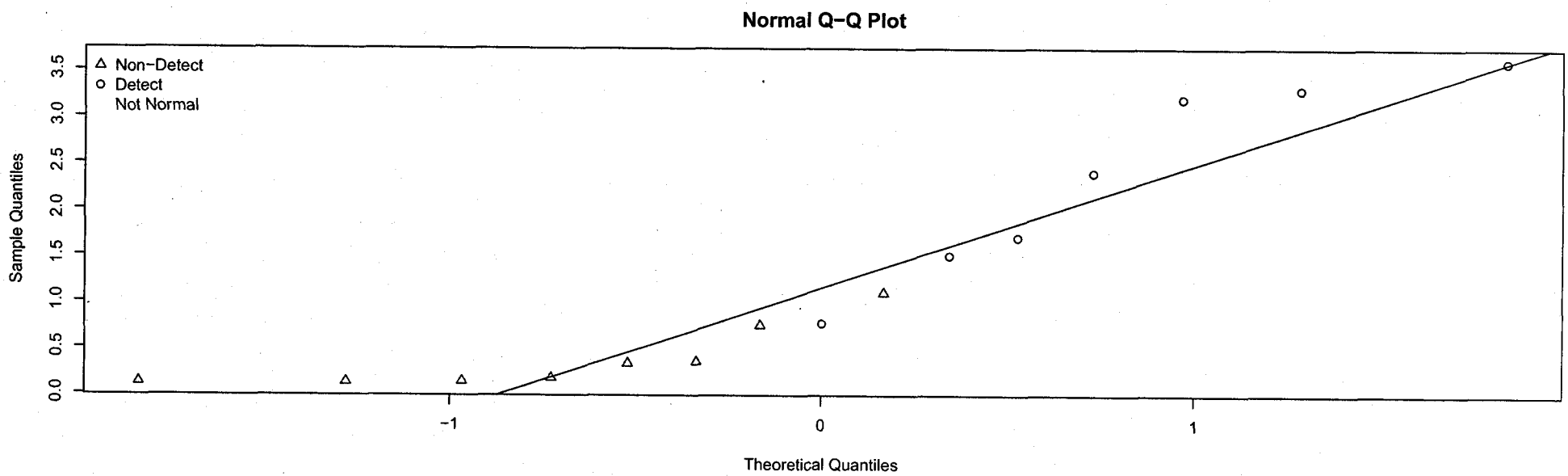
Upper Sand
Fall Groundwater
MANGANESE

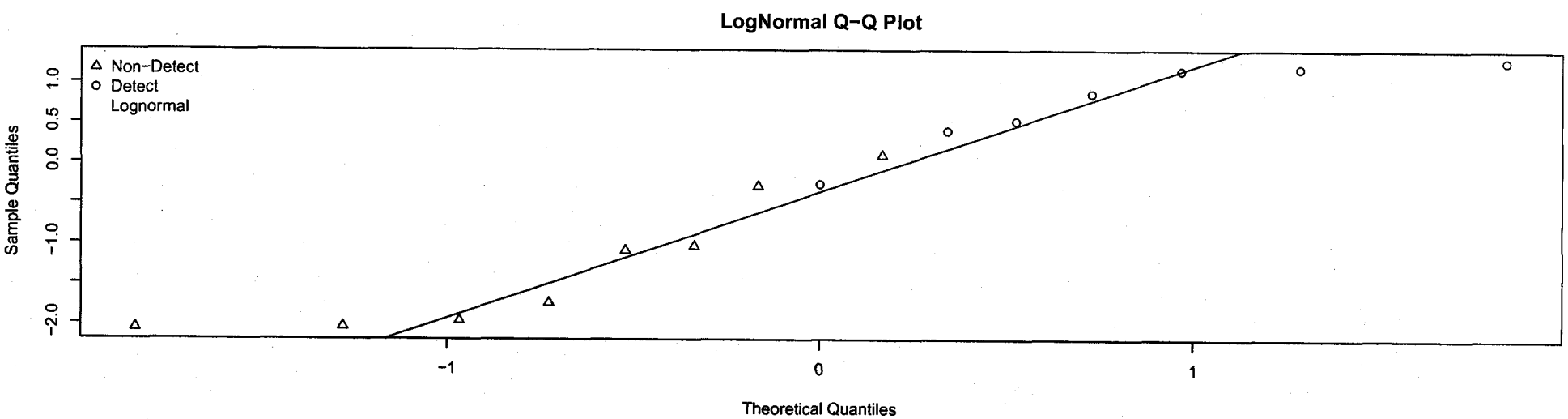




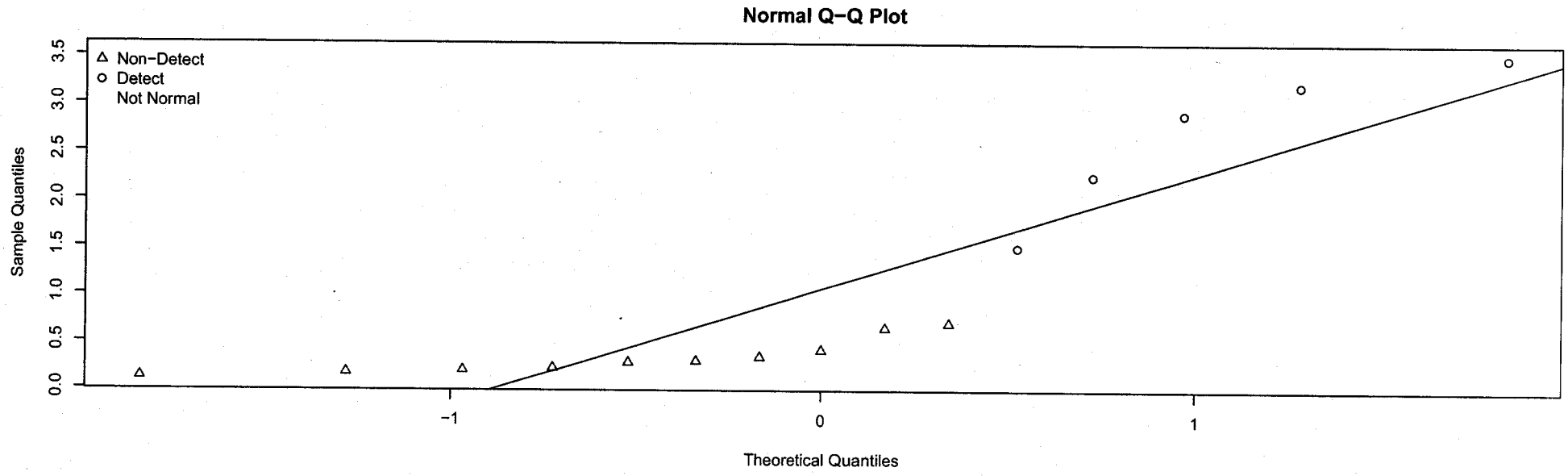
Upper Sand
Fall Groundwater

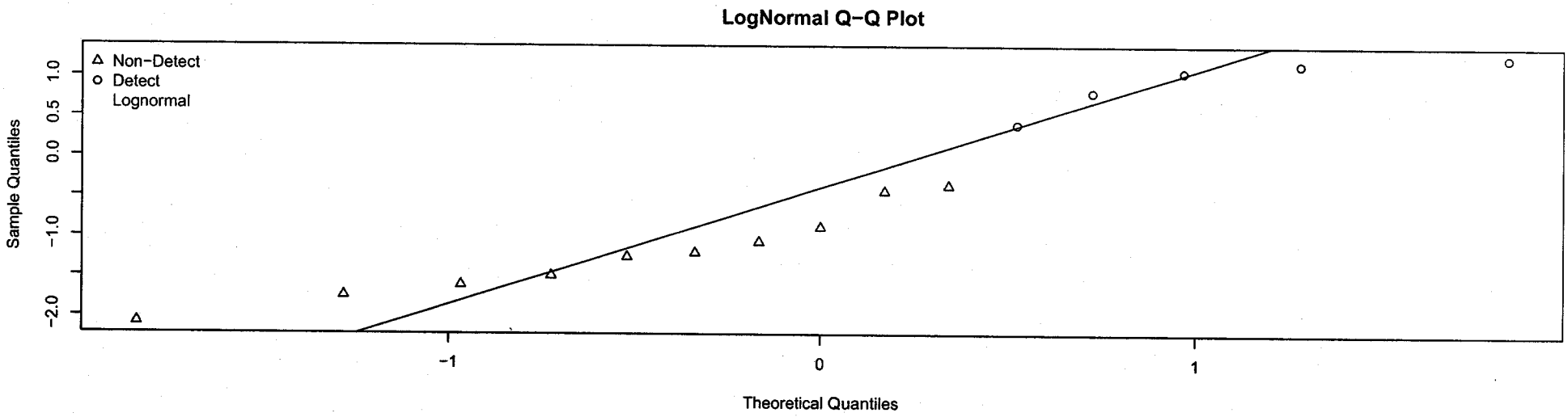
NICKEL



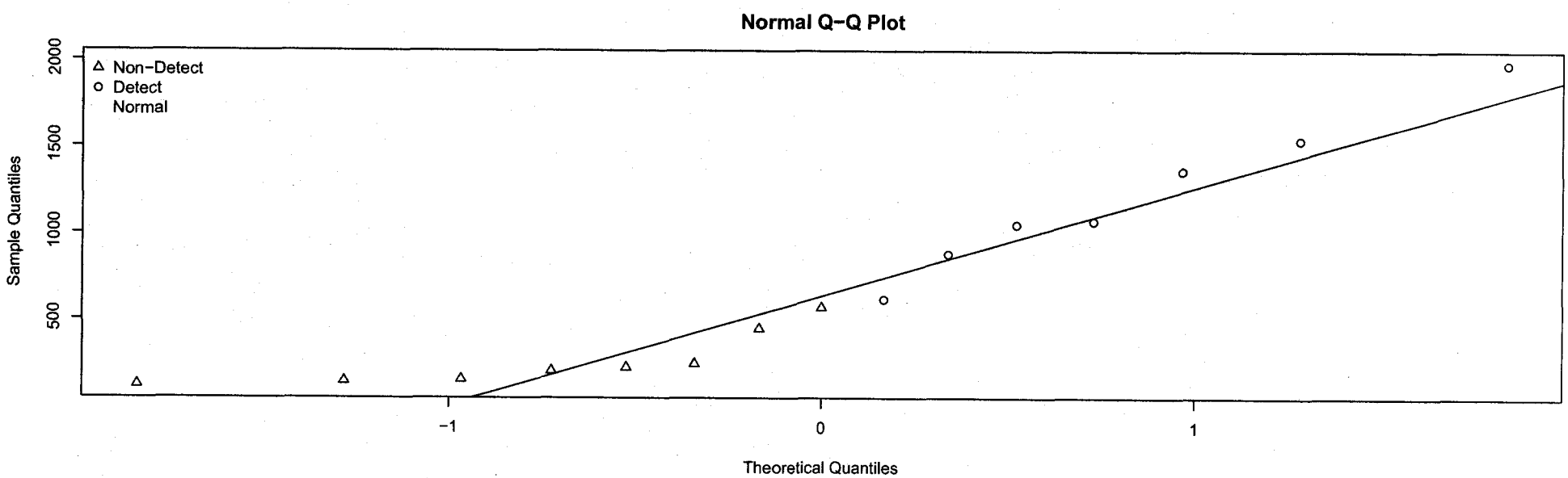


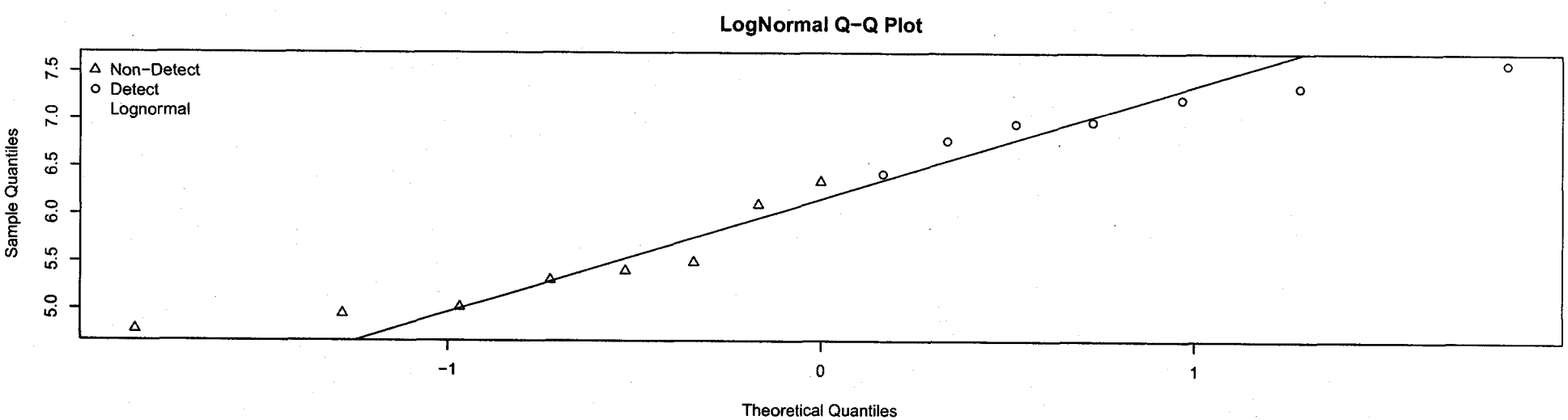
Upper Sand
Fall Groundwater
NICKEL



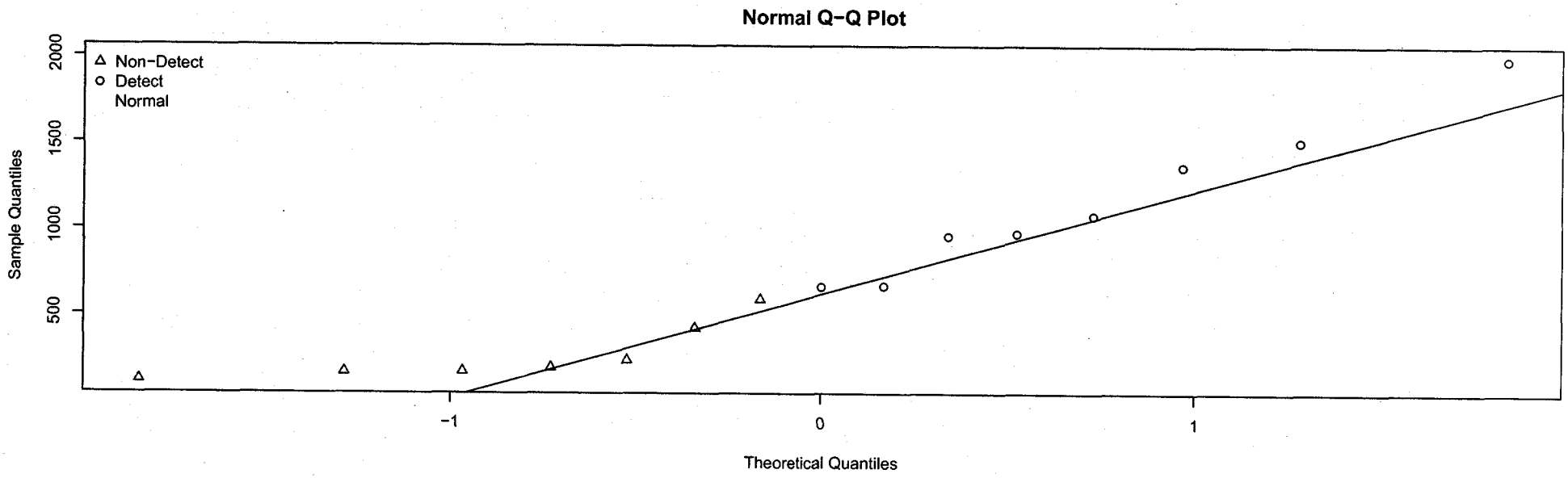


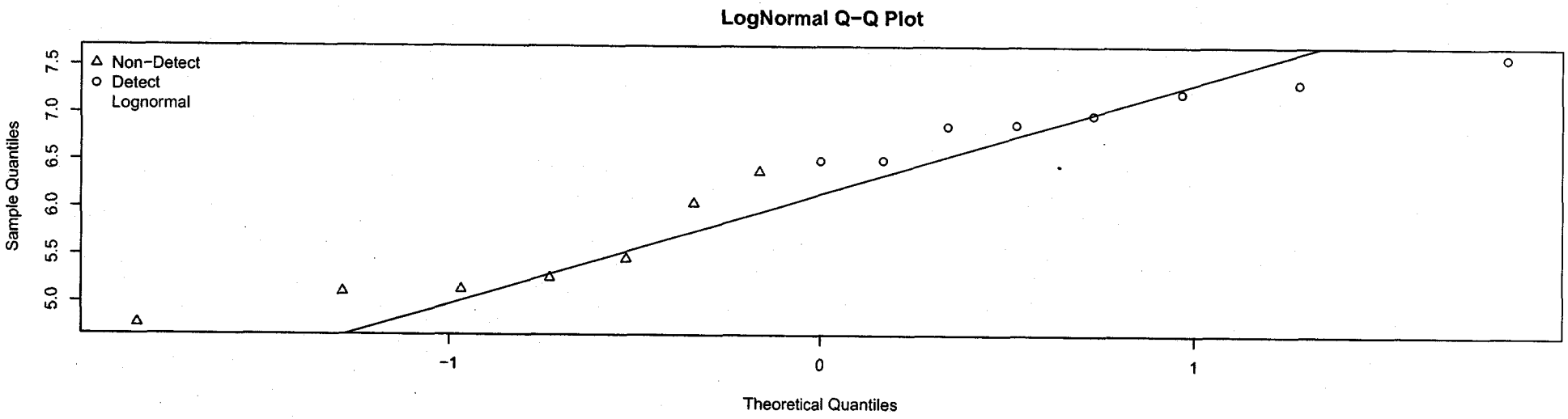
Upper Sand
Fall Groundwater
POTASSIUM



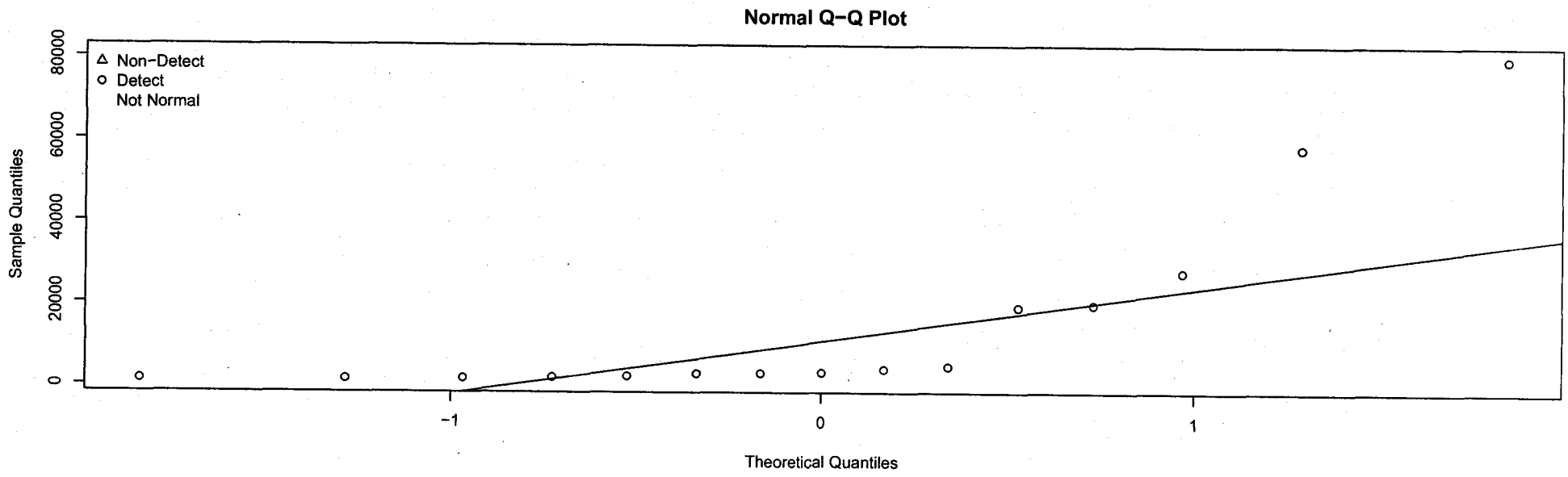


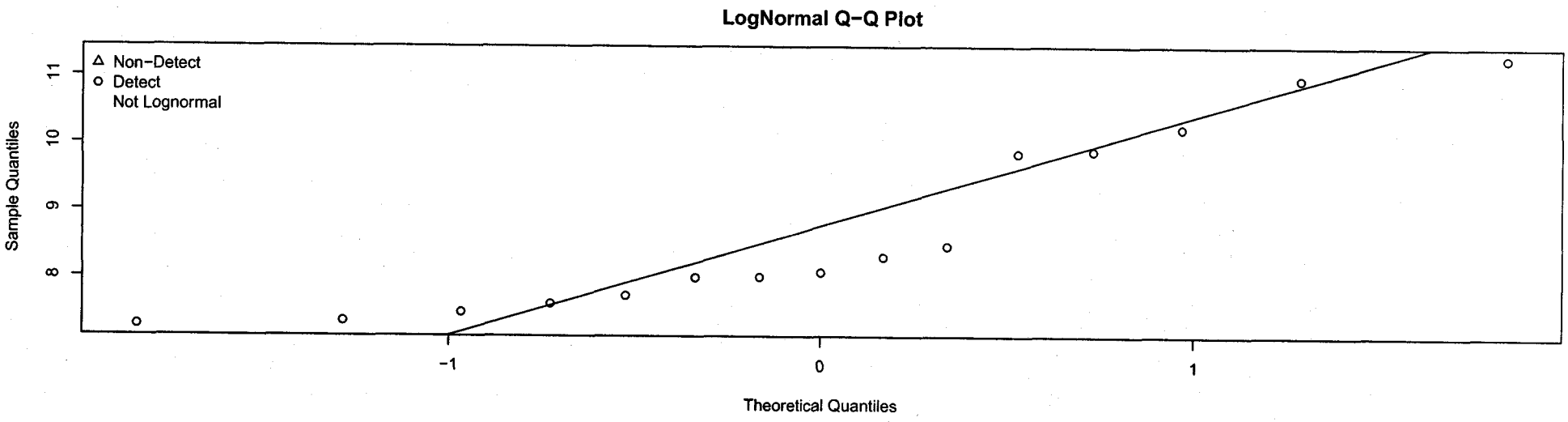
Upper Sand
Fall Groundwater
POTASSIUM



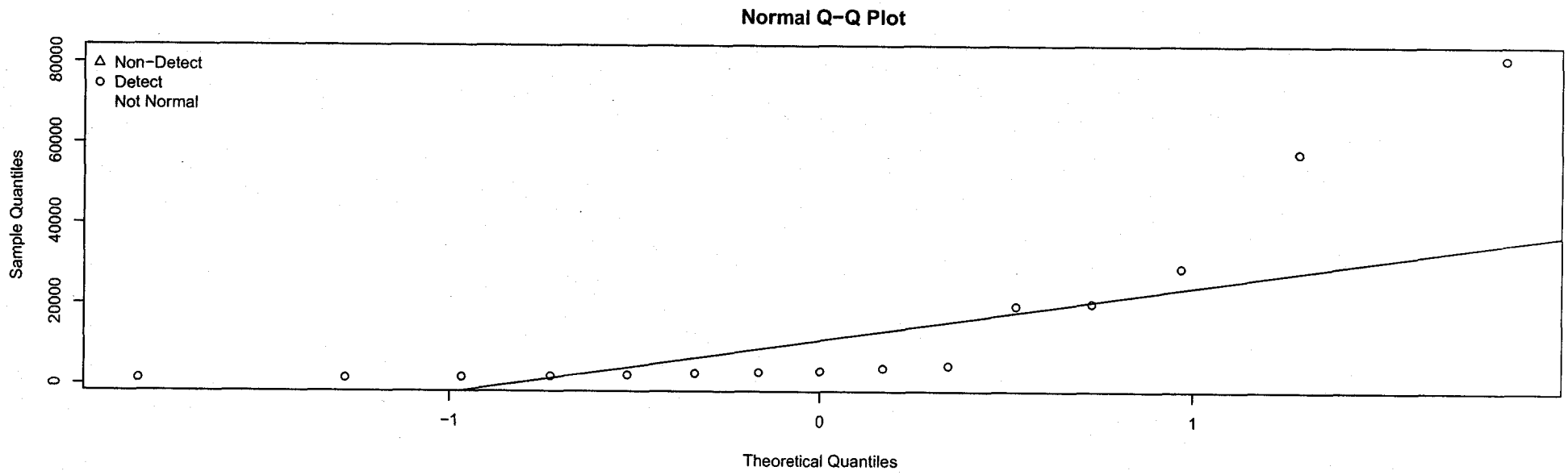


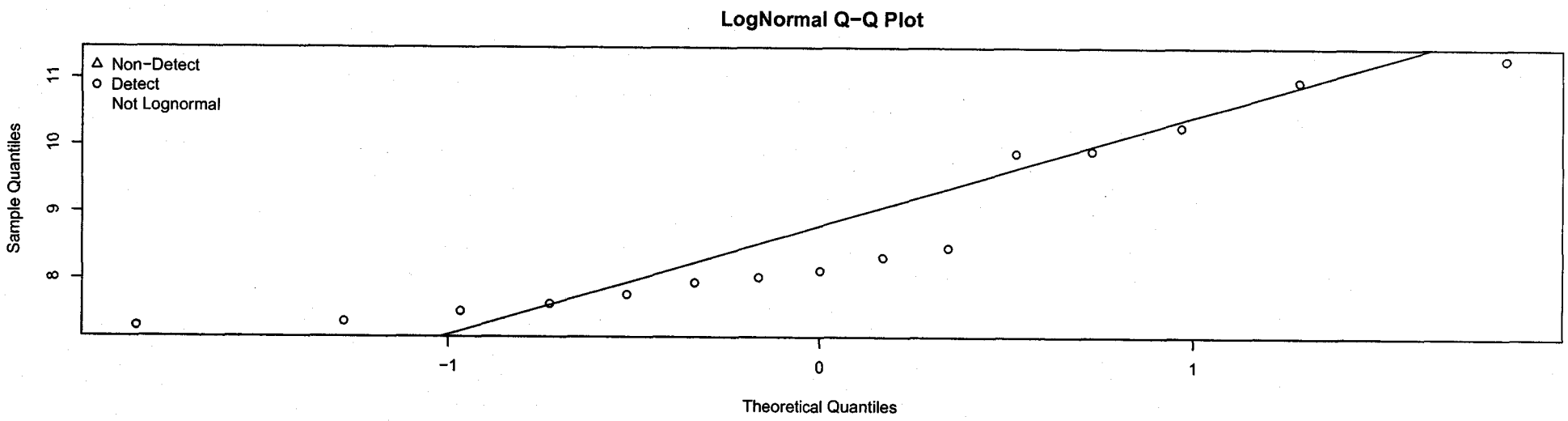
Upper Sand
Fall Groundwater
SODIUM



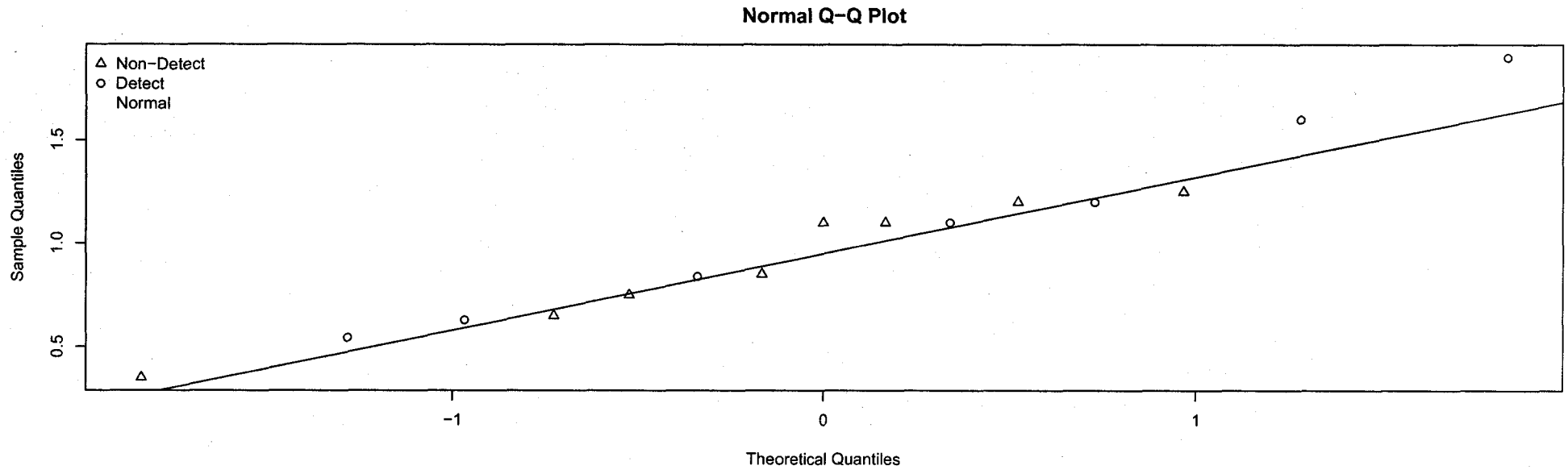


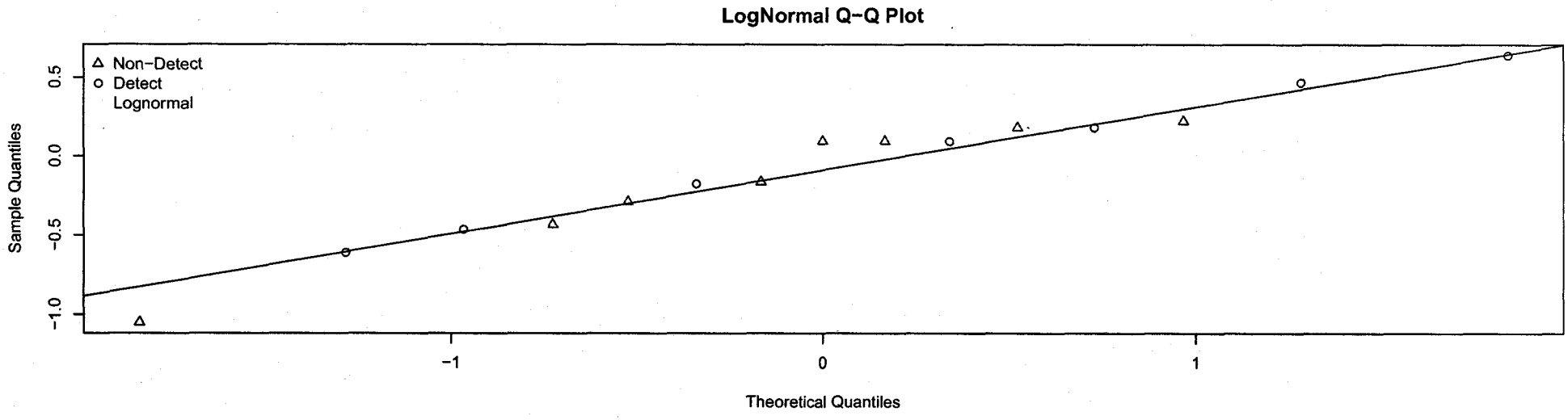
Upper Sand
Fall Groundwater
SODIUM



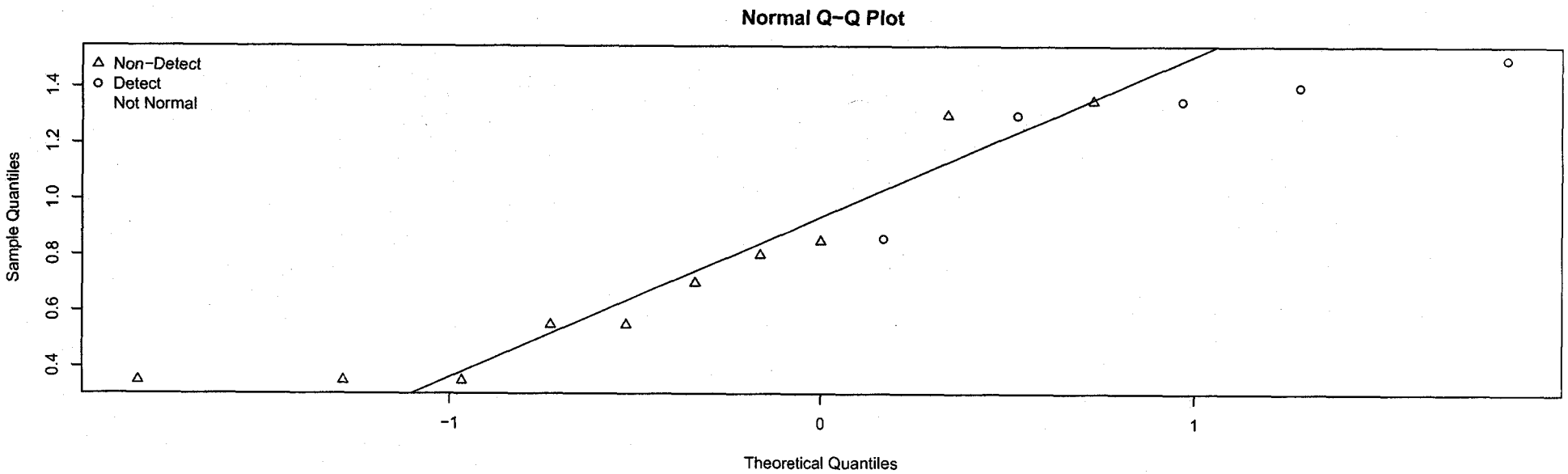


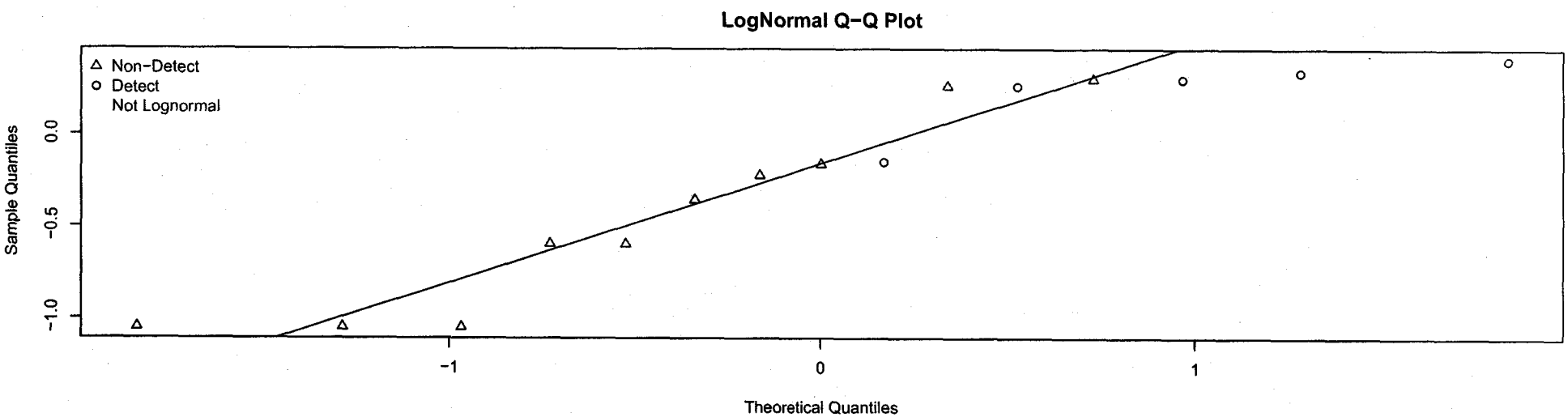
Upper Sand
Fall Groundwater
VANADIUM



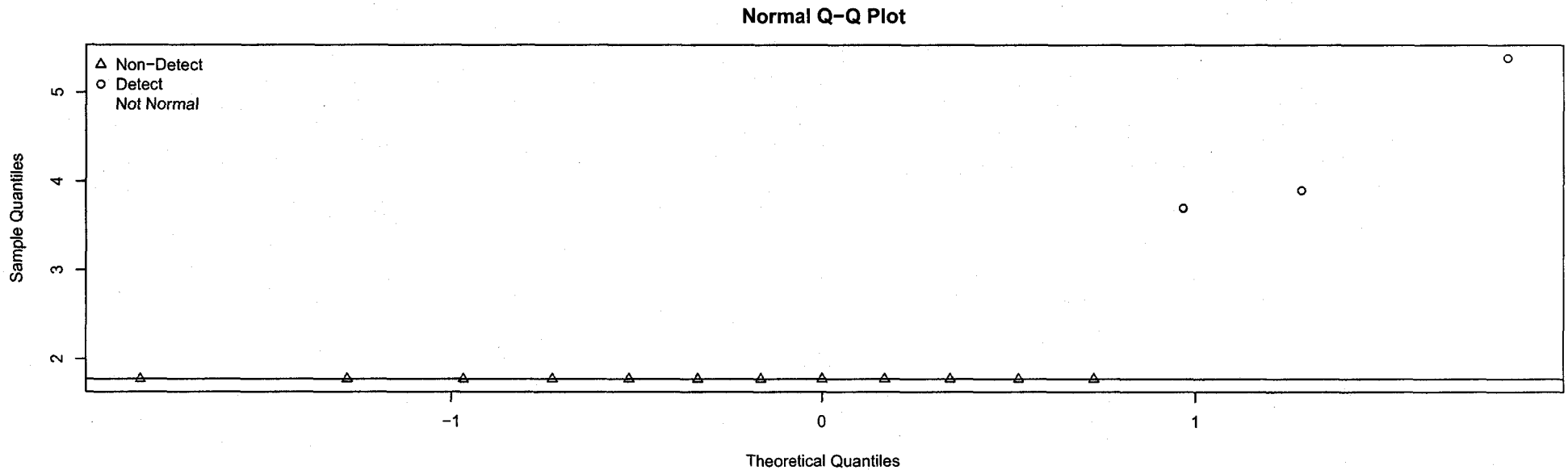


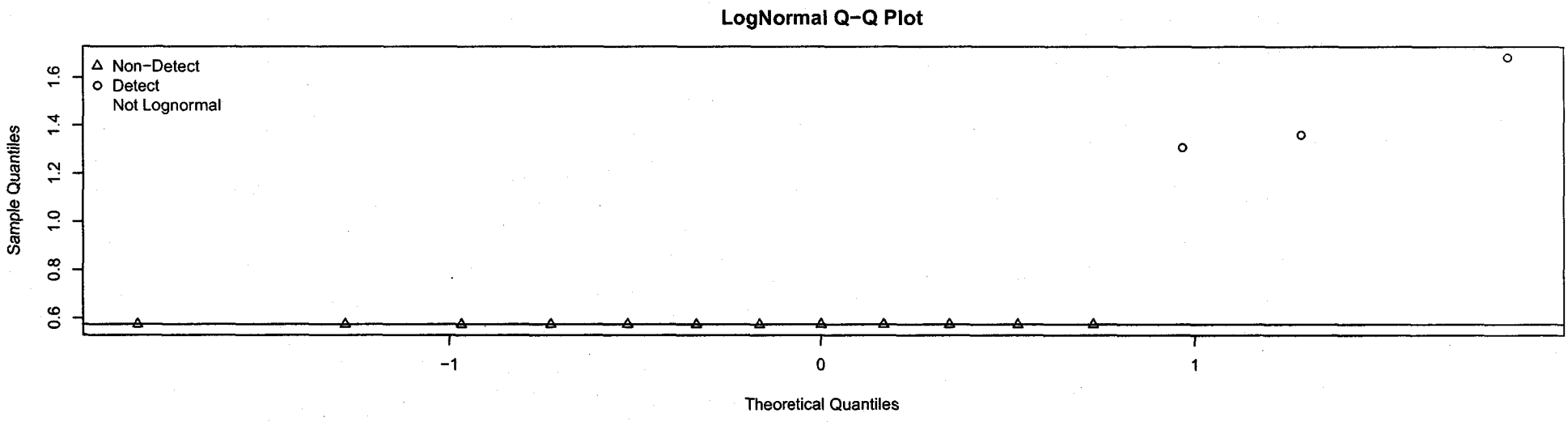
Upper Sand
Fall Groundwater
VANADIUM





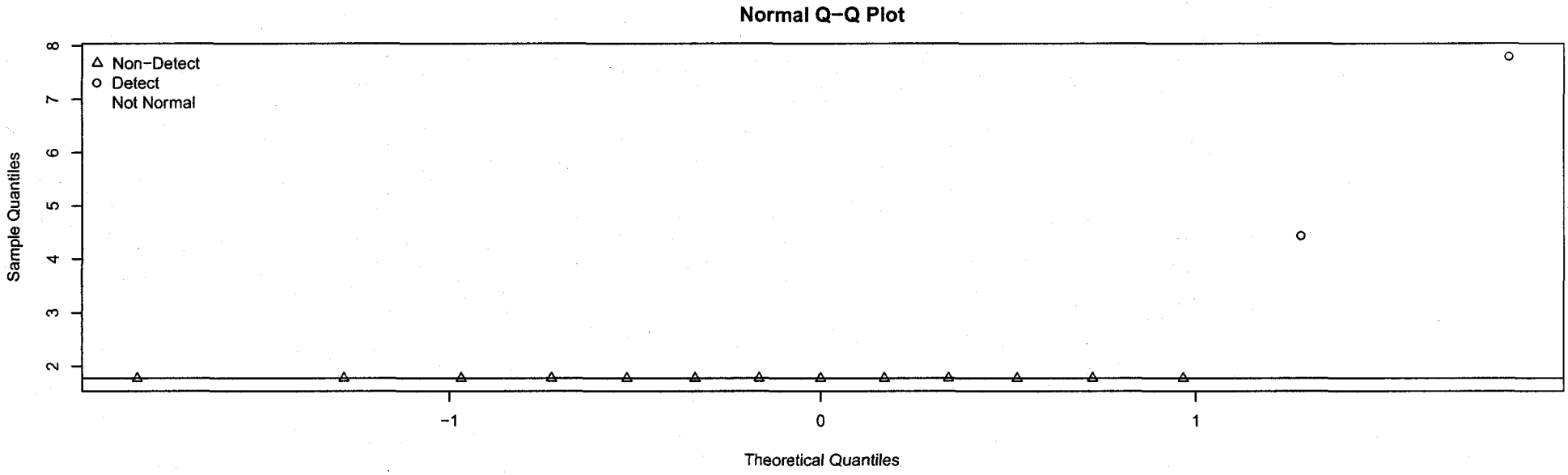
Upper Sand
Fall Groundwater
ZINC

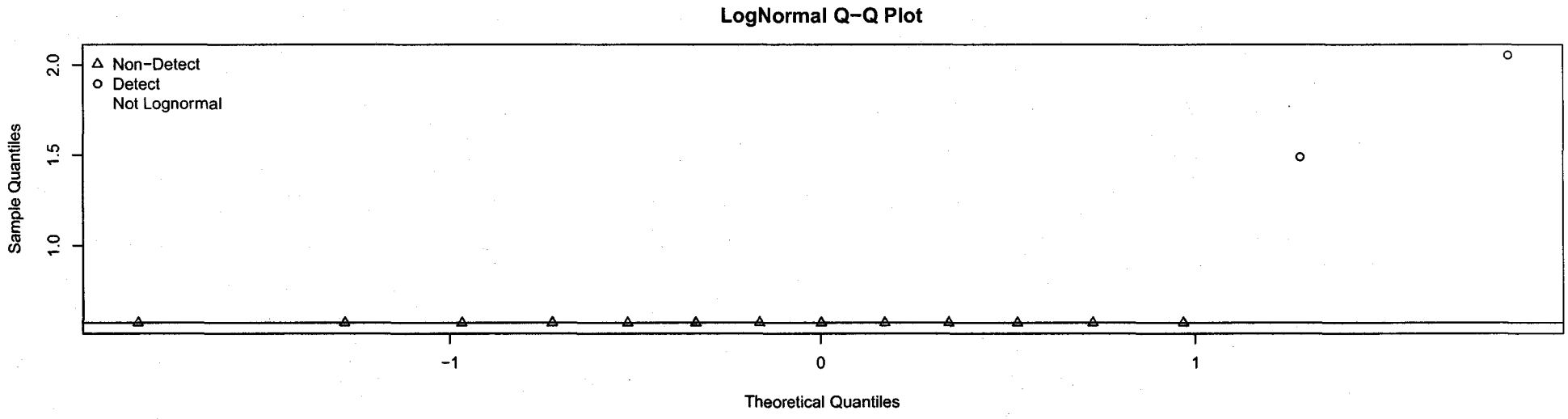




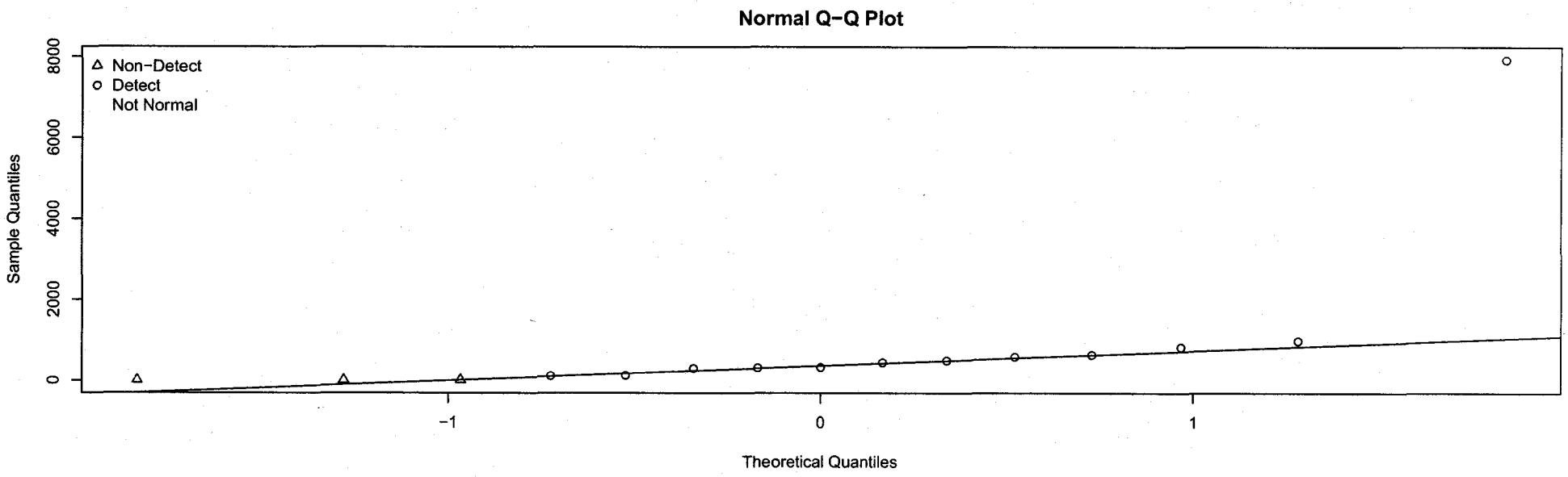
Upper Sand
Fall Groundwater

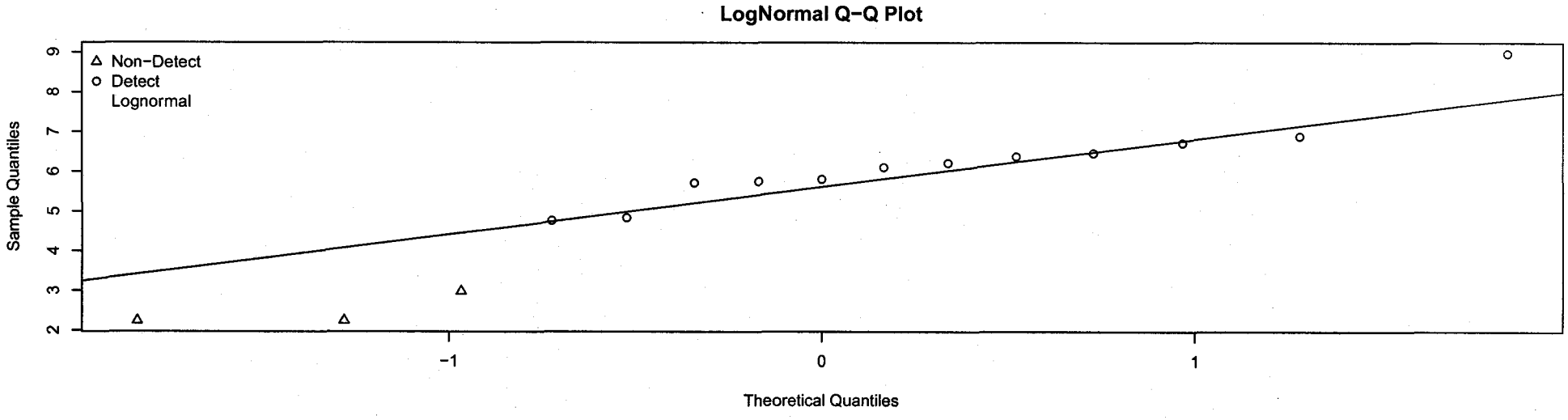
ZINC



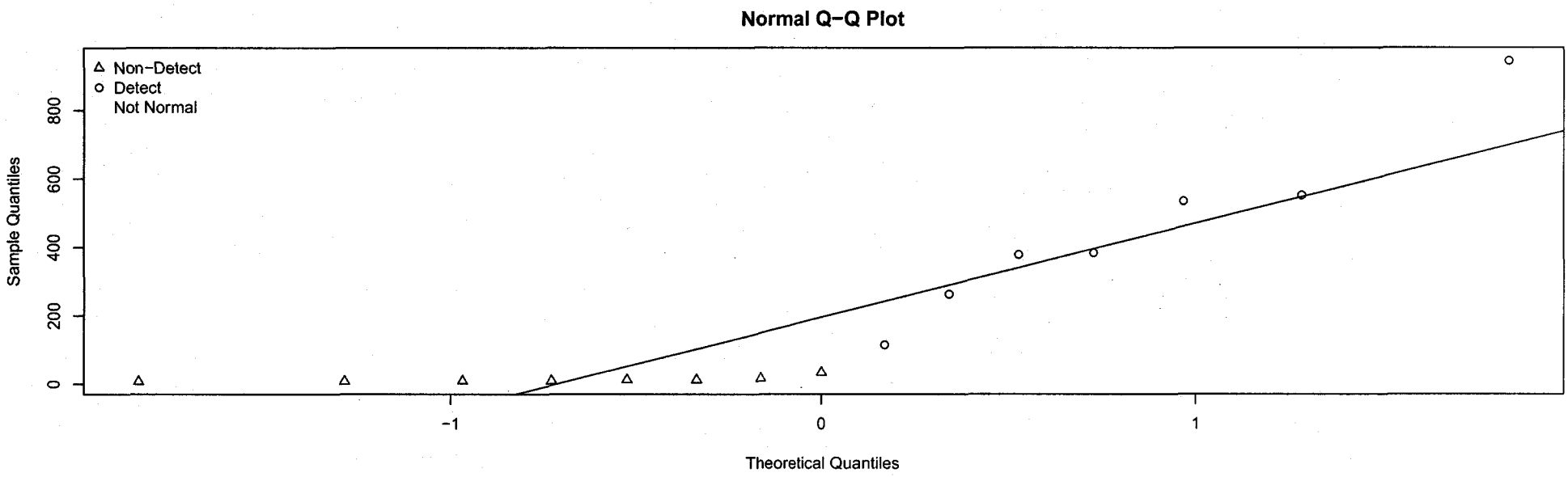


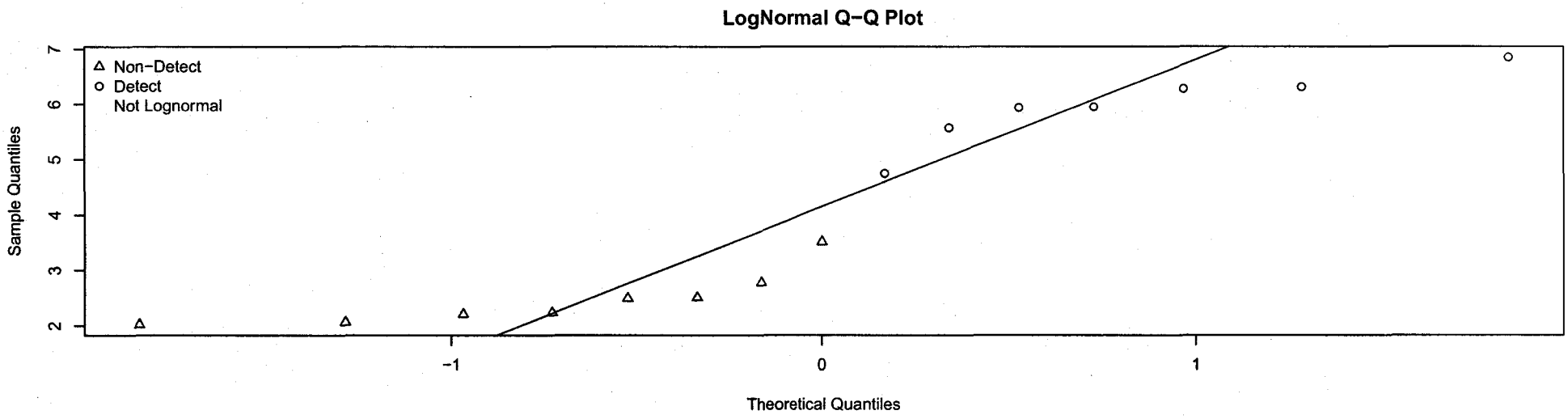
Upper Sand
Spring Groundwater
ALUMINUM



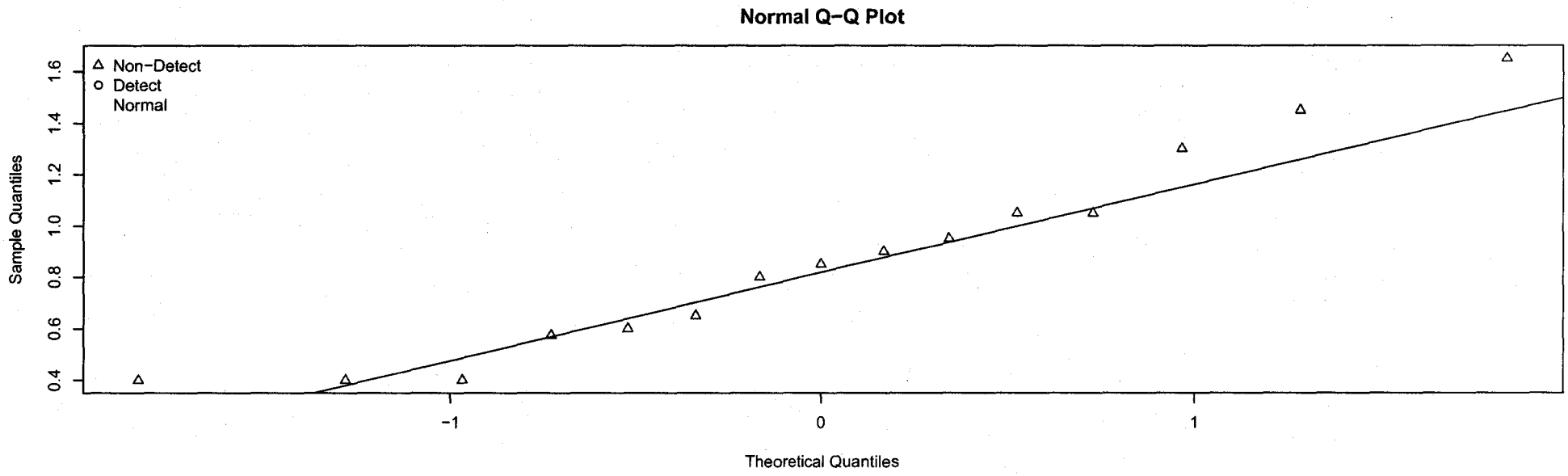


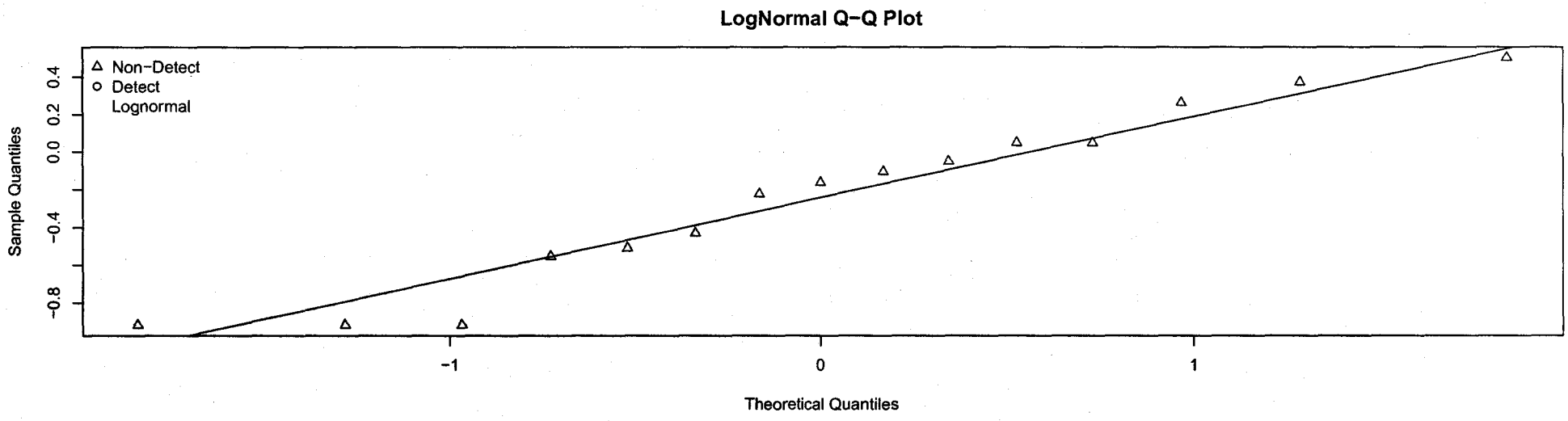
Upper Sand
Spring Groundwater
ALUMINUM



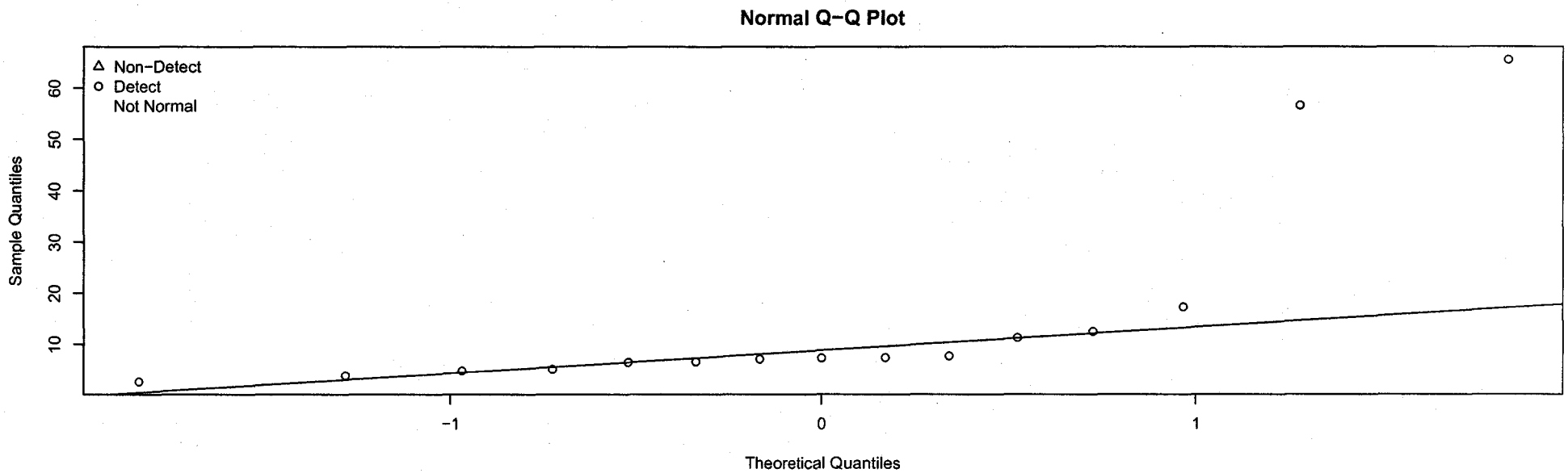


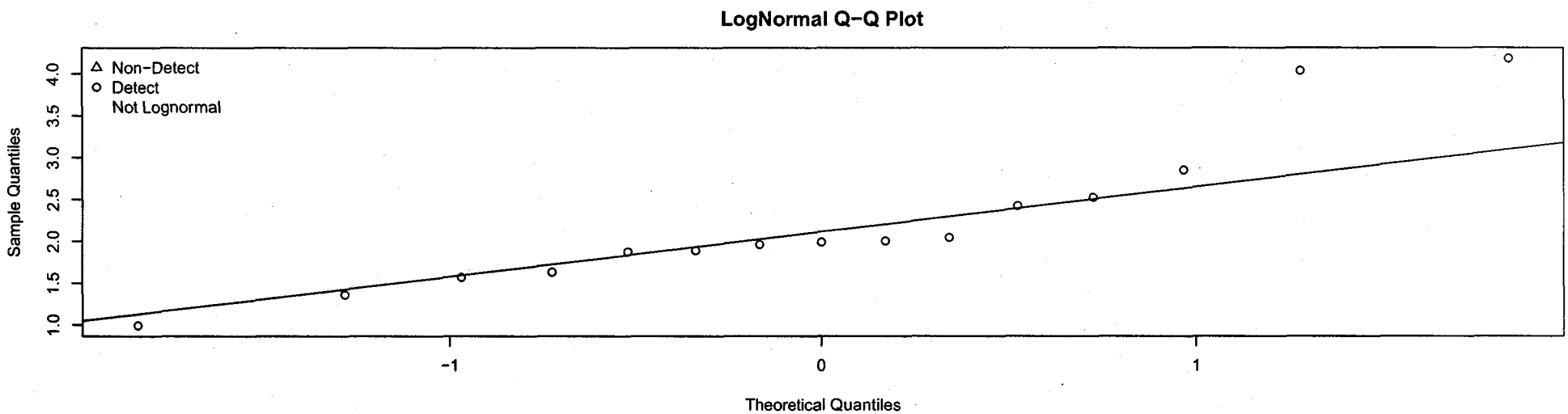
Upper Sand
Spring Groundwater
ARSENIC



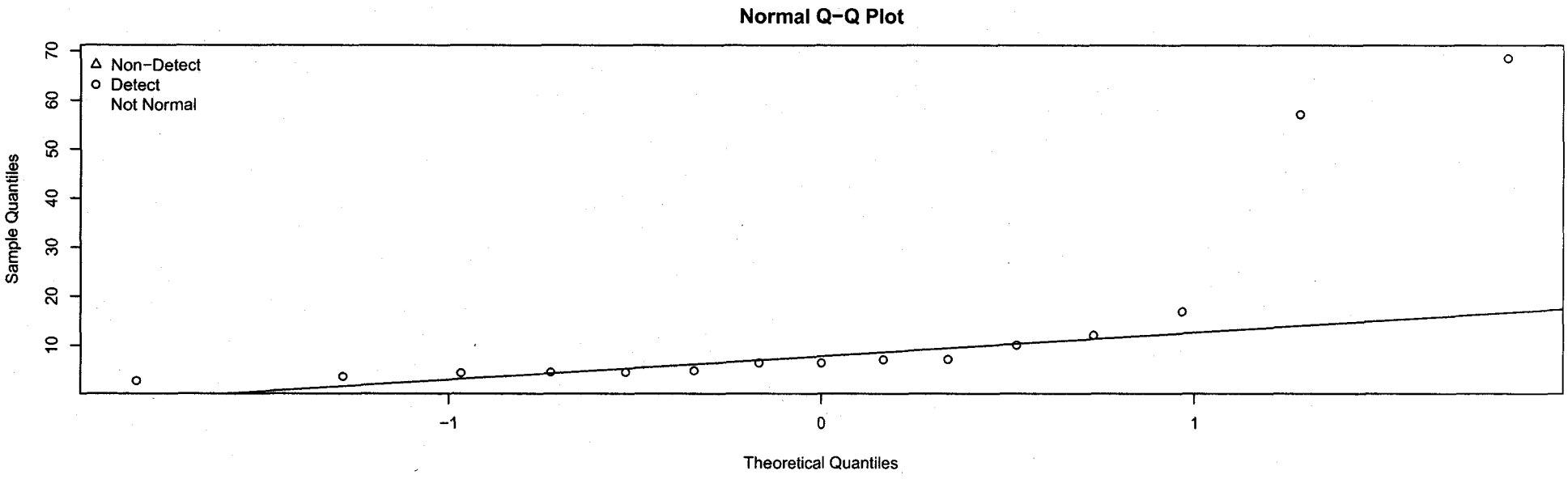


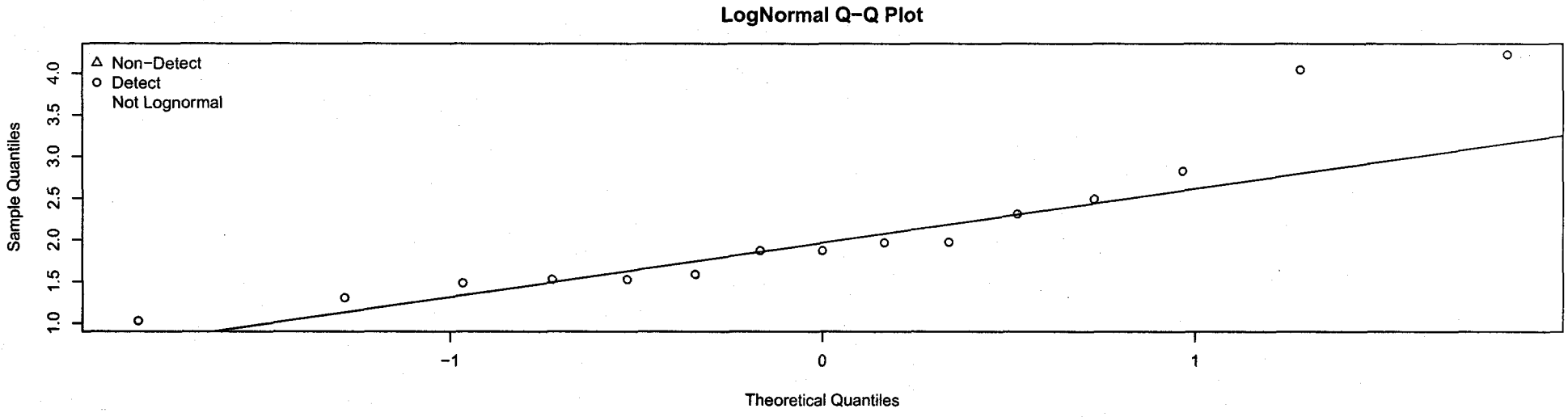
Upper Sand
Spring Groundwater
BARIUM



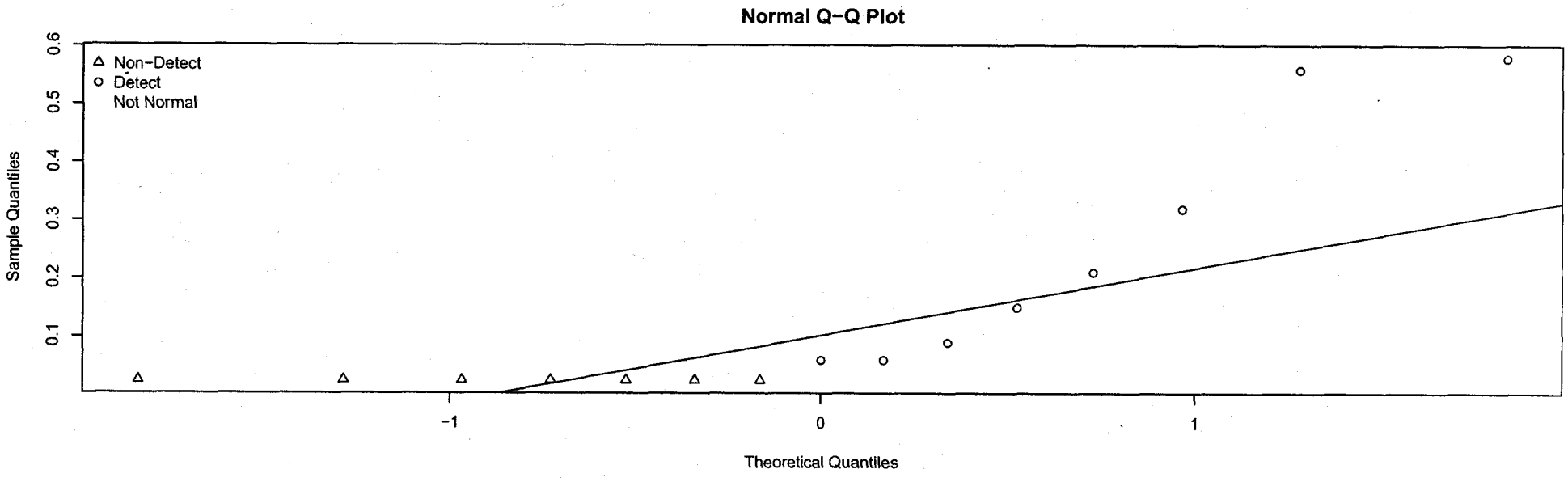


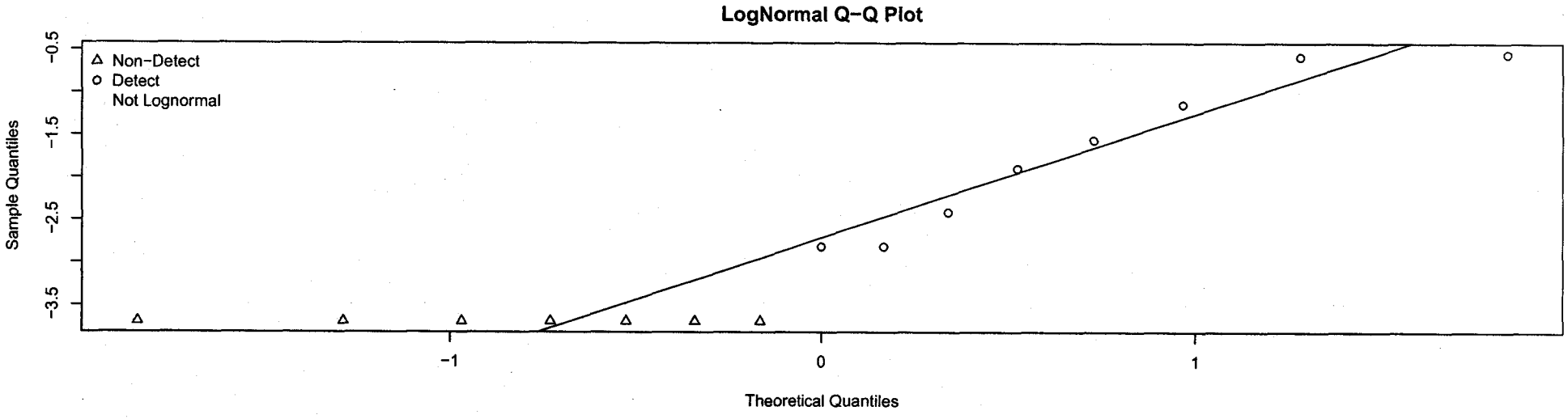
Upper Sand
Spring Groundwater
BARIUM



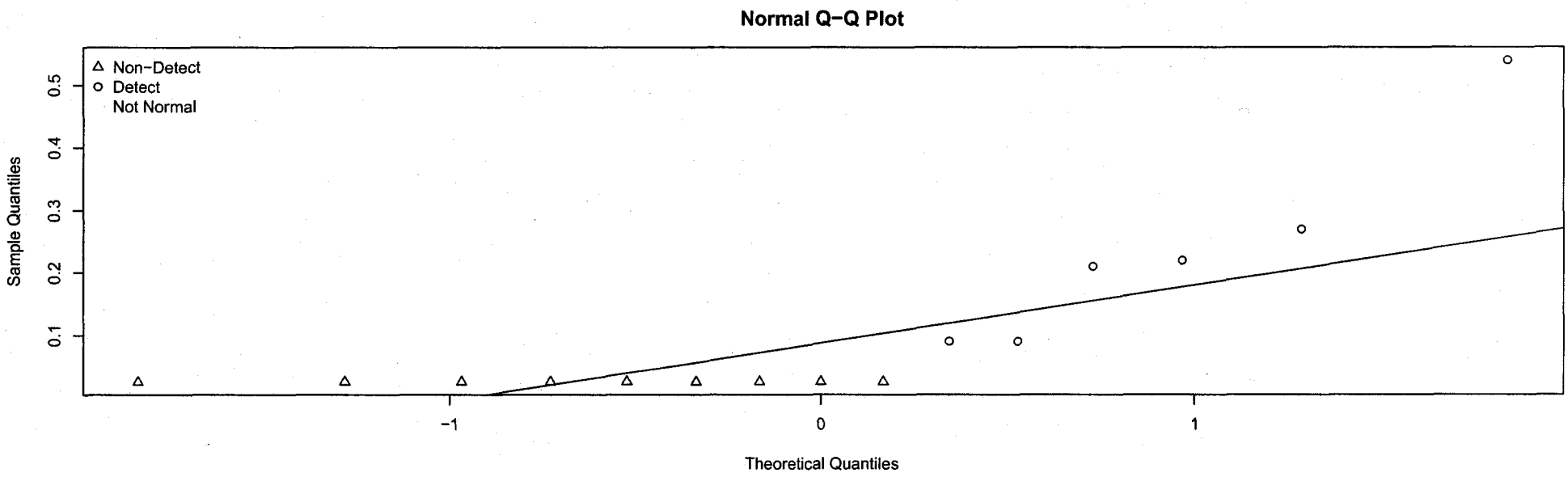


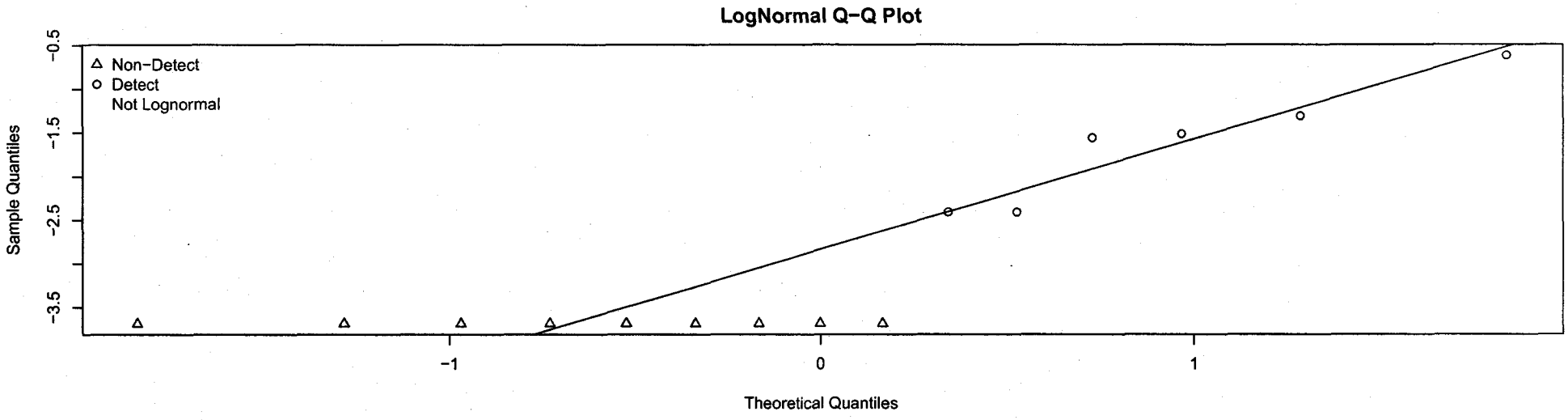
Upper Sand
Spring Groundwater
BERYLLIUM



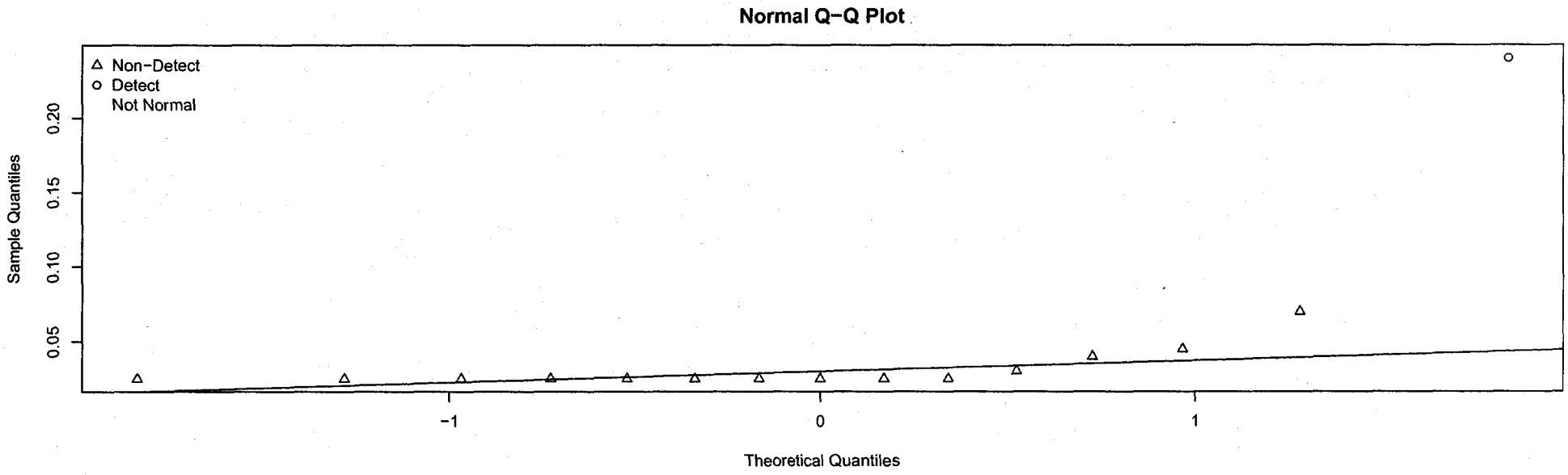


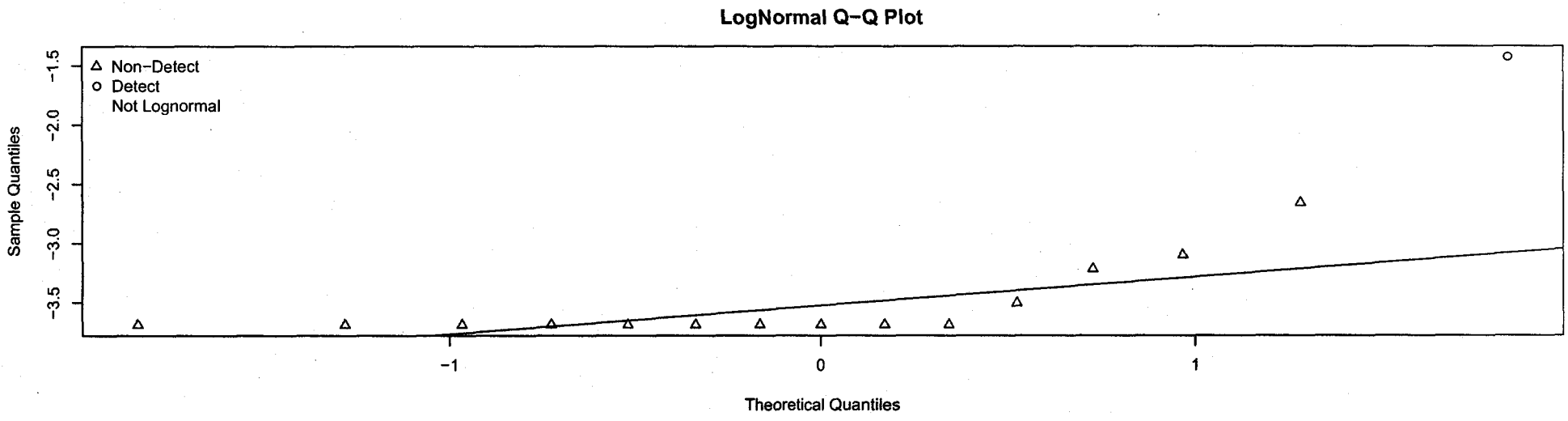
Upper Sand
Spring Groundwater
BERYLLIUM



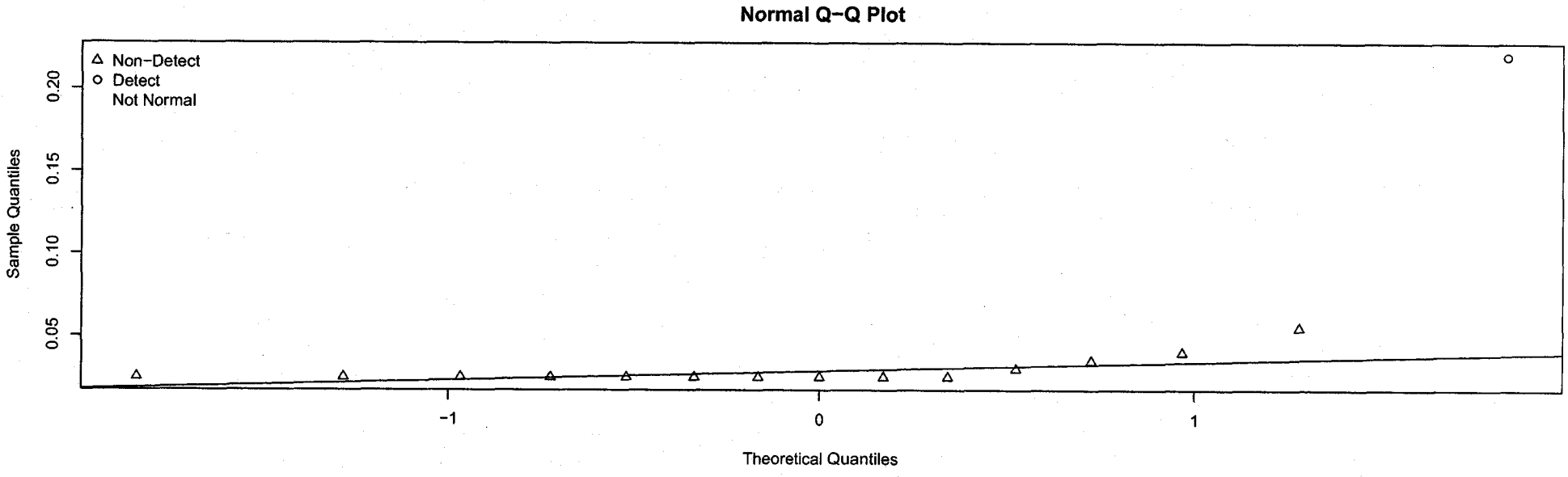


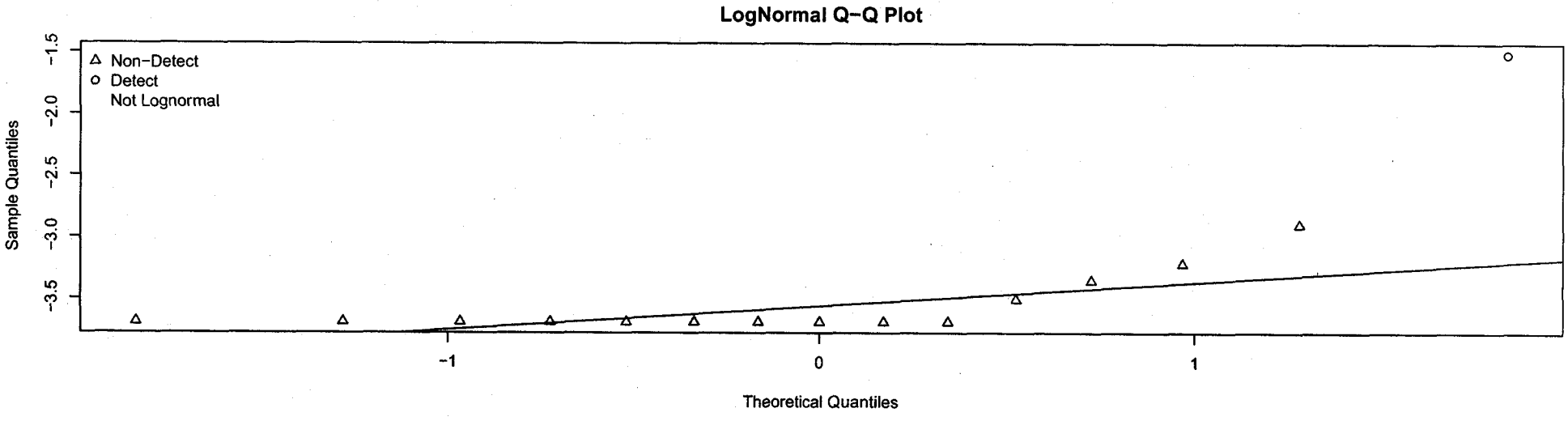
Upper Sand
Spring Groundwater
CADMIUM



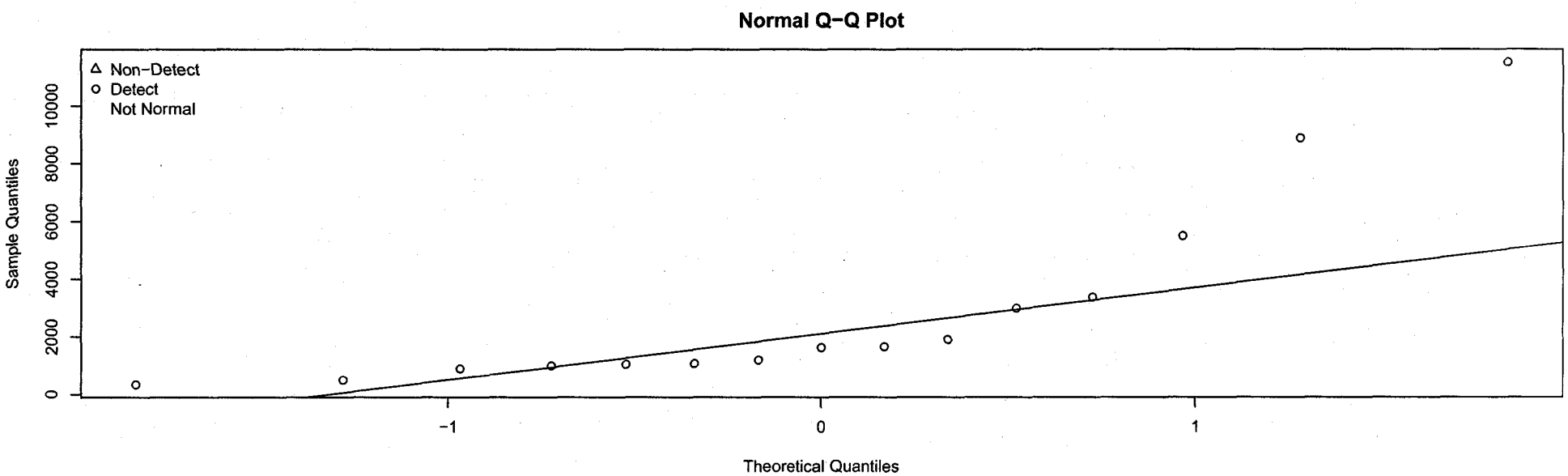


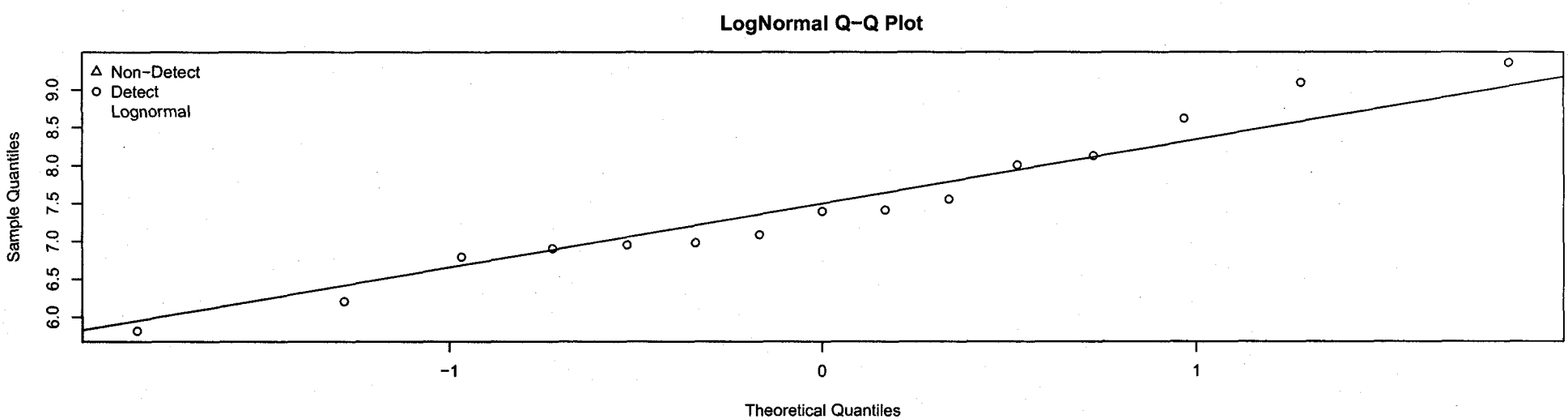
Upper Sand
Spring Groundwater
CADMIUM



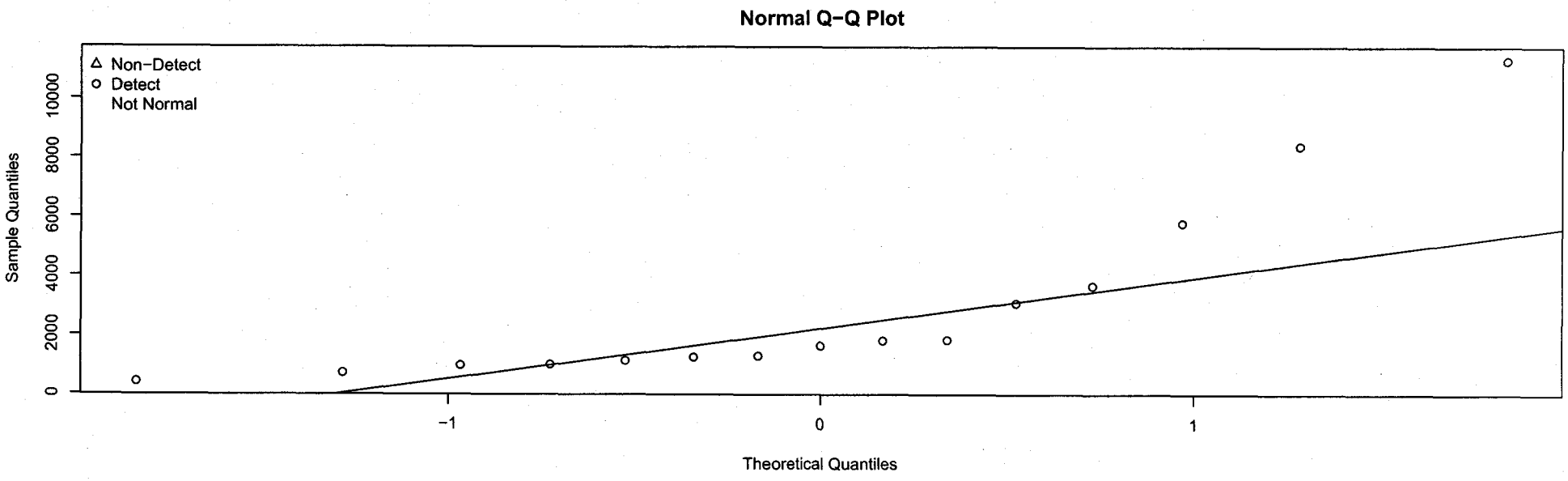


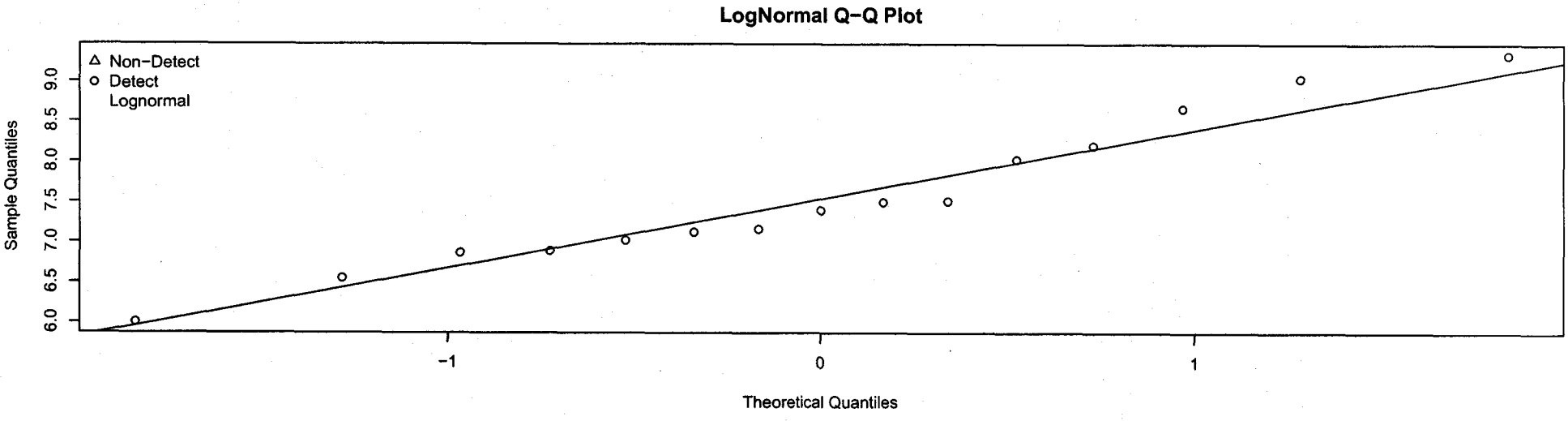
Upper Sand
Spring Groundwater
CALCIUM



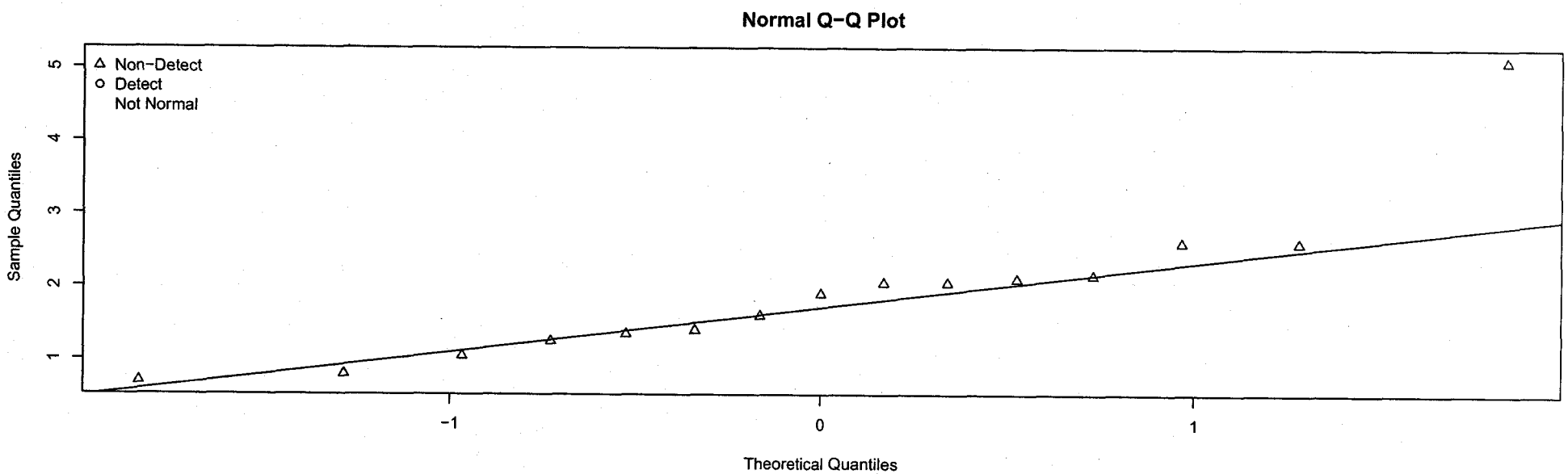


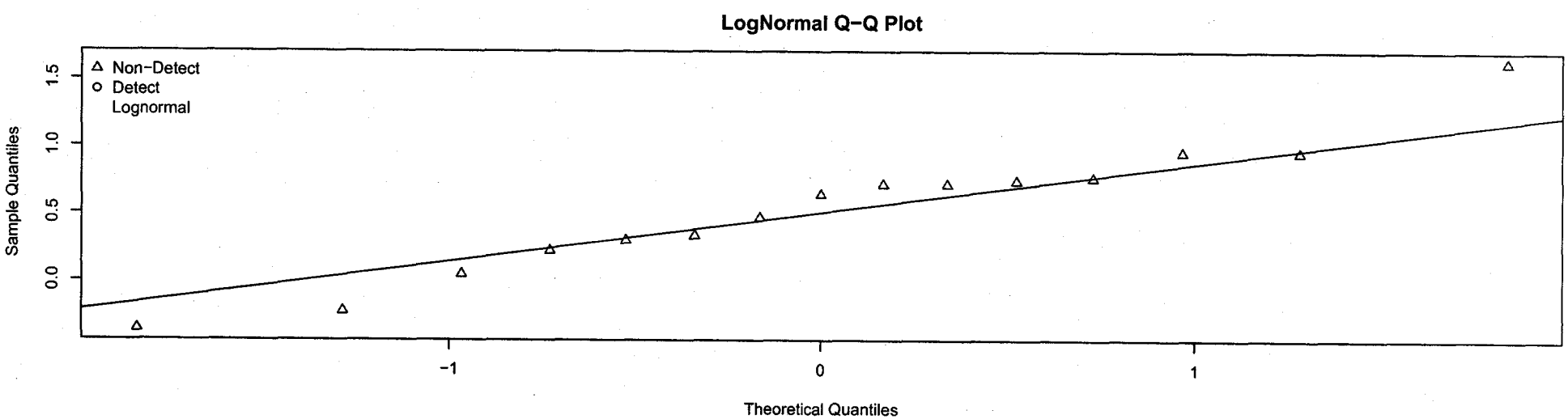
Upper Sand
Spring Groundwater
CALCIUM



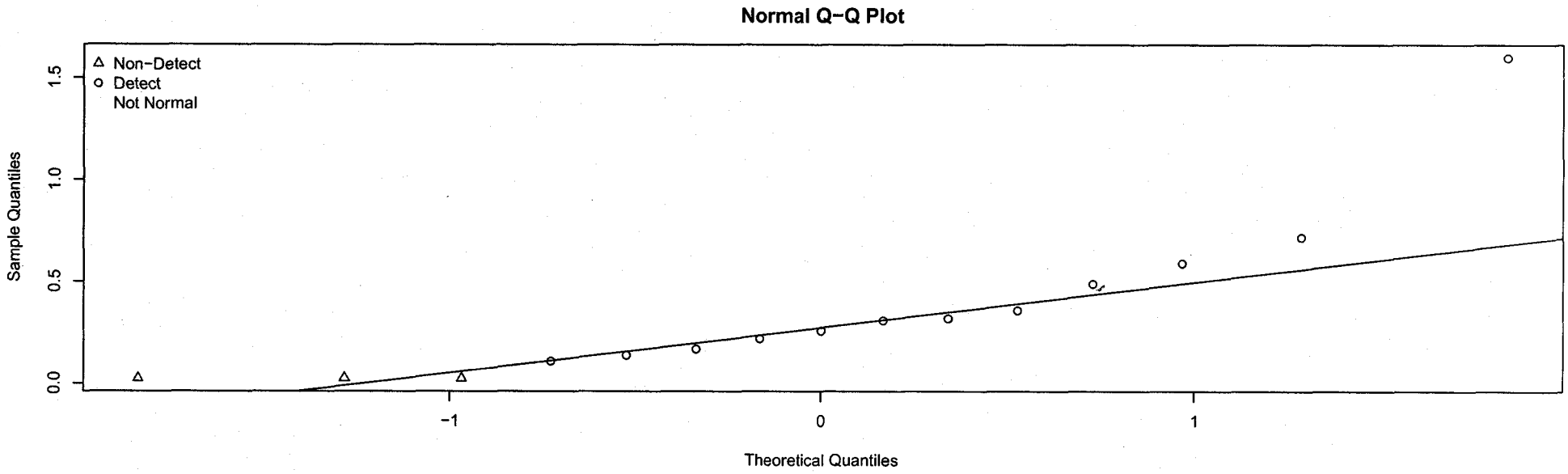


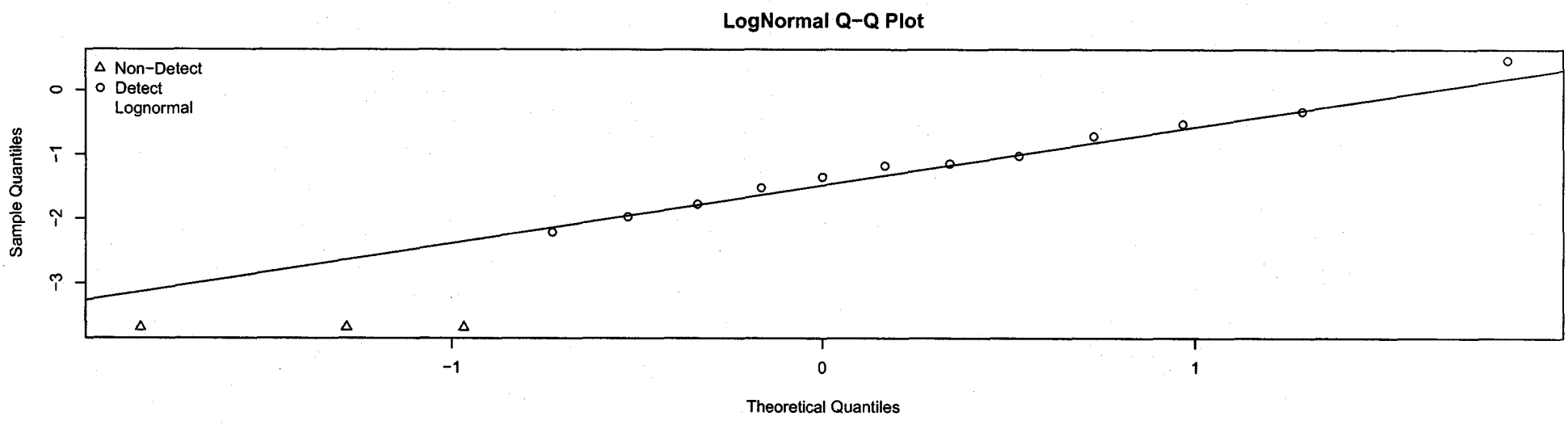
Upper Sand
Spring Groundwater
CHROMIUM



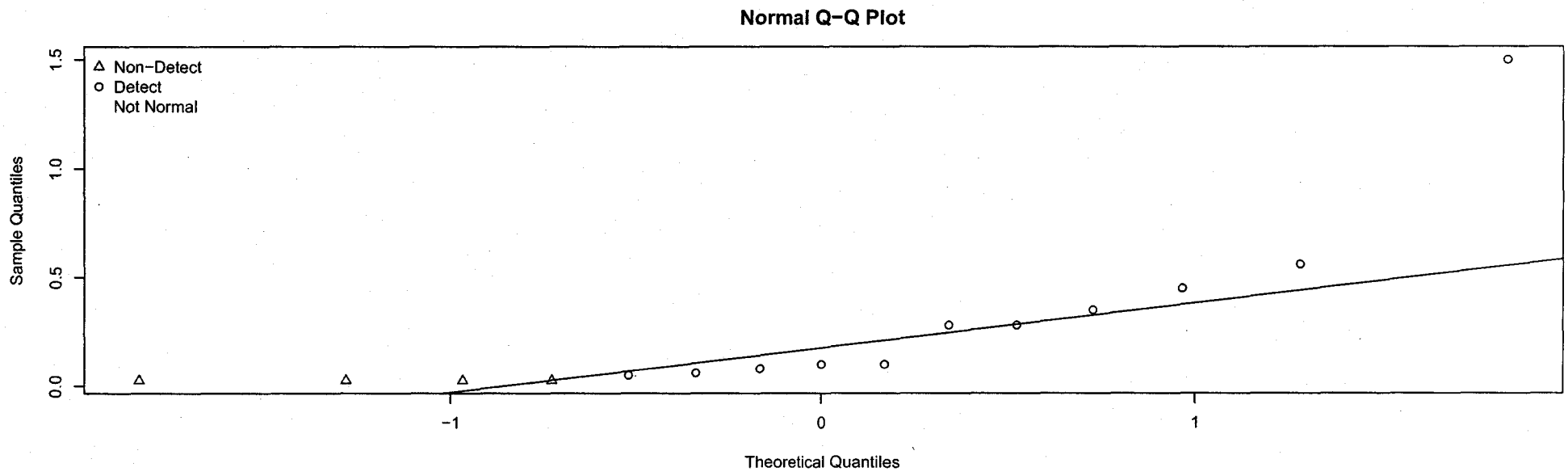


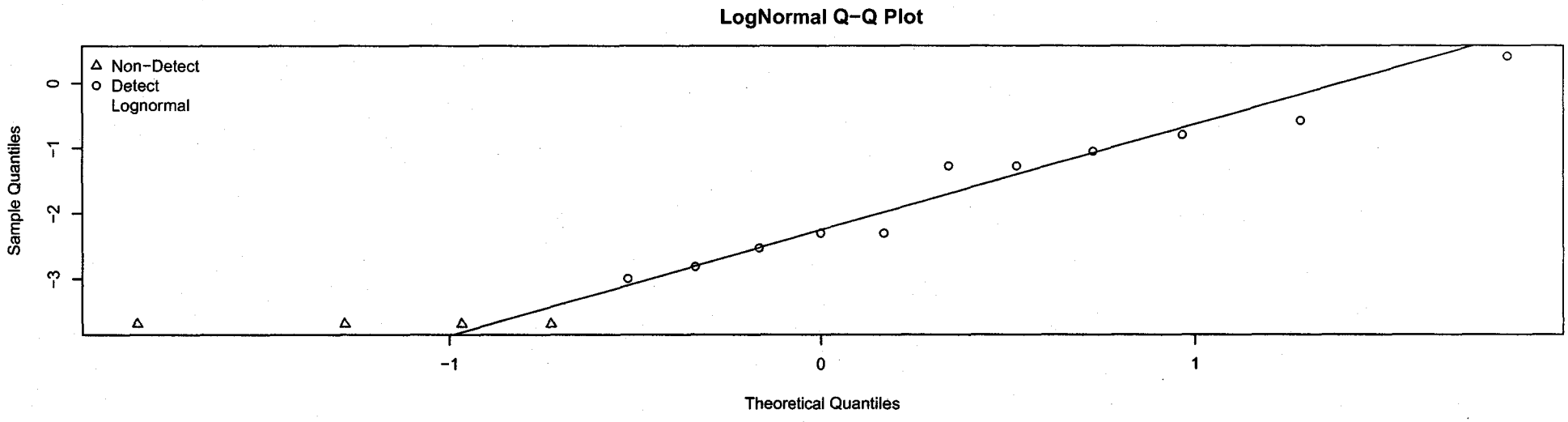
Upper Sand
Spring Groundwater
COBALT



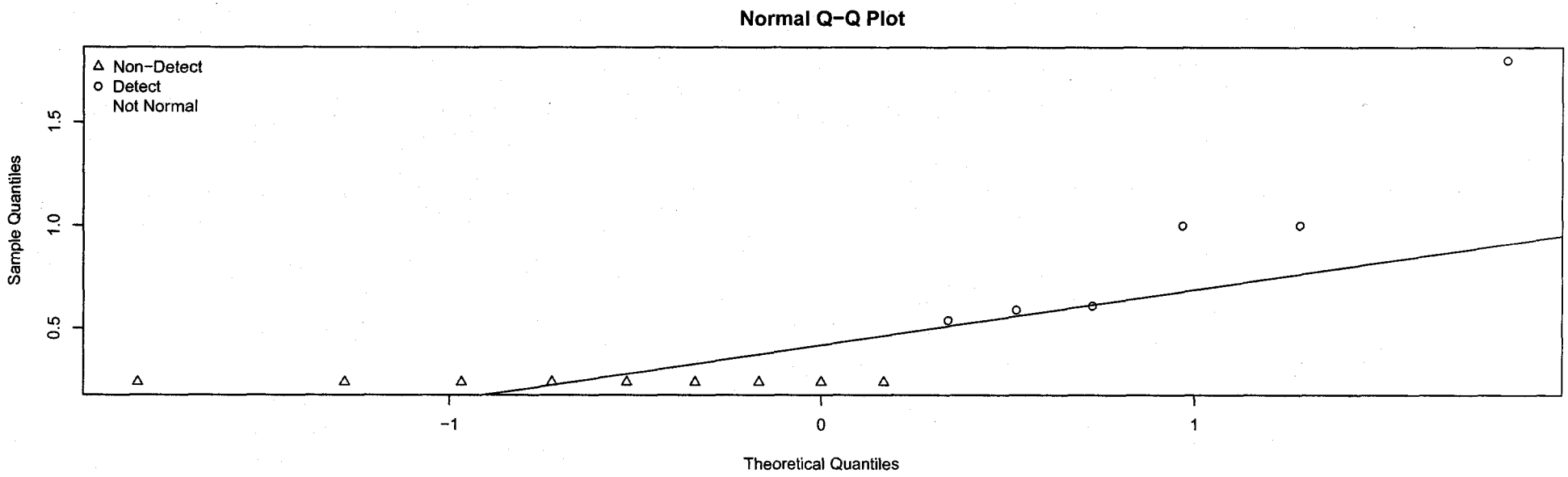


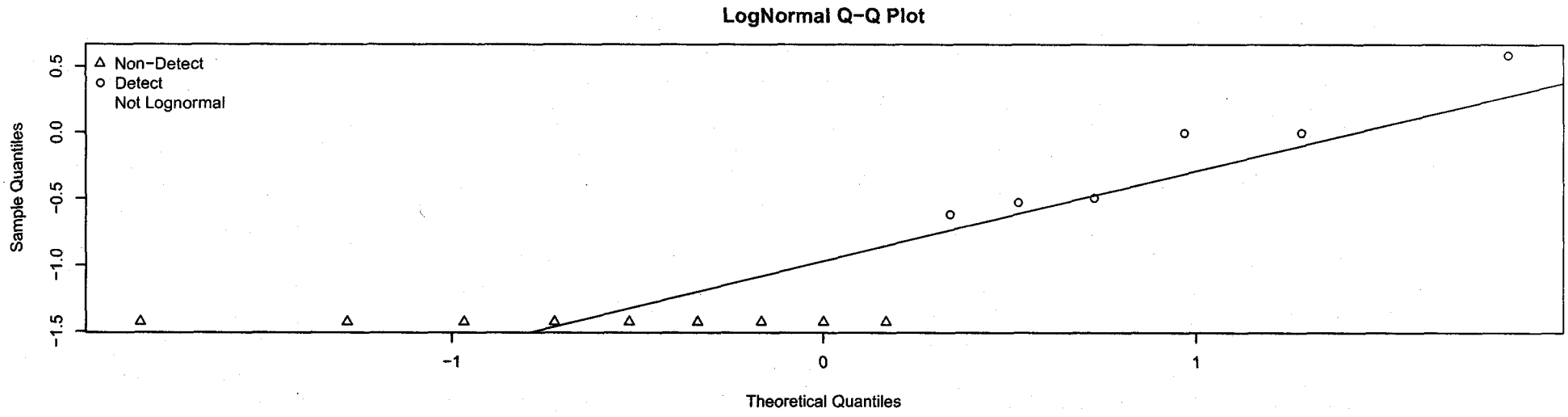
Upper Sand
Spring Groundwater
COBALT



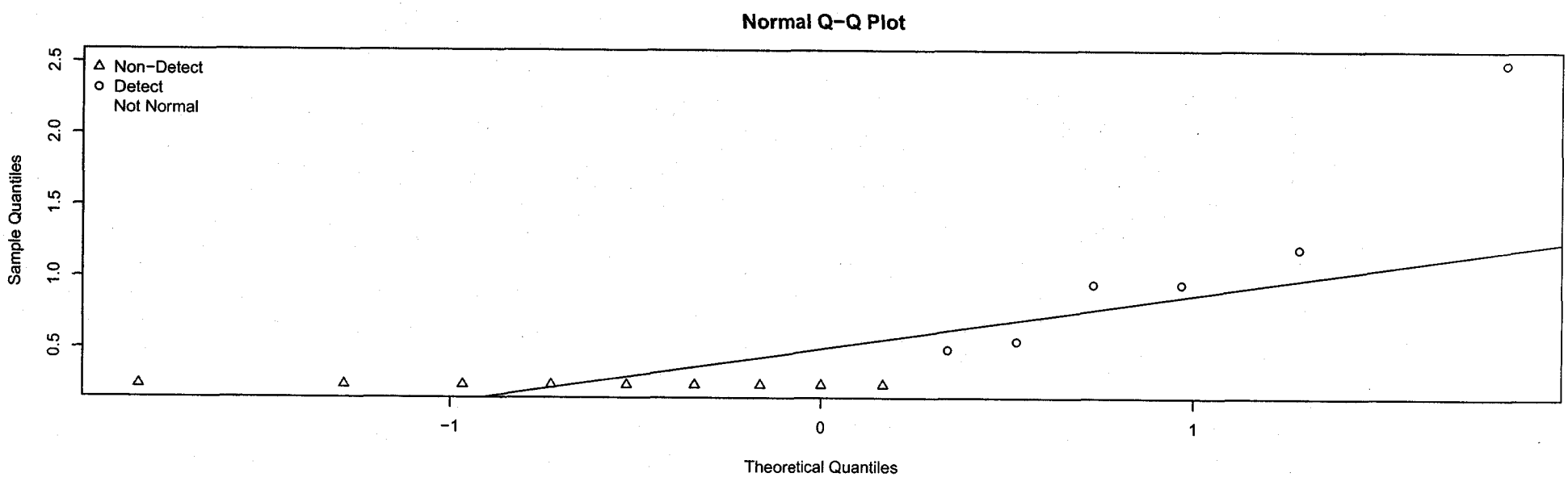


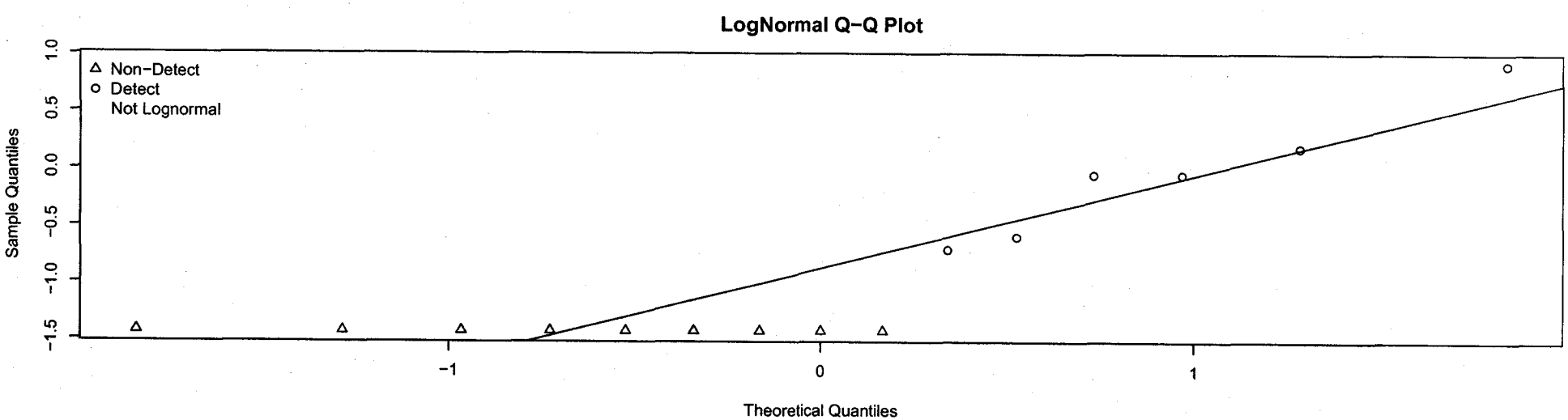
Upper Sand
Spring Groundwater
COPPER



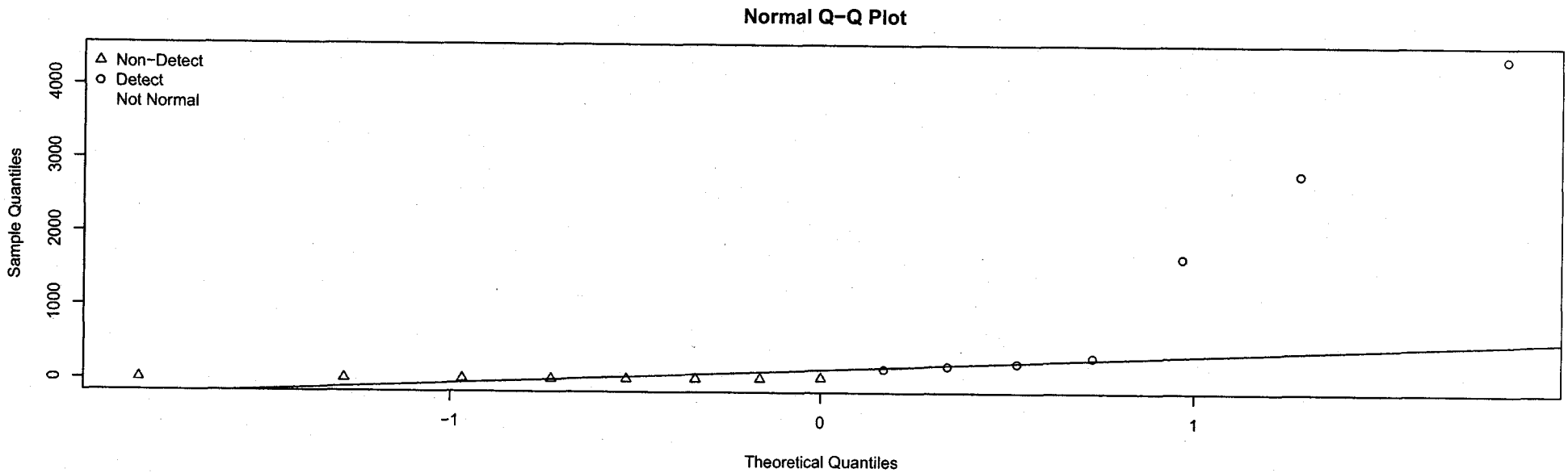


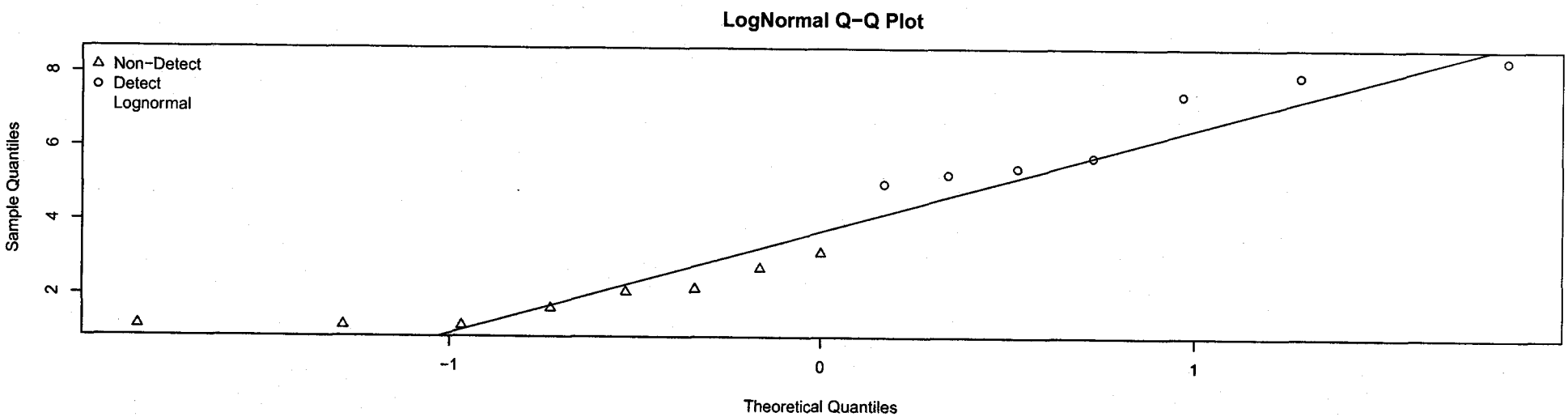
Upper Sand
Spring Groundwater
COPPER



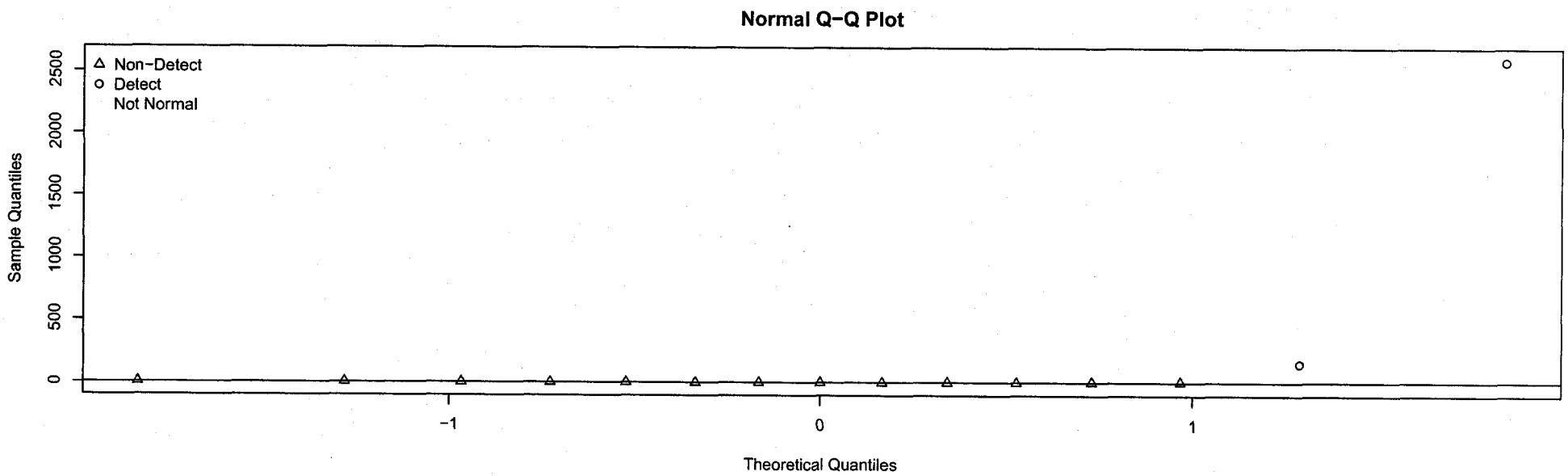


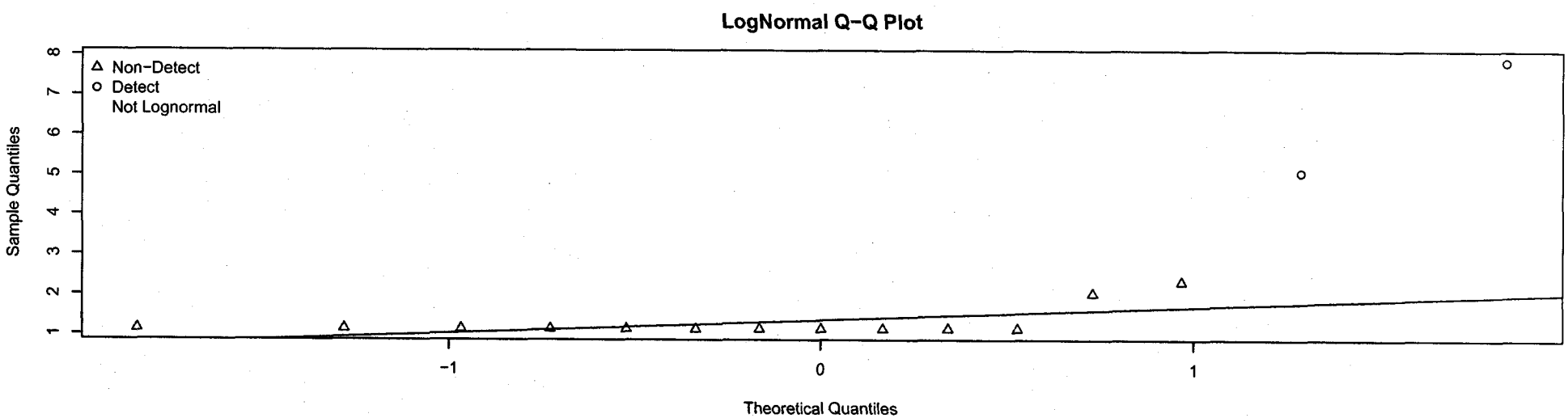
Upper Sand
Spring Groundwater
IRON



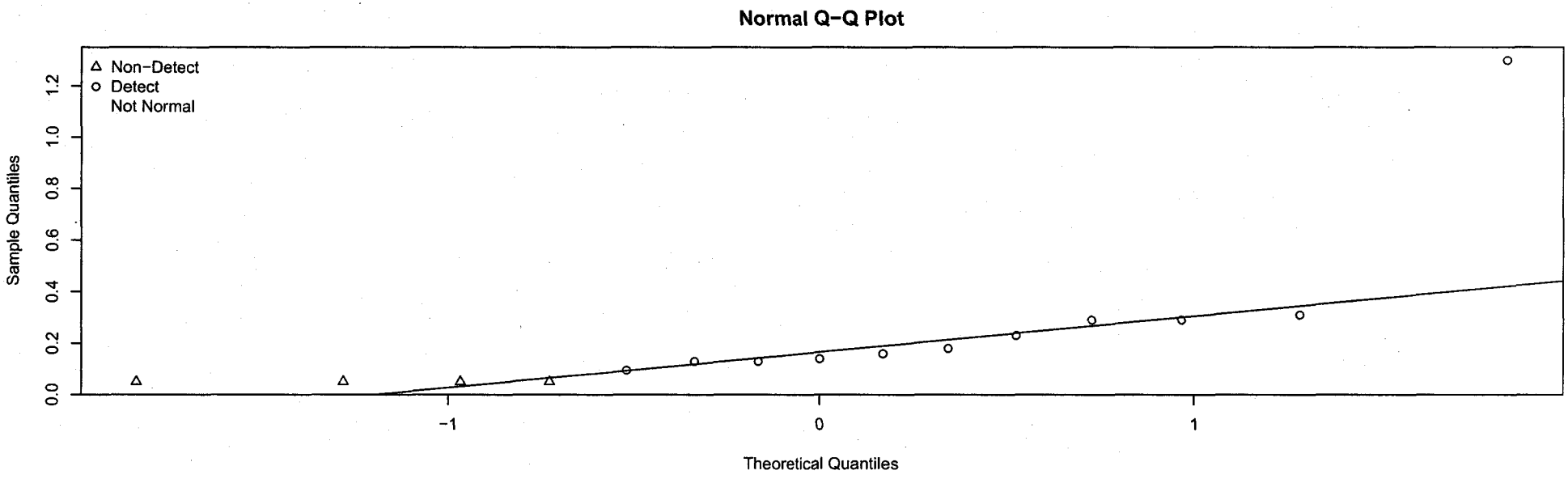


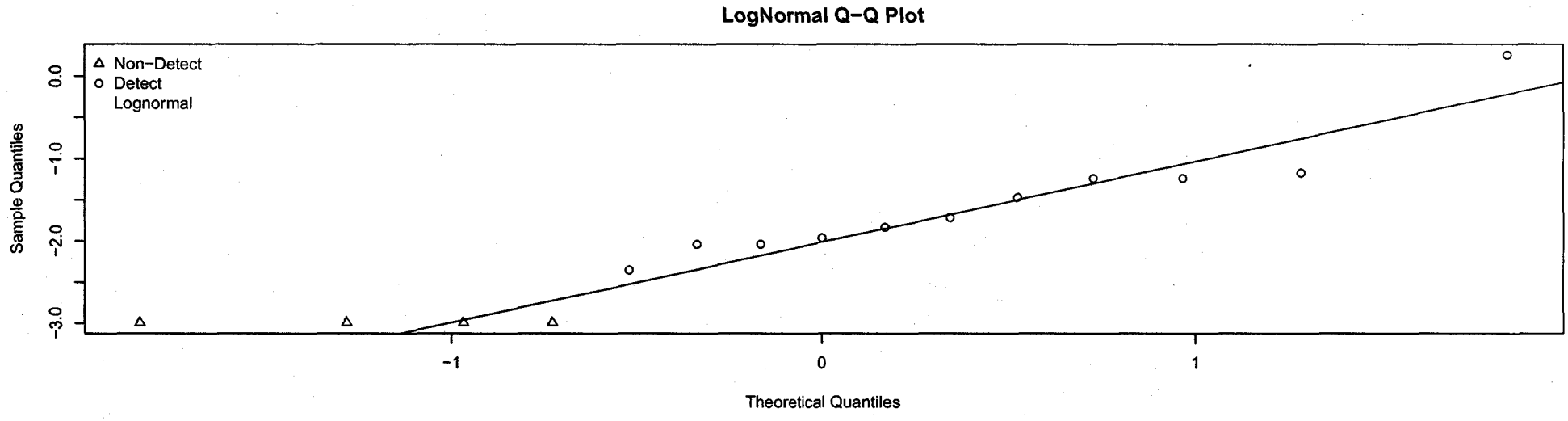
Upper Sand
Spring Groundwater
IRON



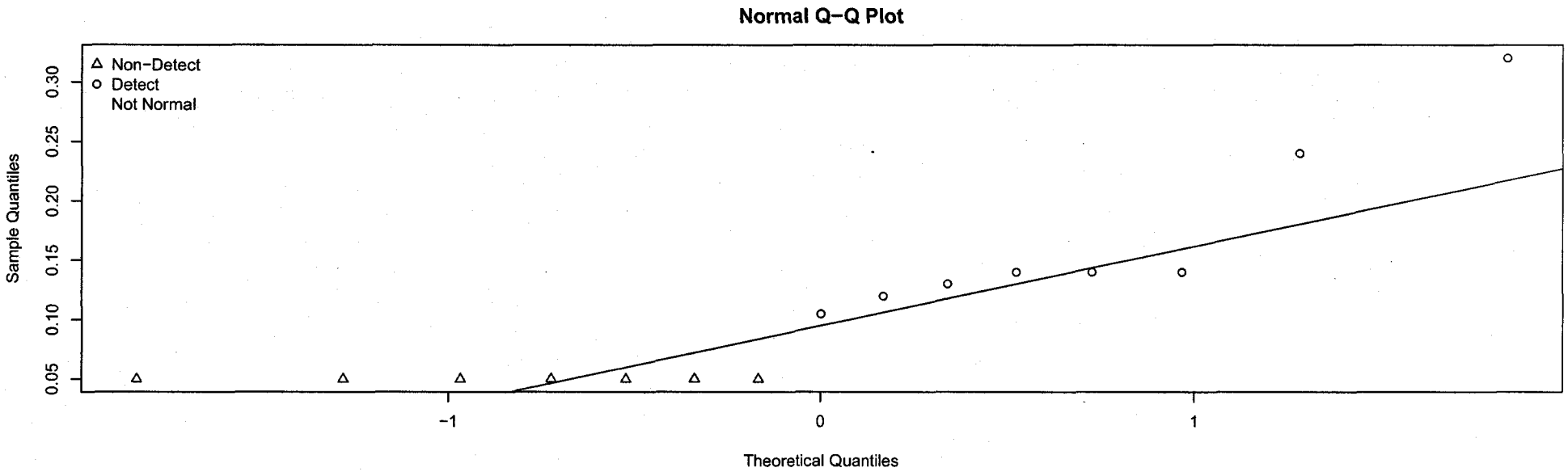


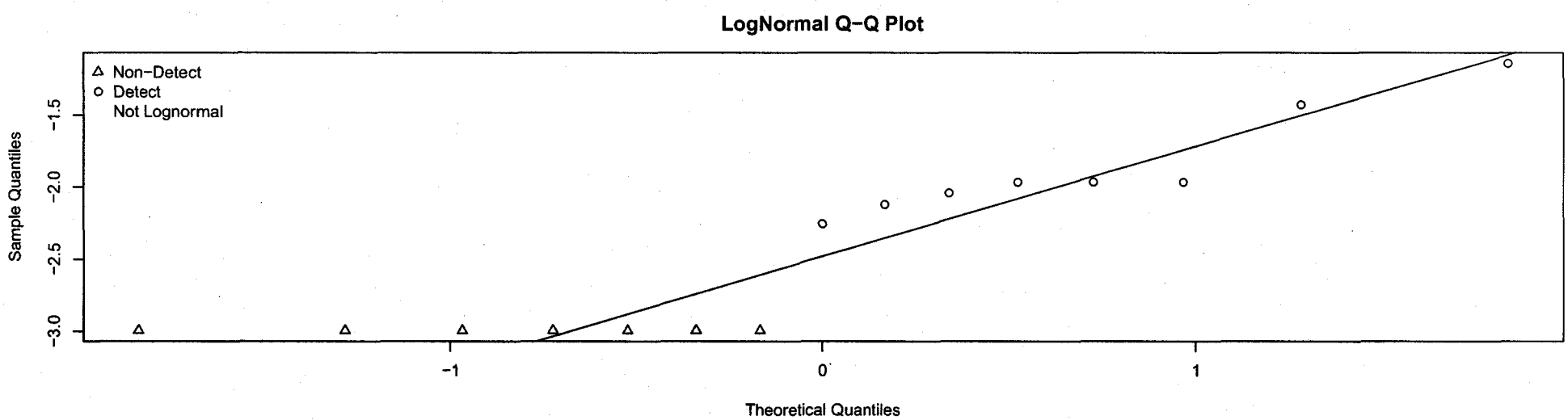
Upper Sand
Spring Groundwater
LEAD



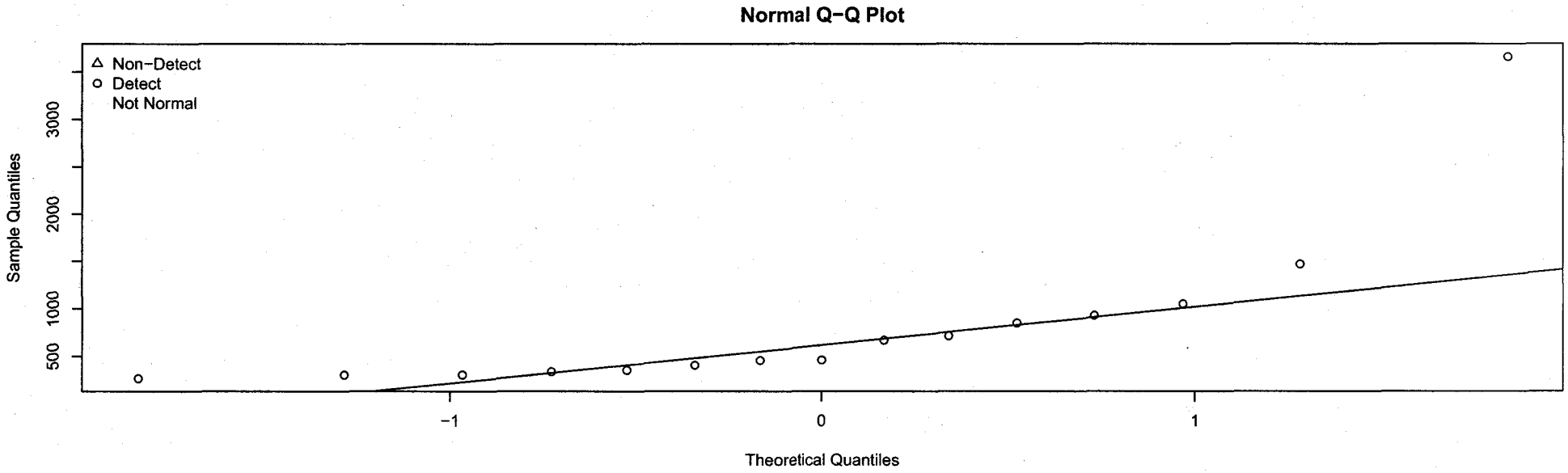


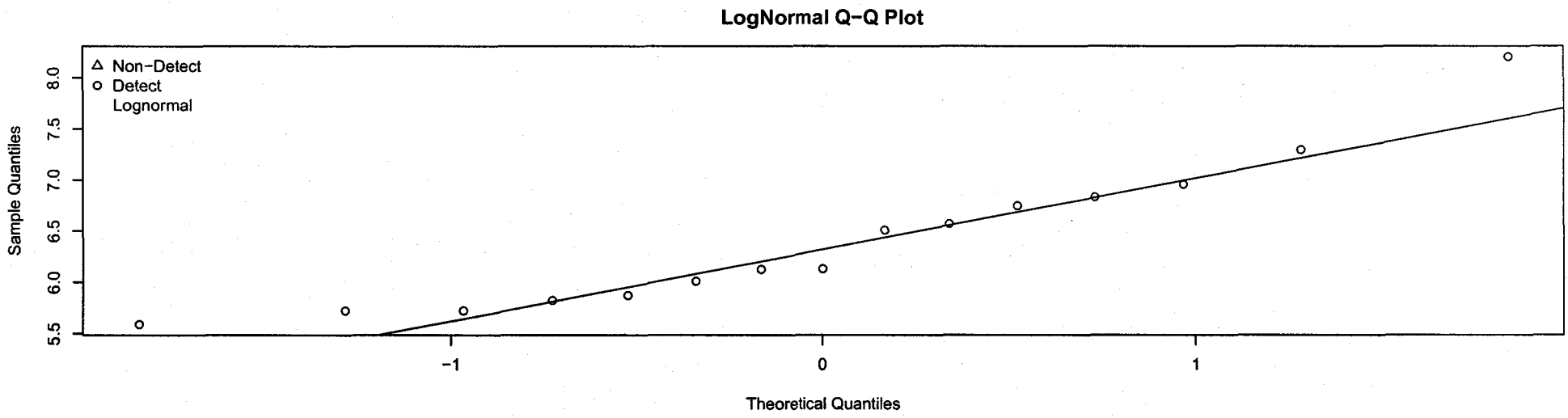
Upper Sand
Spring Groundwater
LEAD



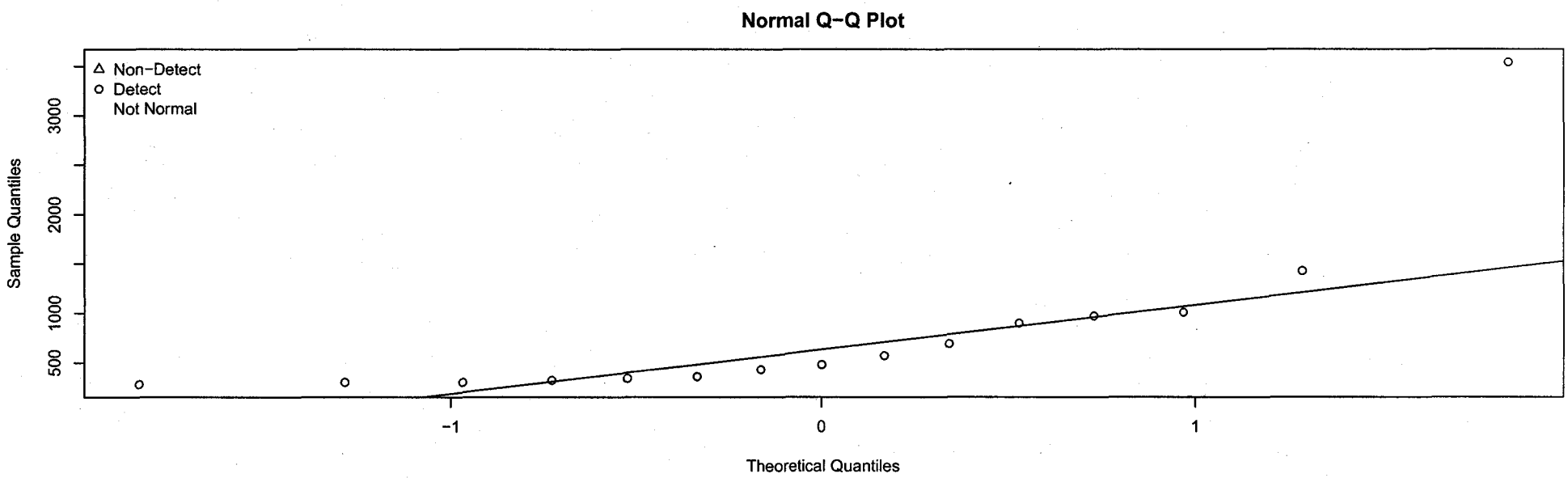


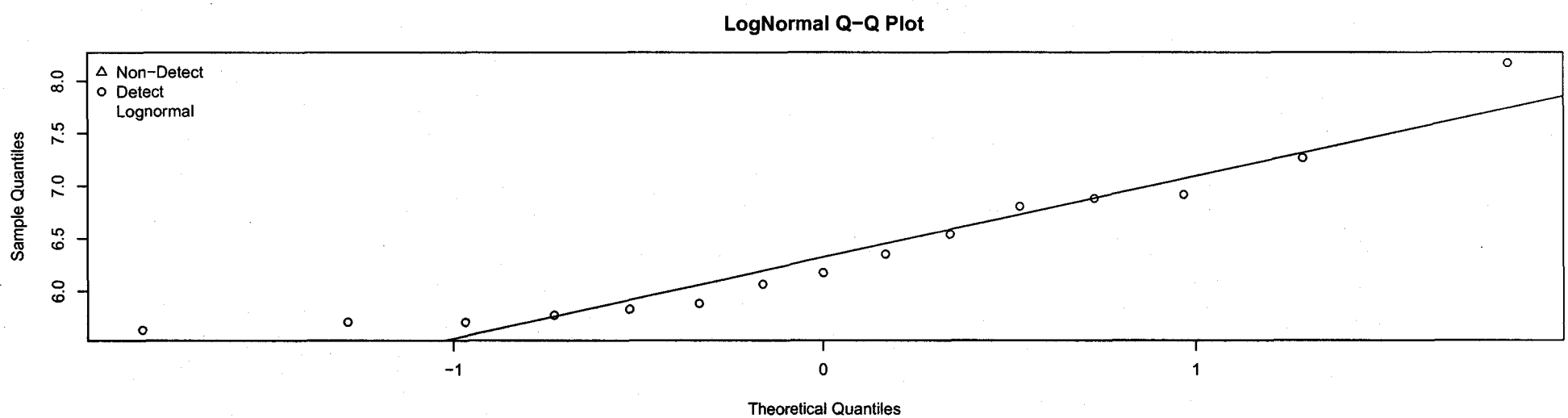
Upper Sand
Spring Groundwater
MAGNESIUM



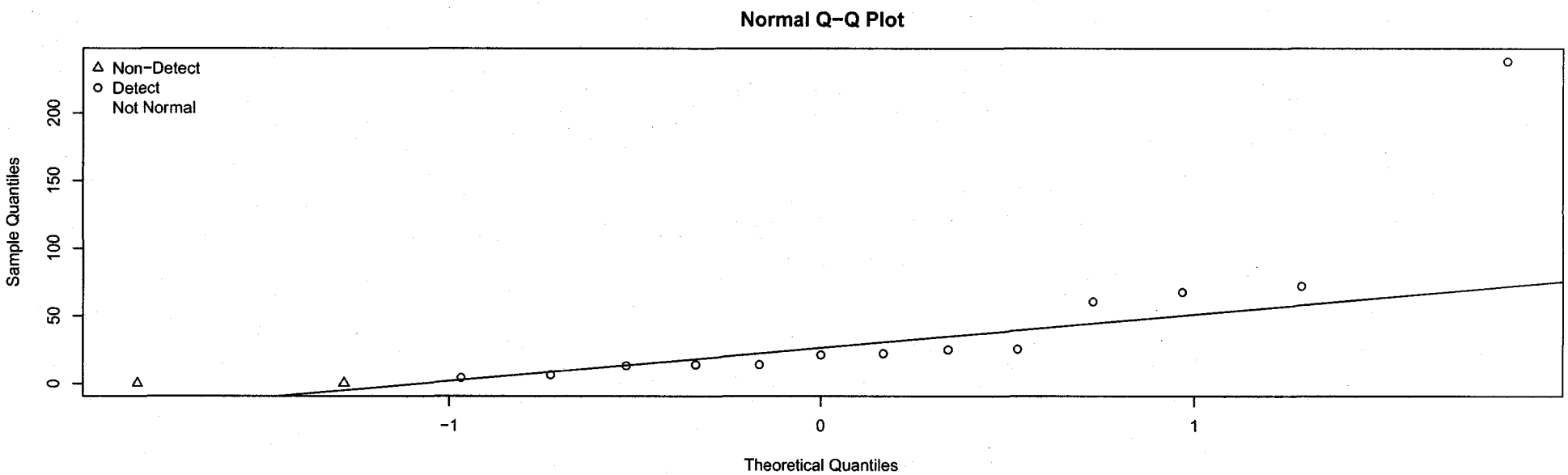


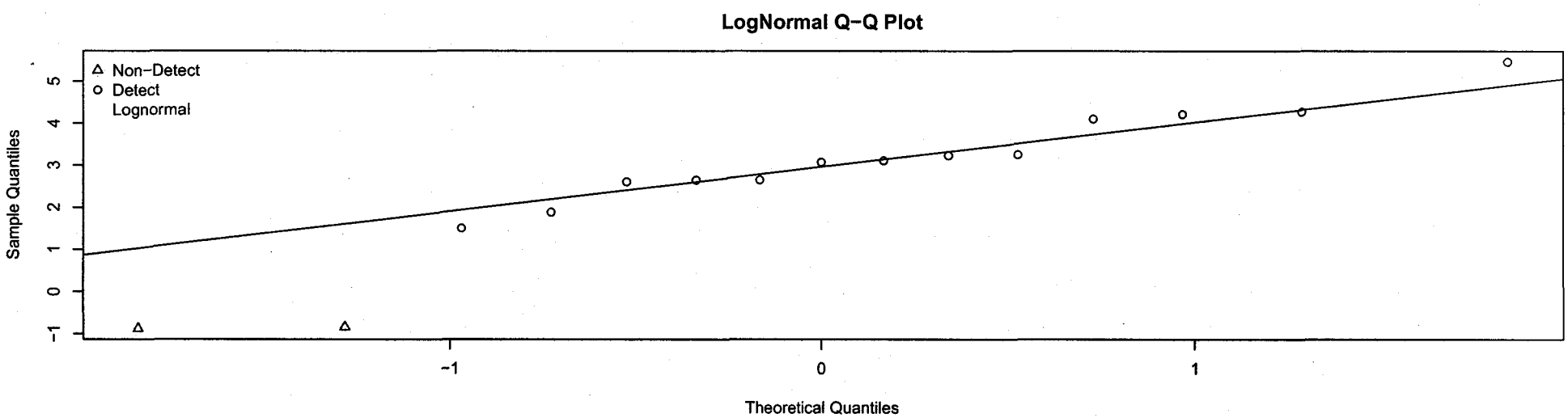
Upper Sand
Spring Groundwater
MAGNESIUM



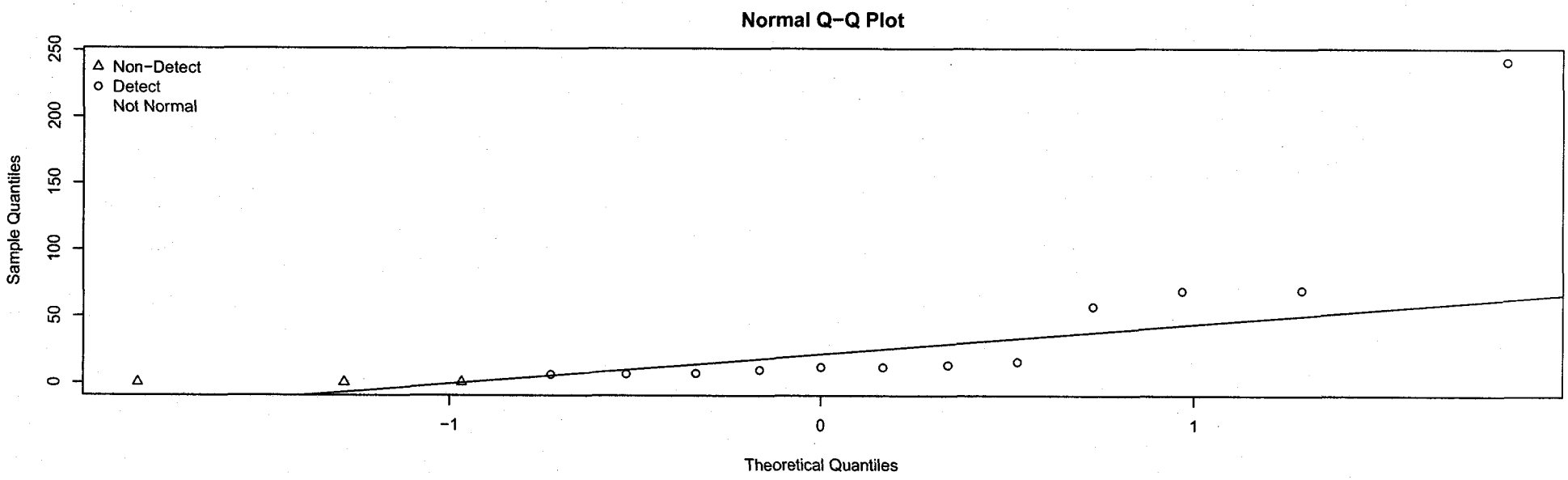


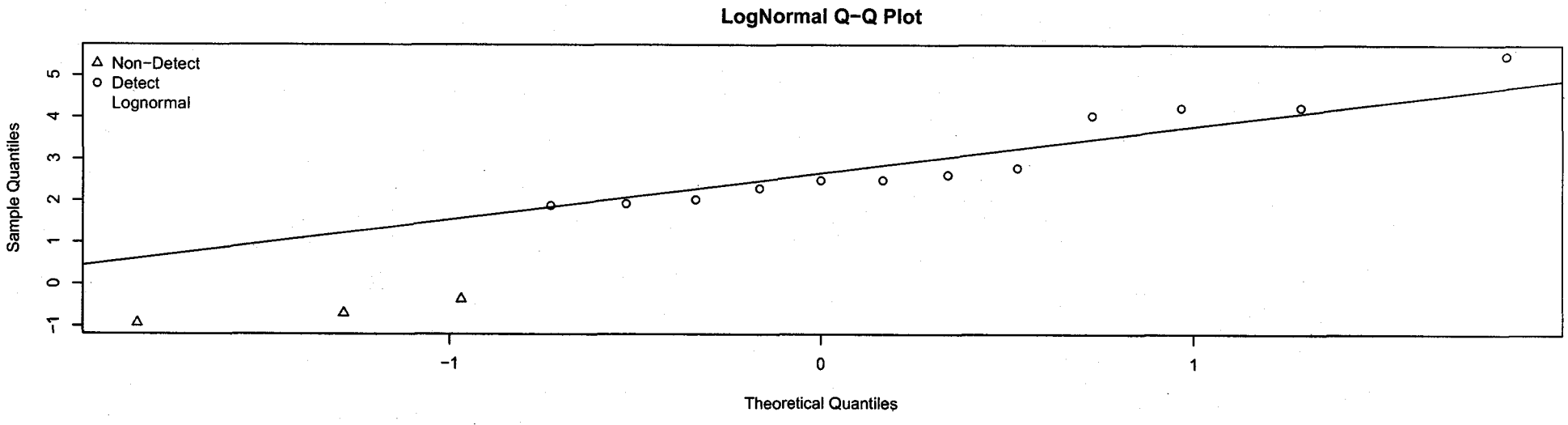
Upper Sand
Spring Groundwater
MANGANESE



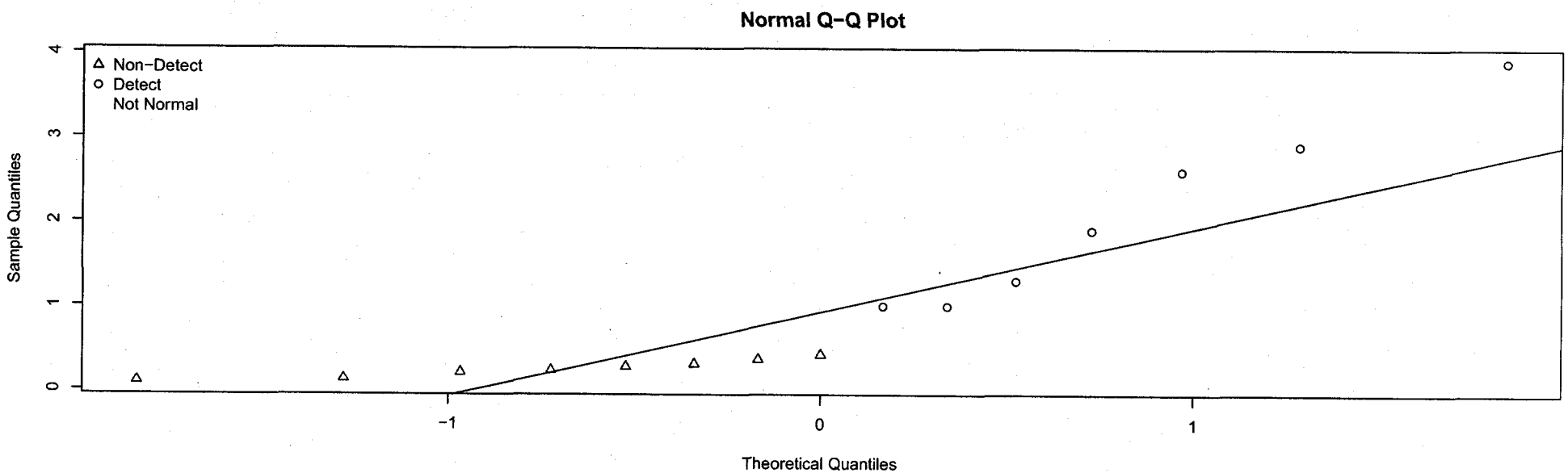


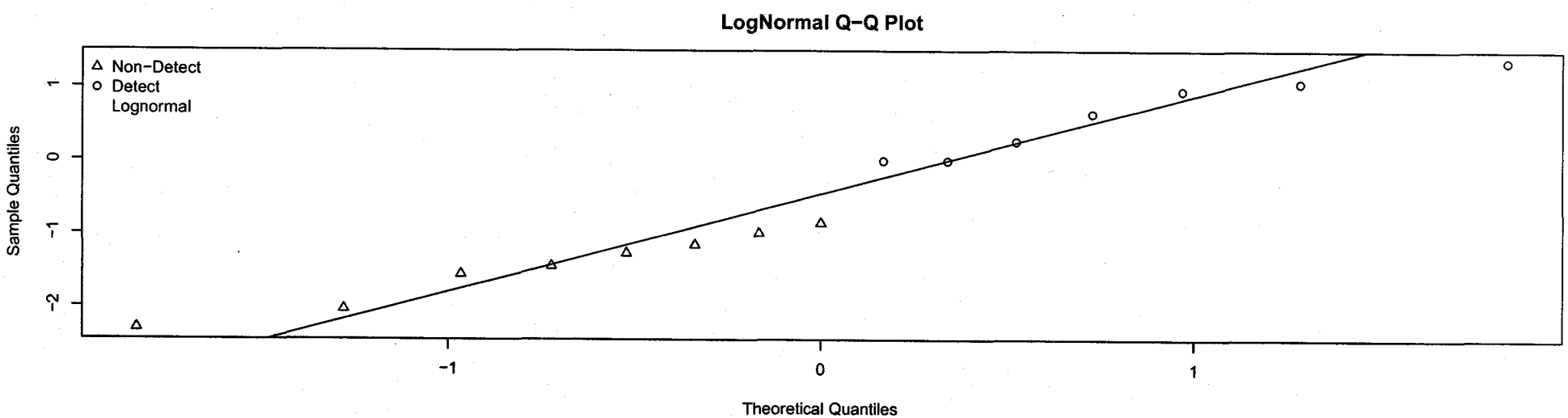
Upper Sand
Spring Groundwater
MANGANESE



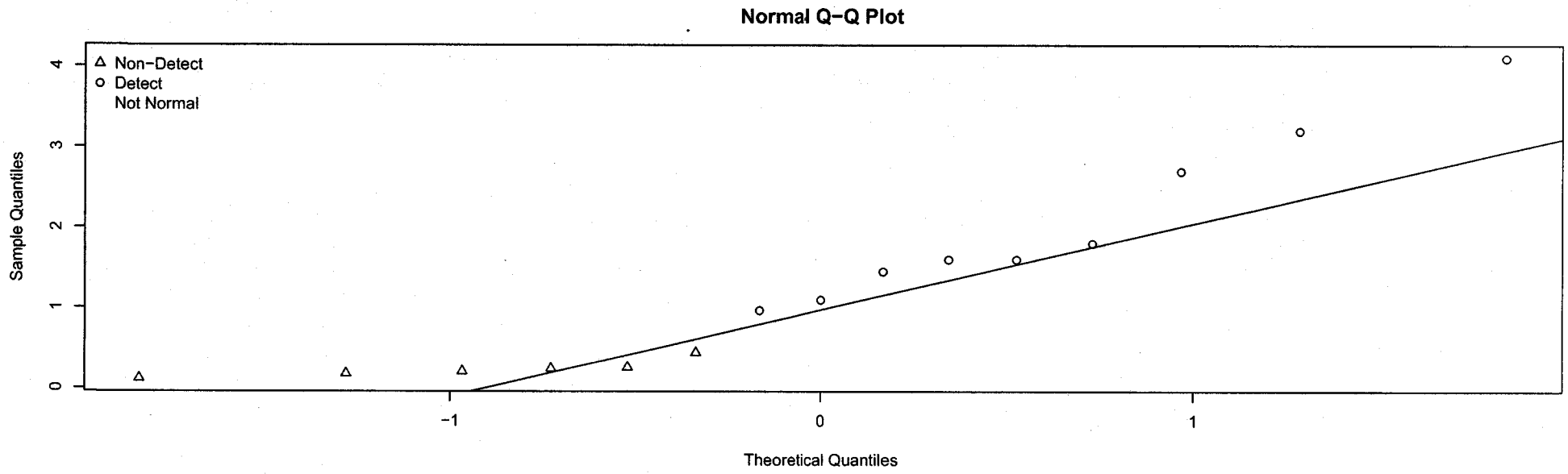


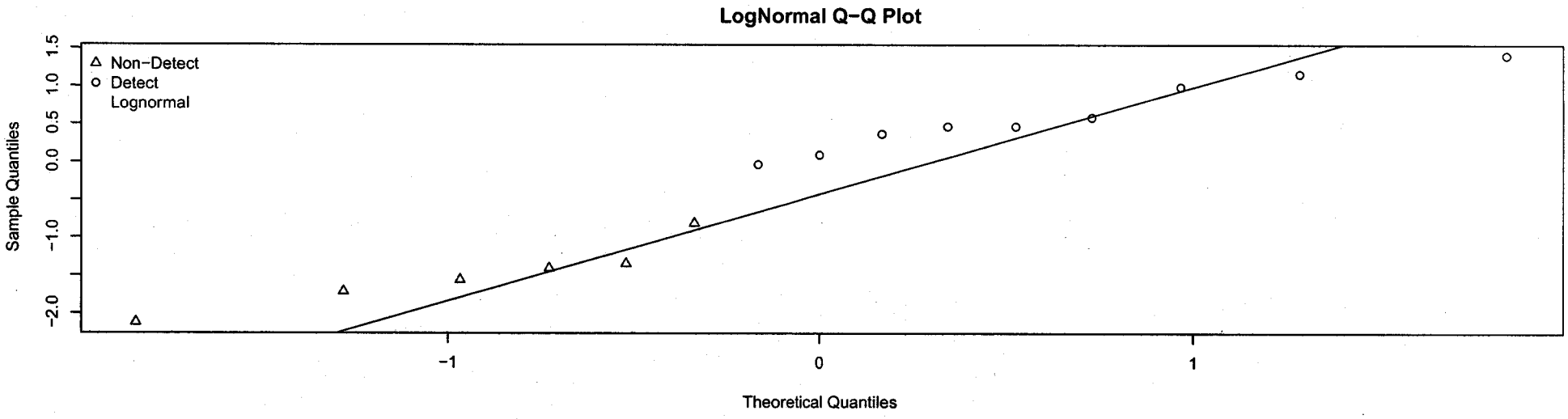
Upper Sand
Spring Groundwater
NICKEL



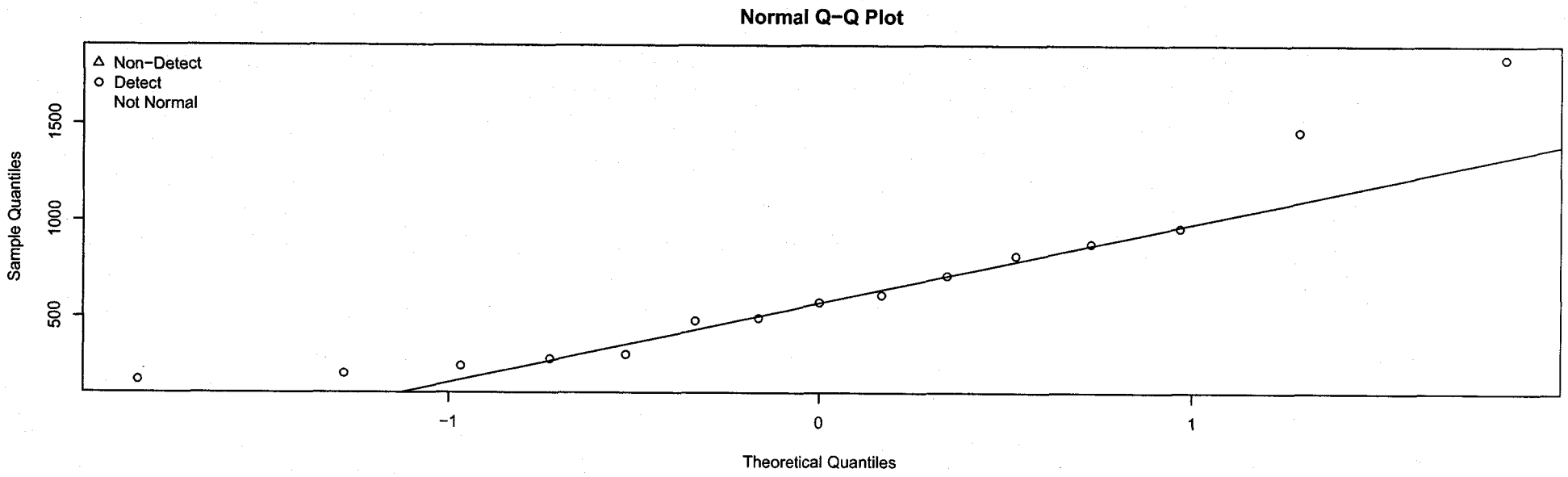


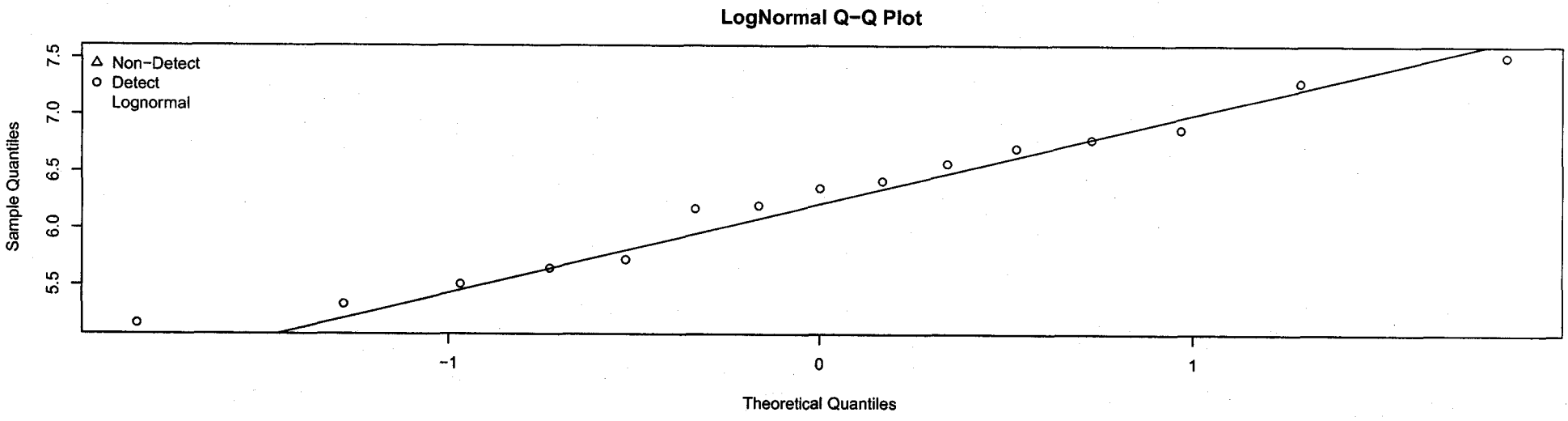
Upper Sand
Spring Groundwater
NICKEL



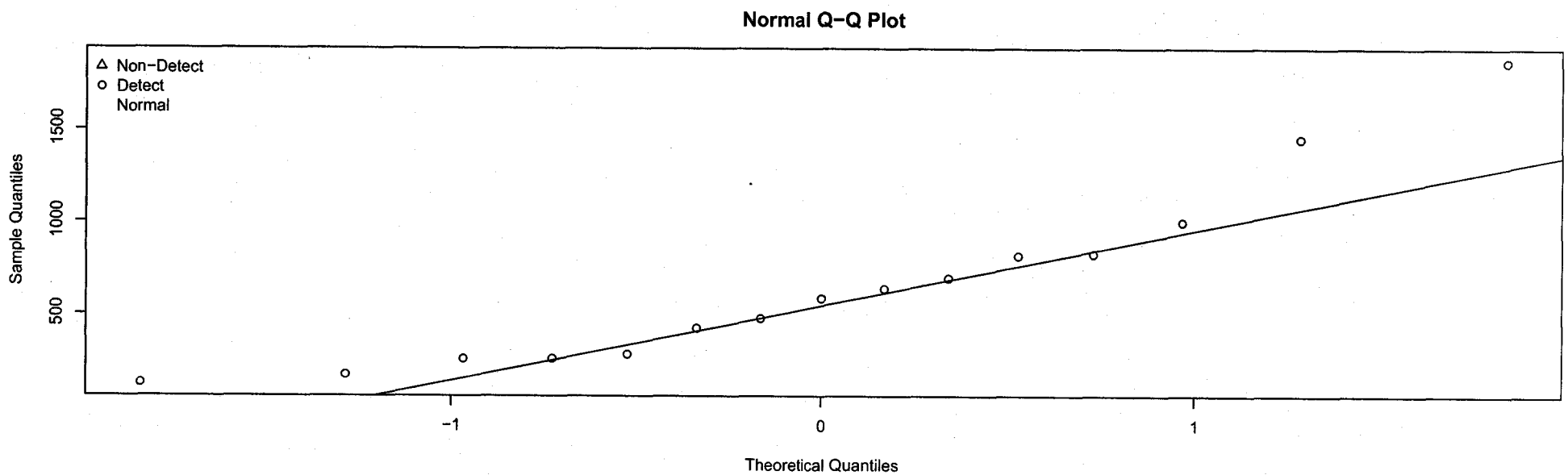


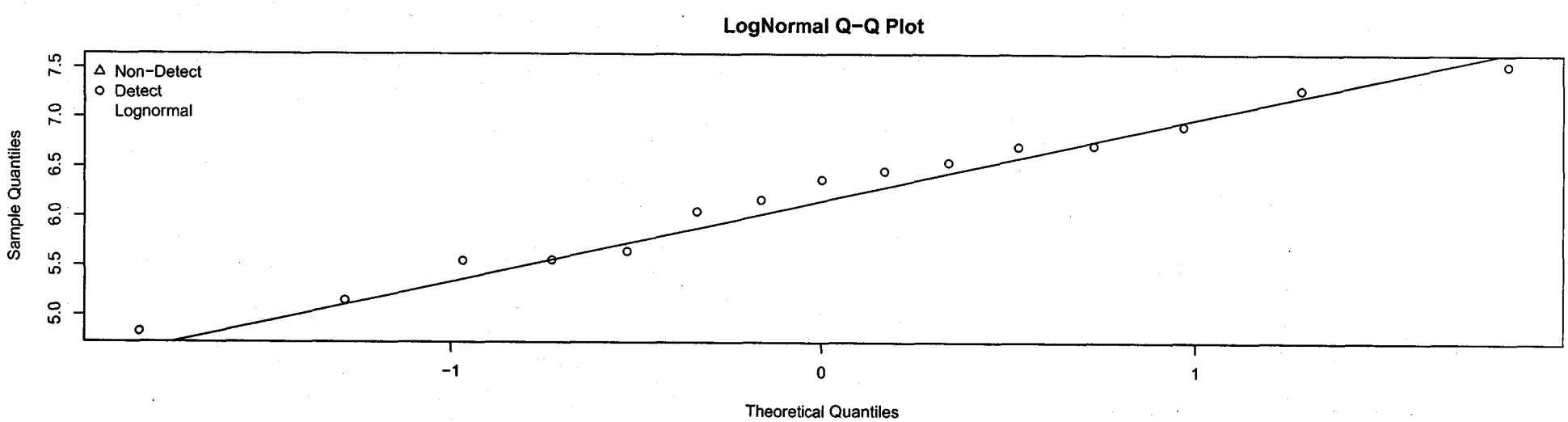
Upper Sand
Spring Groundwater
POTASSIUM



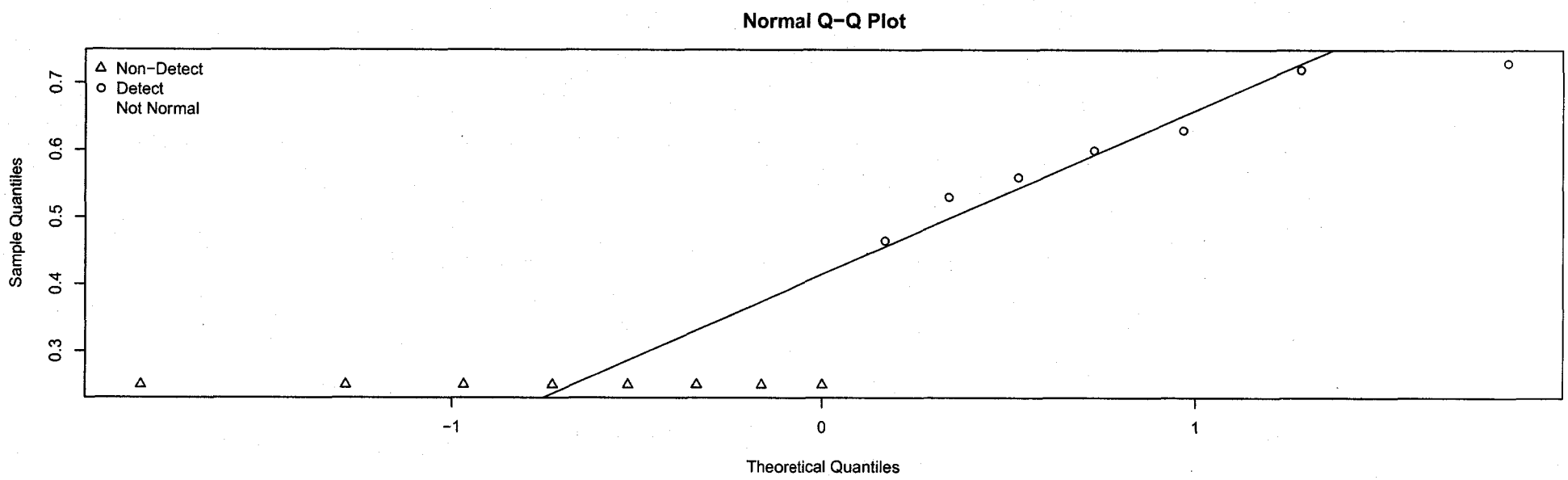


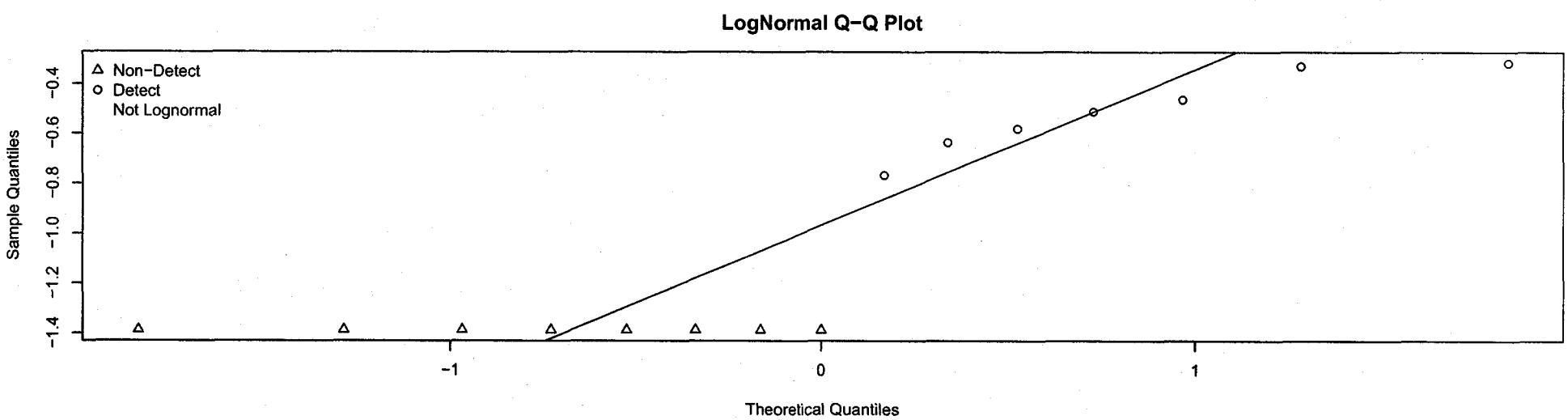
Upper Sand
Spring Groundwater
POTASSIUM



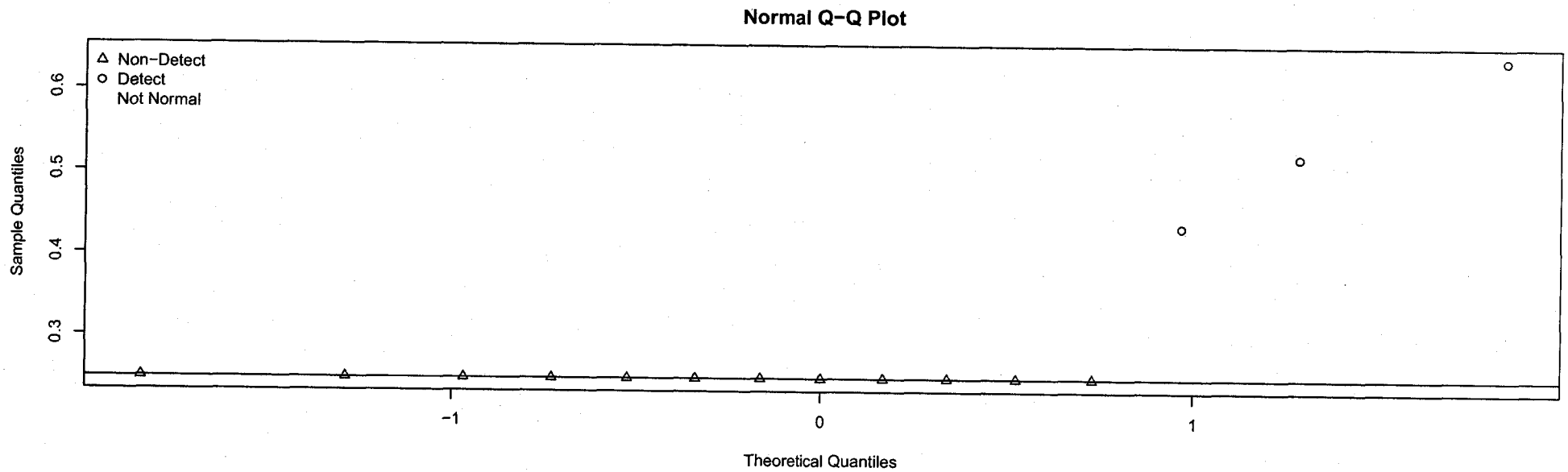


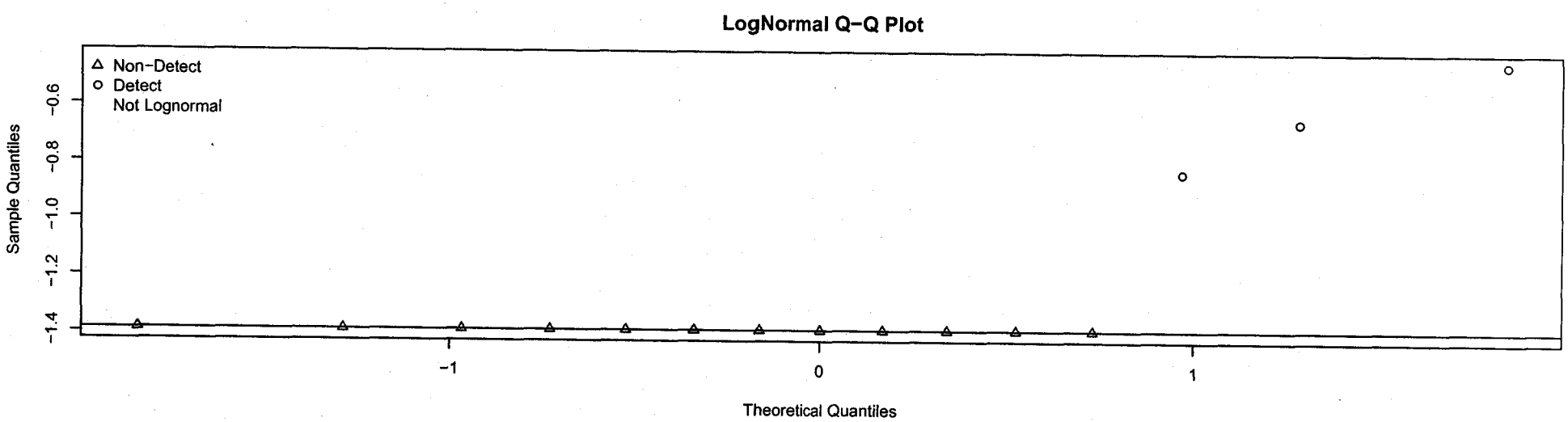
Upper Sand
Spring Groundwater
SELENIUM



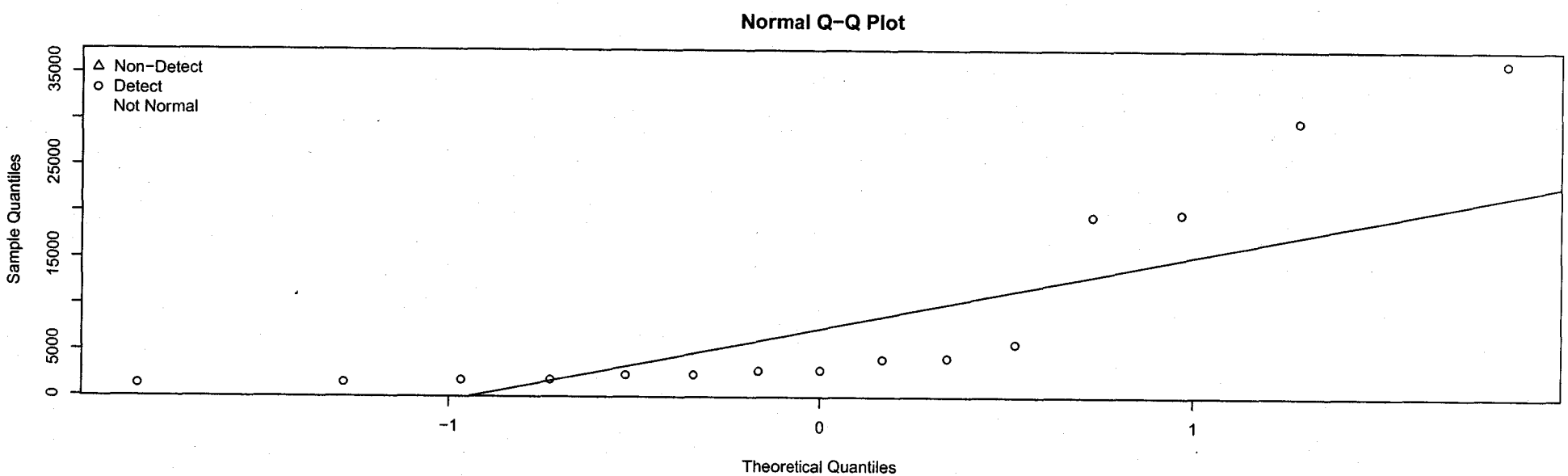


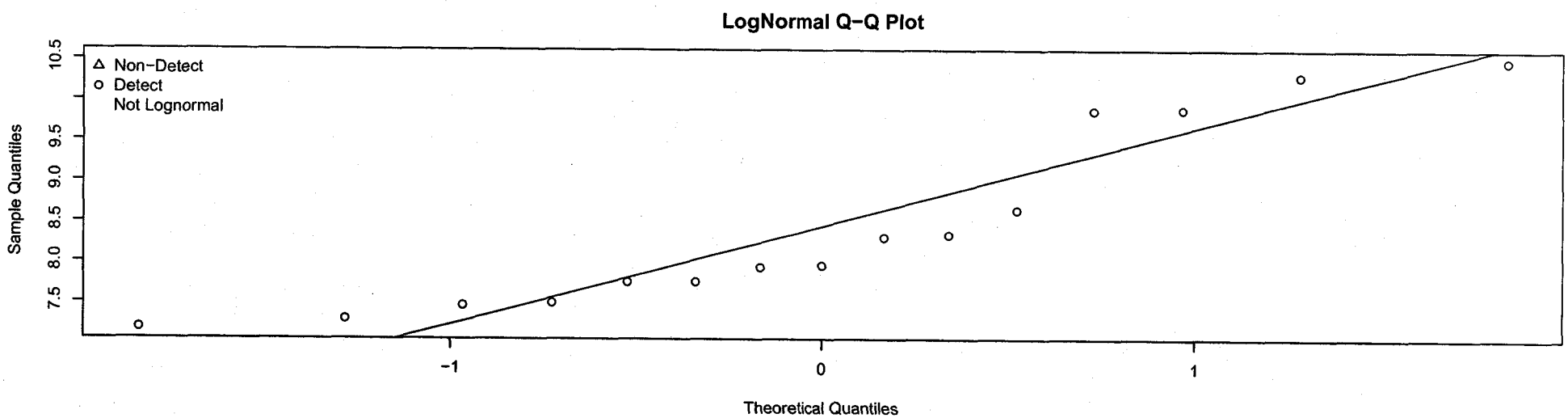
Upper Sand
Spring Groundwater
SELENIUM



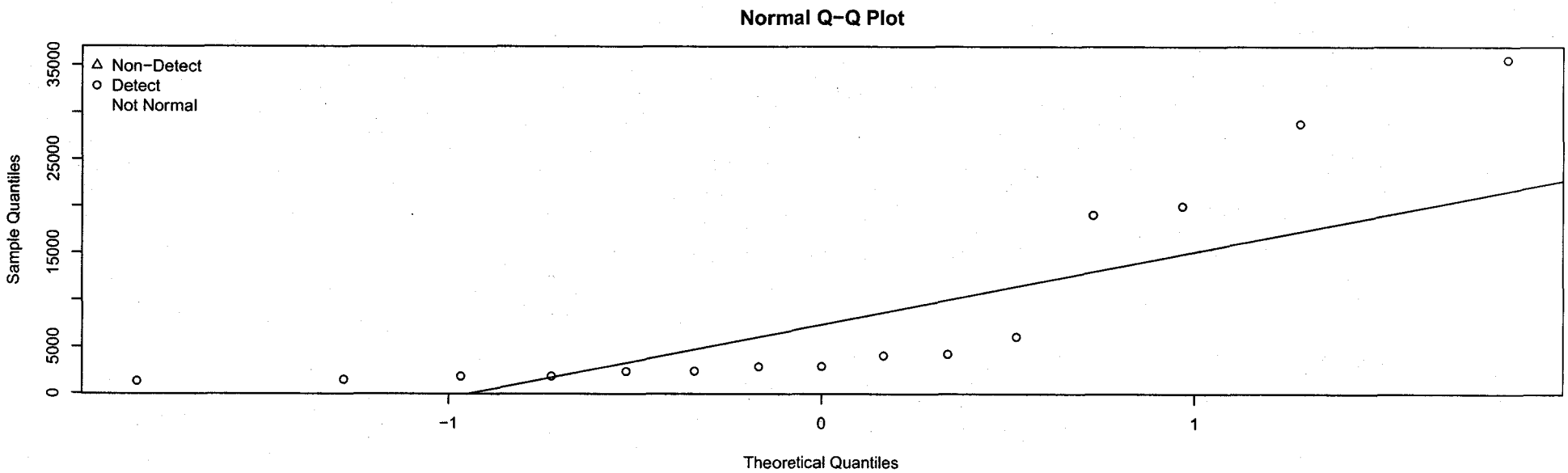


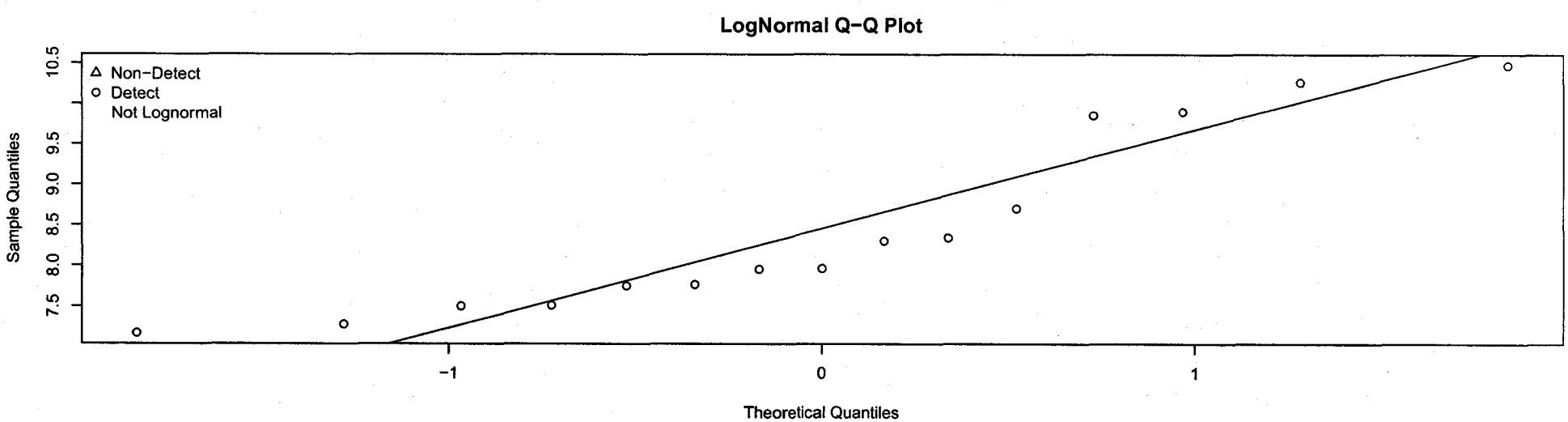
Upper Sand
Spring Groundwater
SODIUM



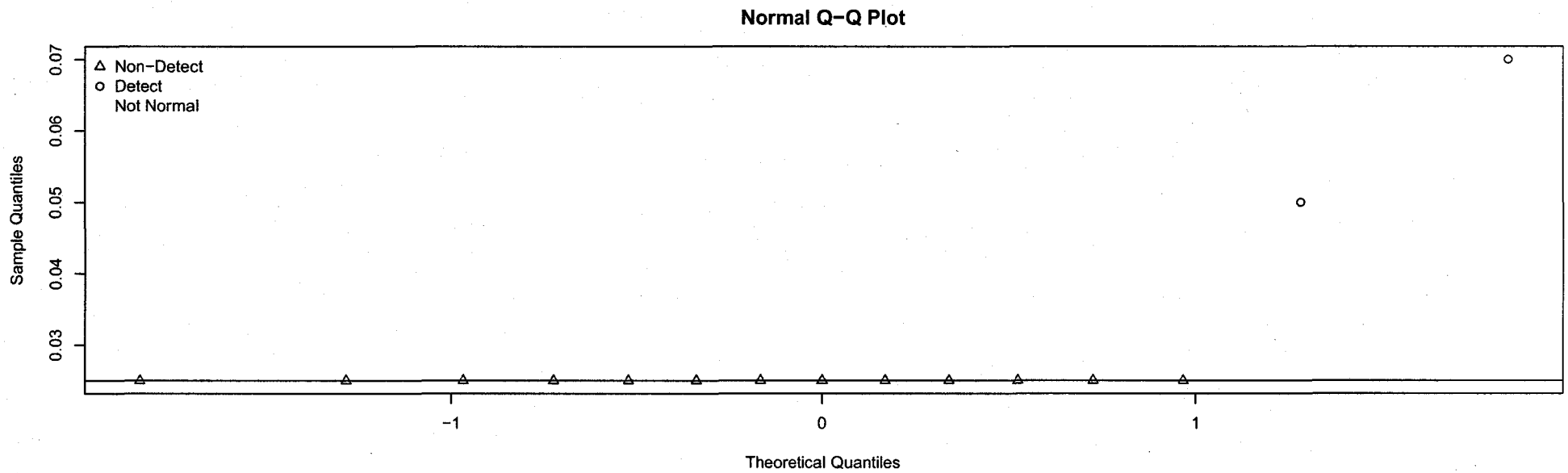


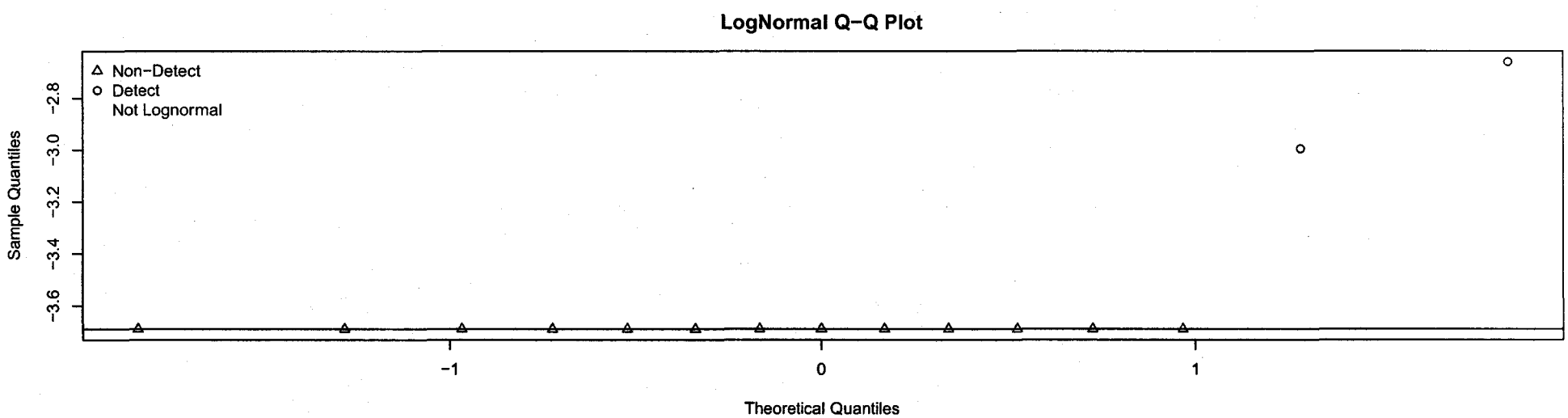
Upper Sand
Spring Groundwater
SODIUM



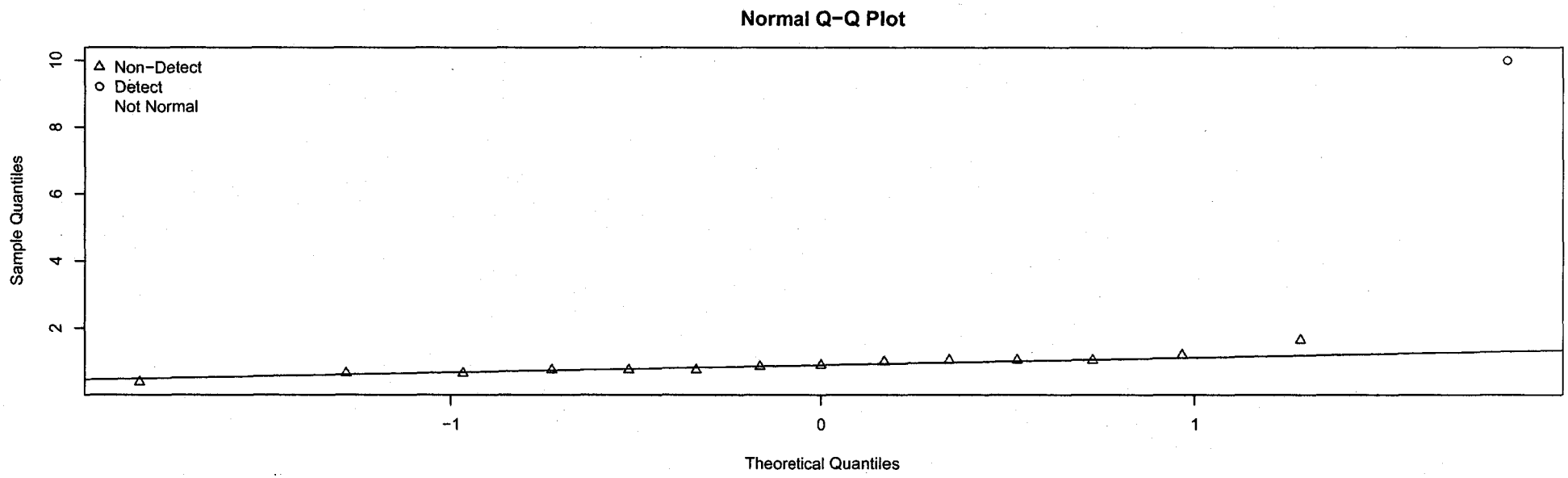


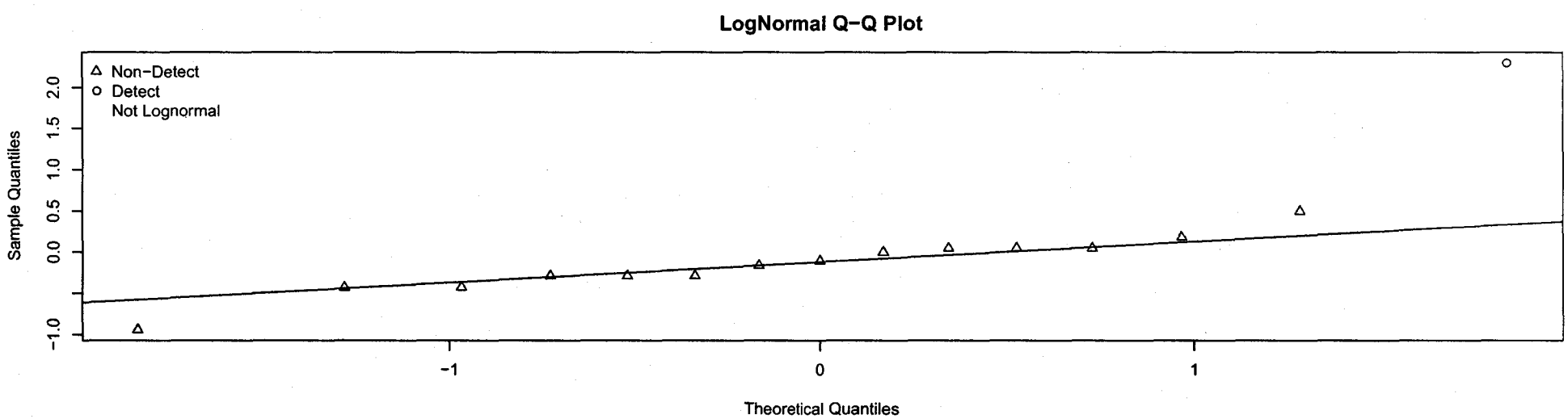
Upper Sand
Spring Groundwater
THALLIUM



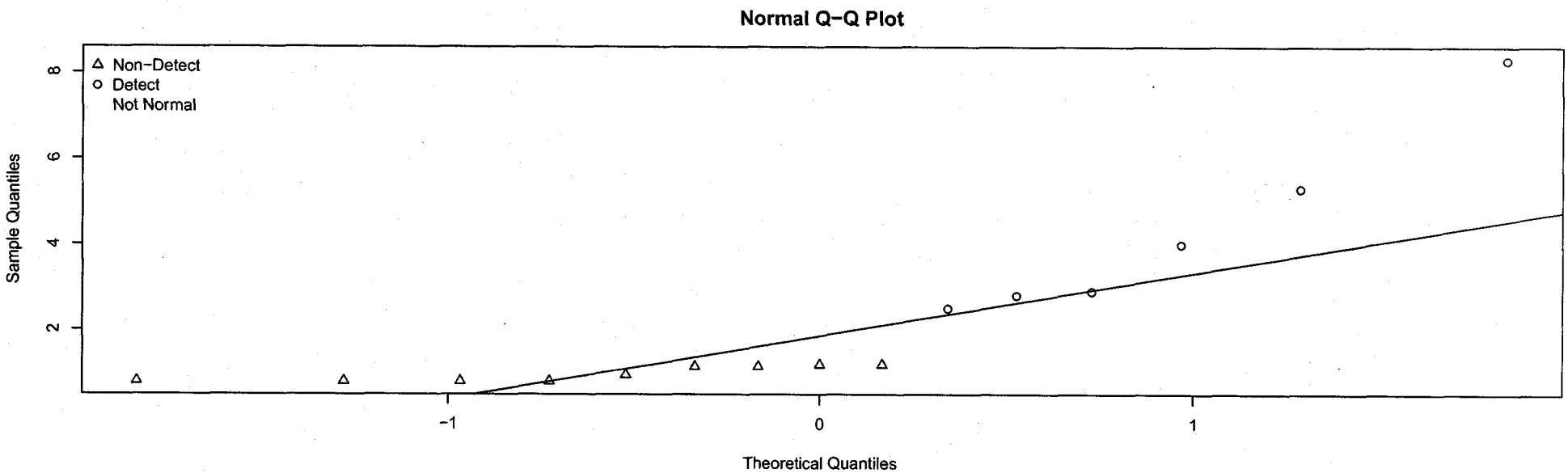


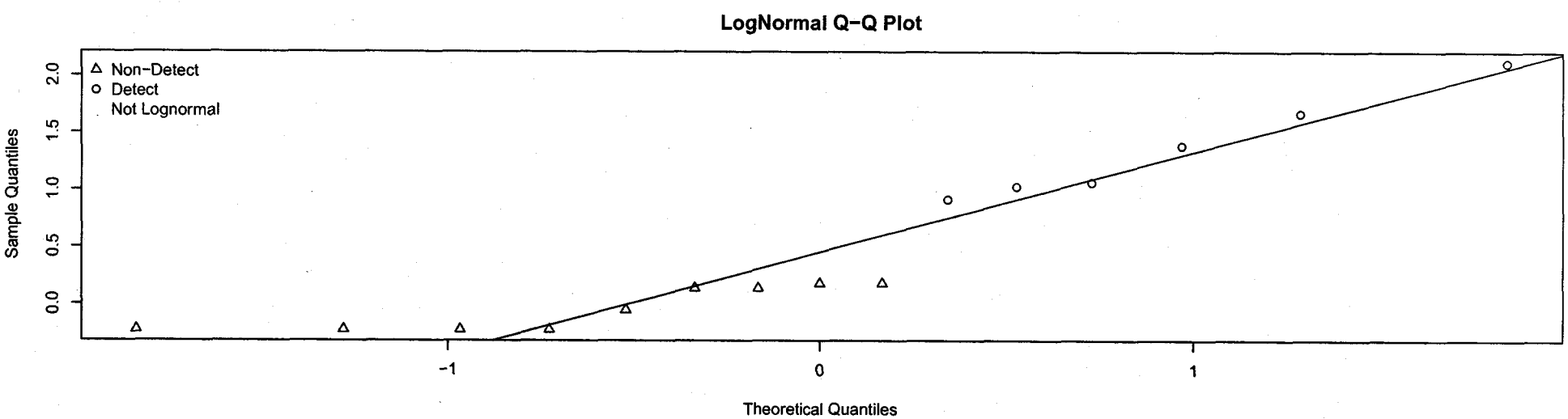
Upper Sand
Spring Groundwater
VANADIUM



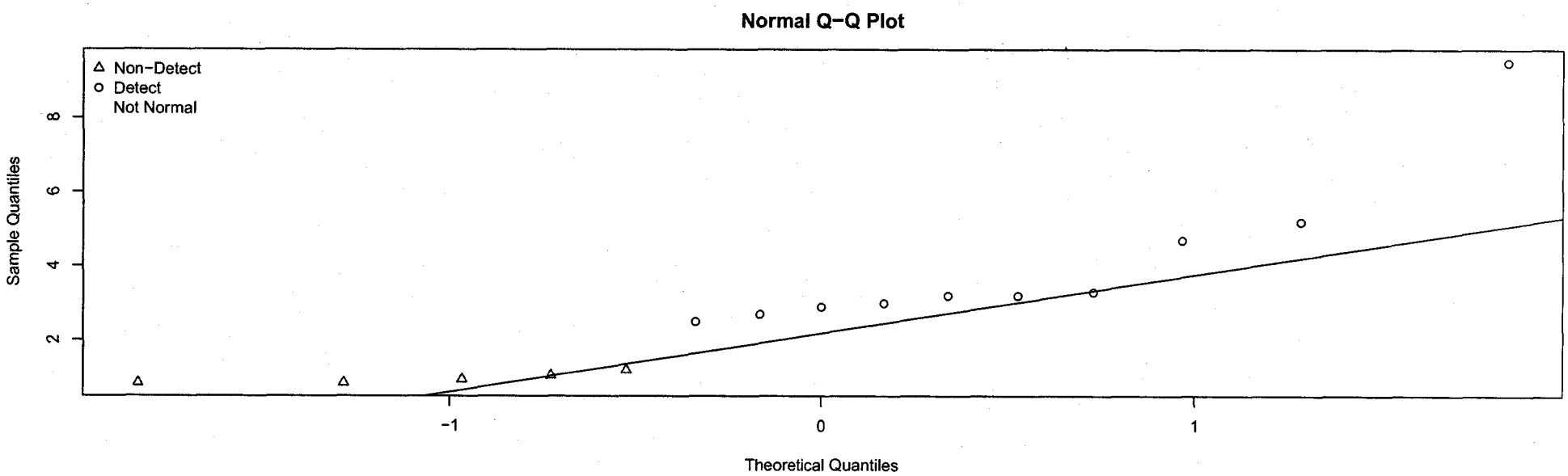


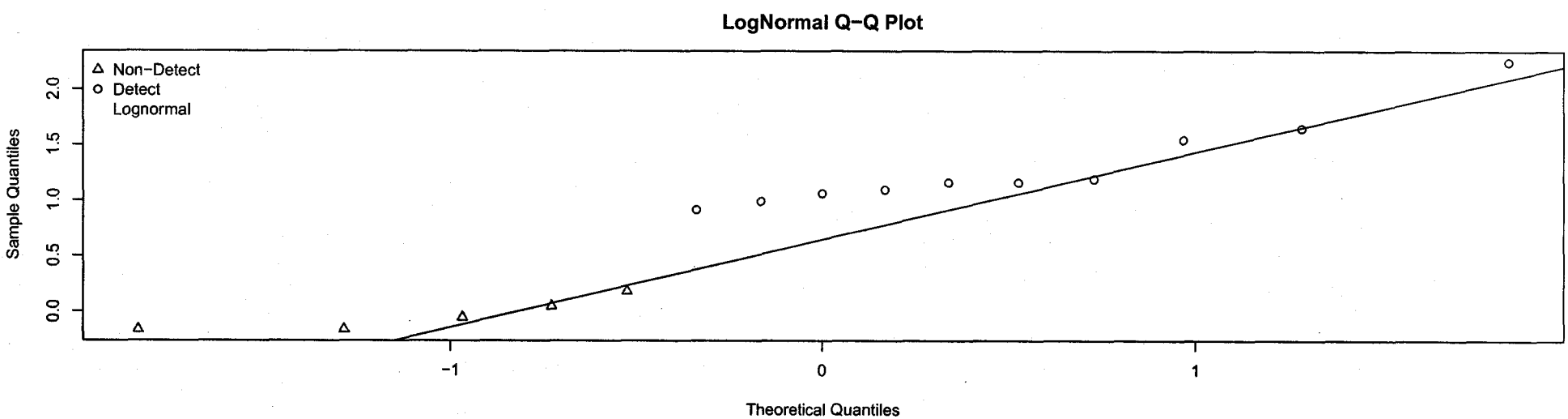
Upper Sand
Spring Groundwater
ZINC





Upper Sand
Spring Groundwater
ZINC





A.2.3 GROUNDWATER GRAPHICAL DATA EVALUATION

APPENDIX A.2.3 GRAPHICAL DATA EVALUATION

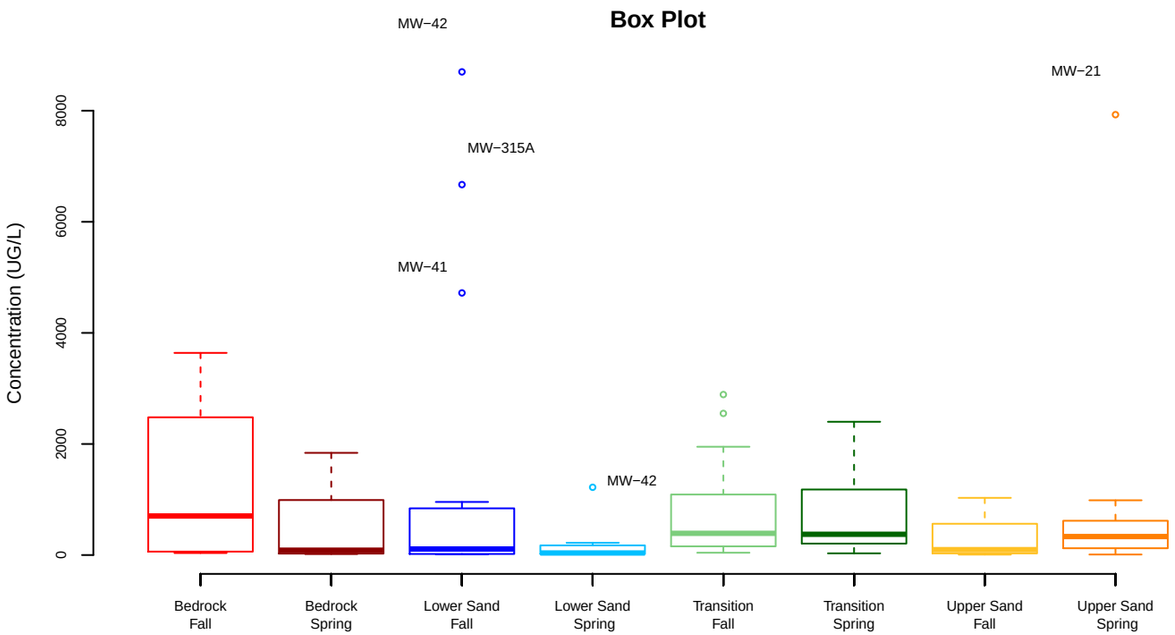
Graphical presentations of the data may identify potential outliers, indicate the presence of more than one data population represented by a data set, suggest that data gaps exist, and/or that there are spatial or temporal trends in the dataset. Each of these has the potential to confound data evaluations and statistical analyses. Box plots, normal probability (Q-Q) plots, and histograms were used to evaluate the data sets and are presented at the end of this section.

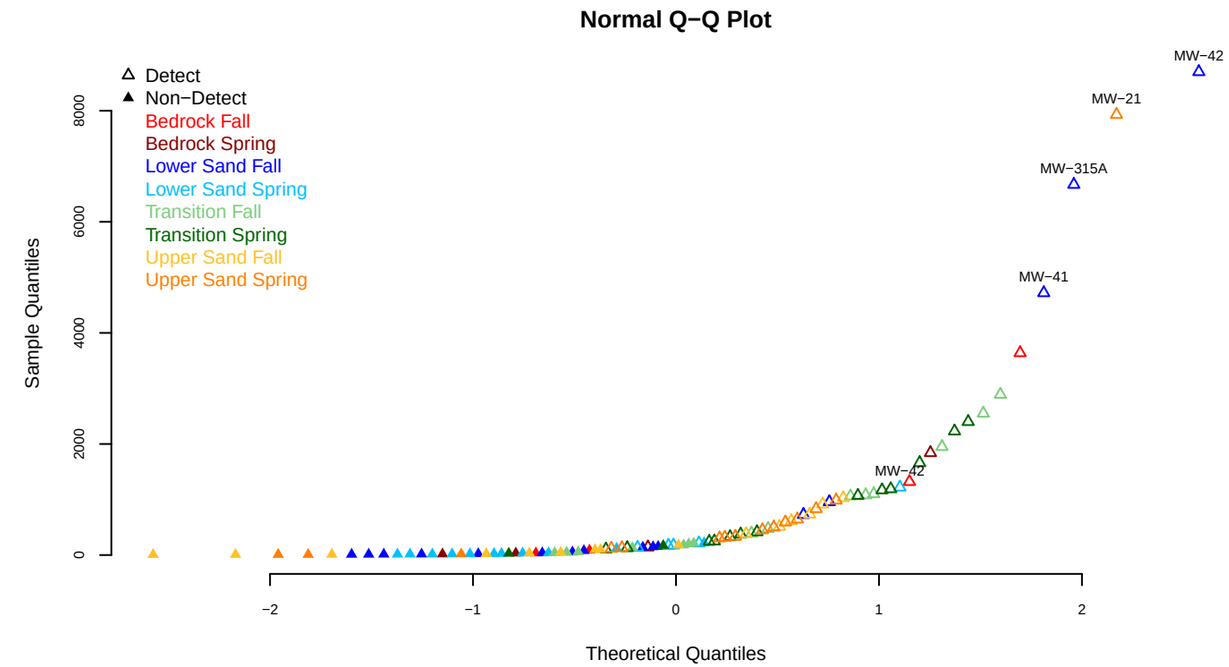
Box plots show the central tendency, degree of symmetry, range of variation, and potential outliers of a data set. The data set is shown as a rectangular box that represents the middle 50 percent of the data. The upper value of the box (75th percentile) and the lower value of the box (25th percentile) define the top and bottom of the rectangle, respectively. The median is represented by the middle line in the box. This type of plot can reveal whether data groups are similar and the extent and magnitude of candidate outliers. Candidate outliers were labeled with location ID.

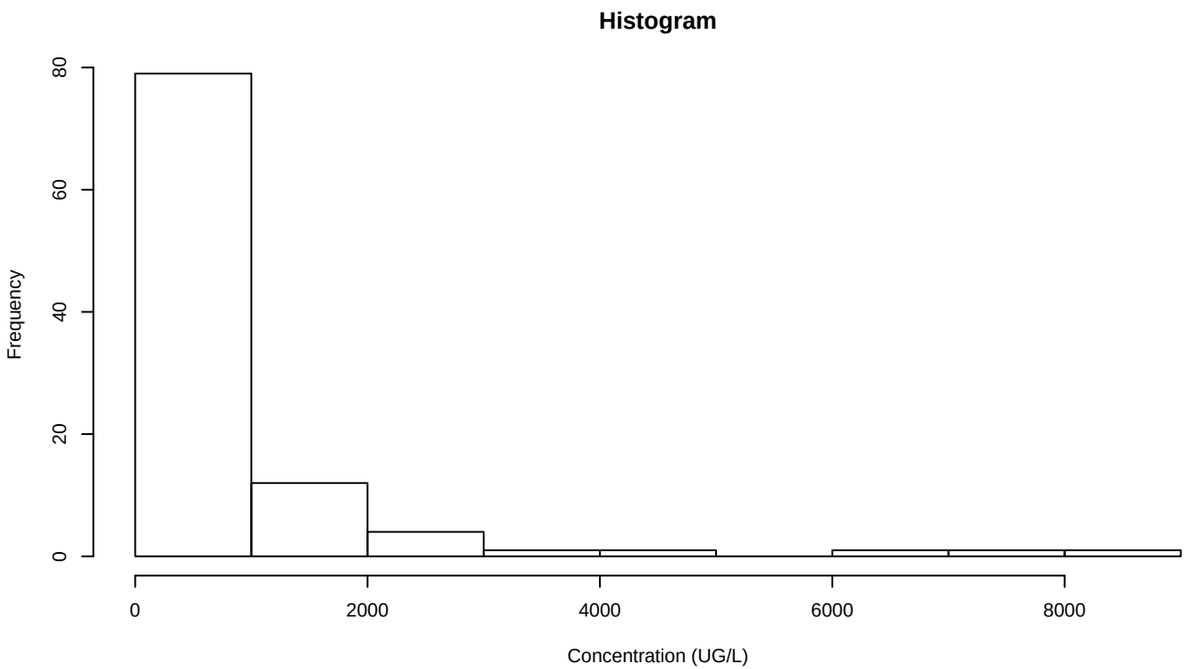
A probability (Q-Q) plot graphs the quantiles of a data set against the quantiles of the normal data distribution. A non-linear bend in the Q-Q probability plot, or a point of departure from linearity at one end of the probability plot, suggest that the data do not follow the normal distribution. Probability (Q-Q) plots augment the identification of outliers and identify any data points or data ranges that contribute to a poor fit to a normal distributional shape. Non-detects and detects were labeled with different symbols, and different soil groupings were plotted using different colors. Multiple non-detected concentrations can be seen as the step like pattern on the plots. Candidate outliers were labeled with location ID.

Histograms also depict the distributional shape, showing the mode, the relative frequency of detection at various concentration ranges, and the spread of data points near the upper end. These may be used in conjunction with probability plots to determine which data points contribute anomalies relative to the assumption of a normal bell curve shape.

TOTAL ALUMINUM







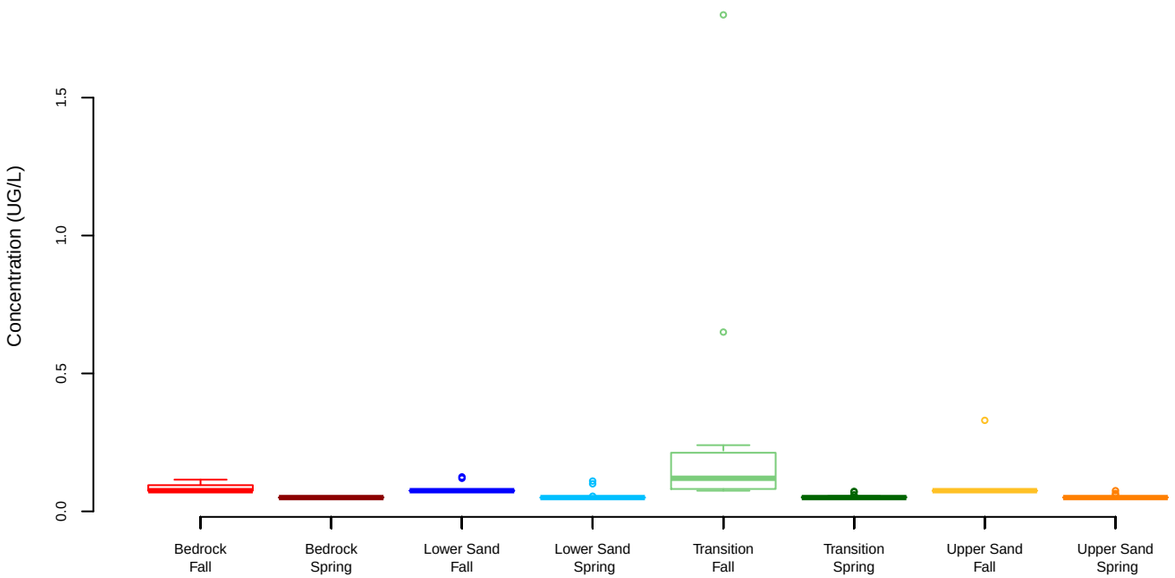
Summary Statistics

	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	36	18	12	15	42	31	8.2	9.4
25th Percentile	74	30	21	20	160	210	30	120
Median	700	88	110	37	390	370	97	330
Mean	1300	510	1400	150	820	780	310	880
75th Percentile	1900	570	780	170	1100	1200	560	620
Maximum	3600	1800	8700	1200	2900	2400	1000	7900

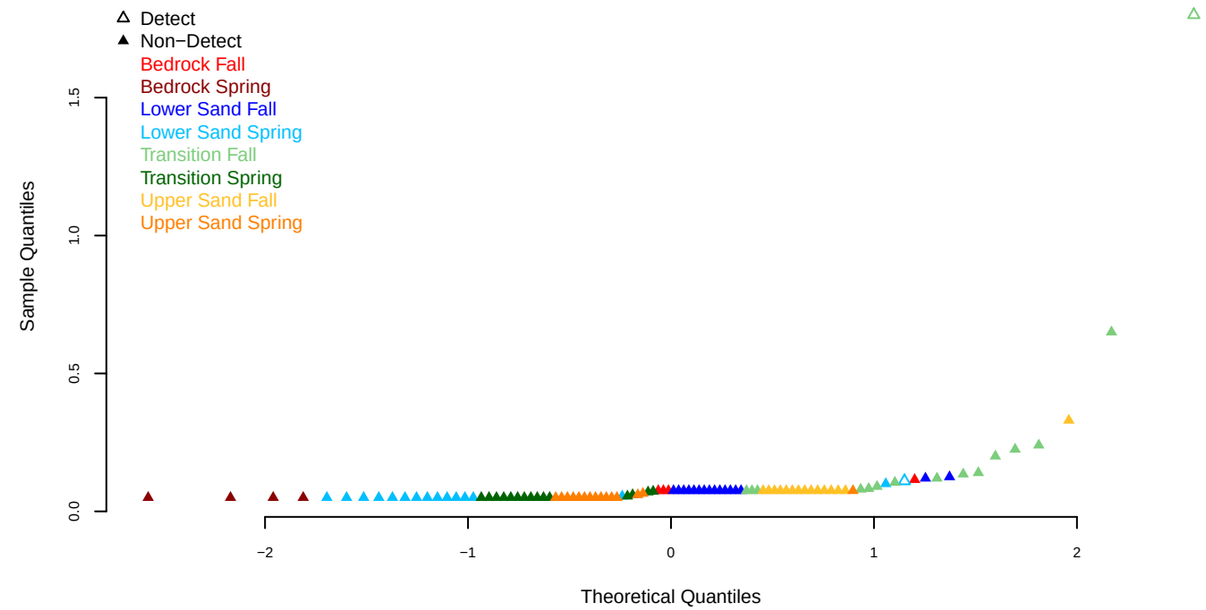
B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

TOTAL ANTIMONY

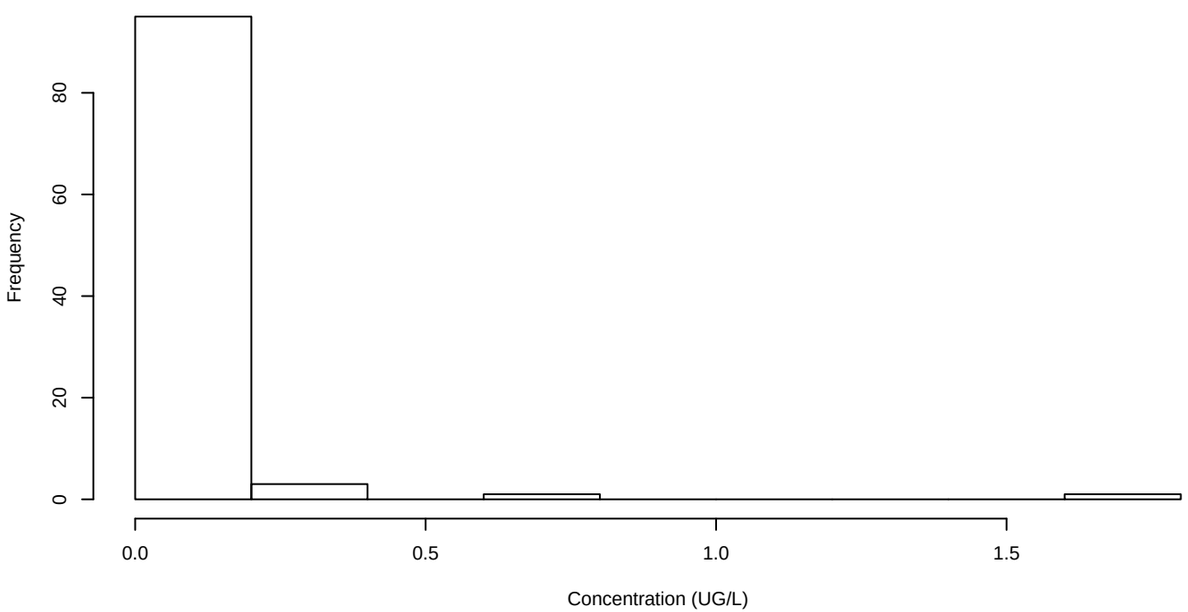
Box Plot



Normal Q−Q Plot



Histogram



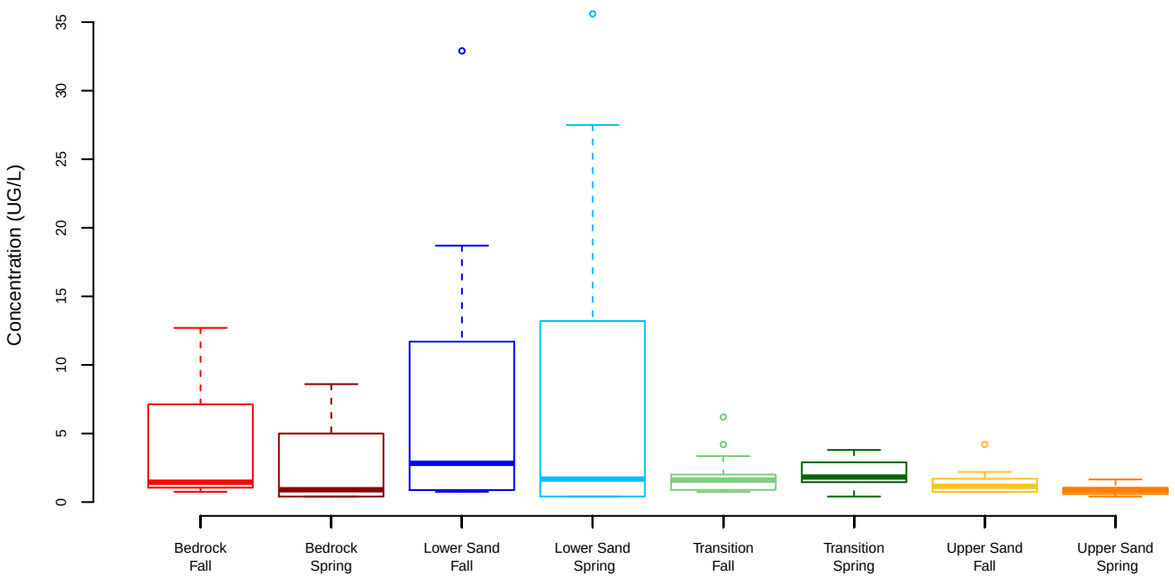
Summary Statistics

	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	0.075	0.05	0.075	0.05	0.075	0.05	0.075	0.05
25th Percentile	0.075	0.05	0.075	0.05	0.081	0.05	0.075	0.05
Median	0.075	0.05	0.075	0.05	0.12	0.05	0.075	0.05
Mean	0.085	0.05	0.081	0.057	0.27	0.054	0.092	0.053
75th Percentile	0.085	0.05	0.075	0.05	0.21	0.052	0.075	0.05
Maximum	0.12	0.05	0.12	0.11	1.8	0.072	0.33	0.075

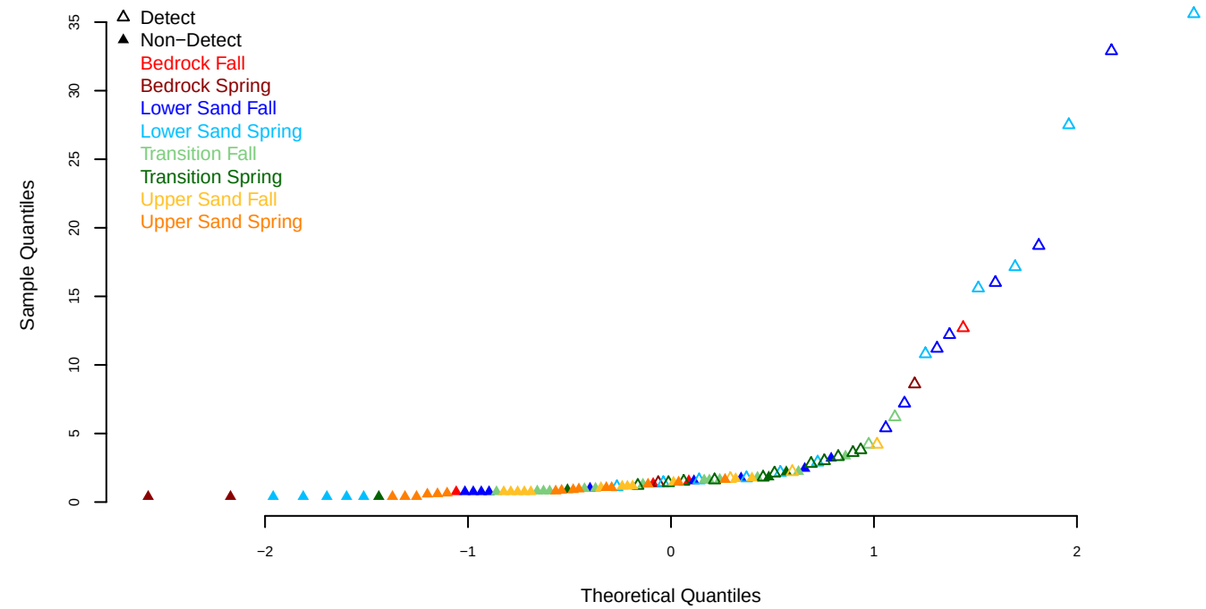
B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

TOTAL ARSENIC

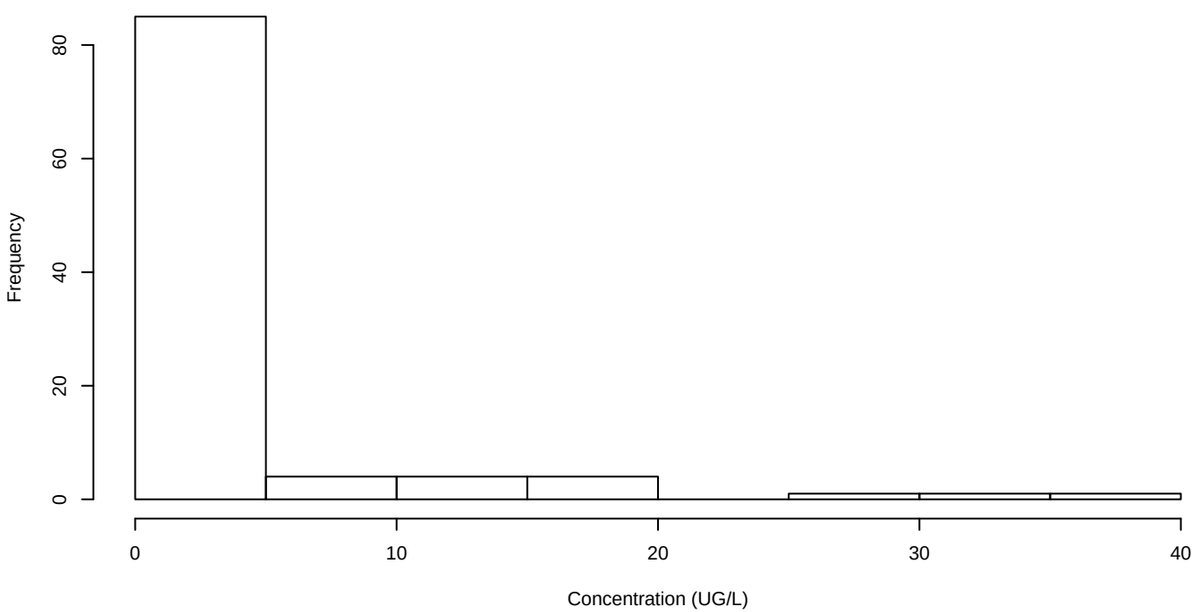
Box Plot



Normal Q−Q Plot



Histogram



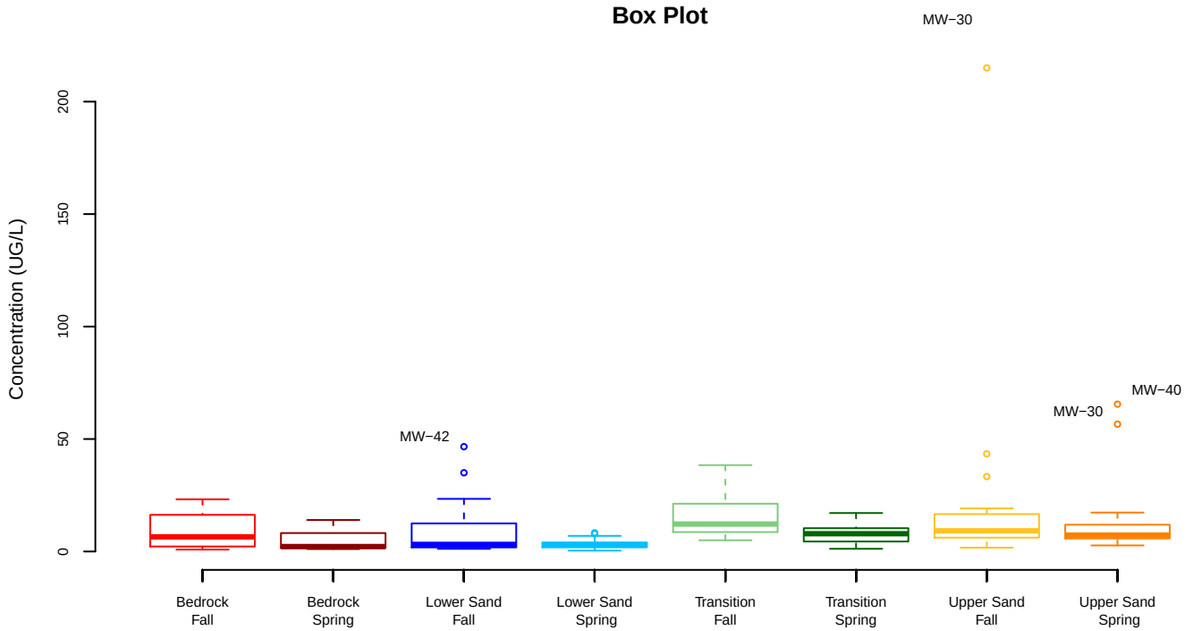
Summary Statistics

	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	0.75	0.4	0.75	0.4	0.75	0.4	0.75	0.4
25th Percentile	1.2	0.4	0.94	0.4	0.89	1.4	0.75	0.59
Median	1.4	0.9	2.8	1.7	1.6	1.8	1.2	0.85
Mean	4.1	2.7	7.3	7.5	1.9	2.1	1.4	0.87
75th Percentile	4.3	3.2	11	12	2	2.9	1.7	1
Maximum	13	8.6	33	36	6.2	3.8	4.2	1.6

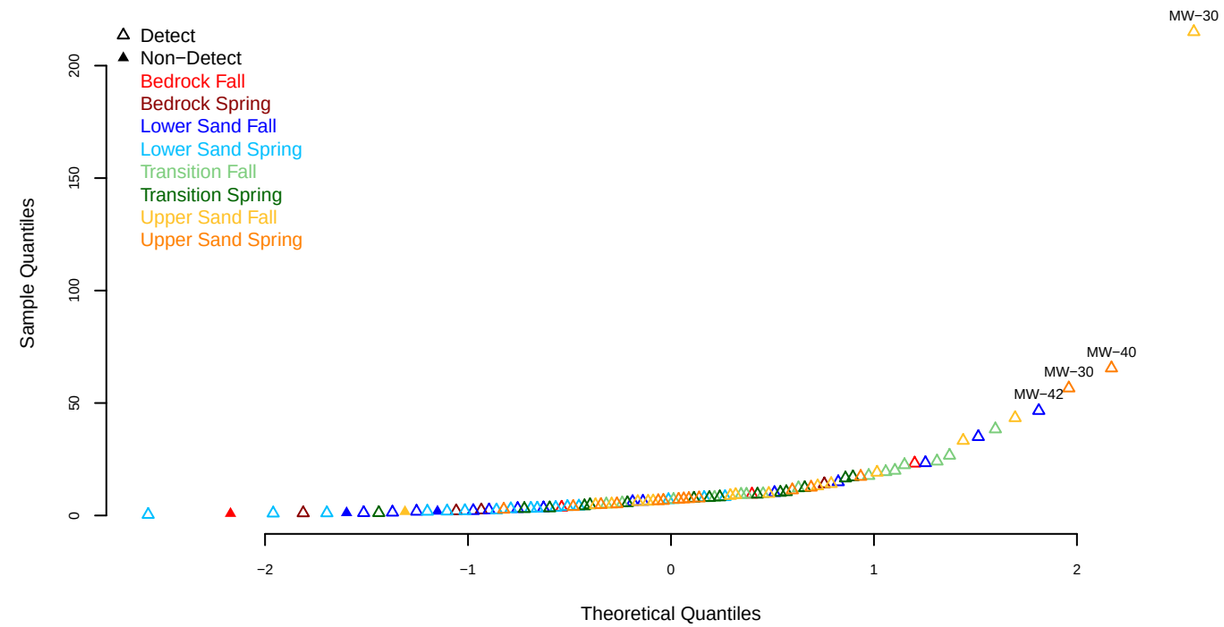
B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

TOTAL BARIUM

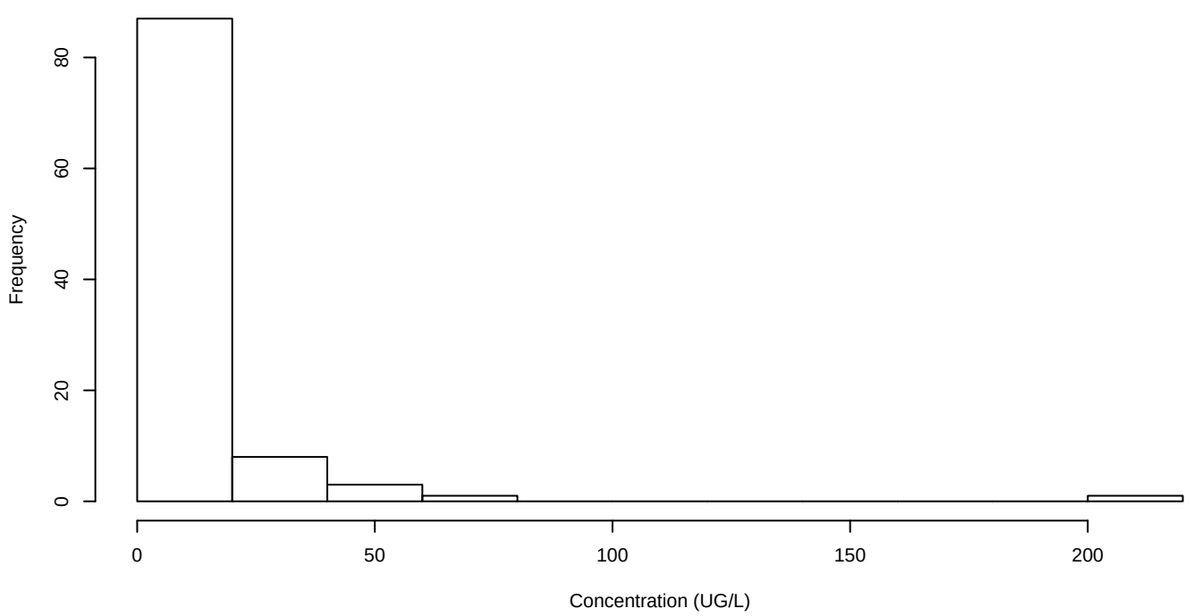
Box Plot



Normal Q−Q Plot



Histogram



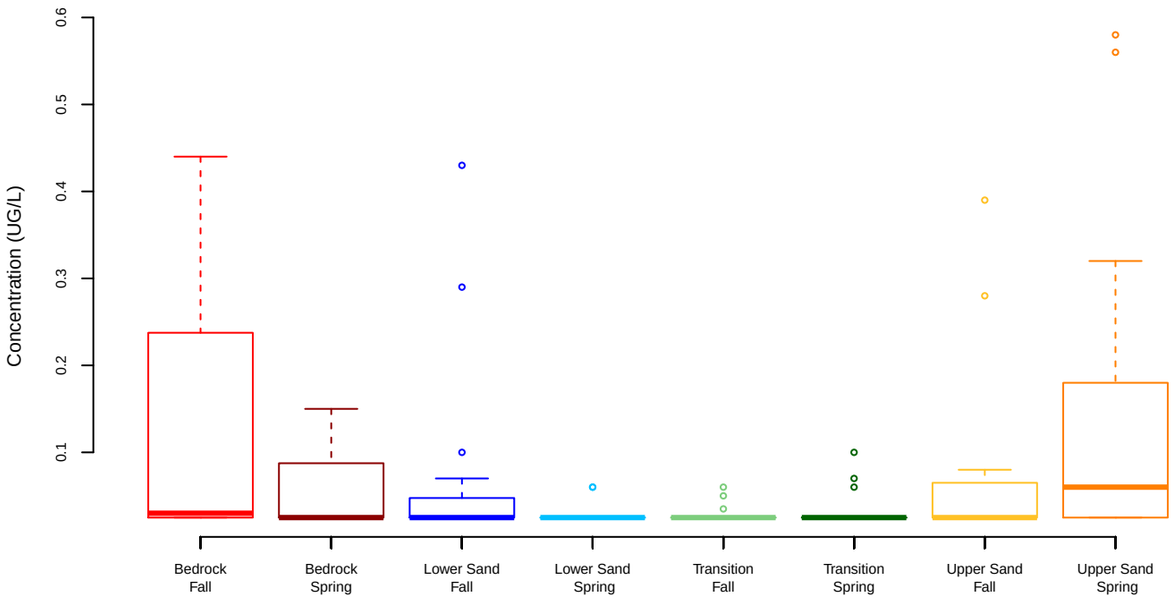
Summary Statistics

	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	0.85	1.1	1.2	0.4	5	1.2	1.7	2.7
25th Percentile	2.9	1.8	1.8	1.9	8.6	4.4	6.2	5.8
Median	6.5	2.2	3.2	3	12	7.9	9.2	7.3
Mean	9.3	4.9	10	3.4	16	8.1	26	15
75th Percentile	13	5.3	11	4	21	10	17	12
Maximum	23	14	47	8.3	38	17	220	66

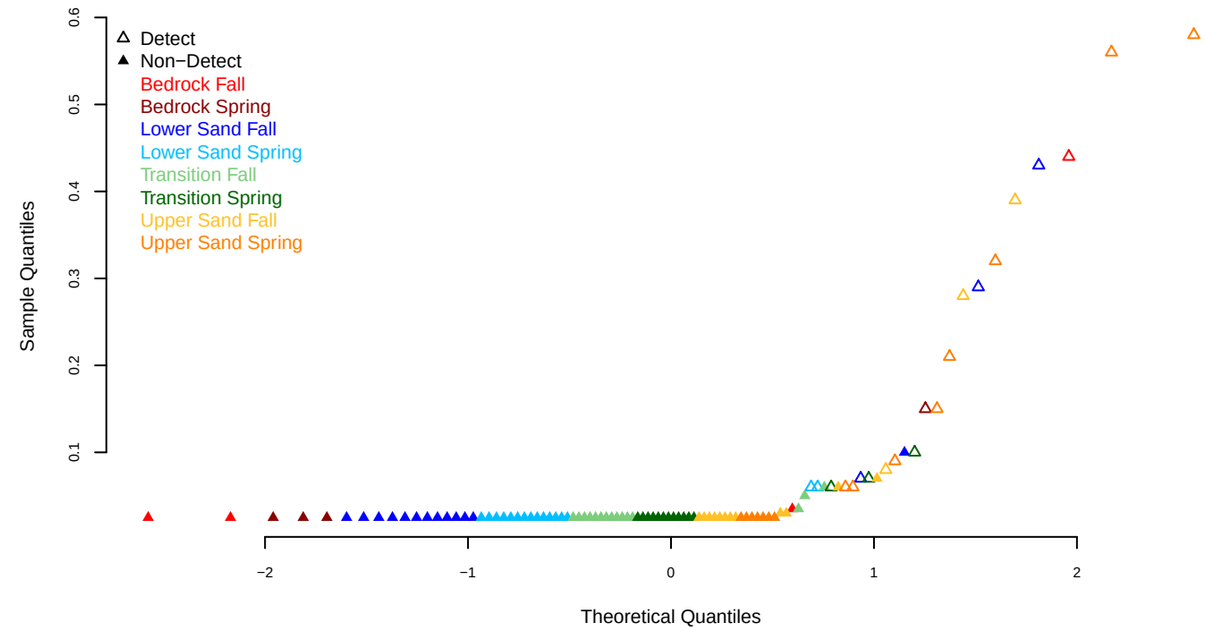
B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

TOTAL BERYLLIUM

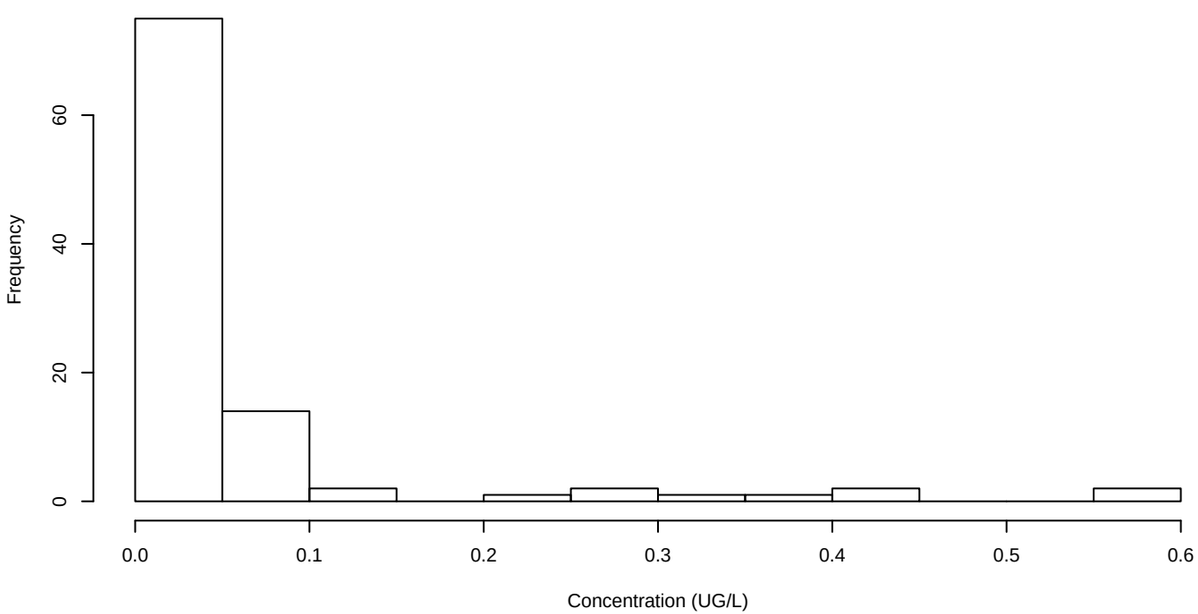
Box Plot



Normal Q−Q Plot



Histogram



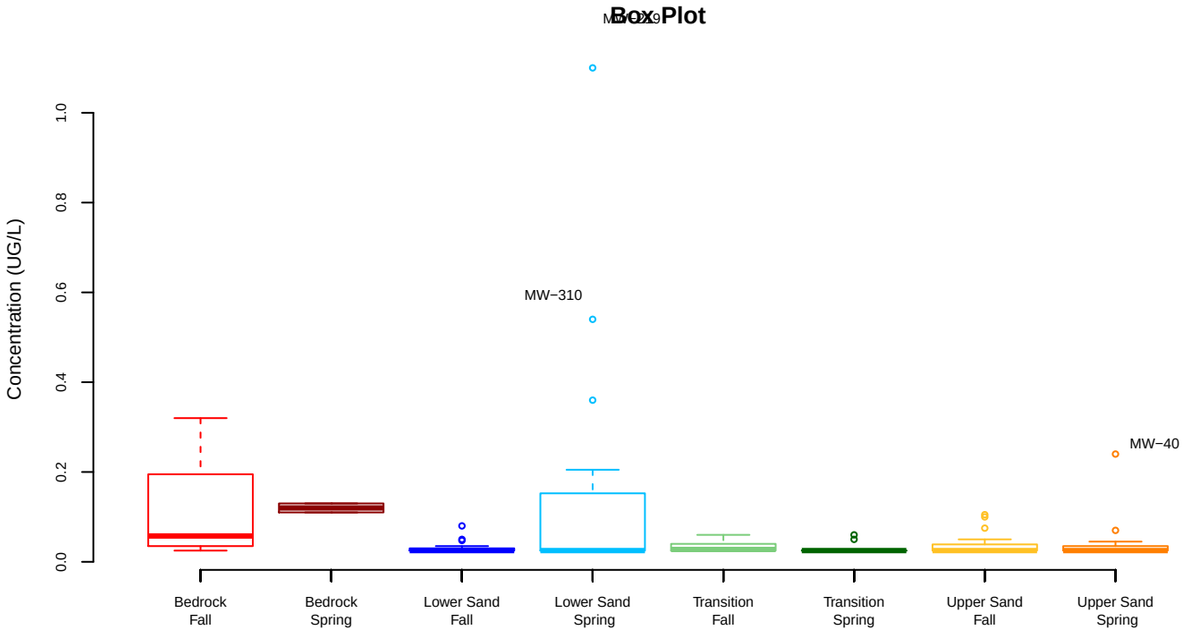
Summary Statistics

	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
25th Percentile	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
Median	0.03	0.025	0.025	0.025	0.025	0.025	0.025	0.06
Mean	0.13	0.056	0.074	0.029	0.03	0.035	0.076	0.15
75th Percentile	0.14	0.056	0.036	0.025	0.025	0.025	0.065	0.18
Maximum	0.44	0.15	0.43	0.06	0.06	0.1	0.39	0.58

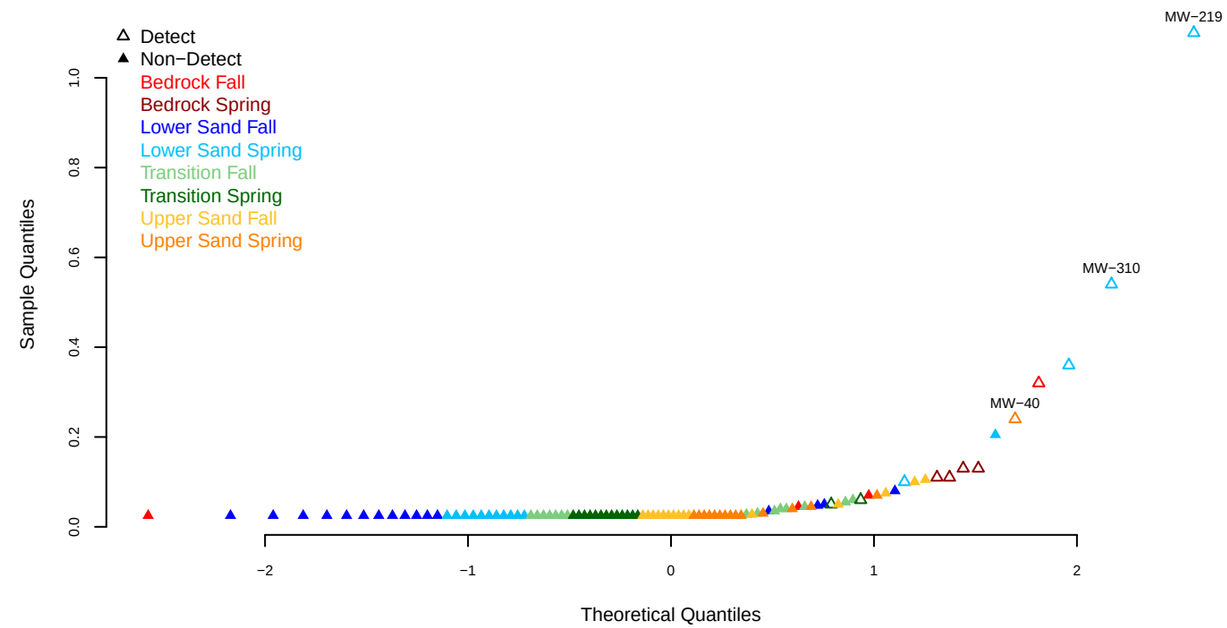
B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

TOTAL CADMIUM

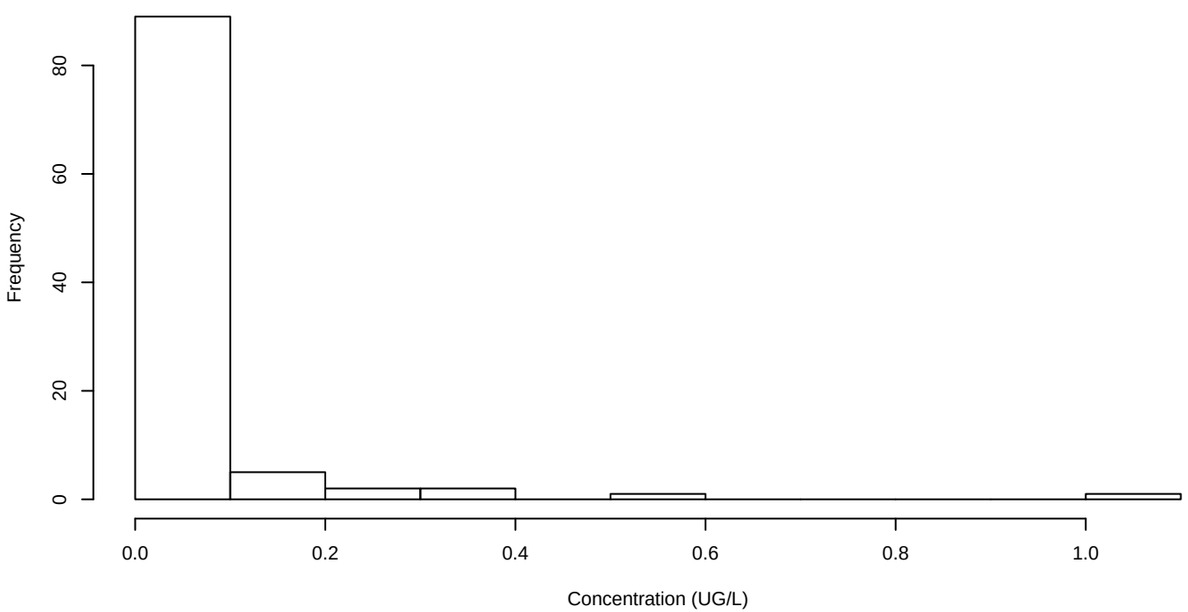
Box Plot



Normal Q−Q Plot



Histogram



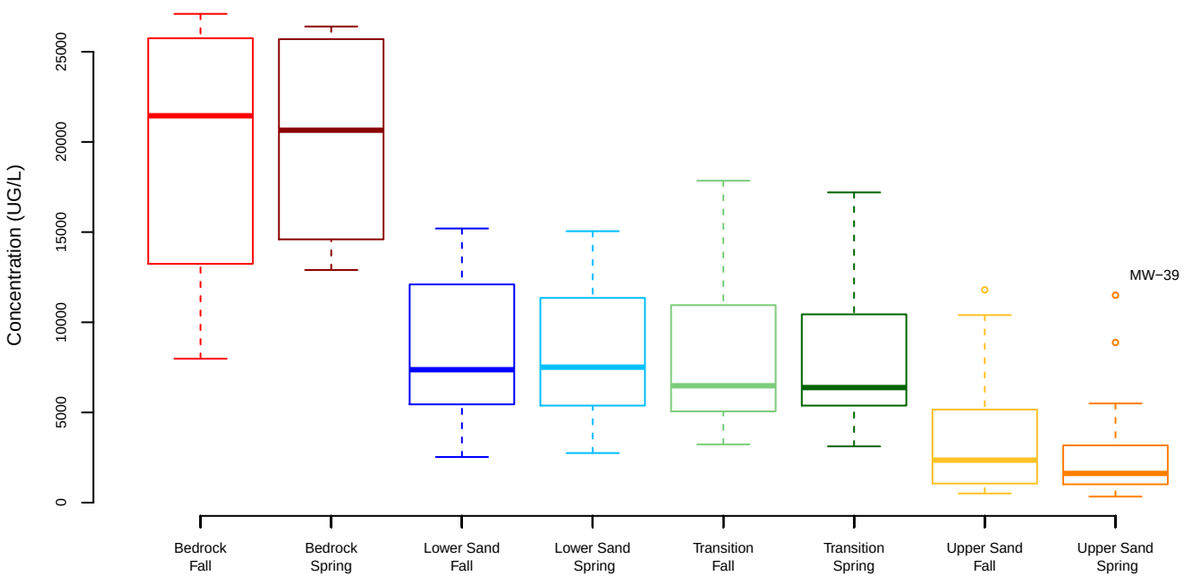
Summary Statistics

	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	0.025	0.11	0.025	0.025	0.025	0.025	0.025	0.025
25th Percentile	0.04	0.11	0.025	0.025	0.025	0.025	0.025	0.025
Median	0.058	0.12	0.025	0.025	0.028	0.025	0.025	0.025
Mean	0.12	0.12	0.032	0.16	0.034	0.029	0.04	0.045
75th Percentile	0.13	0.13	0.028	0.13	0.04	0.025	0.039	0.035
Maximum	0.32	0.13	0.08	1.1	0.06	0.06	0.1	0.24

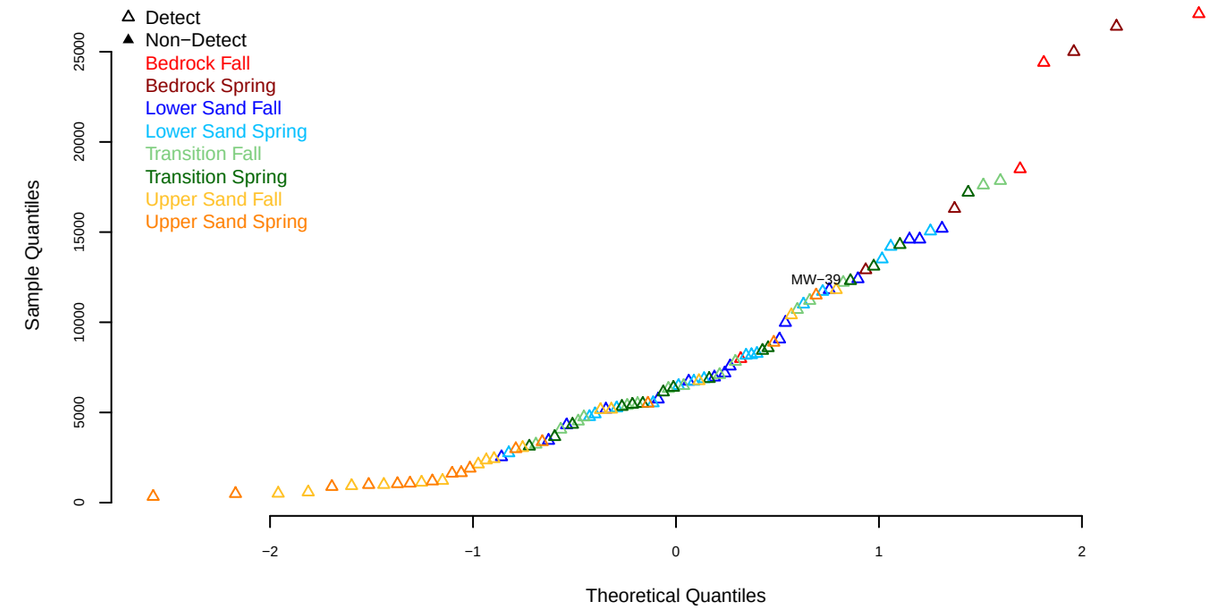
B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

TOTAL CALCIUM

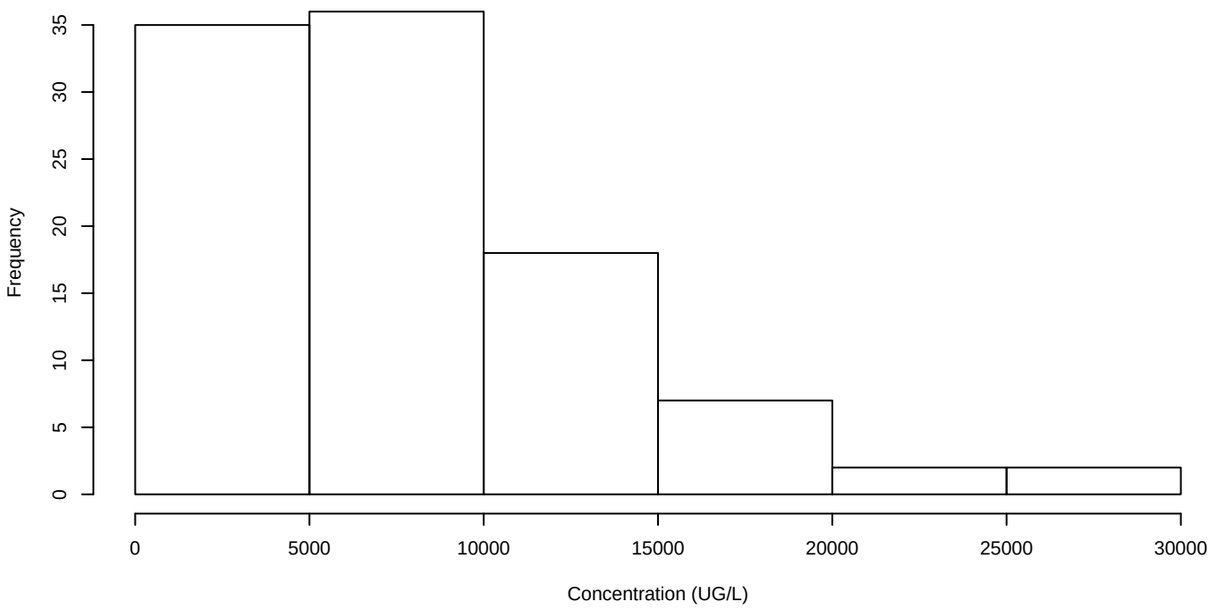
Box Plot



Normal Q−Q Plot



Histogram

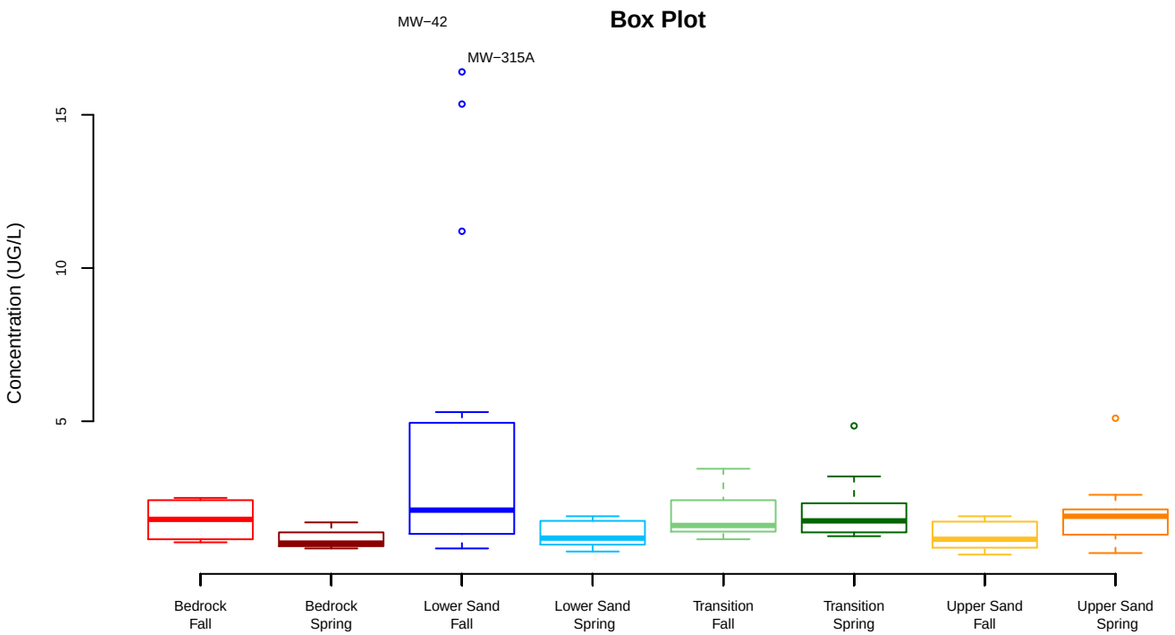


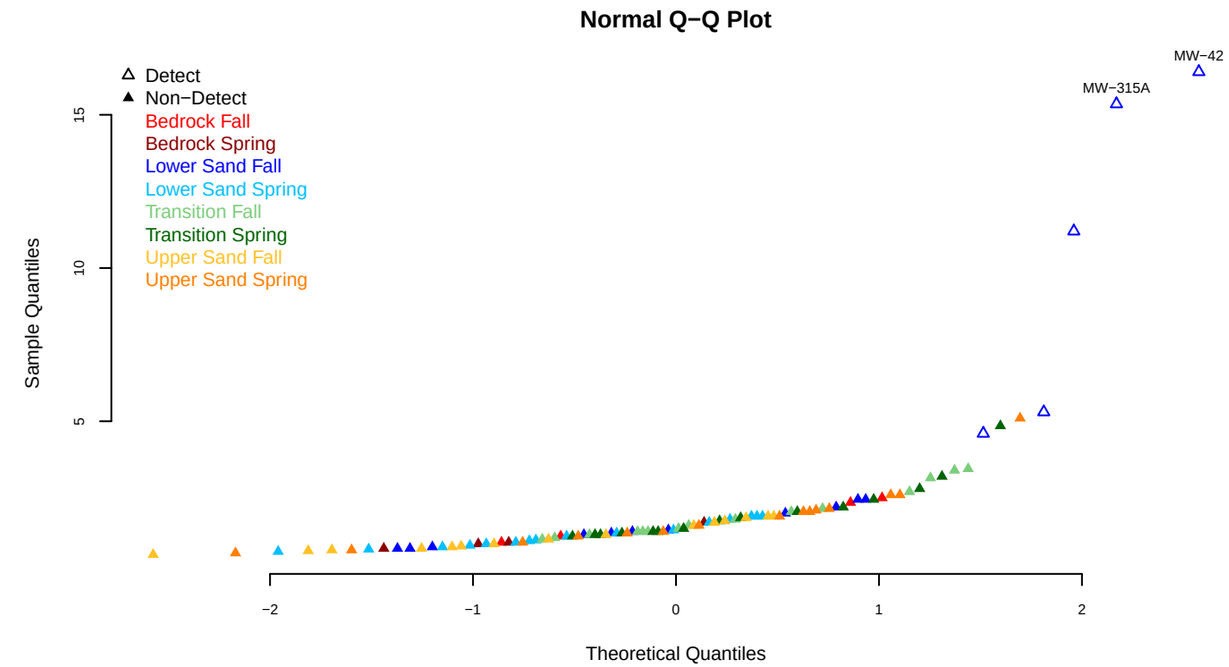
Summary Statistics

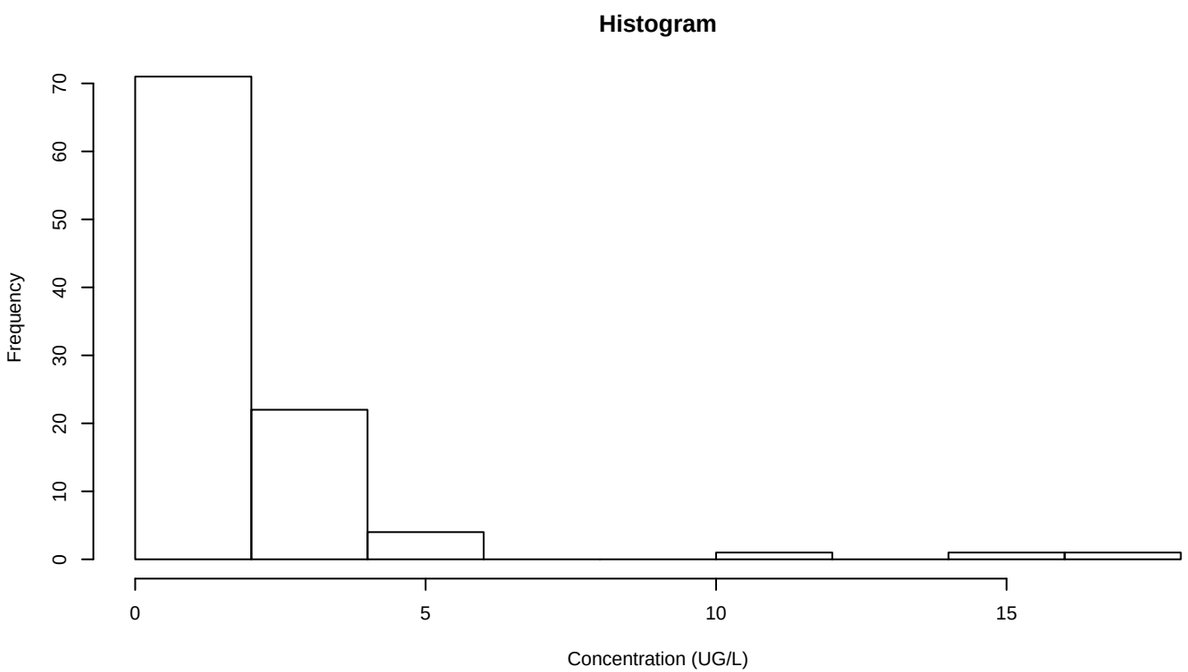
	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	8000	13000	2500	2800	3200	3100	510	340
25th Percentile	16000	15000	5600	5400	5100	5400	1100	1000
Median	21000	21000	7400	7500	6500	6400	2400	1600
Mean	20000	20000	8600	8300	8300	8000	3600	2900
75th Percentile	25000	25000	12000	11000	11000	10000	5200	3200
Maximum	27000	26000	15000	15000	18000	17000	12000	12000

B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

TOTAL CHROMIUM







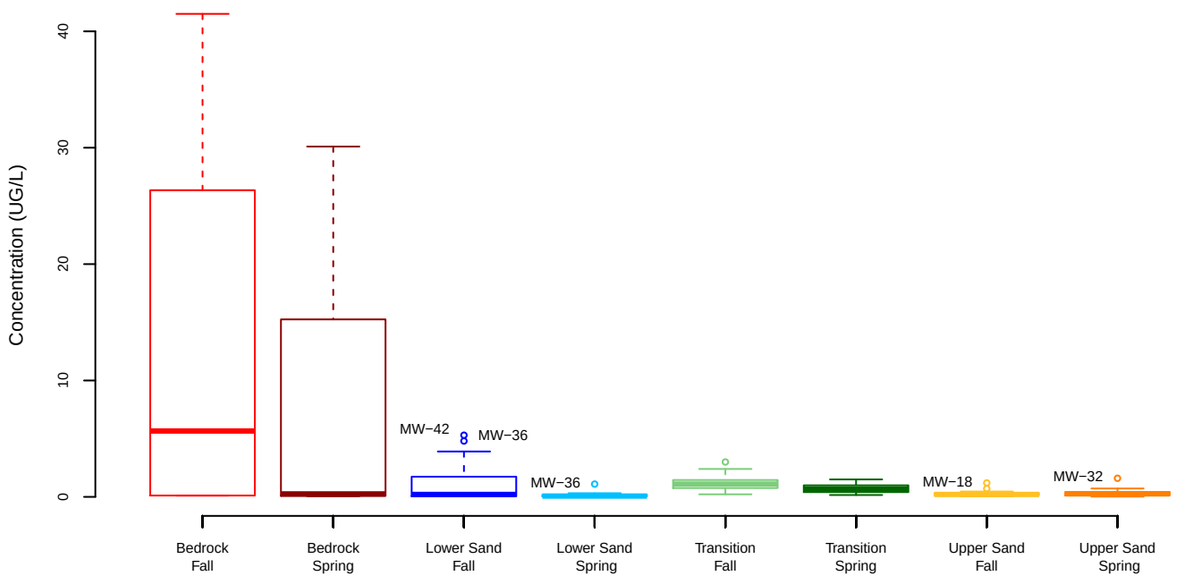
Summary Statistics

	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	1	0.85	0.85	0.75	1.2	1.2	0.65	0.7
25th Percentile	1.2	0.96	1.3	0.99	1.4	1.4	0.88	1.3
Median	1.8	1	2.1	1.2	1.6	1.8	1.2	1.9
Mean	1.8	1.2	4.4	1.3	2	2	1.3	1.9
75th Percentile	2.4	1.2	4.8	1.7	2.4	2.3	1.7	2.1
Maximum	2.5	1.7	16	1.9	3.4	4.8	1.9	5.1

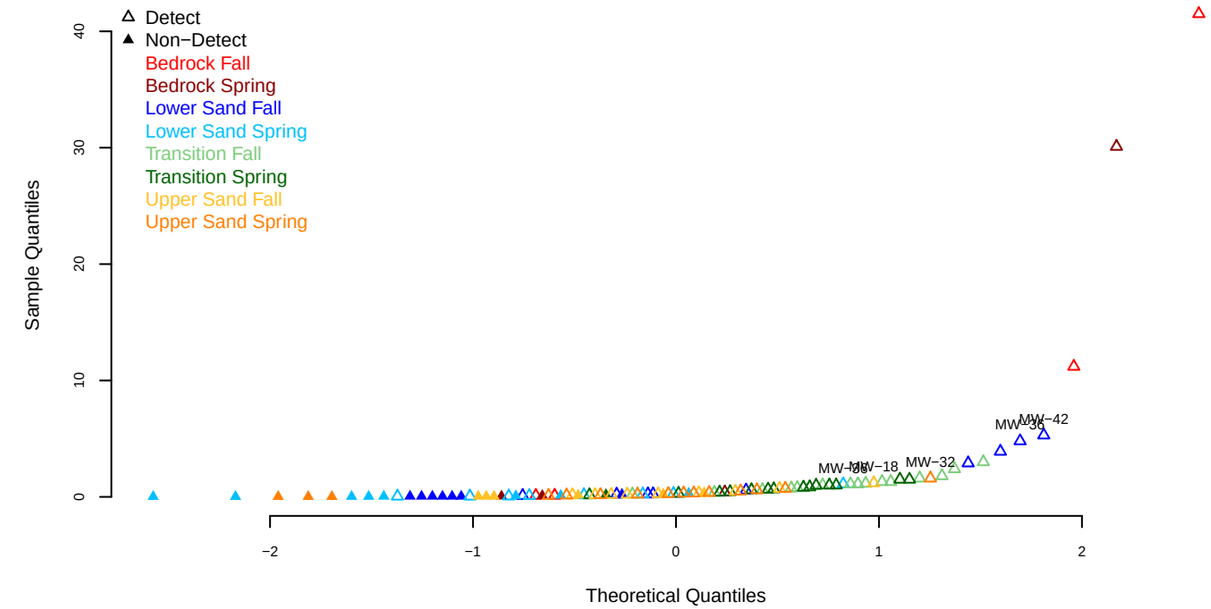
B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

TOTAL COBALT

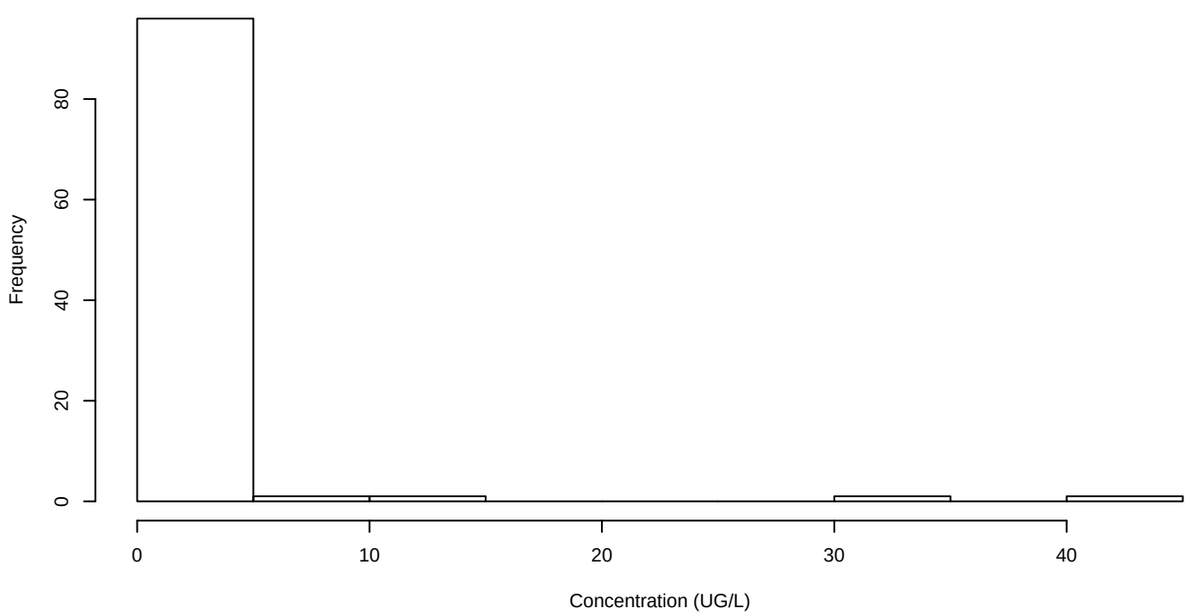
Box Plot



Normal Q−Q Plot



Histogram



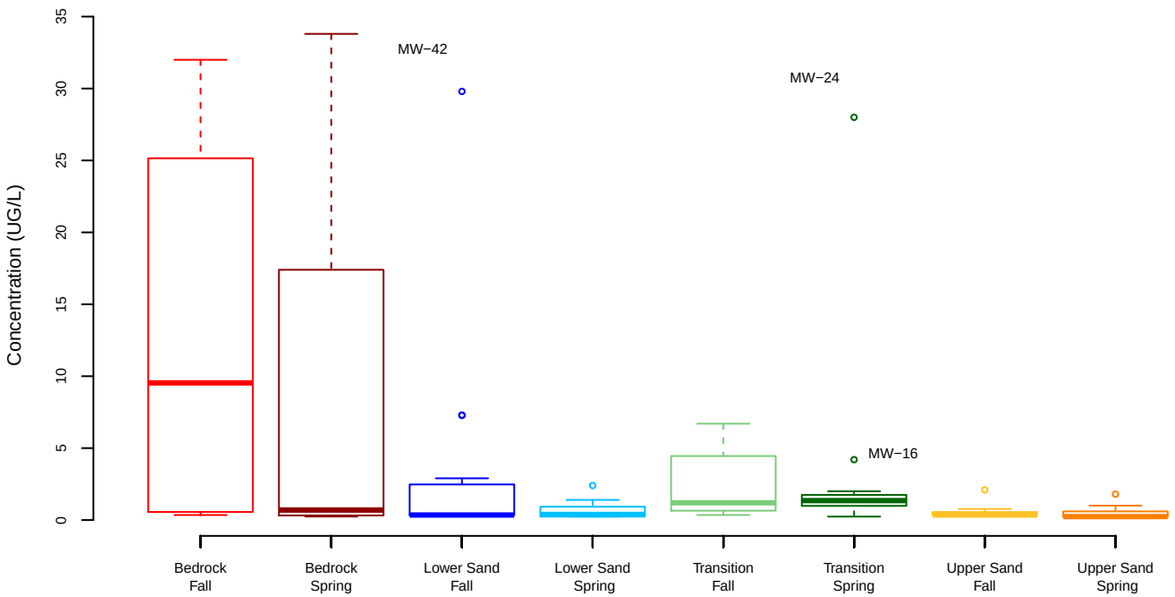
Summary Statistics

	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	0.11	0.06	0.05	0.025	0.22	0.16	0.05	0.025
25th Percentile	0.12	0.098	0.05	0.042	0.76	0.41	0.15	0.12
Median	5.7	0.26	0.21	0.07	1.1	0.67	0.21	0.26
Mean	13	7.7	1.2	0.17	1.2	0.73	0.3	0.36
75th Percentile	19	7.8	1.2	0.18	1.4	0.99	0.34	0.42
Maximum	42	30	5.3	1.1	3	1.5	1.2	1.6

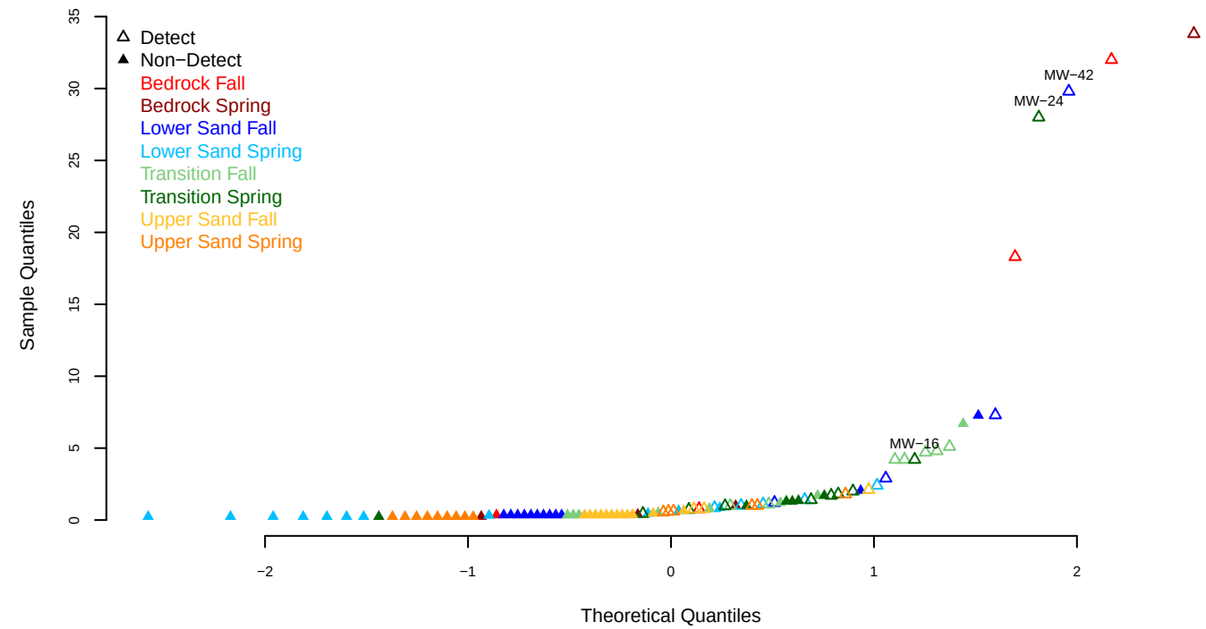
B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

TOTAL COPPER

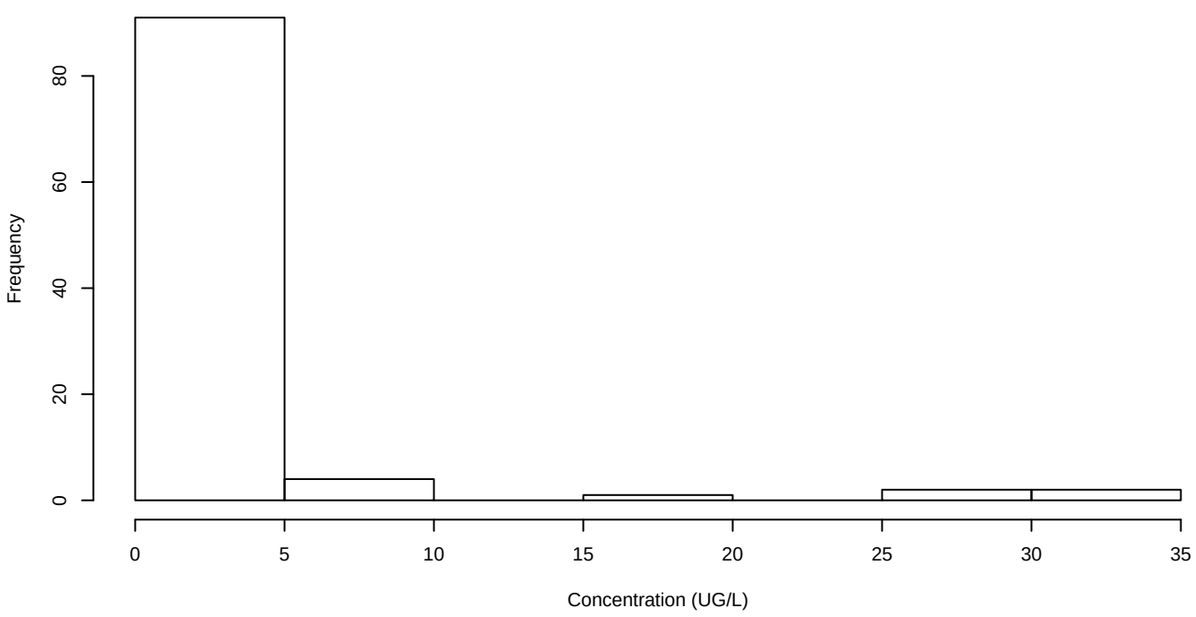
Box Plot



Normal Q−Q Plot



Histogram



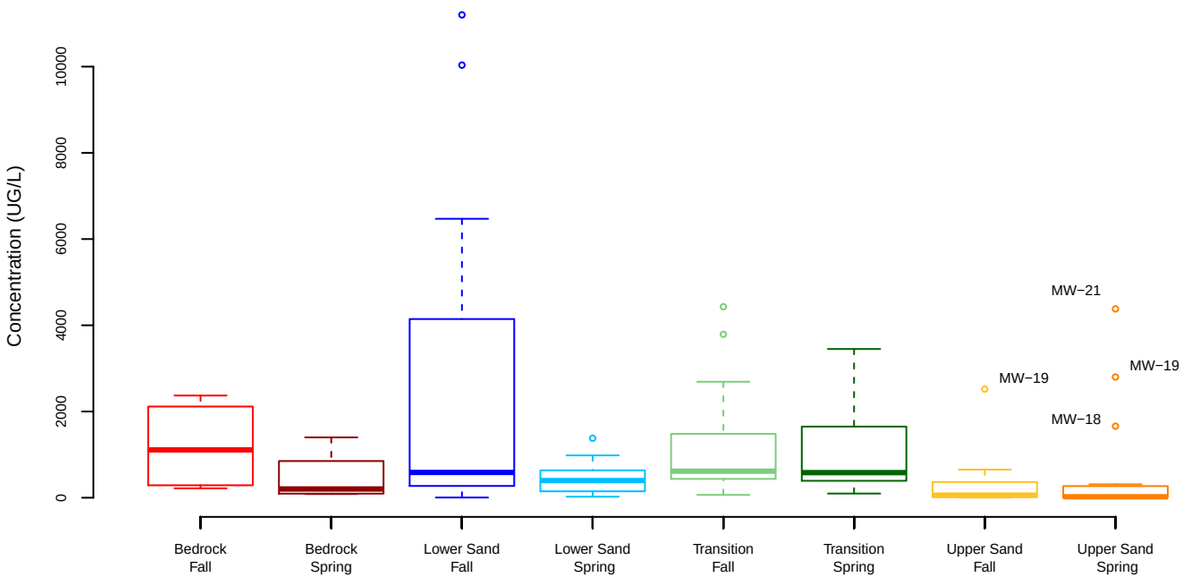
Summary Statistics

	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	0.35	0.24	0.35	0.24	0.35	0.24	0.35	0.24
25th Percentile	0.66	0.35	0.35	0.24	0.65	0.98	0.35	0.24
Median	9.5	0.7	0.35	0.39	1.2	1.4	0.35	0.24
Mean	13	8.9	3.4	0.67	2.5	3.2	0.55	0.51
75th Percentile	22	9.2	2.3	0.89	4.4	1.8	0.56	0.6
Maximum	32	34	30	2.4	6.7	28	2.1	1.8

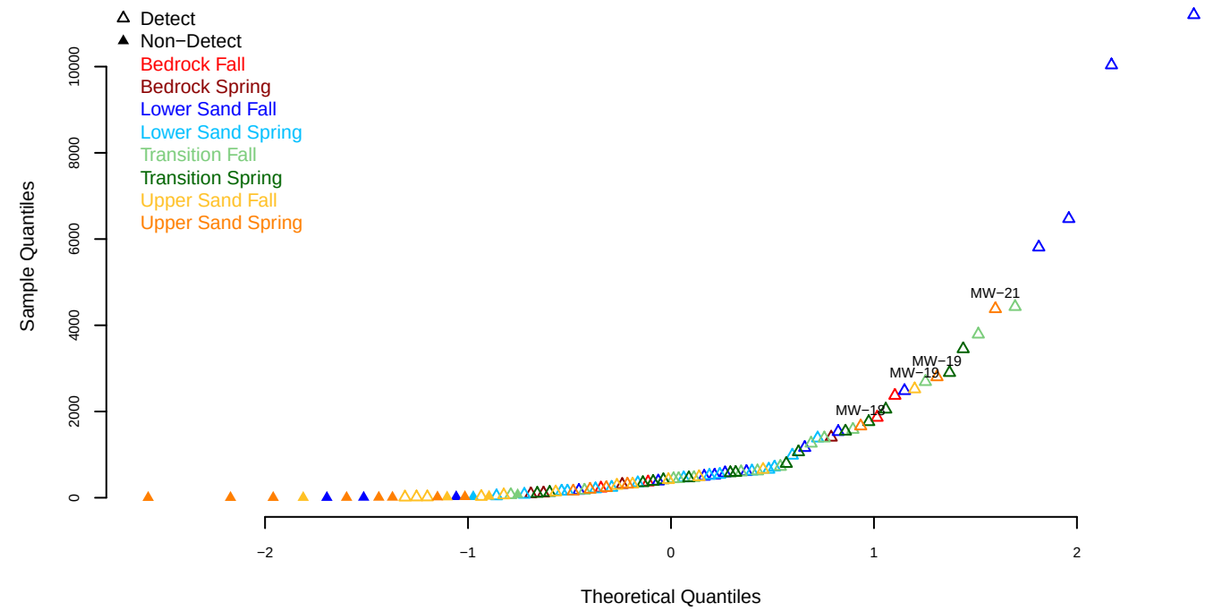
B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

TOTAL IRON

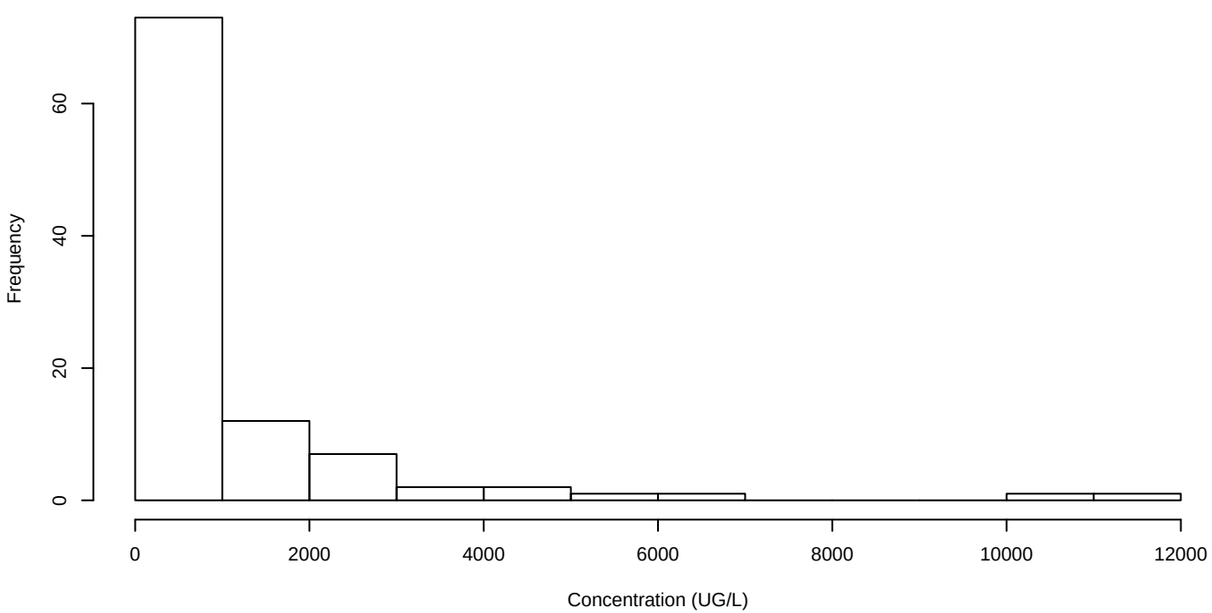
Box Plot



Normal Q−Q Plot



Histogram



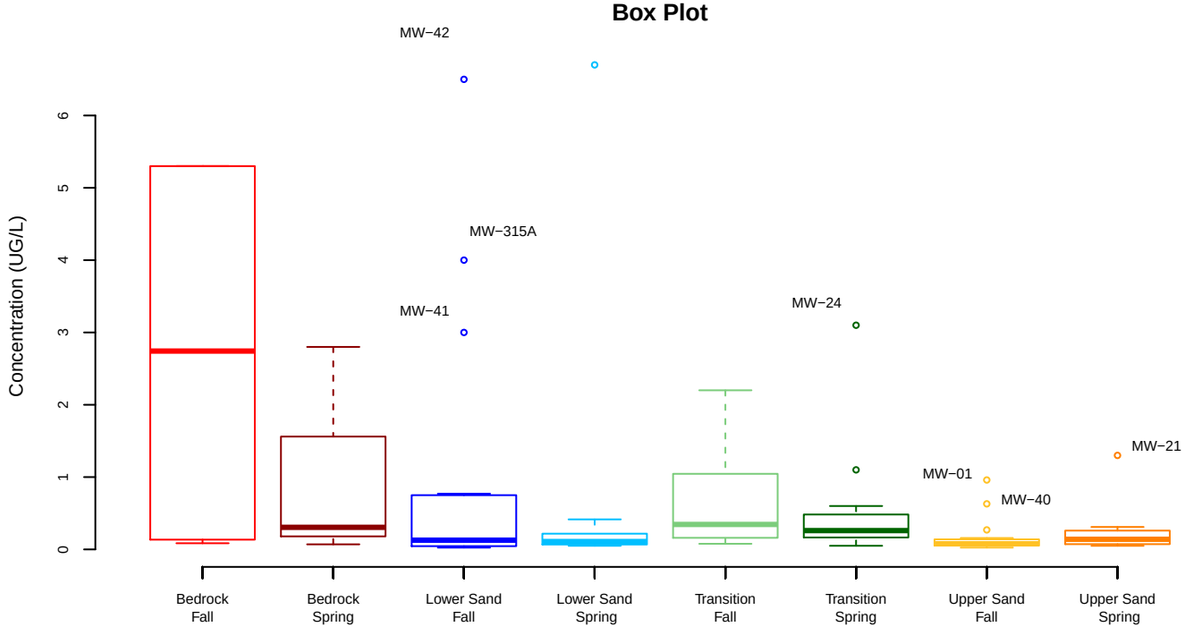
Summary Statistics

	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	220	86	4.4	24	66	97	3.4	3.1
25th Percentile	320	100	330	150	440	390	15	6.5
Median	1100	200	590	400	620	580	60	23
Mean	1200	470	2600	440	1200	1100	330	650
75th Percentile	2000	580	3300	620	1500	1600	360	270
Maximum	2400	1400	11000	1400	4400	3400	2500	4400

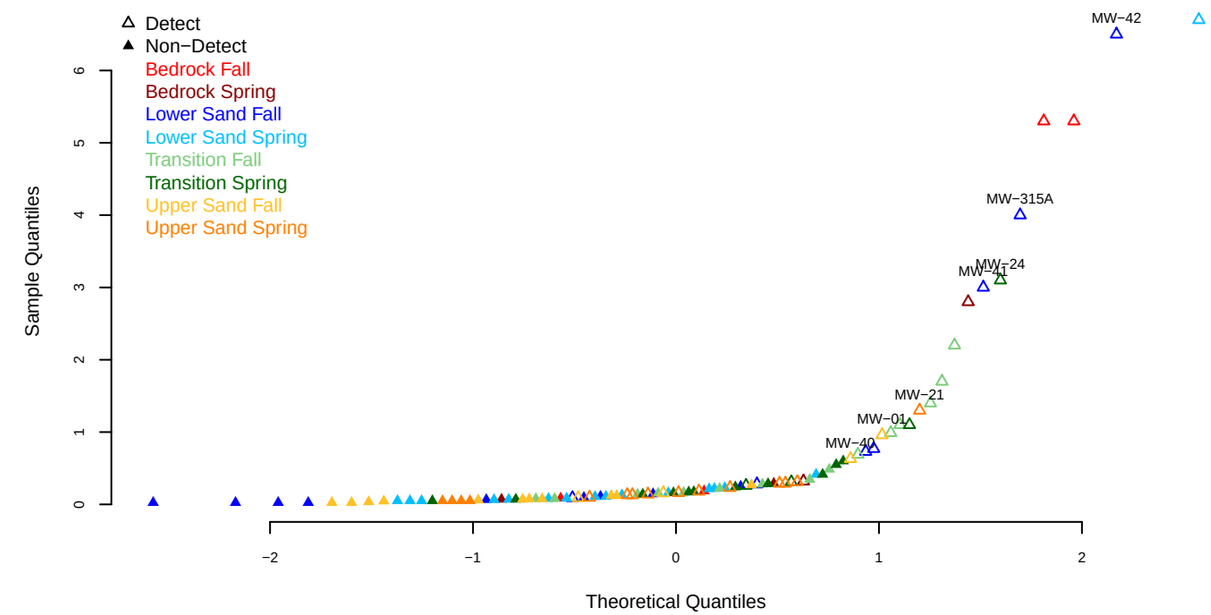
B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

TOTAL LEAD

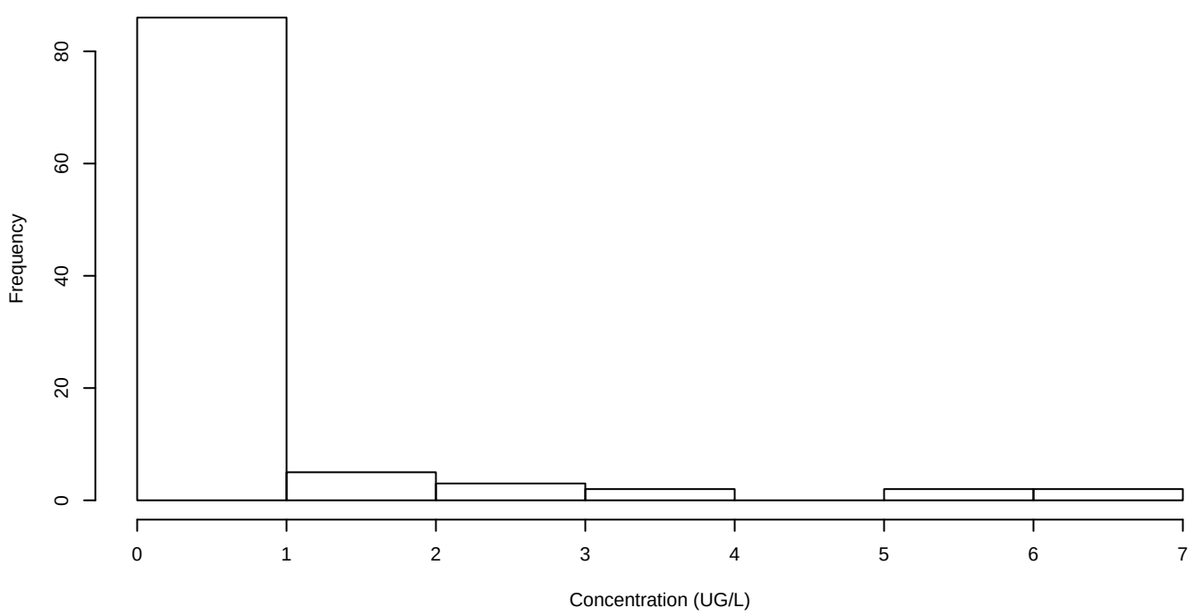
Box Plot



Normal Q−Q Plot



Histogram



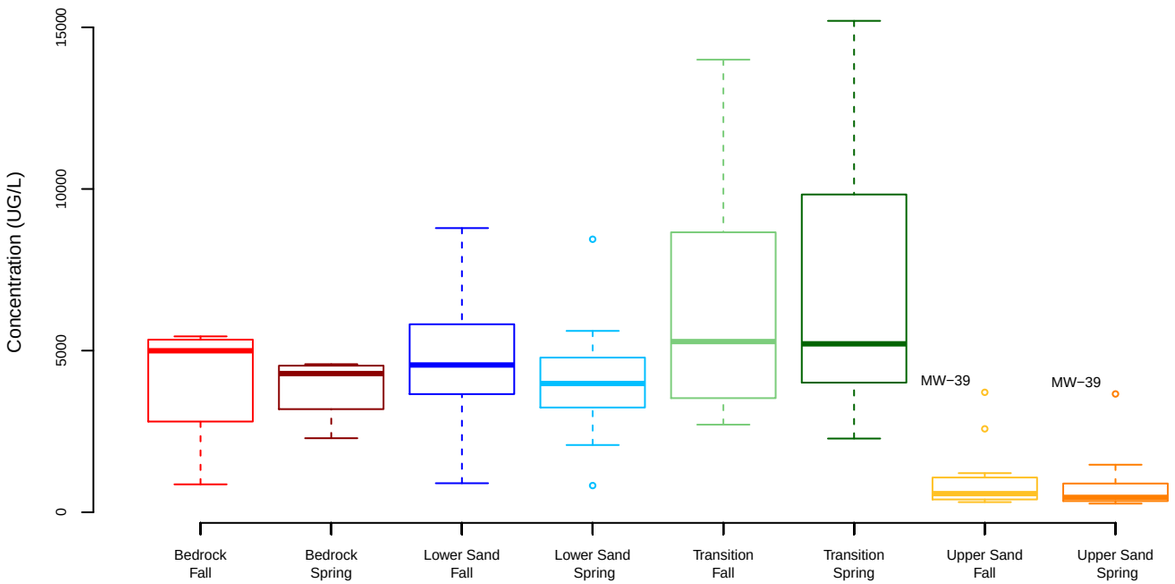
Summary Statistics

	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	0.085	0.07	0.025	0.05	0.078	0.05	0.025	0.05
25th Percentile	0.16	0.24	0.055	0.069	0.16	0.16	0.052	0.072
Median	2.7	0.3	0.13	0.11	0.34	0.26	0.078	0.14
Mean	2.7	0.87	1	0.55	0.67	0.51	0.18	0.23
75th Percentile	5.3	0.94	0.74	0.22	1	0.48	0.14	0.26
Maximum	5.3	2.8	6.5	6.7	2.2	3.1	0.96	1.3

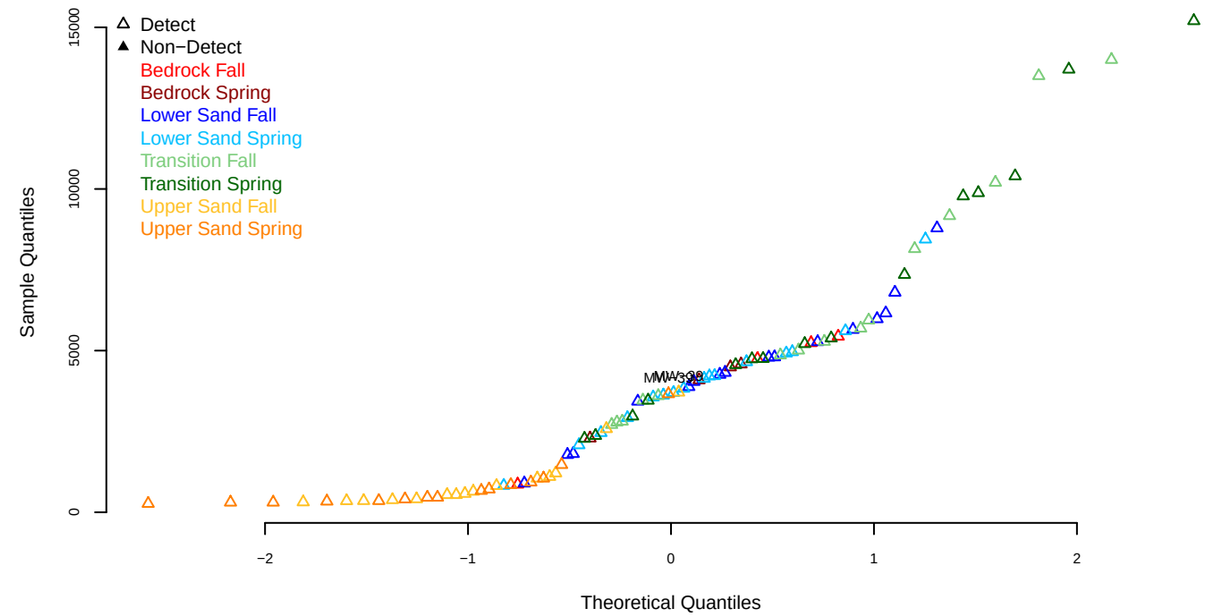
B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

TOTAL MAGNESIUM

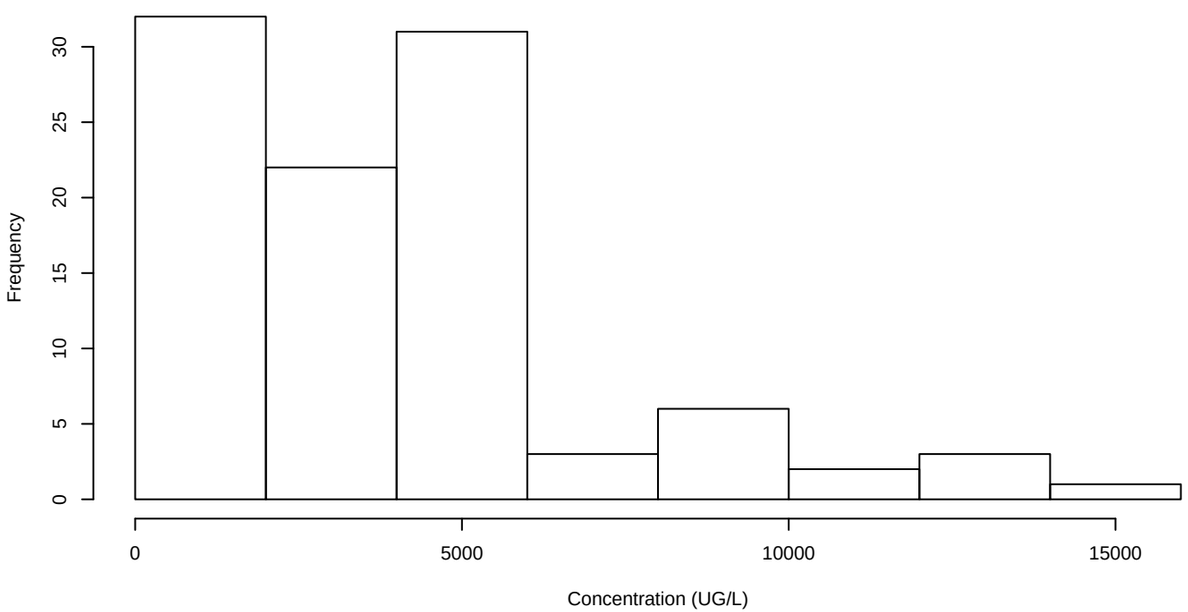
Box Plot



Normal Q−Q Plot



Histogram



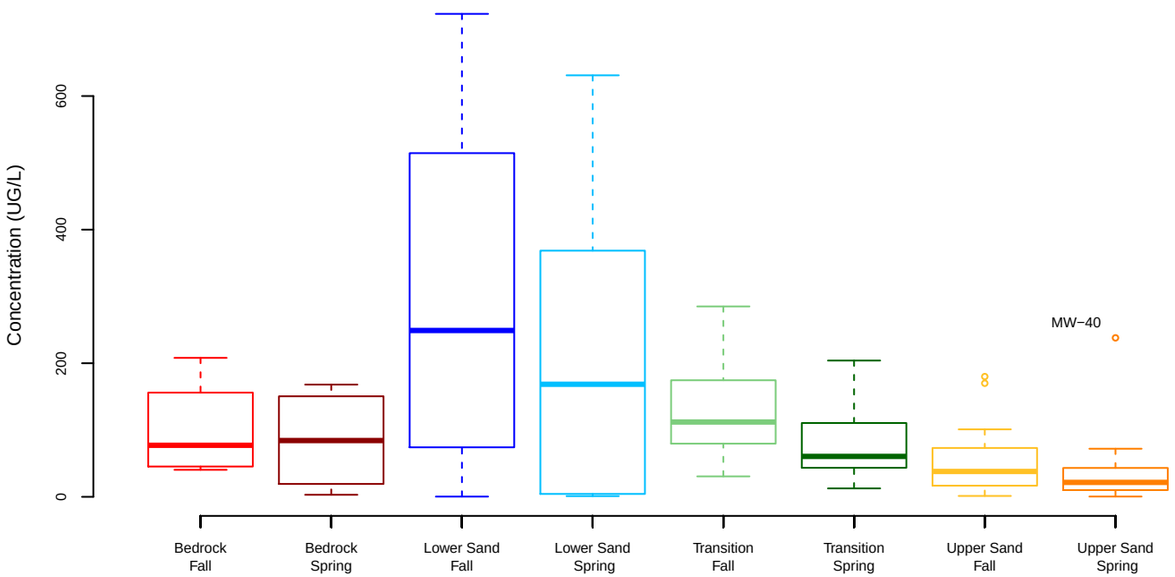
Summary Statistics

	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	860	2300	900	830	2700	2300	310	270
25th Percentile	3800	3600	3800	3400	3500	4000	400	350
Median	5000	4300	4600	4000	5300	5200	580	460
Mean	4100	3900	4500	4000	6500	6800	970	820
75th Percentile	5300	4500	5700	4700	8700	9800	1100	890
Maximum	5400	4600	8800	8400	14000	15000	3700	3700

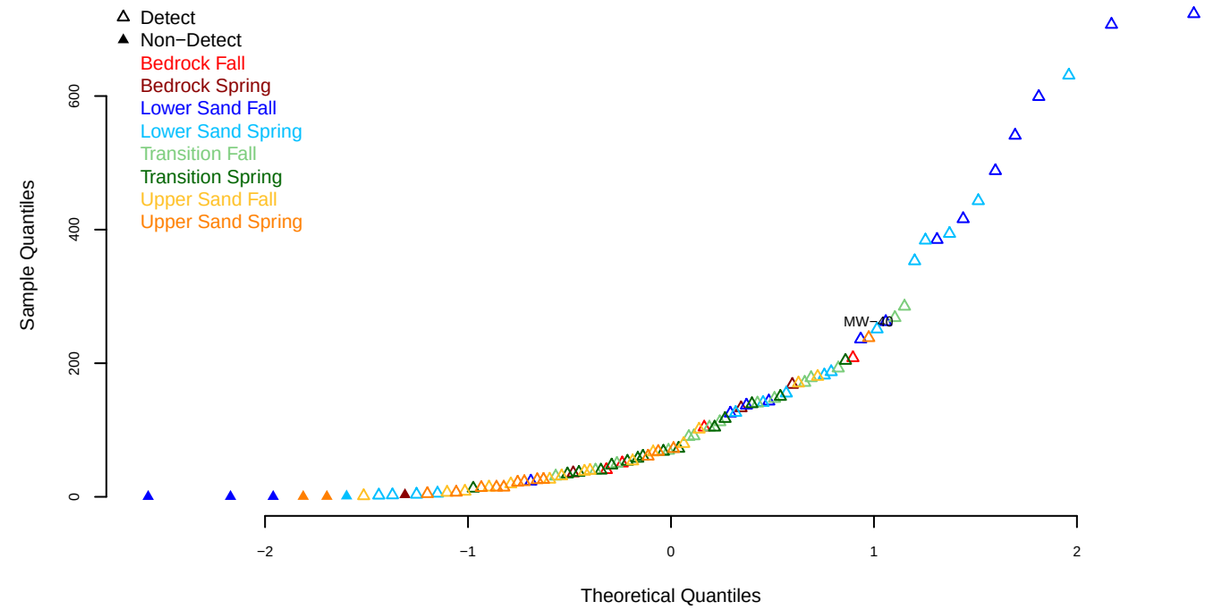
B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

TOTAL MANGANESE

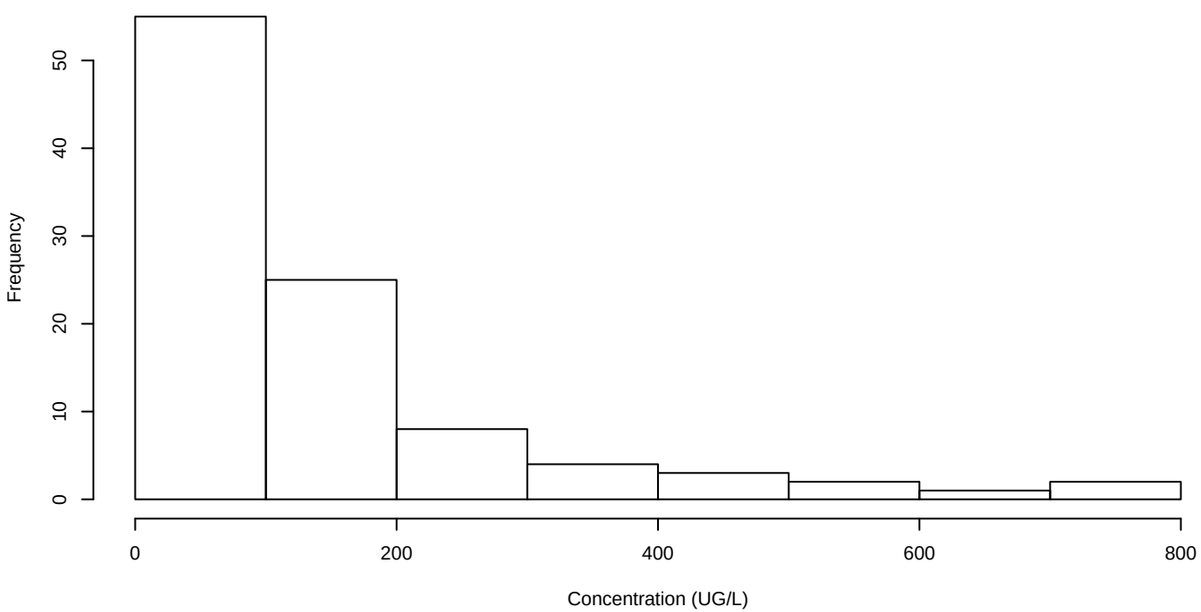
Box Plot



Normal Q−Q Plot



Histogram



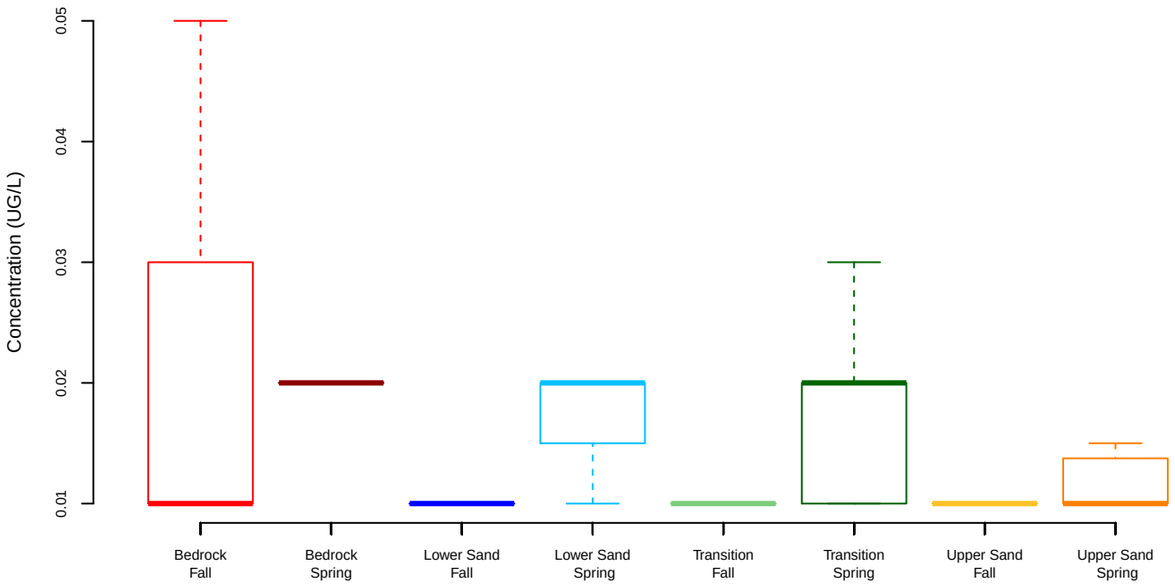
Summary Statistics

	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	40	3	0.34	1	31	13	1.3	0.42
25th Percentile	48	27	100	4.7	80	43	17	10
Median	77	84	250	170	110	60	38	22
Mean	100	85	300	200	130	80	56	39
75th Percentile	130	140	500	360	170	110	73	43
Maximum	210	170	720	630	280	200	180	240

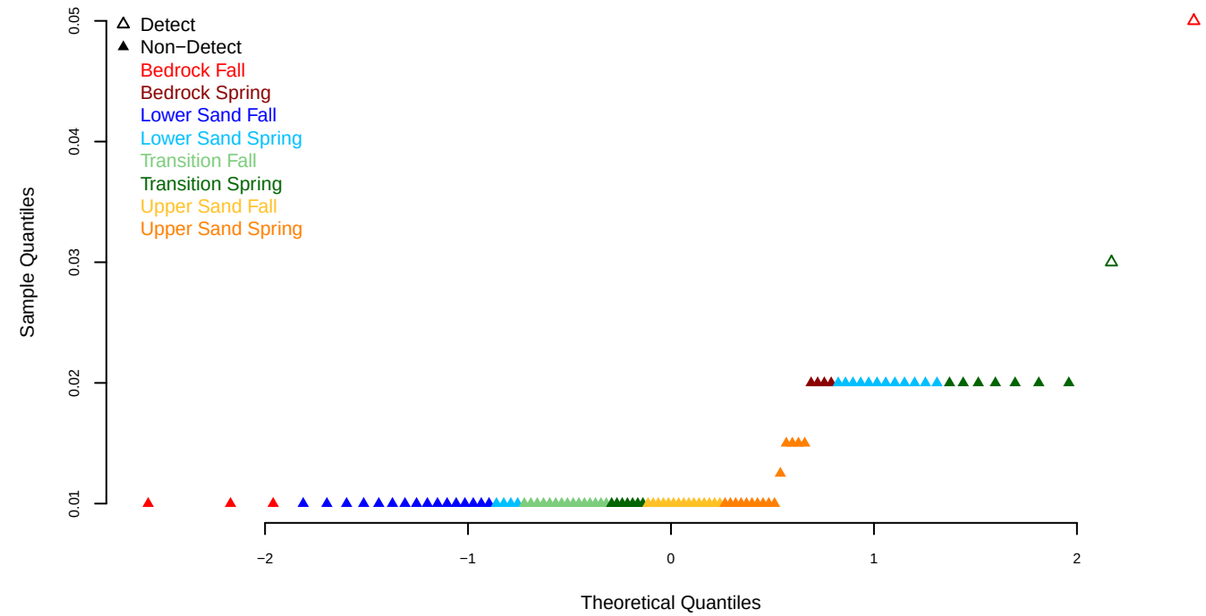
B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

TOTAL MERCURY

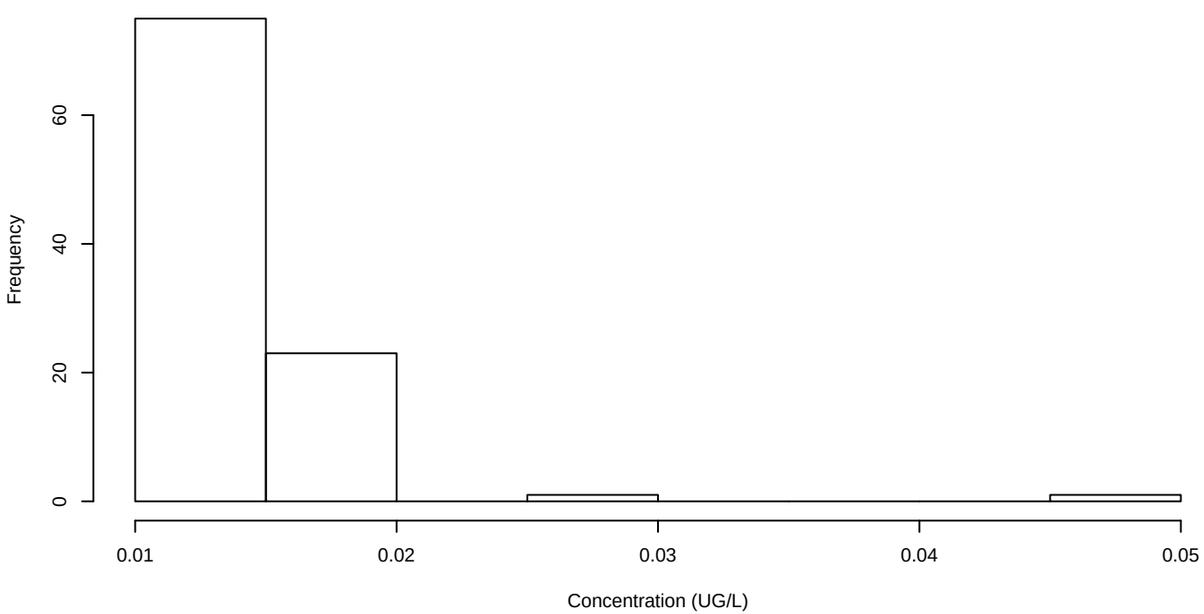
Box Plot



Normal Q−Q Plot



Histogram



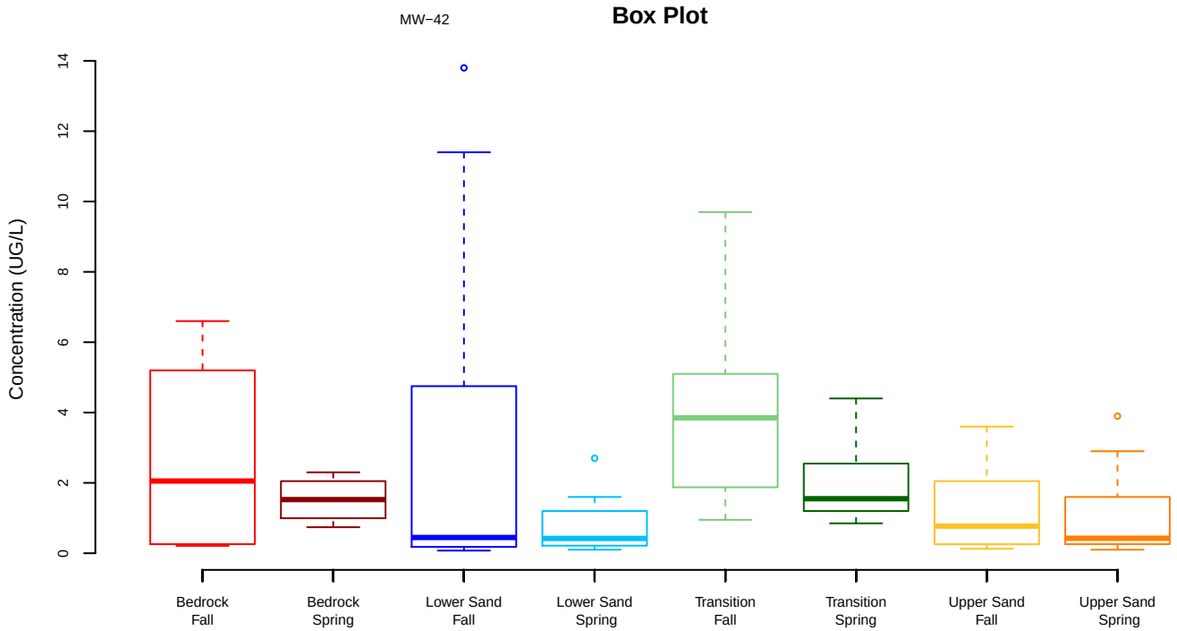
Summary Statistics

	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01
25th Percentile	0.01	0.02	0.01	0.018	0.01	0.01	0.01	0.01
Median	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.01
Mean	0.02	0.02	0.01	0.018	0.01	0.016	0.01	0.012
75th Percentile	0.02	0.02	0.01	0.02	0.01	0.02	0.01	0.014
Maximum	0.05	0.02	0.01	0.02	0.01	0.03	0.01	0.015

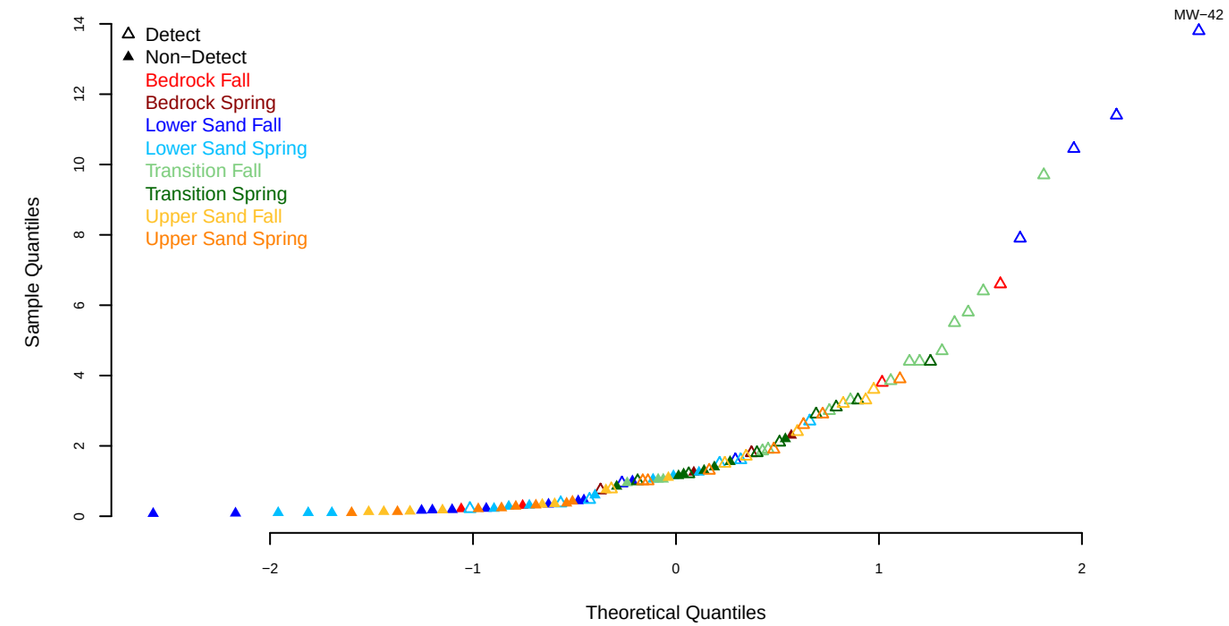
B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

TOTAL NICKEL

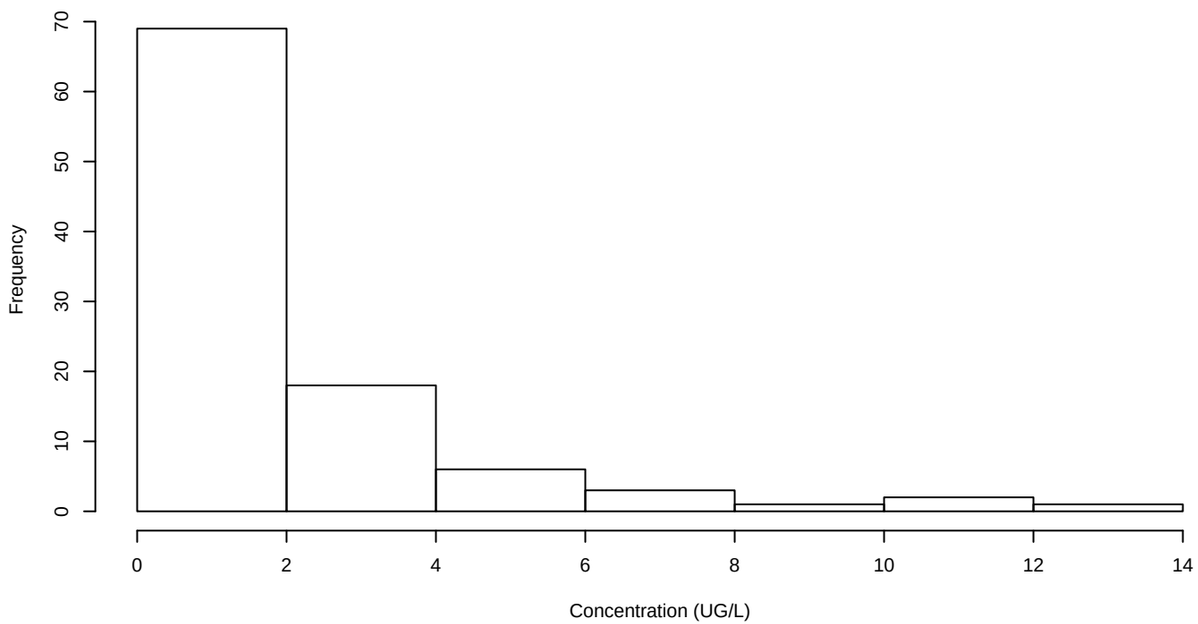
Box Plot



Normal Q−Q Plot



Histogram



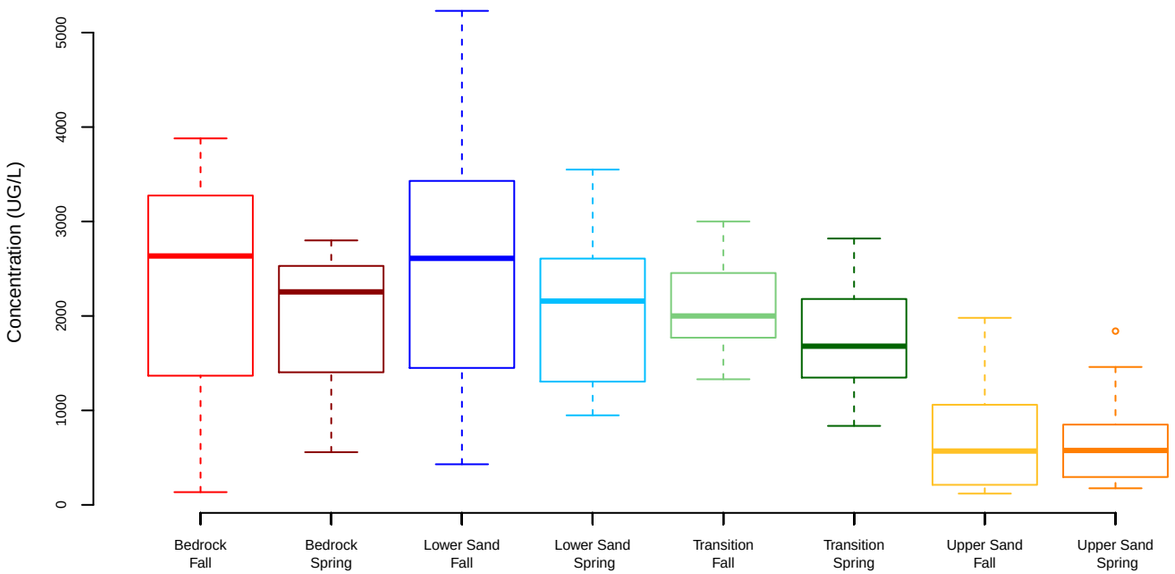
Summary Statistics

	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	0.21	0.74	0.075	0.1	0.95	0.85	0.13	0.1
25th Percentile	0.28	1.1	0.18	0.22	1.9	1.2	0.26	0.26
Median	2.1	1.5	0.45	0.42	3.8	1.6	0.77	0.42
Mean	2.7	1.5	3.1	0.75	3.9	2	1.3	1.1
75th Percentile	4.5	1.9	3.2	1.2	5.1	2.6	2	1.6
Maximum	6.6	2.3	14	2.7	9.7	4.4	3.6	3.9

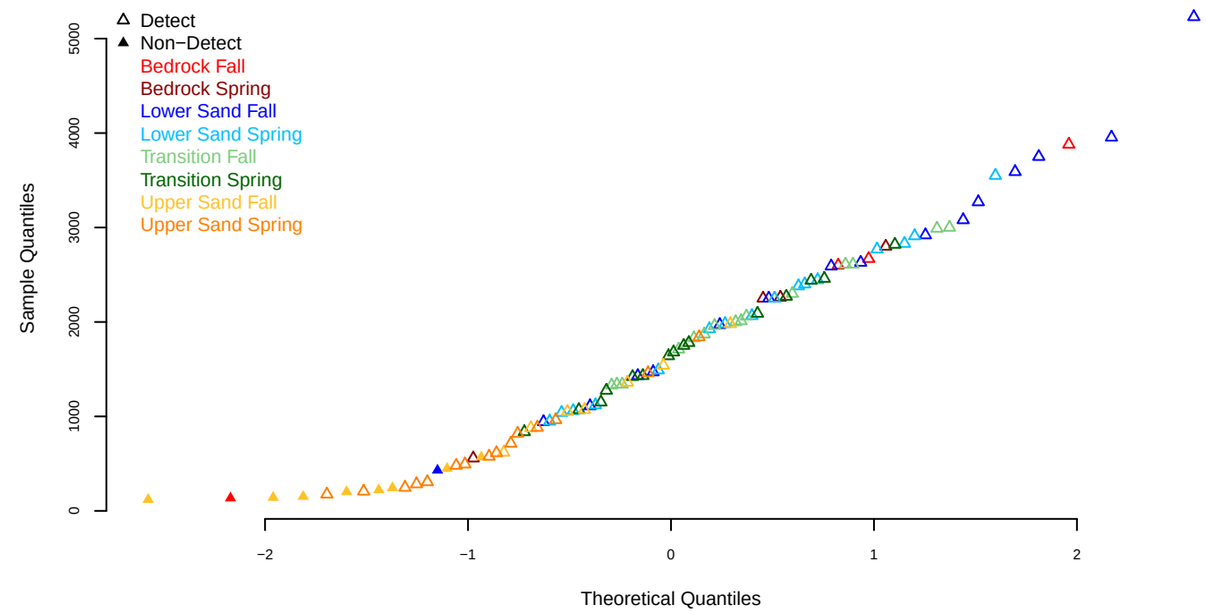
B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

TOTAL POTASSIUM

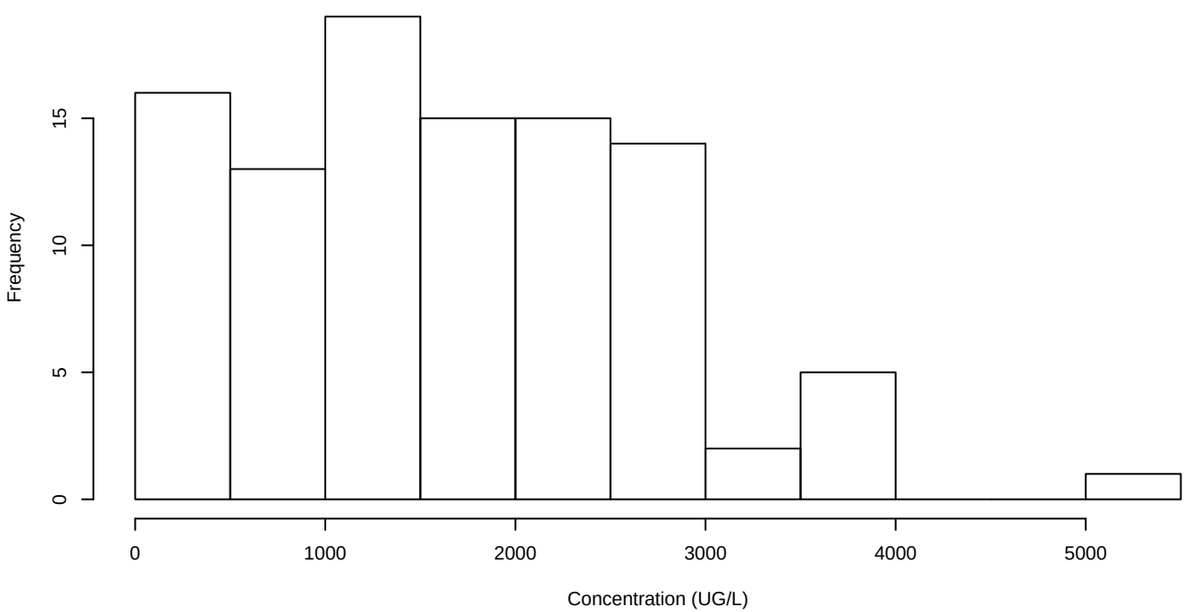
Box Plot



Normal Q−Q Plot



Histogram



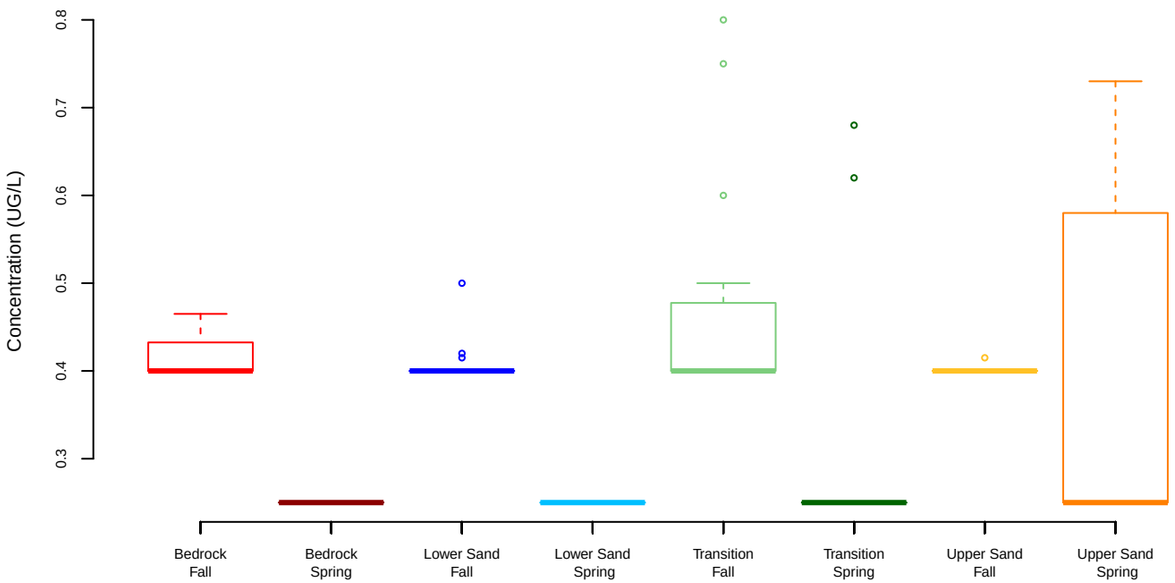
Summary Statistics

	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	140	560	430	950	1300	840	120	180
25th Percentile	2000	1800	1500	1400	1800	1300	210	300
Median	2600	2300	2600	2200	2000	1700	570	580
Mean	2300	2000	2500	2100	2100	1700	710	670
75th Percentile	3000	2400	3400	2500	2500	2200	1100	850
Maximum	3900	2800	5200	3600	3000	2800	2000	1800

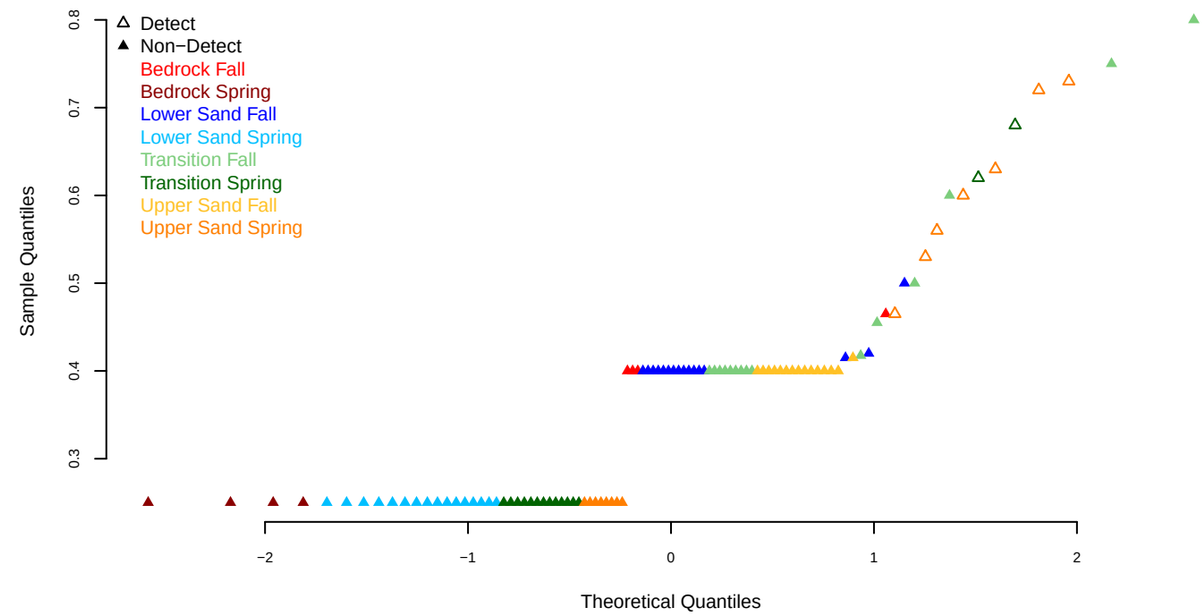
B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

TOTAL SELENIUM

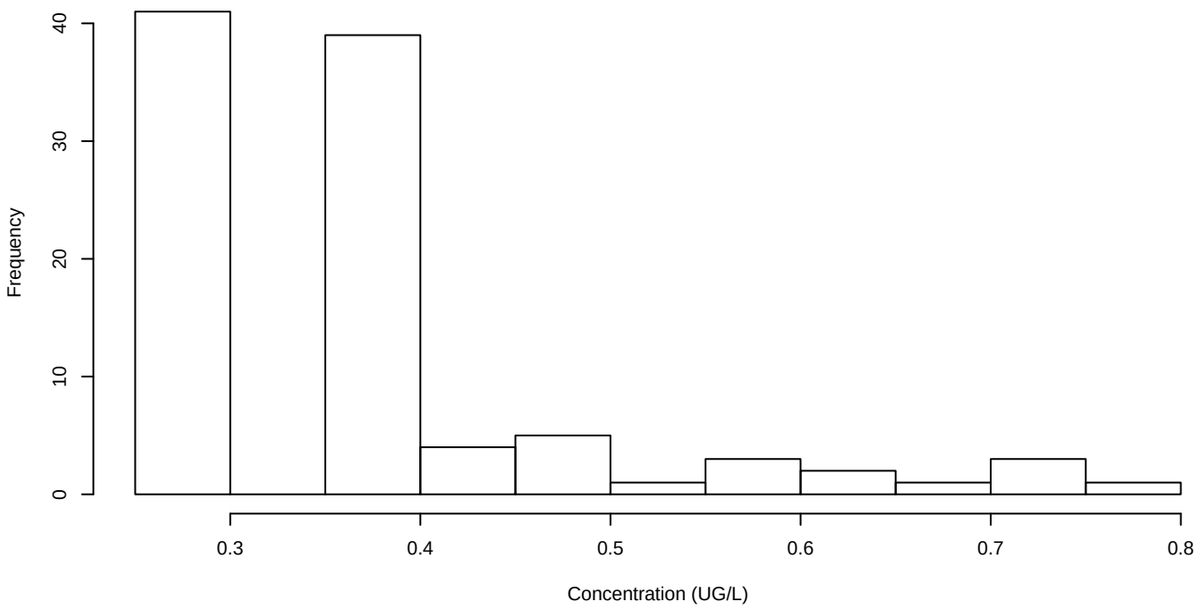
Box Plot



Normal Q−Q Plot



Histogram



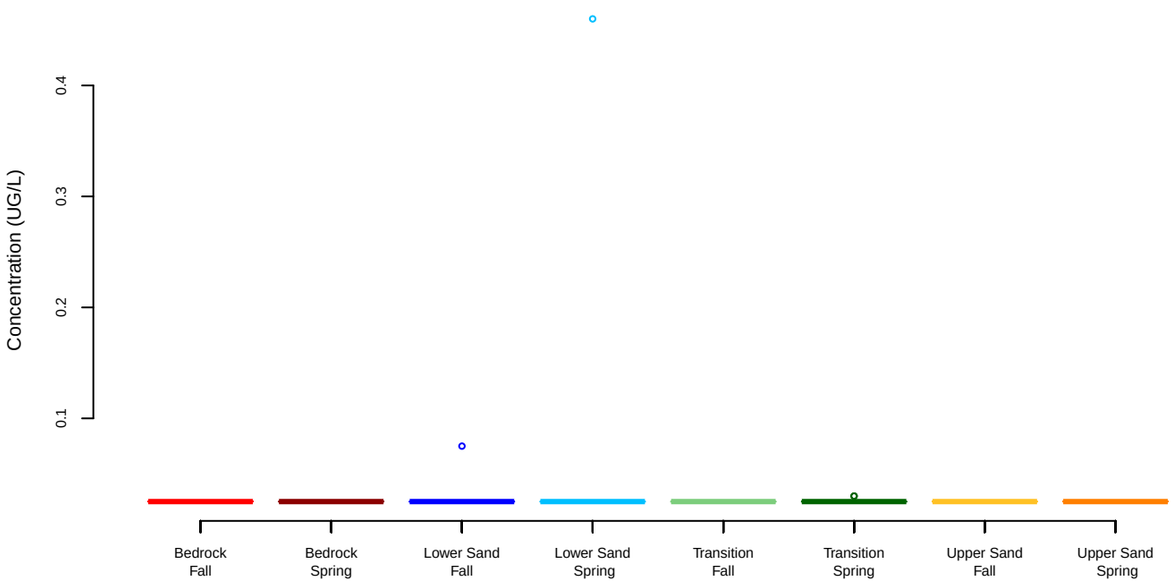
Summary Statistics

	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	0.4	0.25	0.4	0.25	0.4	0.25	0.4	0.25
25th Percentile	0.4	0.25	0.4	0.25	0.4	0.25	0.4	0.25
Median	0.4	0.25	0.4	0.25	0.4	0.25	0.4	0.25
Mean	0.42	0.25	0.41	0.25	0.47	0.3	0.4	0.42
75th Percentile	0.42	0.25	0.4	0.25	0.48	0.25	0.4	0.58
Maximum	0.46	0.25	0.5	0.25	0.8	0.68	0.42	0.73

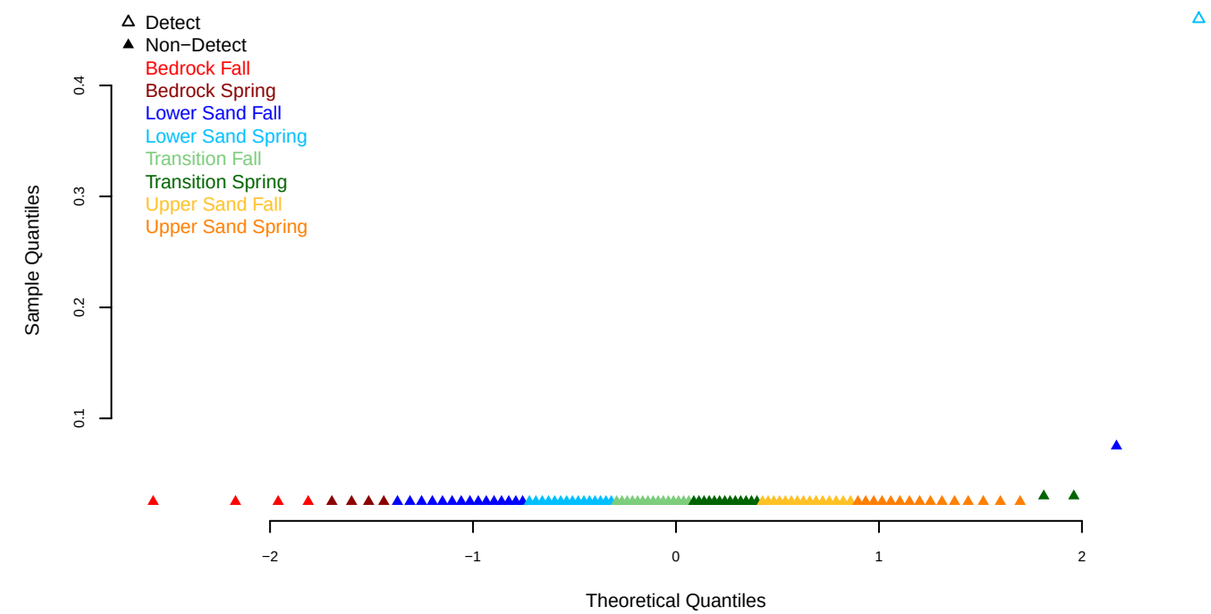
B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

TOTAL SILVER

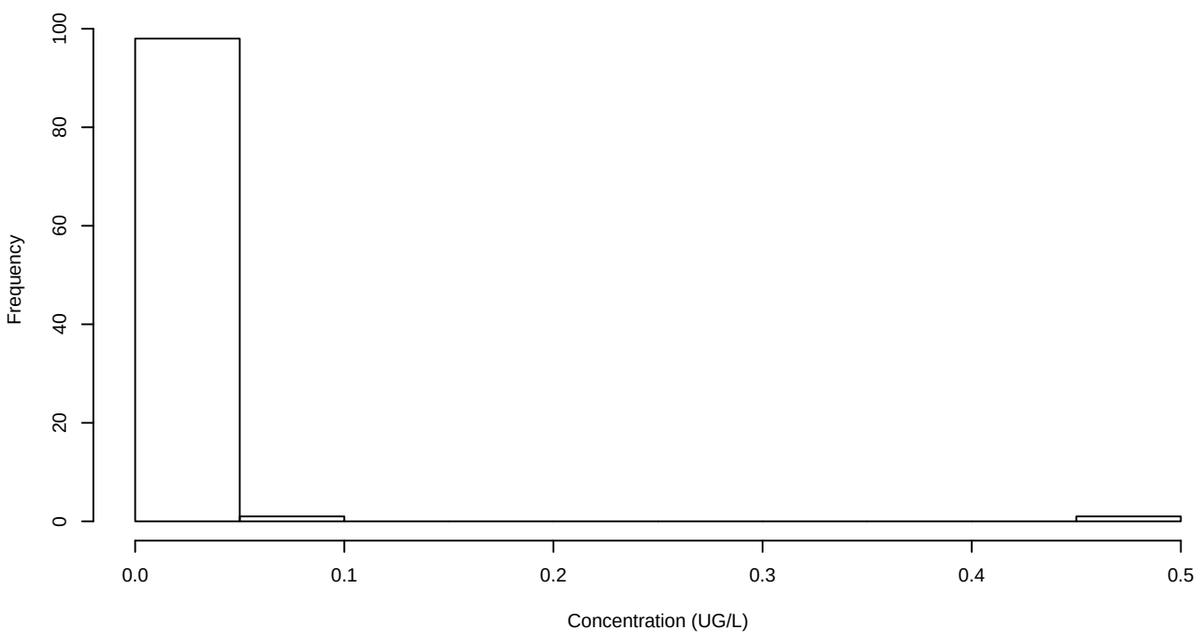
Box Plot



Normal Q−Q Plot



Histogram

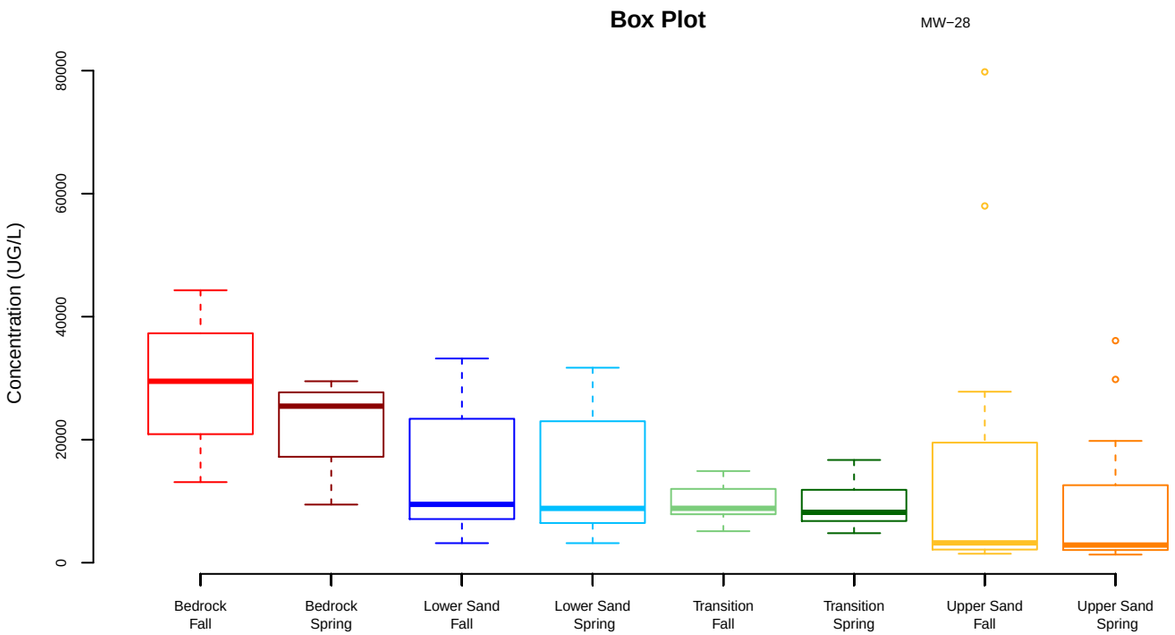


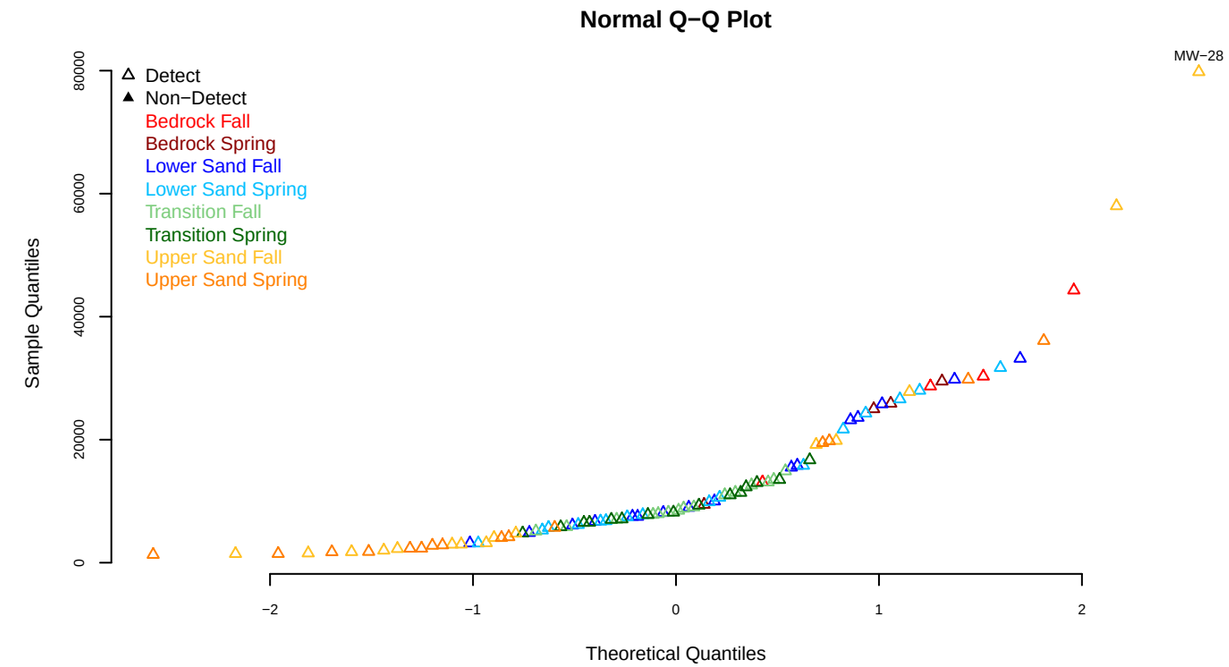
Summary Statistics

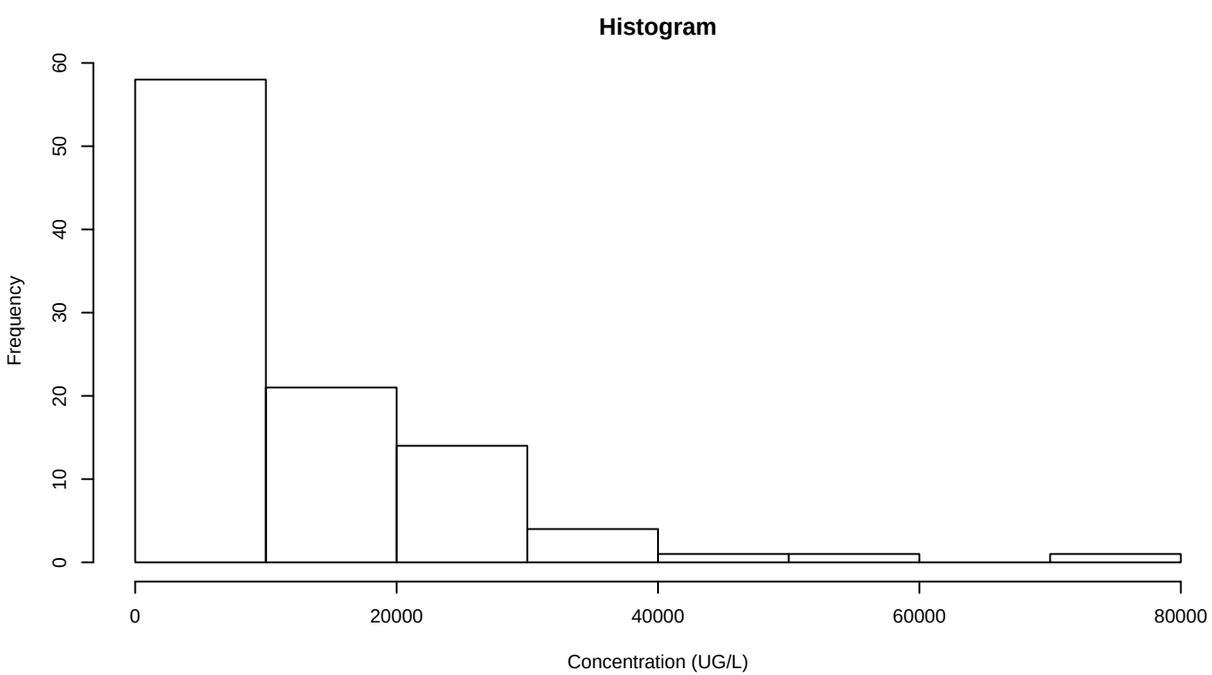
	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
25th Percentile	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
Median	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
Mean	0.025	0.025	0.028	0.052	0.025	0.026	0.025	0.025
75th Percentile	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
Maximum	0.025	0.025	0.075	0.46	0.025	0.03	0.025	0.025

B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

TOTAL SODIUM







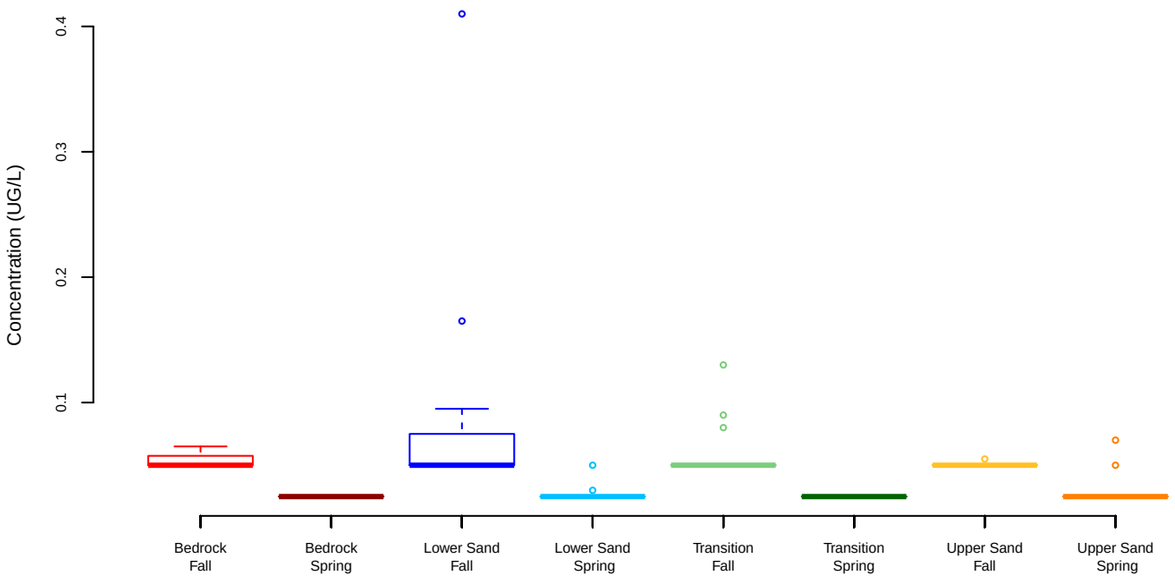
Summary Statistics

	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	13000	9400	3200	3200	5100	4800	1500	1300
25th Percentile	25000	21000	7300	6600	7900	6800	2100	2100
Median	30000	25000	9500	8800	8800	8200	3200	2900
Mean	29000	22000	14000	14000	9700	9400	15000	9100
75th Percentile	34000	27000	23000	22000	12000	12000	20000	13000
Maximum	44000	30000	33000	32000	15000	17000	80000	36000

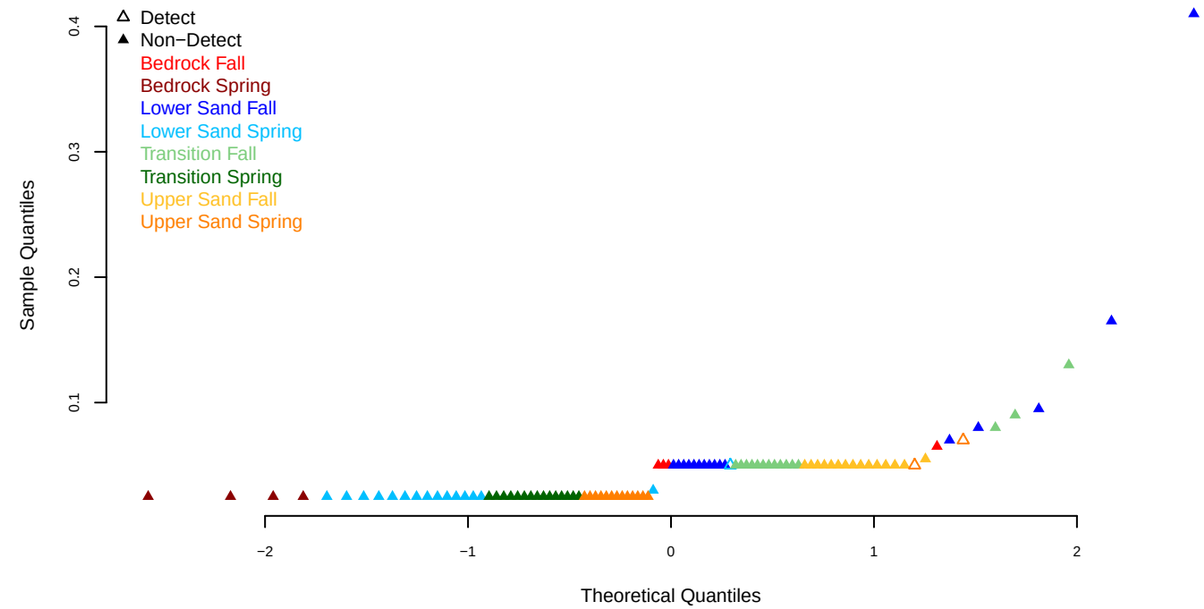
B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

TOTAL THALLIUM

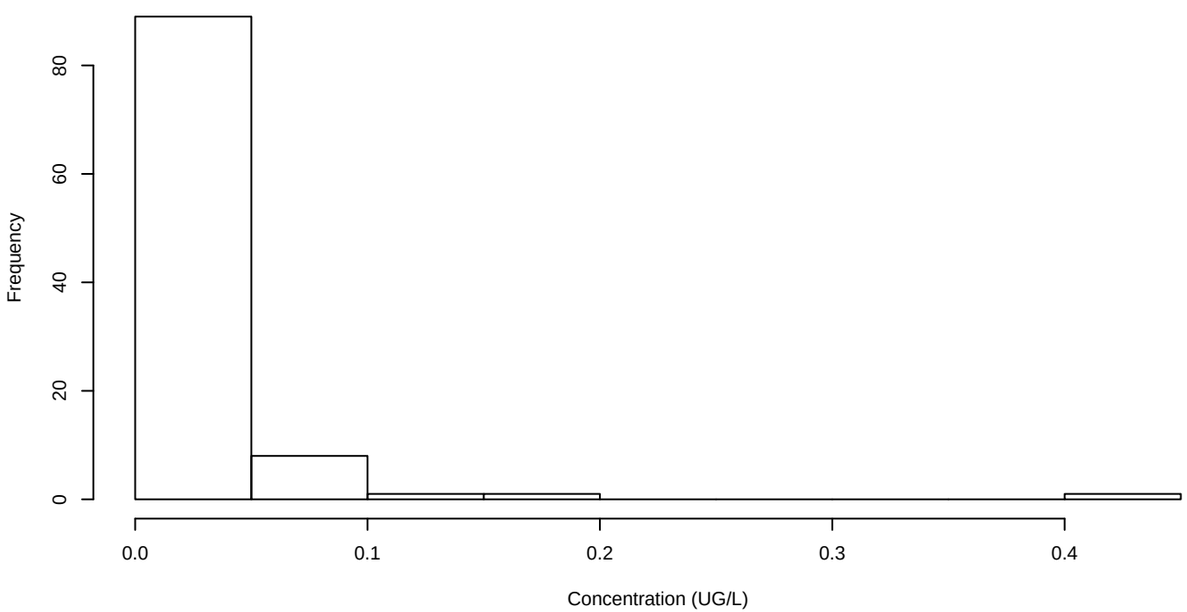
Box Plot



Normal Q−Q Plot



Histogram

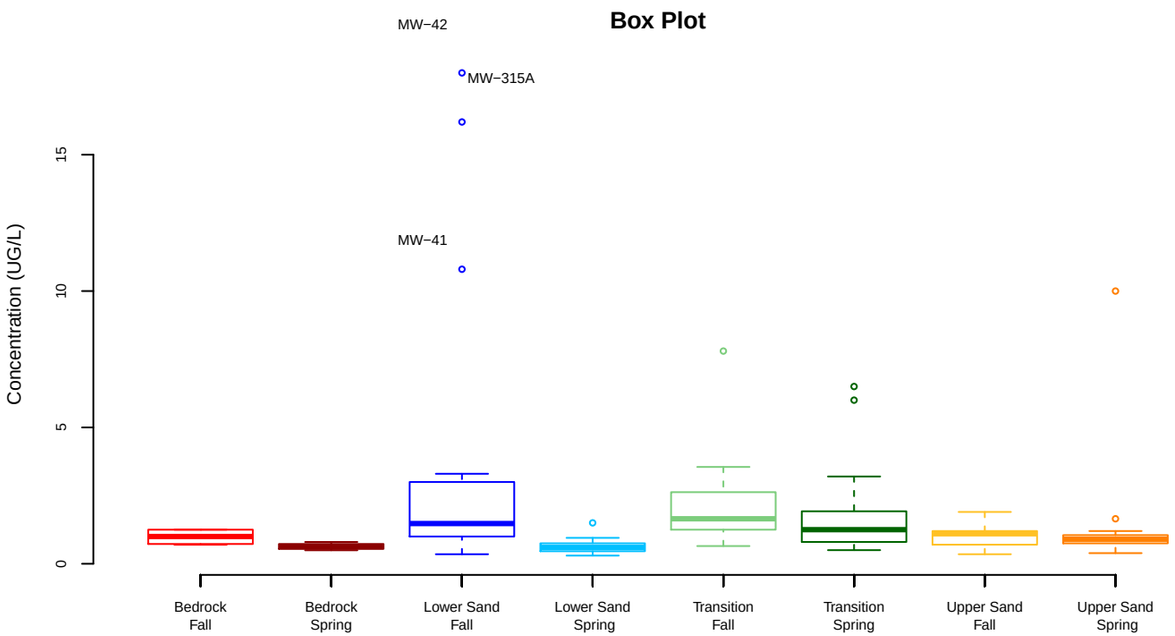


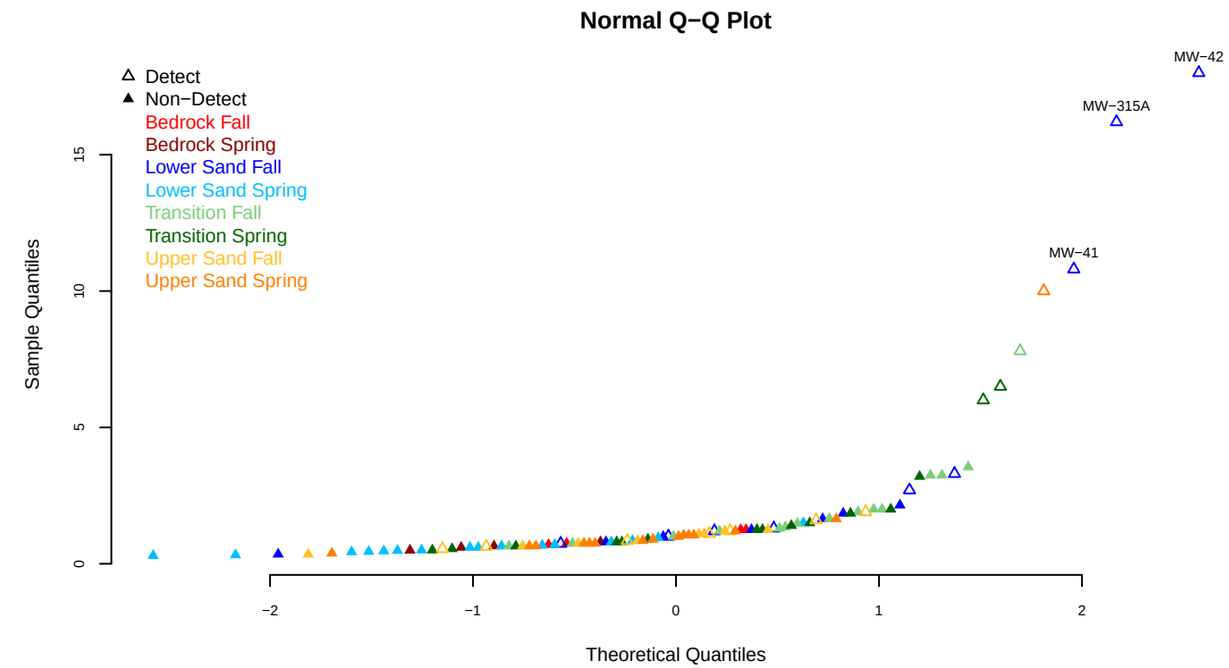
Summary Statistics

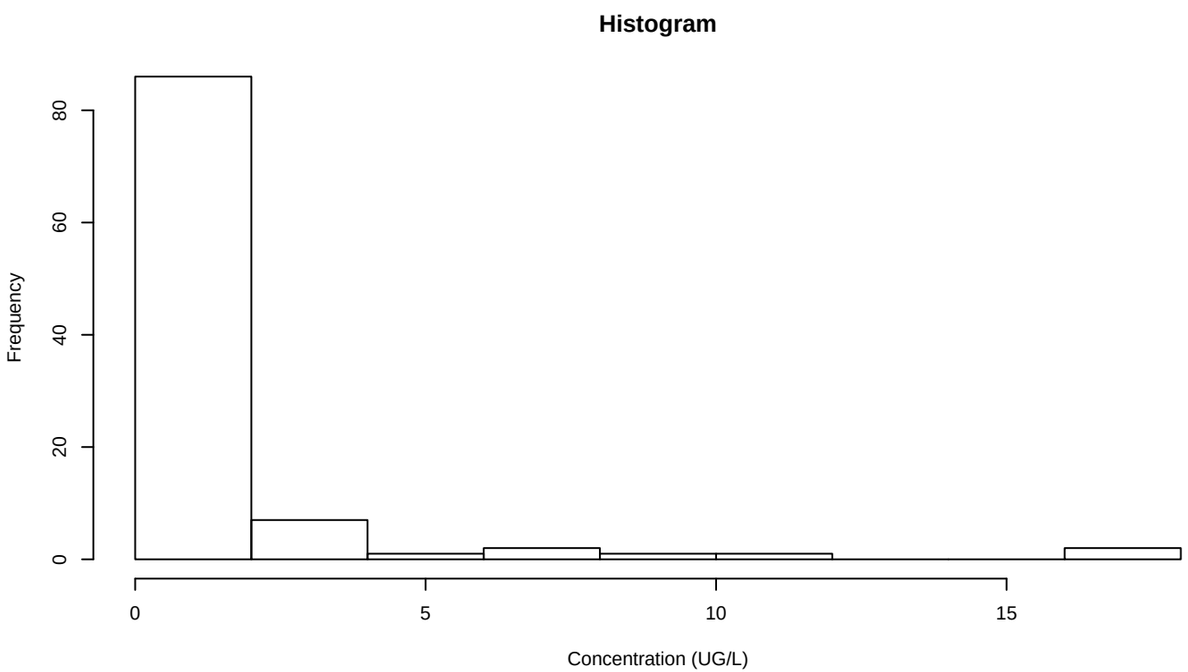
	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	0.05	0.025	0.05	0.025	0.05	0.025	0.05	0.025
25th Percentile	0.05	0.025	0.05	0.025	0.05	0.025	0.05	0.025
Median	0.05	0.025	0.05	0.025	0.05	0.025	0.05	0.025
Mean	0.054	0.025	0.086	0.027	0.06	0.025	0.05	0.03
75th Percentile	0.054	0.025	0.072	0.025	0.05	0.025	0.05	0.025
Maximum	0.065	0.025	0.41	0.05	0.13	0.025	0.055	0.07

B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

TOTAL VANADIUM







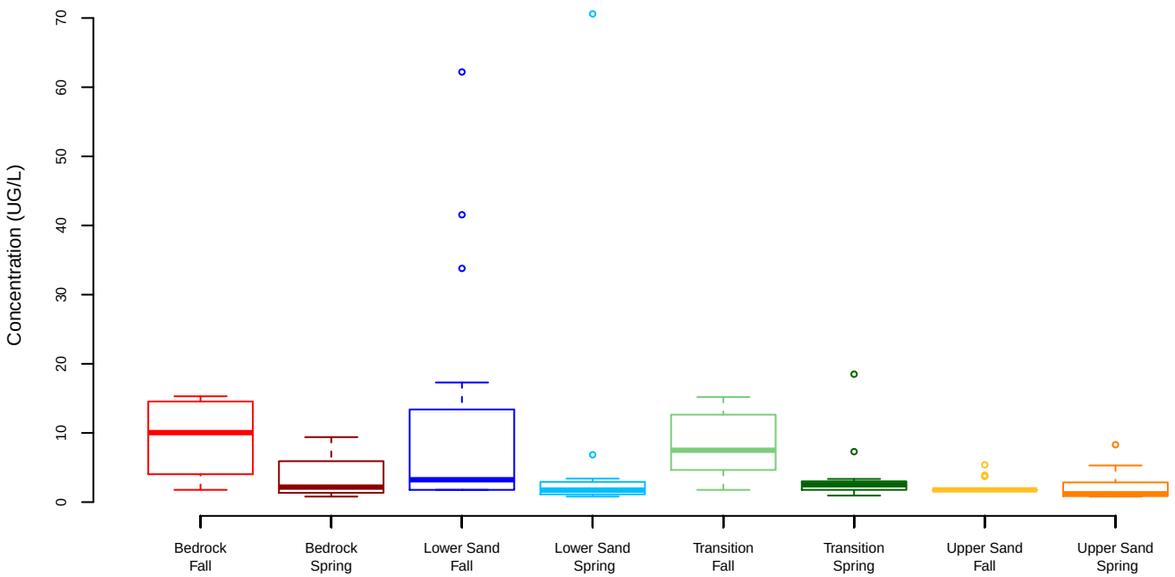
Summary Statistics

	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	0.7	0.5	0.35	0.3	0.65	0.5	0.35	0.39
25th Percentile	0.74	0.57	1	0.46	1.2	0.8	0.7	0.75
Median	1	0.62	1.5	0.6	1.6	1.2	1.1	0.9
Mean	0.99	0.64	4	0.64	2.2	1.9	1	1.5
75th Percentile	1.2	0.69	2.8	0.72	2.6	1.9	1.2	1
Maximum	1.2	0.8	18	1.5	7.8	6.5	1.9	10

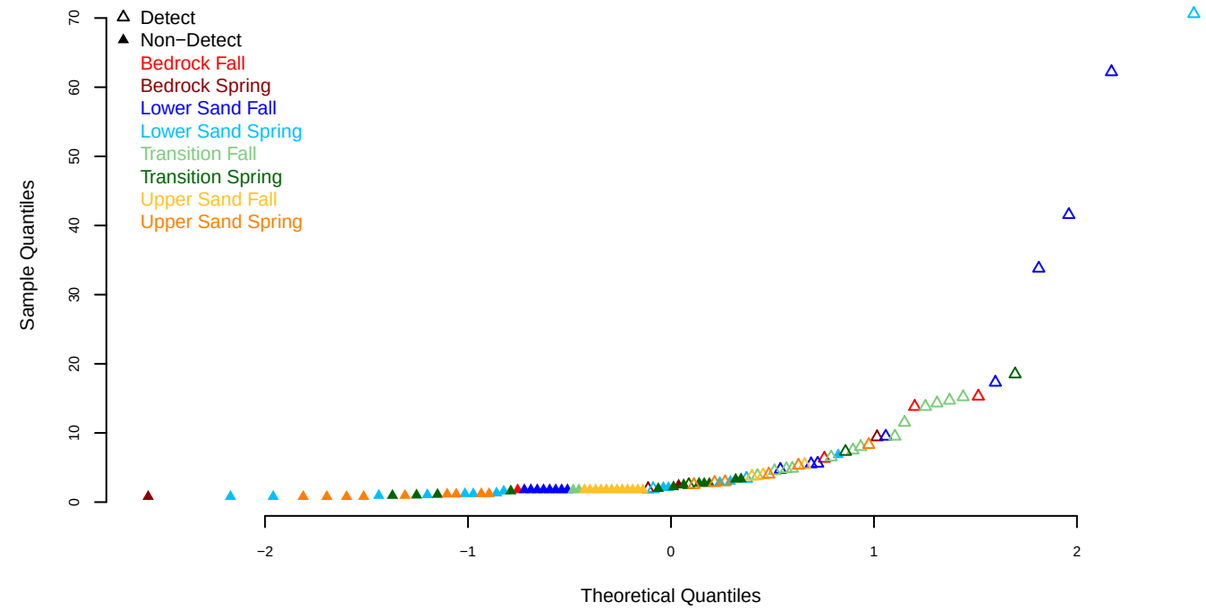
B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

TOTAL ZINC

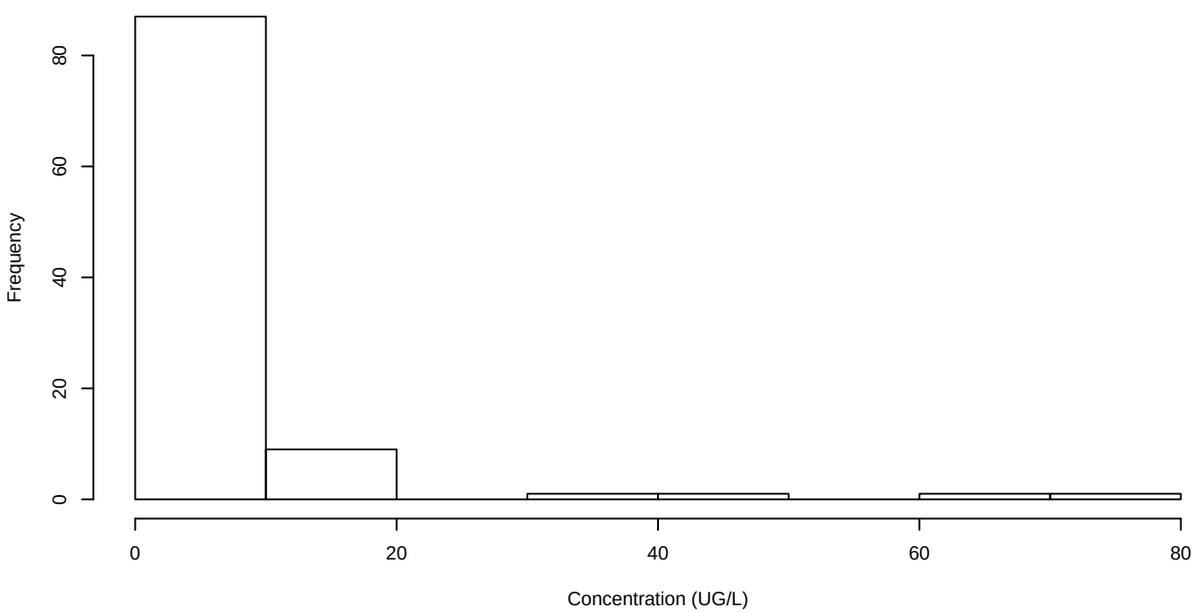
Box Plot



Normal Q−Q Plot



Histogram



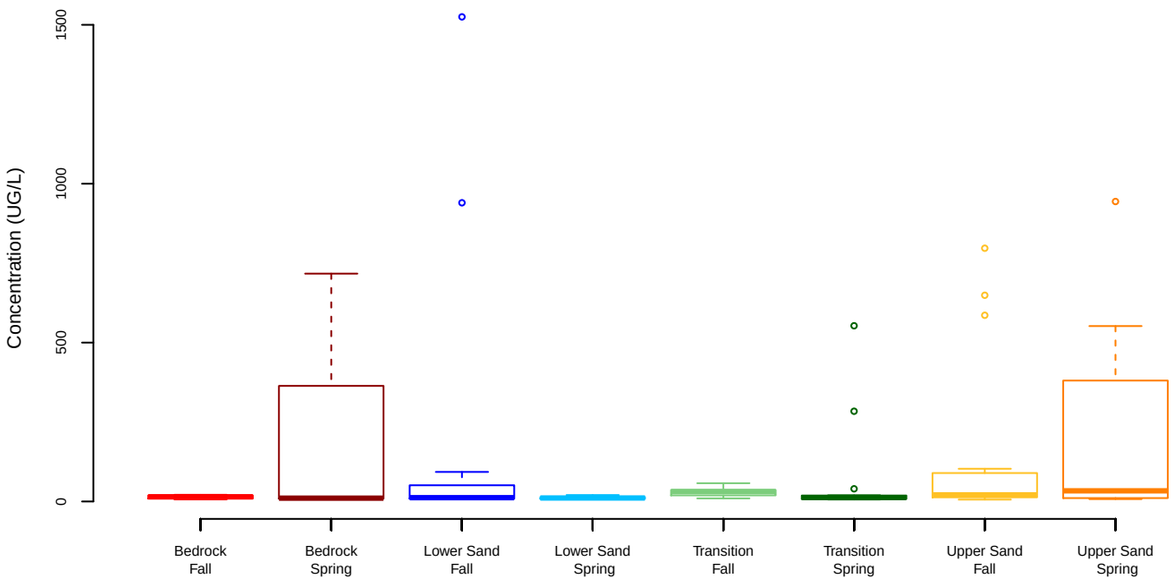
Summary Statistics

	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	1.8	0.8	1.8	0.8	1.8	0.95	1.8	0.8
25th Percentile	5.2	1.6	1.8	1.2	4.6	1.8	1.8	0.88
Median	10	2.2	3.2	1.7	7.5	2.5	1.8	1.2
Mean	9.3	3.6	12	6.4	8.2	3.6	2.3	2.3
75th Percentile	14	4.2	11	2.9	13	3	1.8	2.8
Maximum	15	9.4	62	71	15	18	5.4	8.3

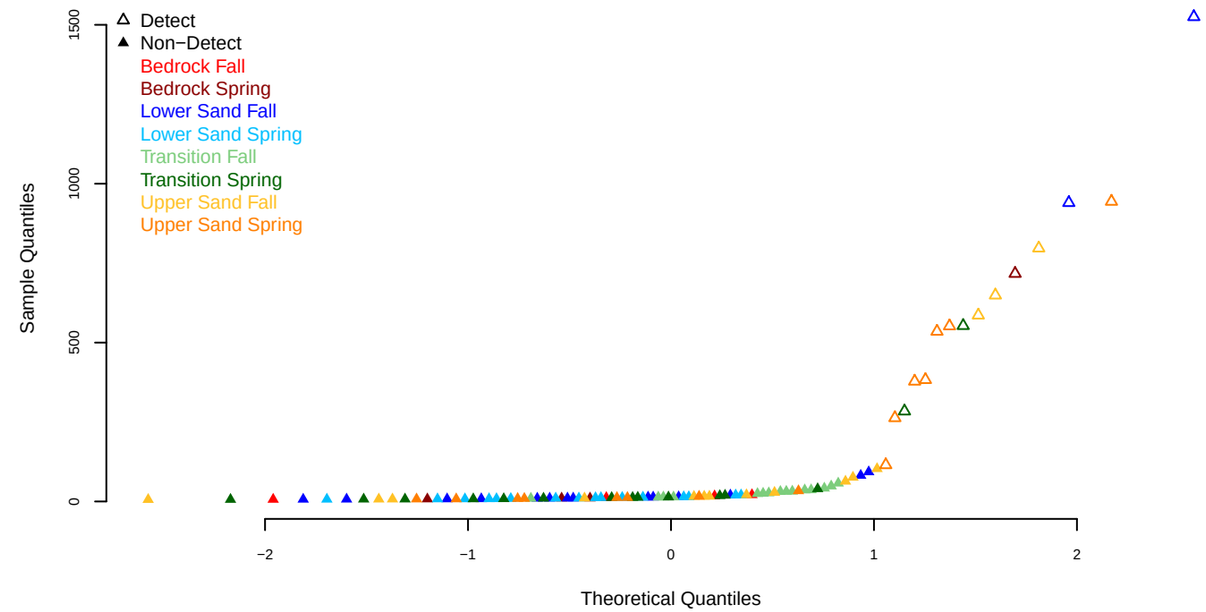
B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

DISSOLVED ALUMINUM

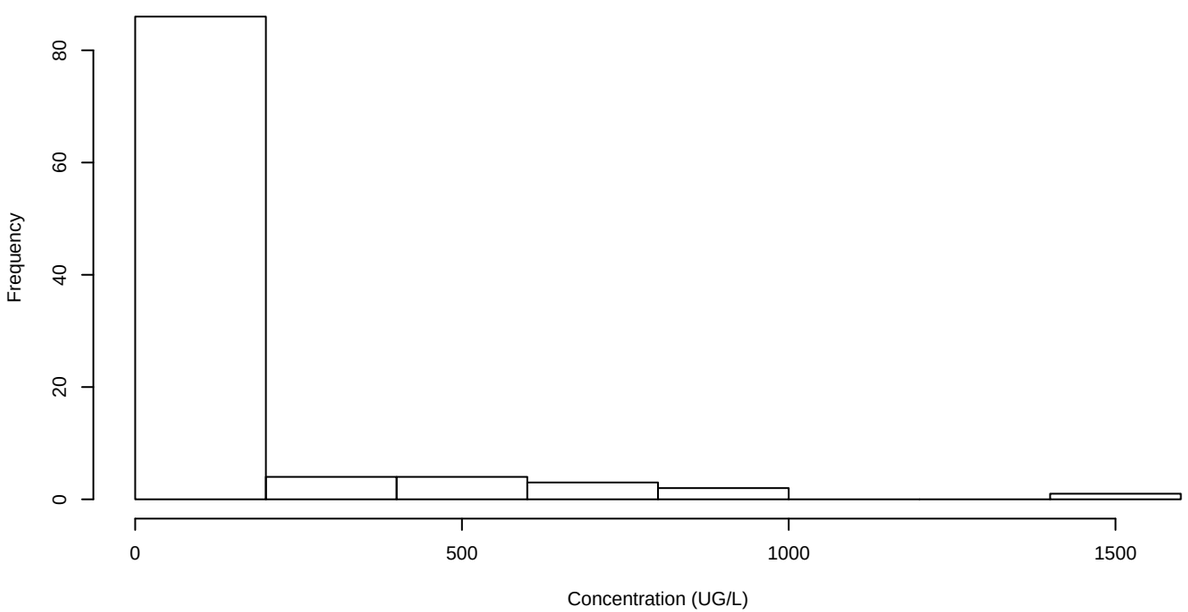
Box Plot



Normal Q−Q Plot



Histogram



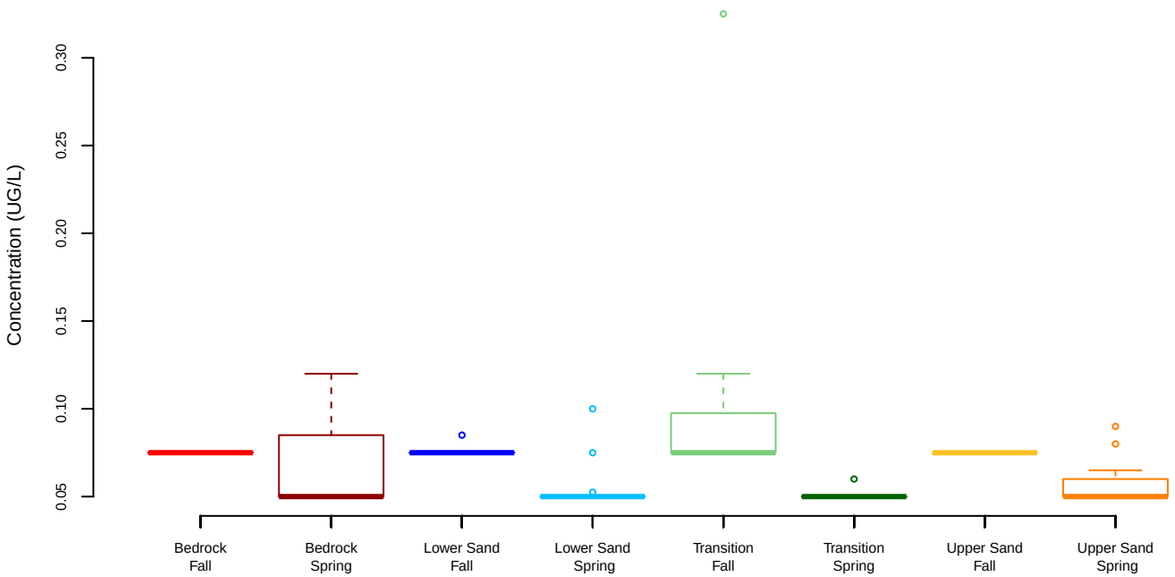
Summary Statistics

	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	6.4	7.7	6.8	6.9	9.7	6.2	6	7.6
25th Percentile	11	9.7	9.5	8.5	19	8.2	13	11
Median	15	10	12	11	31	12	21	34
Mean	14	190	170	12	30	68	160	220
75th Percentile	18	190	35	14	36	19	90	380
Maximum	21	720	1500	20	58	550	800	940

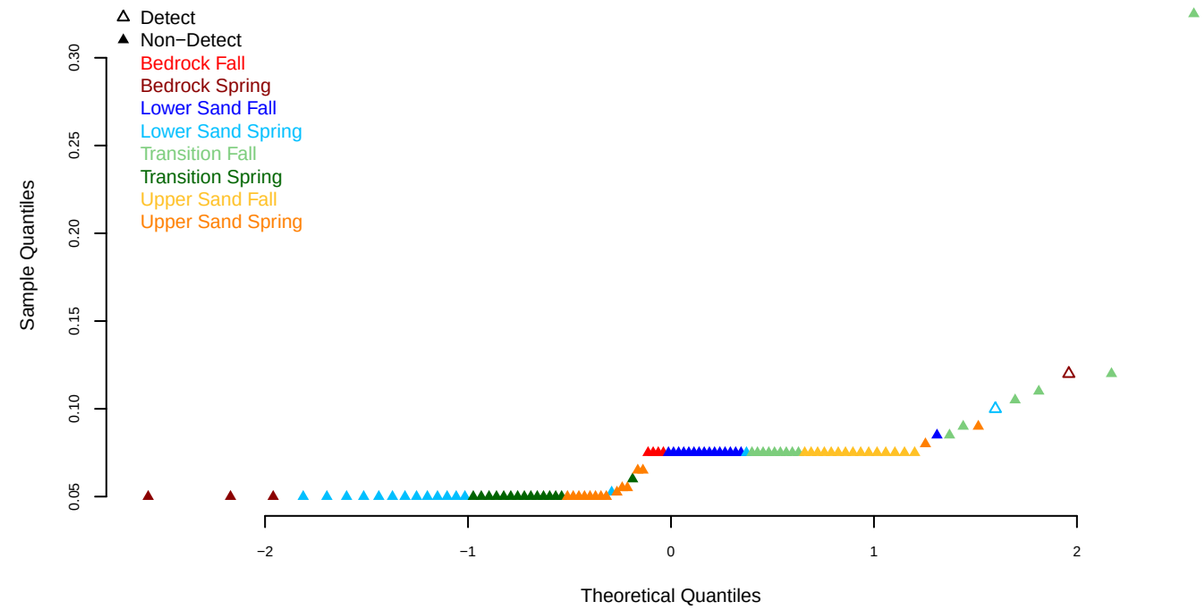
B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

DISSOLVED ANTIMONY

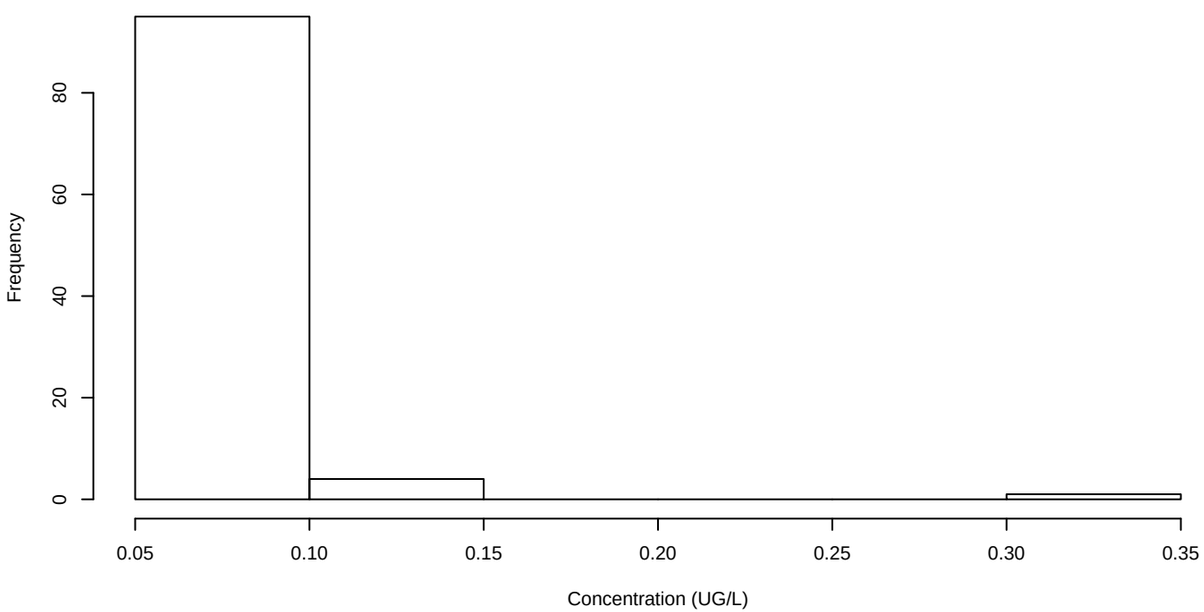
Box Plot



Normal Q−Q Plot



Histogram

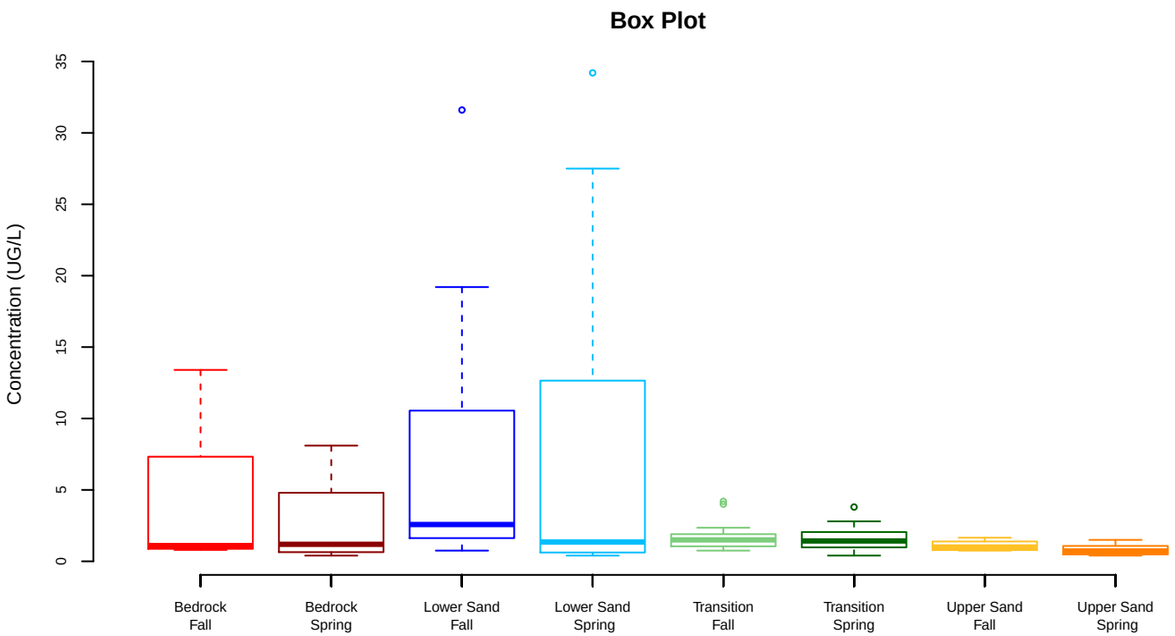


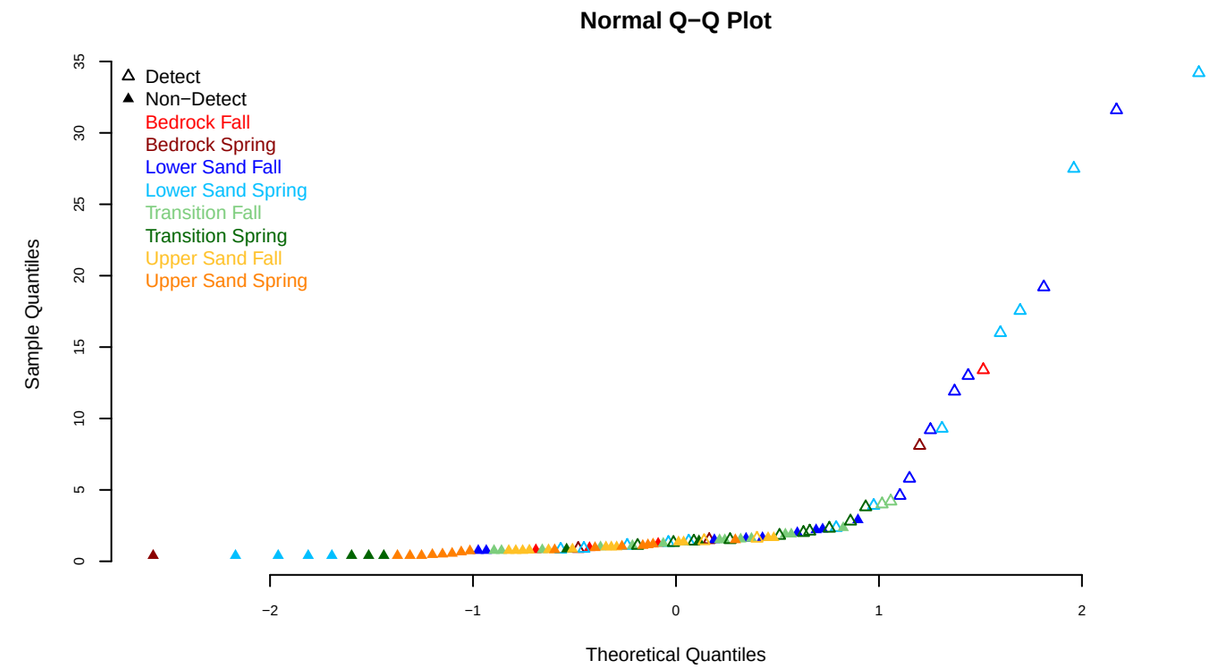
Summary Statistics

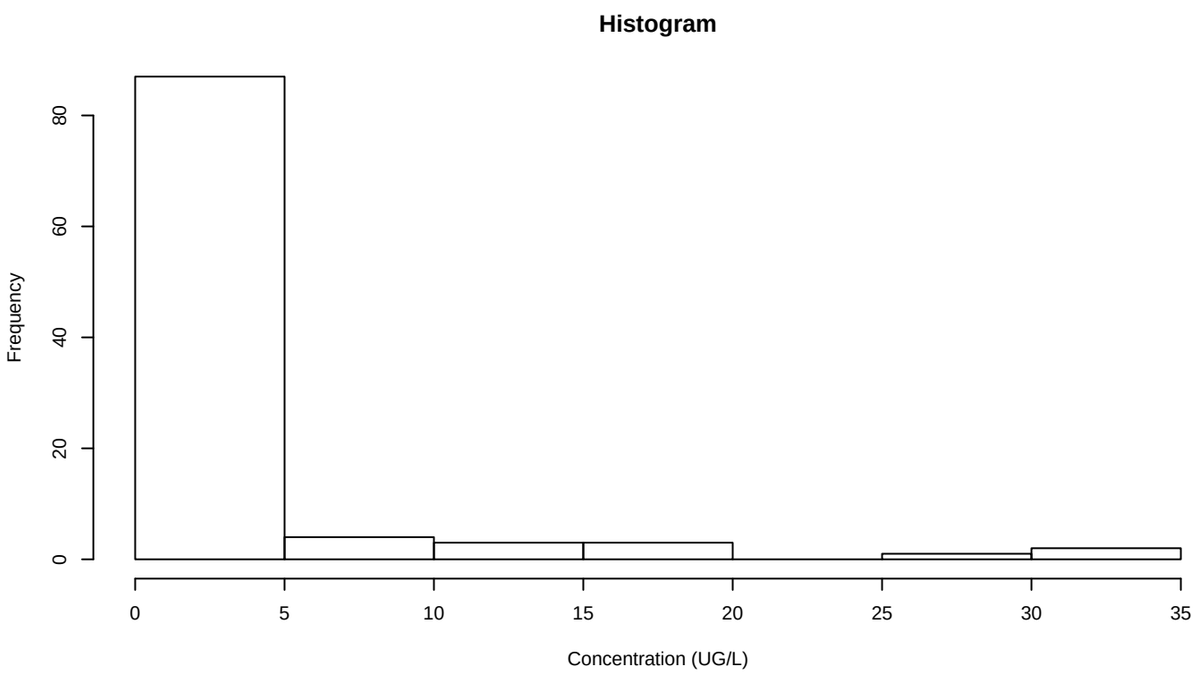
	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	0.075	0.05	0.075	0.05	0.075	0.05	0.075	0.05
25th Percentile	0.075	0.05	0.075	0.05	0.075	0.05	0.075	0.05
Median	0.075	0.05	0.075	0.05	0.075	0.05	0.075	0.05
Mean	0.075	0.068	0.076	0.055	0.1	0.051	0.075	0.058
75th Percentile	0.075	0.068	0.075	0.05	0.098	0.05	0.075	0.06
Maximum	0.075	0.12	0.085	0.1	0.32	0.06	0.075	0.09

B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

DISSOLVED ARSENIC







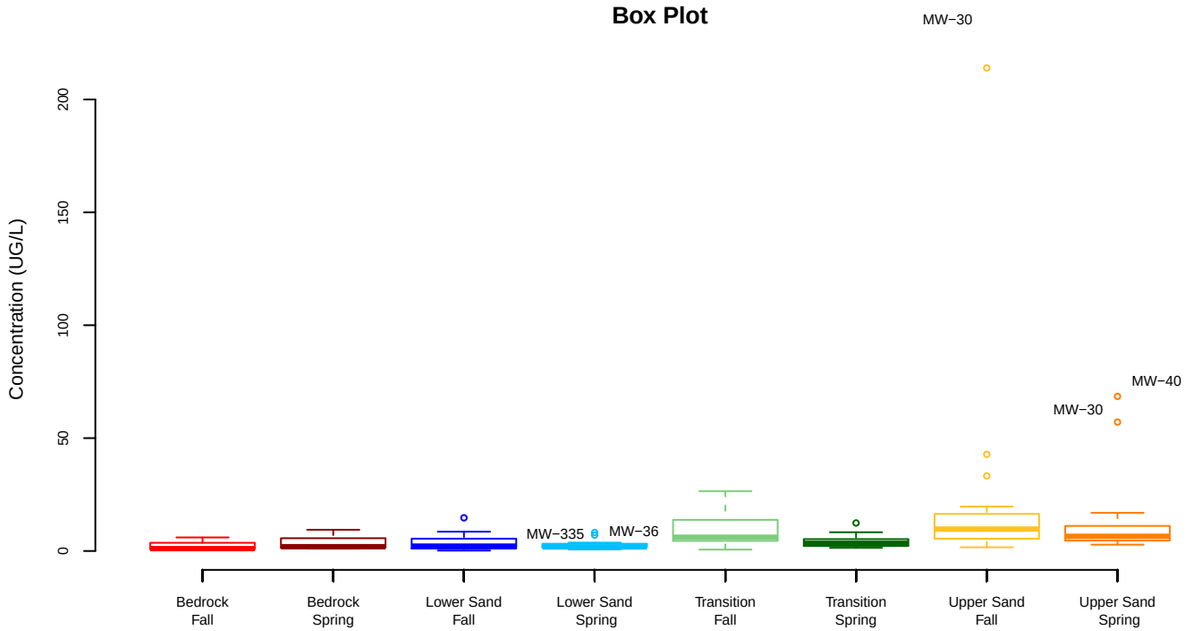
Summary Statistics

	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	0.8	0.4	0.75	0.4	0.75	0.4	0.75	0.4
25th Percentile	0.91	0.76	1.6	0.72	1	0.98	0.79	0.48
Median	1.1	1.2	2.6	1.4	1.5	1.4	1	0.72
Mean	4.1	2.7	6.9	7.4	1.7	1.6	1.1	0.79
75th Percentile	4.3	3.2	9.9	11	1.9	2	1.4	1.1
Maximum	13	8.1	32	34	4.2	3.8	1.6	1.5

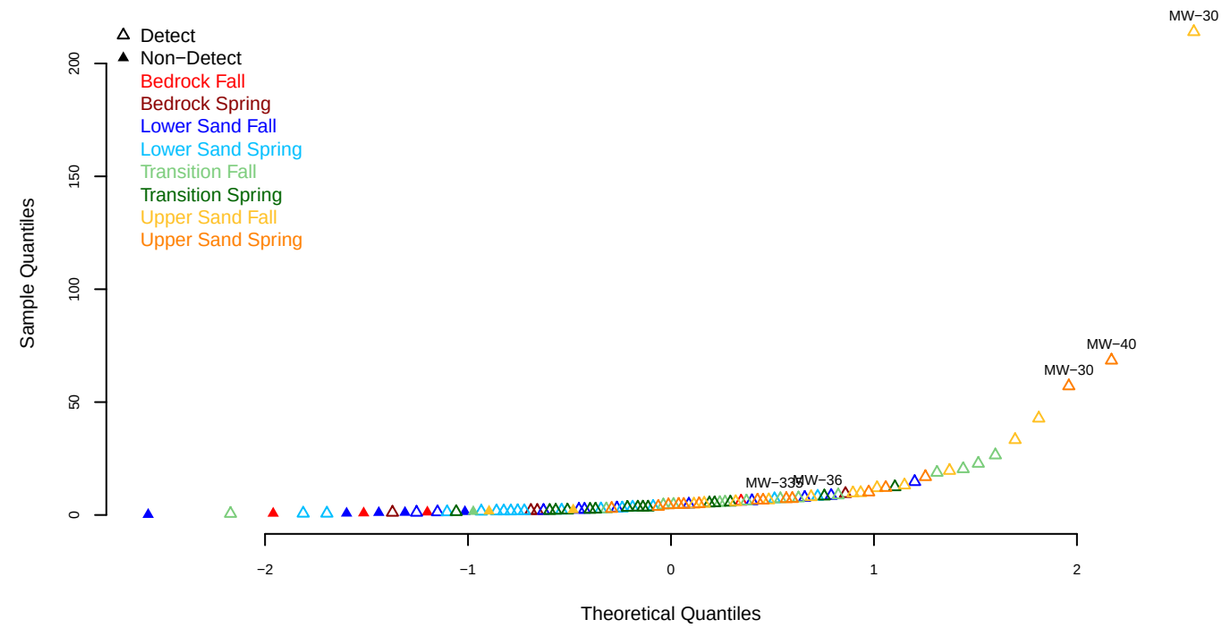
B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

DISSOLVED BARIUM

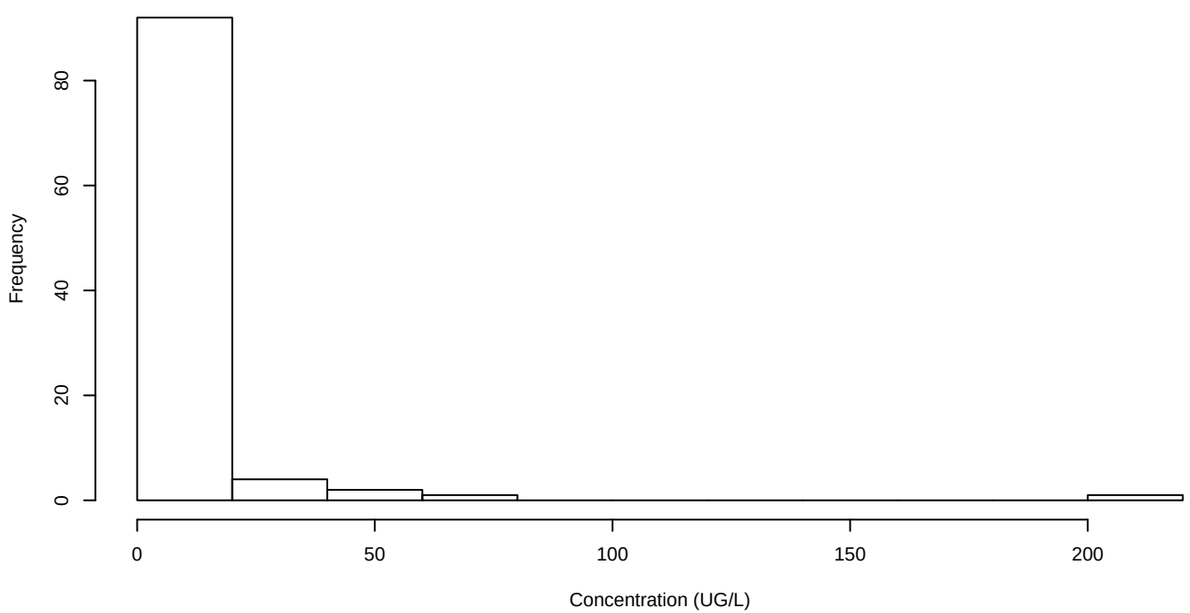
Box Plot



Normal Q−Q Plot



Histogram



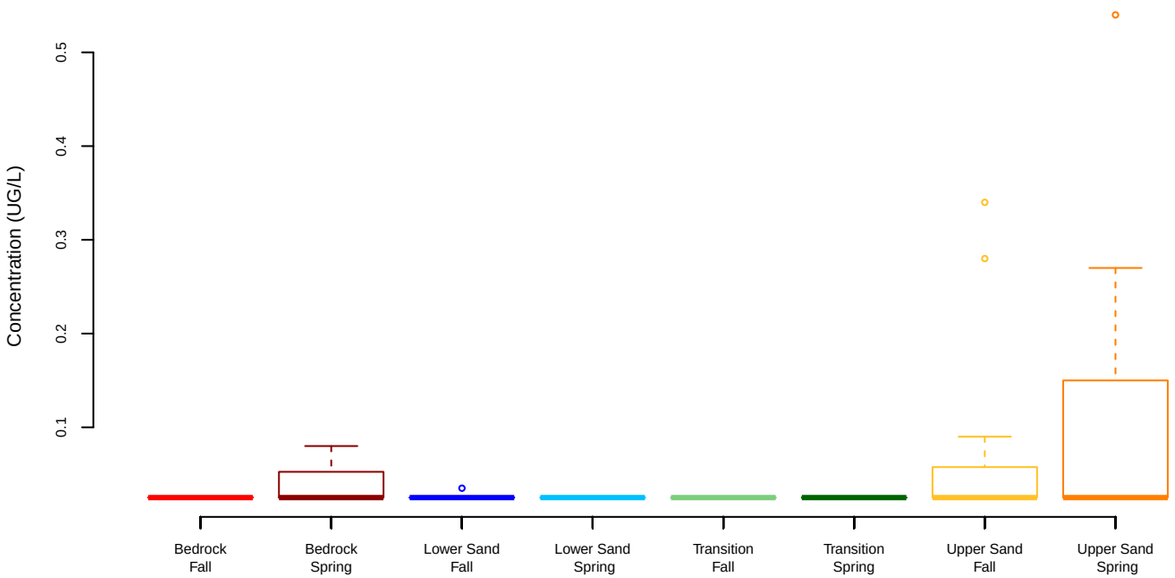
Summary Statistics

	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	0.7	1.1	0.18	0.7	0.61	1.4	1.6	2.8
25th Percentile	0.81	1.7	1.1	1.7	4.5	2.2	5.4	4.6
Median	1	1.9	2.2	1.8	6.1	3.4	9.7	6.5
Mean	2.2	3.6	3.7	2.7	9.5	4.2	26	14
75th Percentile	2.4	3.8	5.1	3.1	14	5.2	16	11
Maximum	6	9.4	15	8.2	26	12	210	68

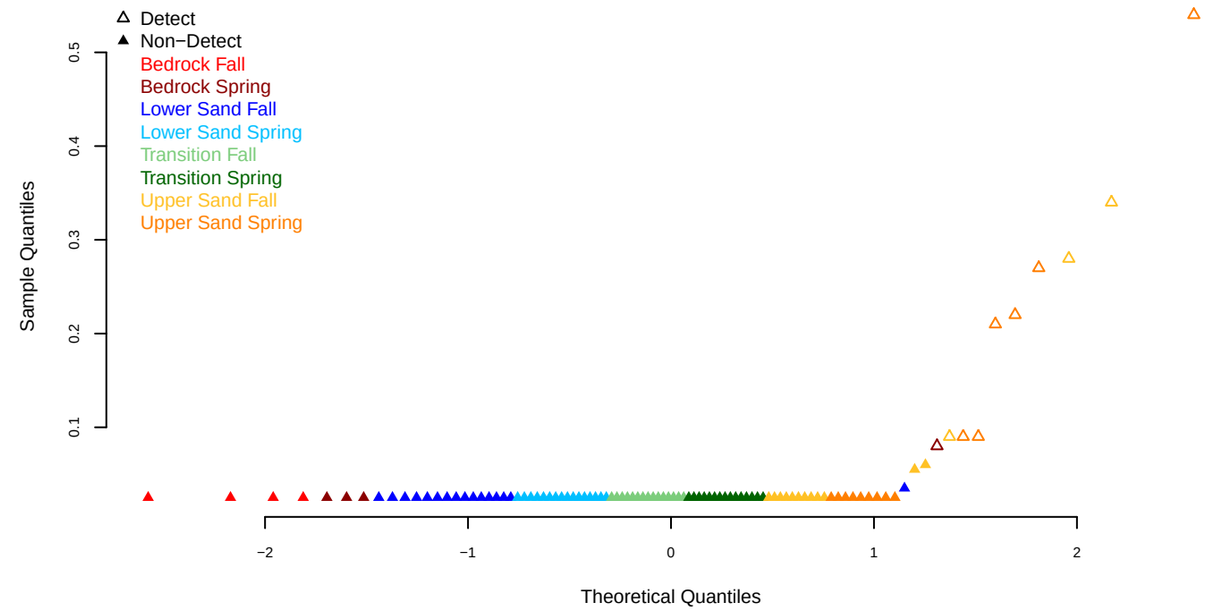
B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

DISSOLVED BERYLLIUM

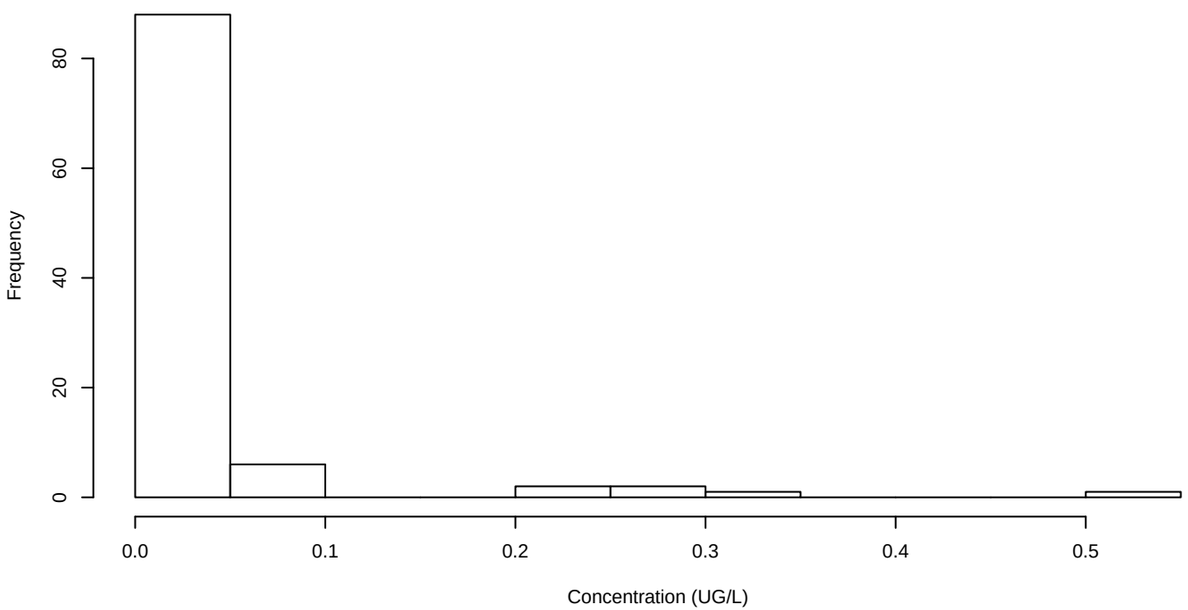
Box Plot



Normal Q−Q Plot



Histogram

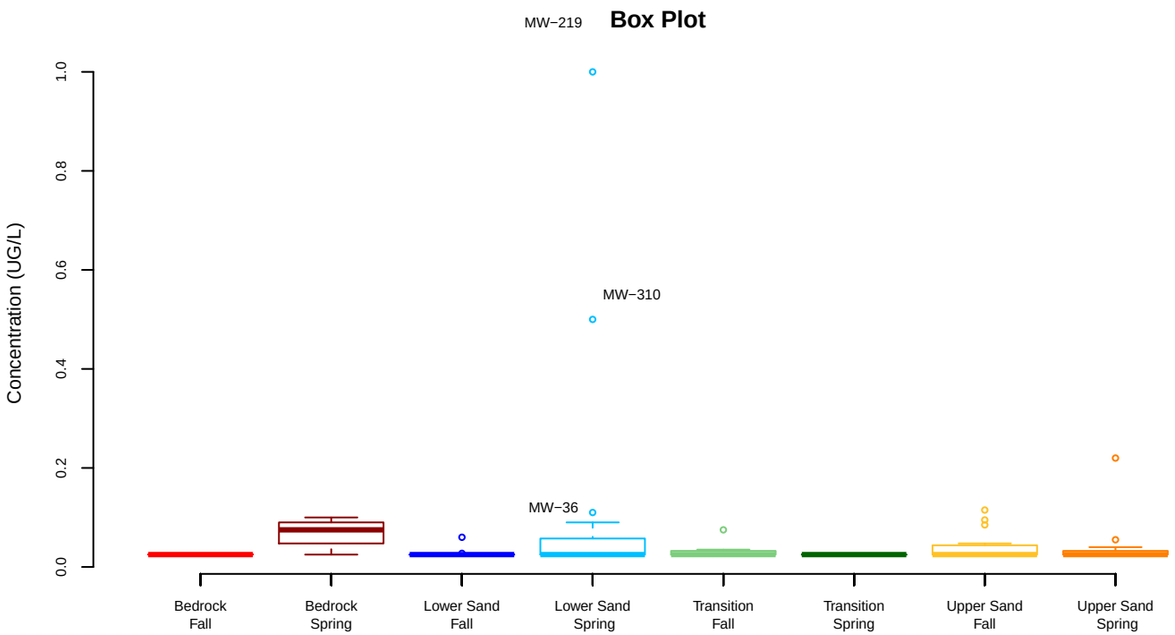


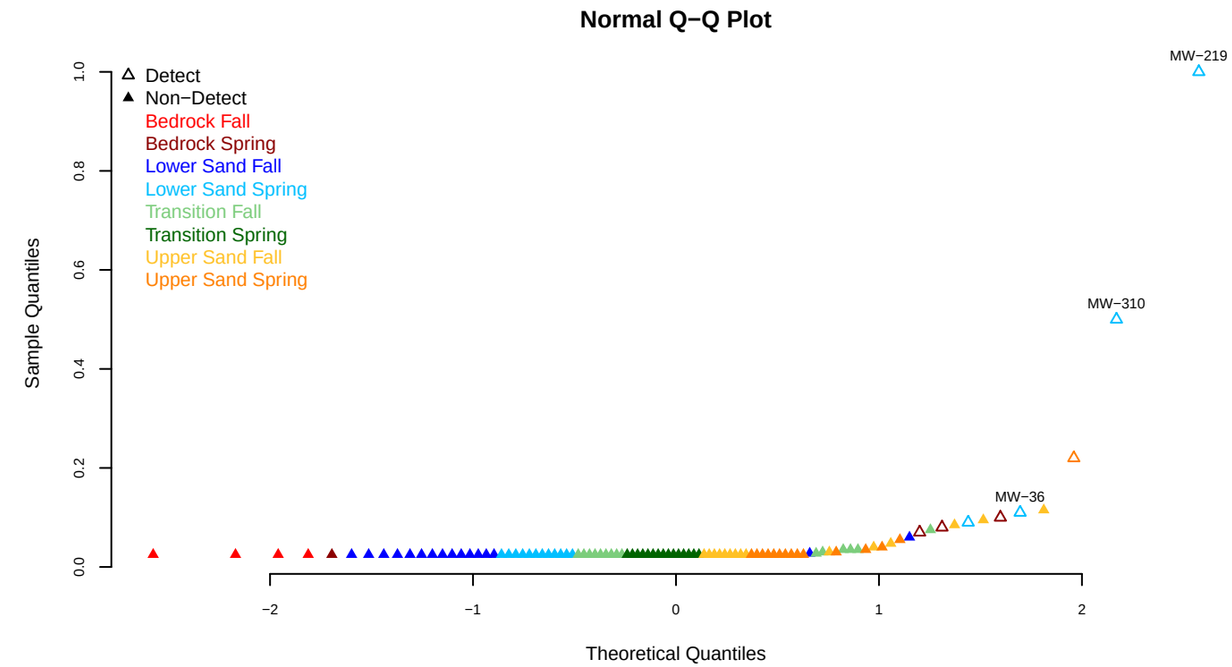
Summary Statistics

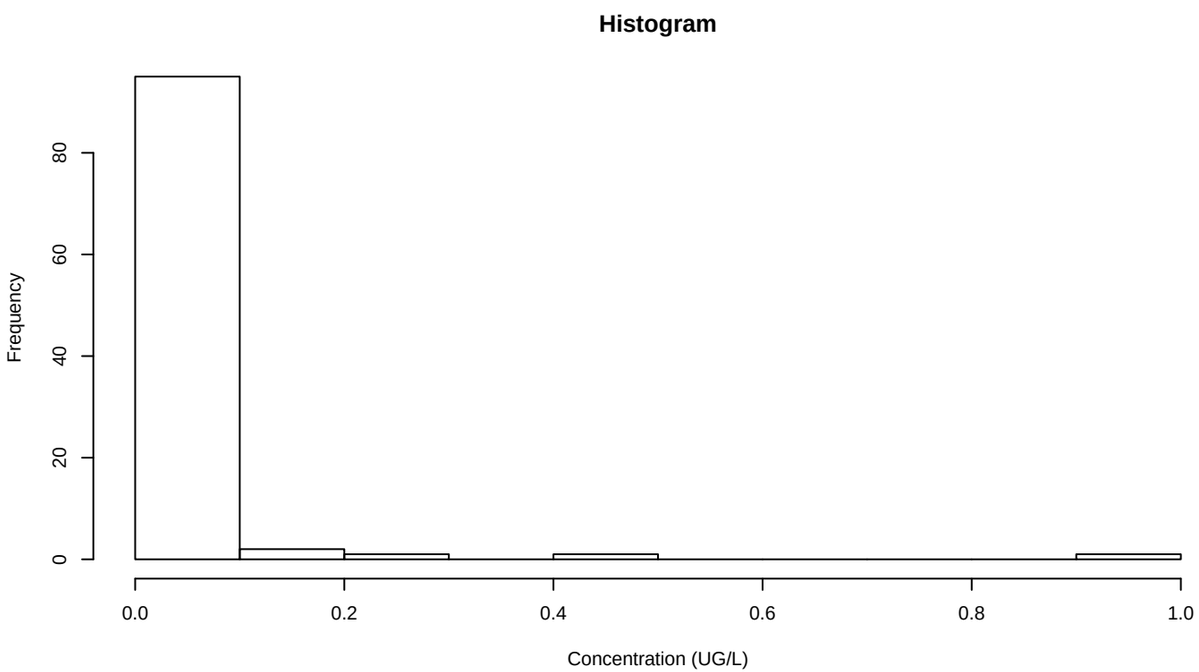
	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
25th Percentile	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
Median	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
Mean	0.025	0.039	0.026	0.025	0.025	0.025	0.072	0.11
75th Percentile	0.025	0.039	0.025	0.025	0.025	0.025	0.058	0.15
Maximum	0.025	0.08	0.035	0.025	0.025	0.025	0.34	0.54

B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

DISSOLVED CADMIUM







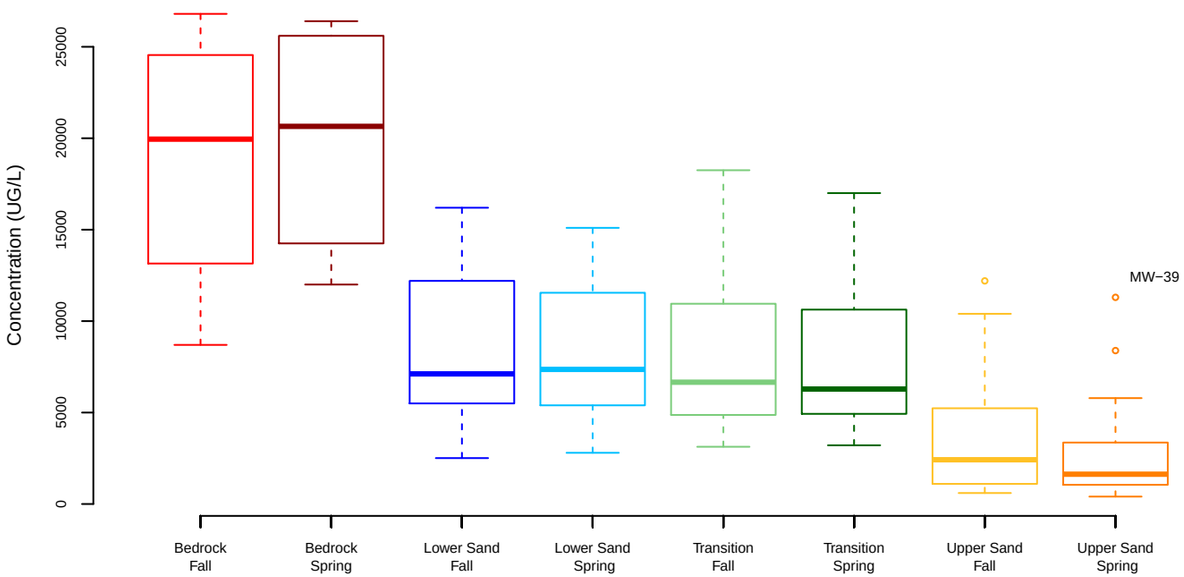
Summary Statistics

	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
25th Percentile	0.025	0.059	0.025	0.025	0.025	0.025	0.025	0.025
Median	0.025	0.075	0.025	0.025	0.025	0.025	0.025	0.025
Mean	0.025	0.069	0.027	0.12	0.031	0.025	0.042	0.042
75th Percentile	0.025	0.085	0.025	0.041	0.032	0.025	0.044	0.032
Maximum	0.025	0.1	0.06	1	0.075	0.025	0.12	0.22

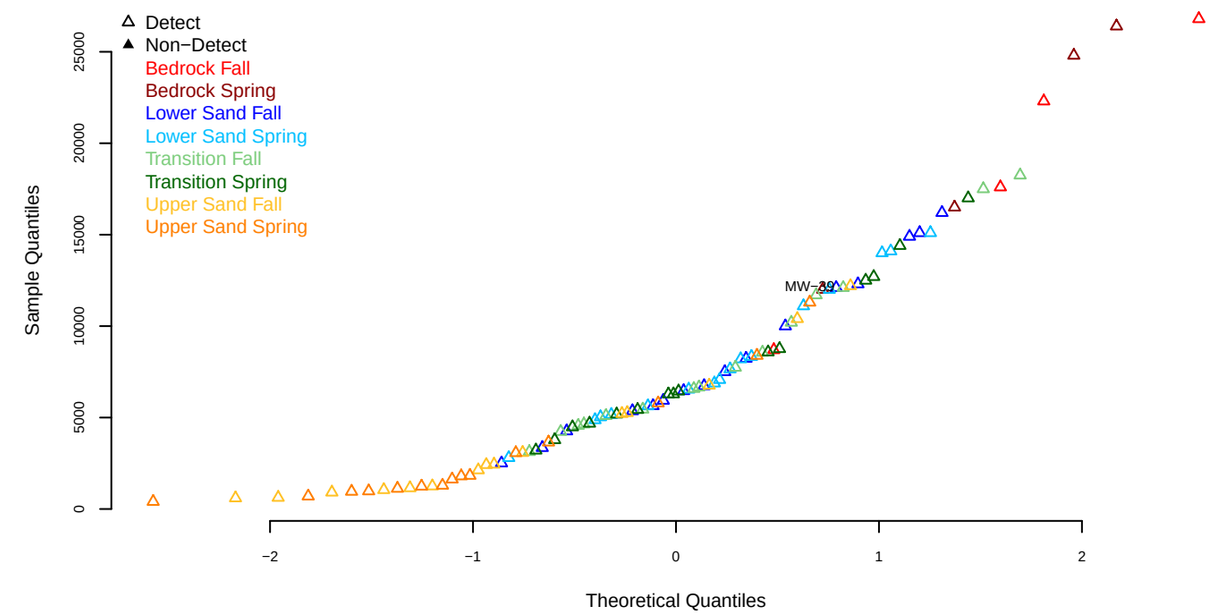
B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

DISSOLVED CALCIUM

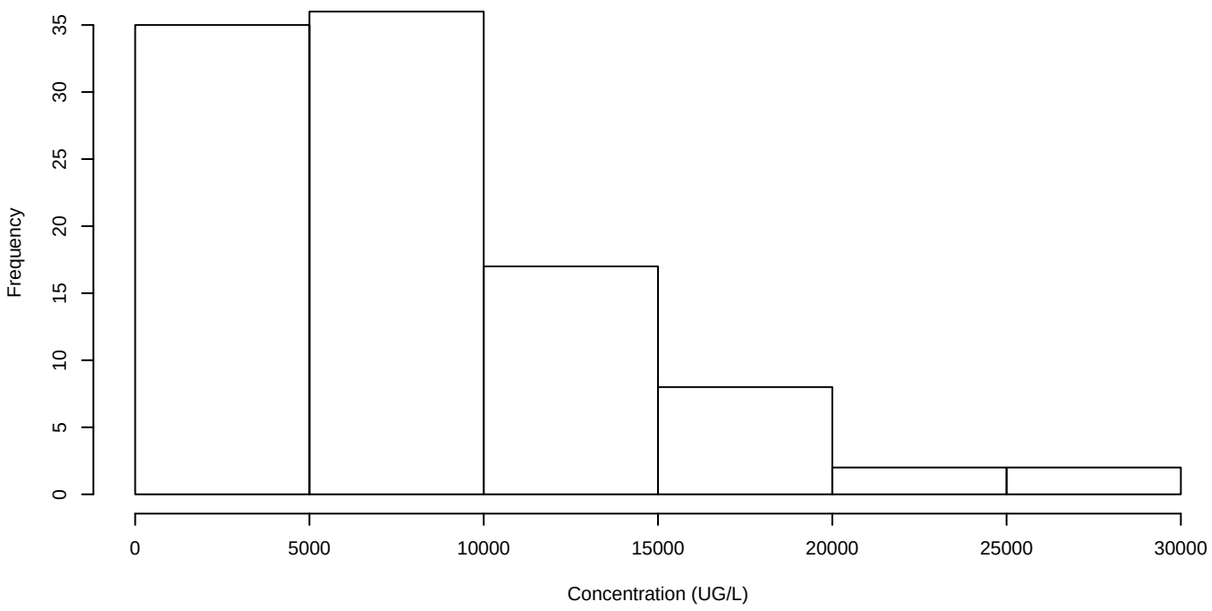
Box Plot



Normal Q−Q Plot



Histogram



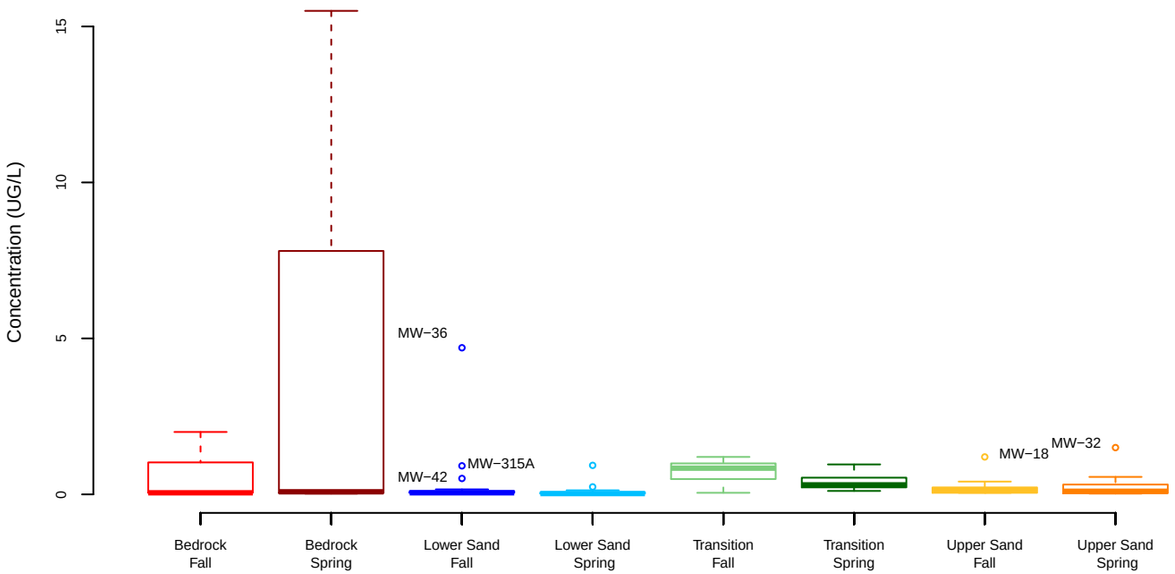
Summary Statistics

	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	8700	12000	2500	2800	3100	3200	600	410
25th Percentile	15000	15000	5600	5500	4900	4900	1100	1000
Median	20000	21000	7100	7400	6700	6300	2400	1600
Mean	19000	20000	8500	8400	8400	8000	3700	2900
75th Percentile	23000	25000	12000	11000	11000	11000	5200	3400
Maximum	27000	26000	16000	15000	18000	17000	12000	11000

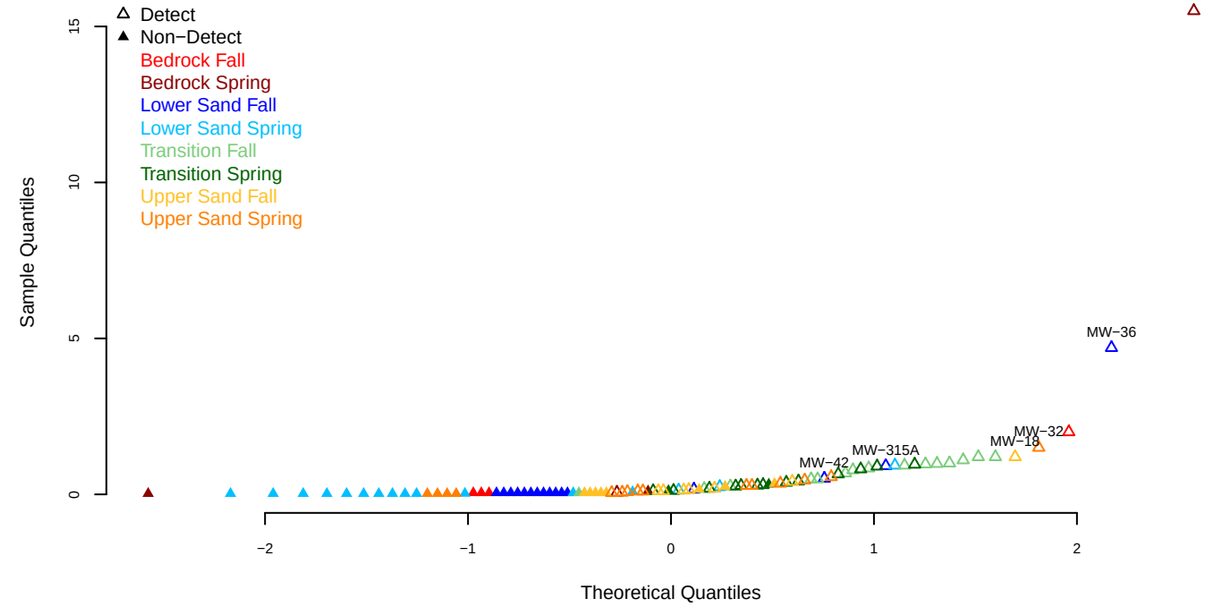
B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

DISSOLVED COBALT

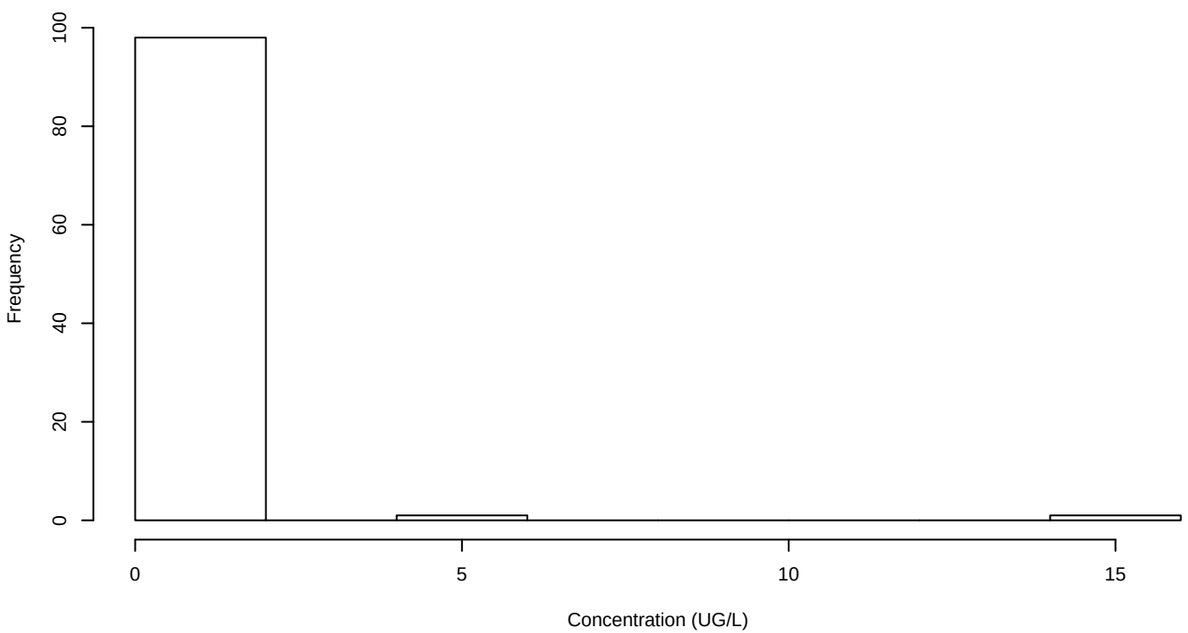
Box Plot



Normal Q−Q Plot



Histogram



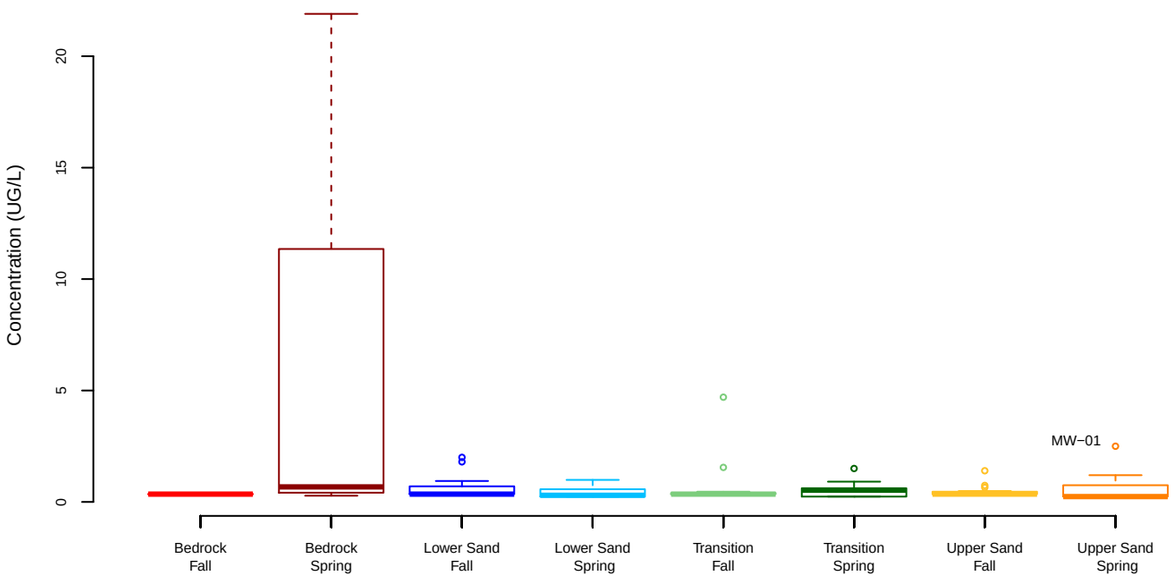
Summary Statistics

	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	0.05	0.025	0.05	0.025	0.05	0.11	0.05	0.025
25th Percentile	0.05	0.051	0.05	0.025	0.49	0.22	0.05	0.038
Median	0.05	0.082	0.05	0.025	0.84	0.3	0.13	0.1
Mean	0.54	3.9	0.43	0.11	0.74	0.41	0.22	0.26
75th Percentile	0.54	4	0.078	0.059	0.99	0.54	0.22	0.32
Maximum	2	16	4.7	0.93	1.2	0.96	1.2	1.5

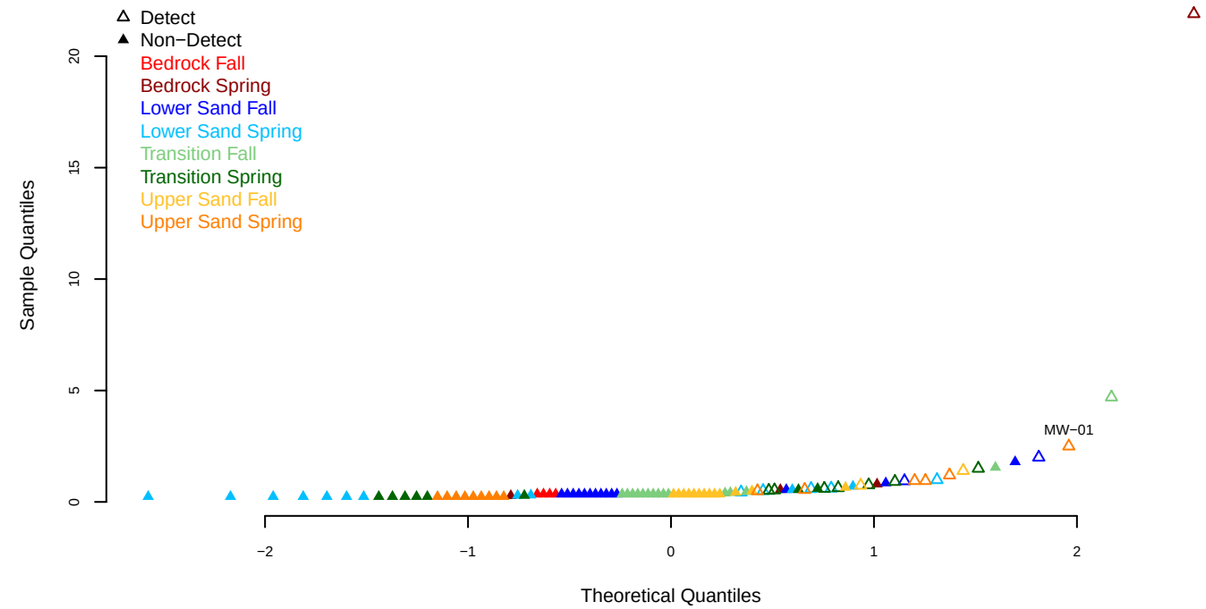
B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

DISSOLVED COPPER

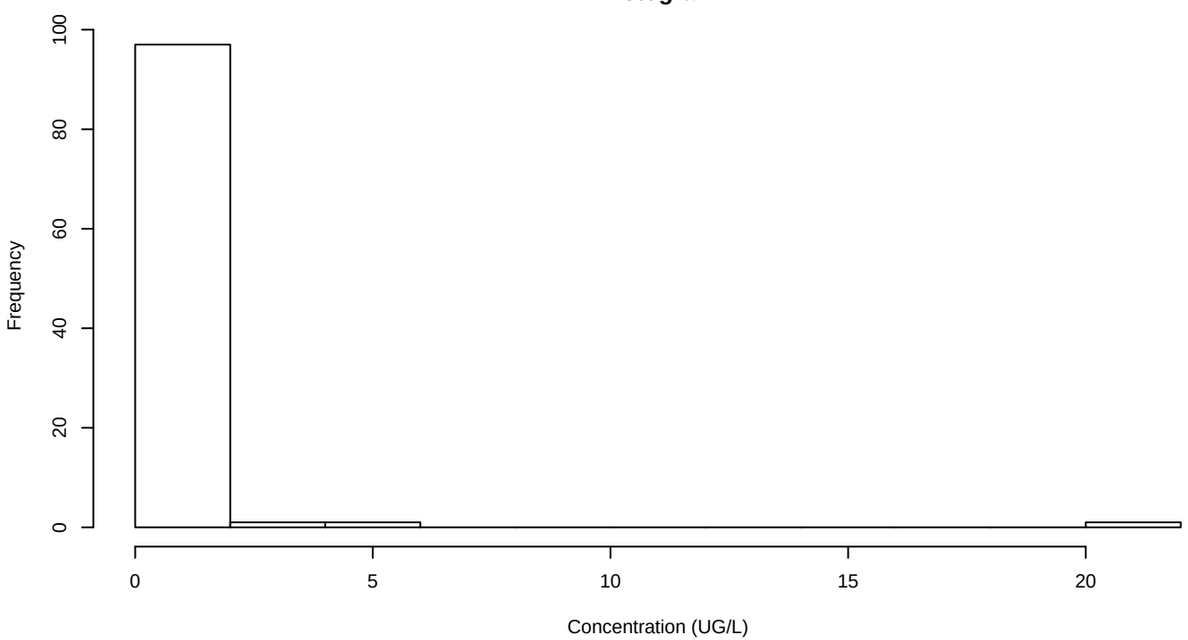
Box Plot



Normal Q−Q Plot



Histogram

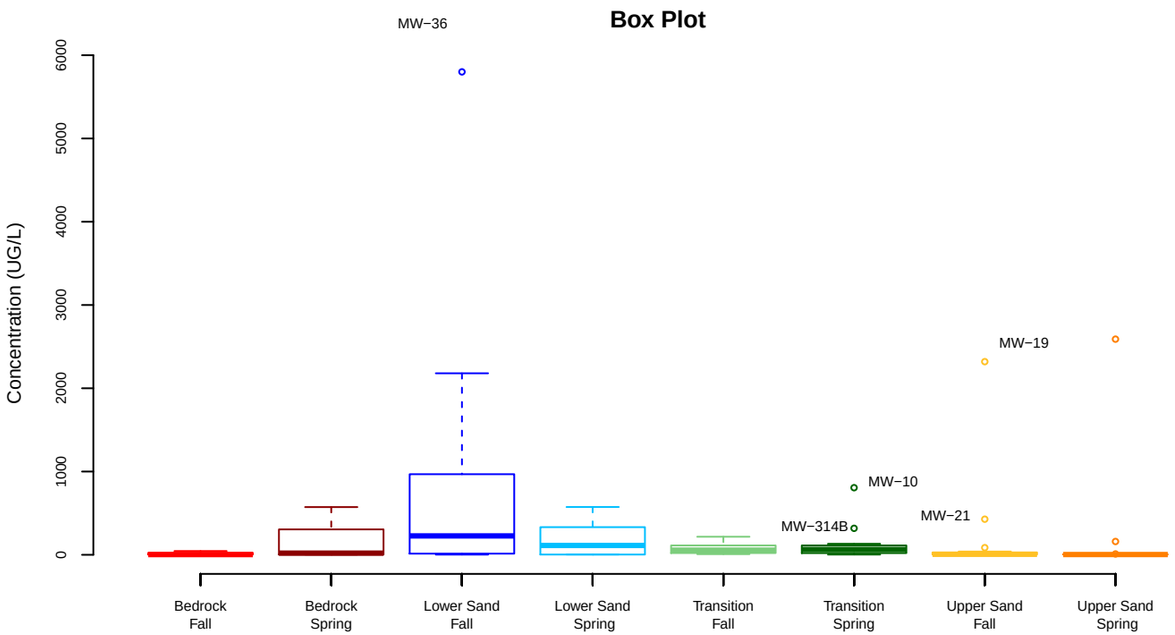


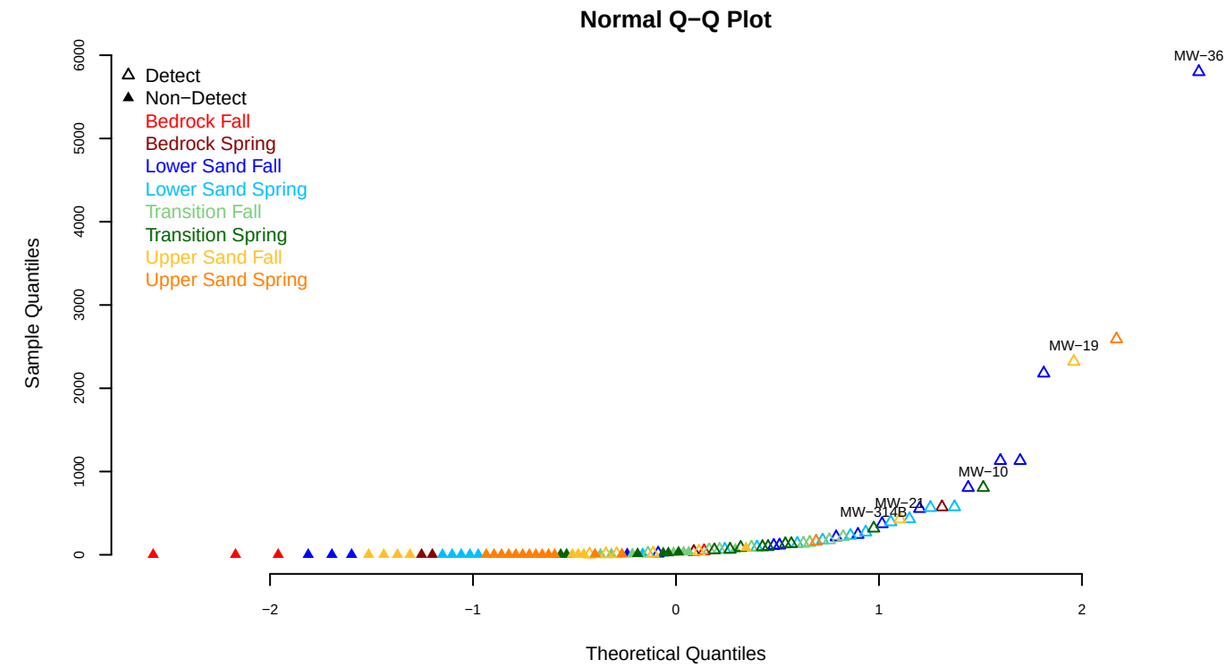
Summary Statistics

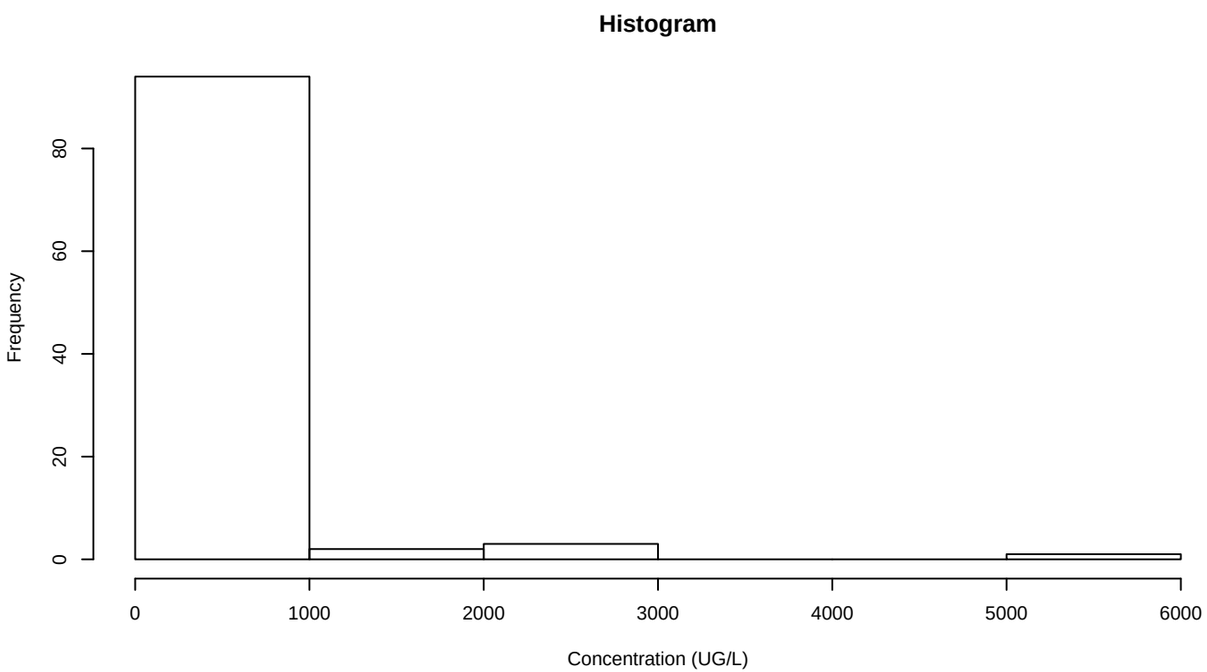
	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	0.35	0.28	0.35	0.24	0.35	0.24	0.35	0.24
25th Percentile	0.35	0.48	0.35	0.24	0.35	0.24	0.35	0.24
Median	0.35	0.68	0.35	0.3	0.35	0.53	0.35	0.24
Mean	0.35	5.9	0.62	0.42	0.73	0.54	0.48	0.59
75th Percentile	0.35	6.1	0.62	0.56	0.4	0.62	0.46	0.75
Maximum	0.35	22	2	0.99	4.7	1.5	1.4	2.5

B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

DISSOLVED IRON







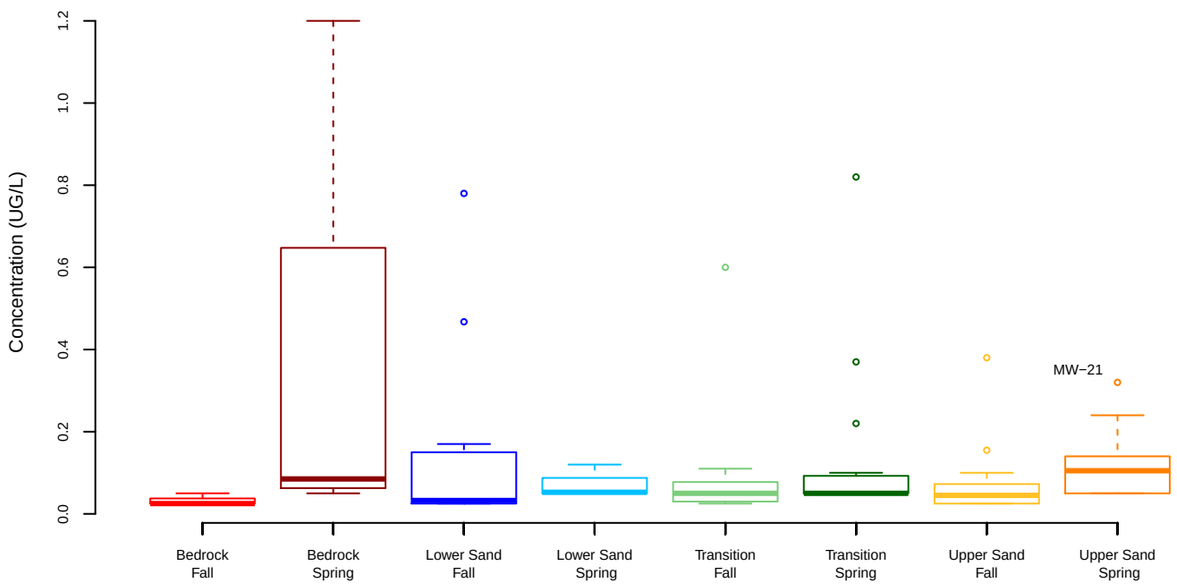
Summary Statistics

	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	2.6	3.1	2.6	3.1	8	3.2	2.6	3.1
25th Percentile	2.6	3.1	16	3.1	21	21	3.6	3.1
Median	2.6	20	230	110	56	64	6	3.1
Mean	13	150	790	180	73	120	200	190
75th Percentile	13	170	890	300	110	110	28	5.4
Maximum	45	570	5800	570	220	810	2300	2600

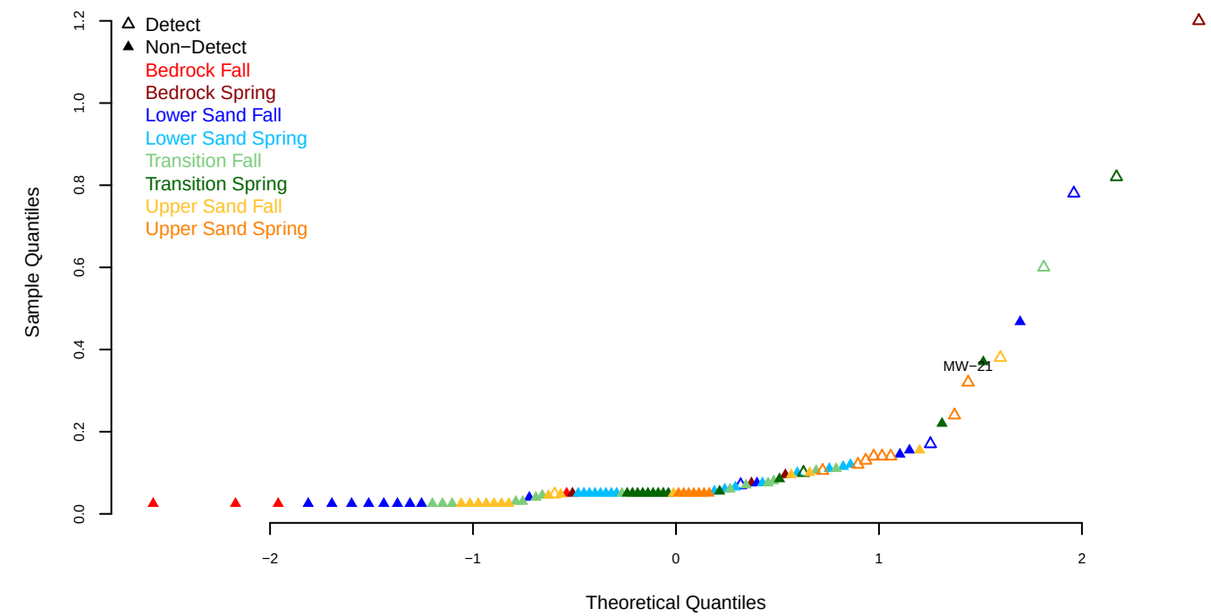
B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

DISSOLVED LEAD

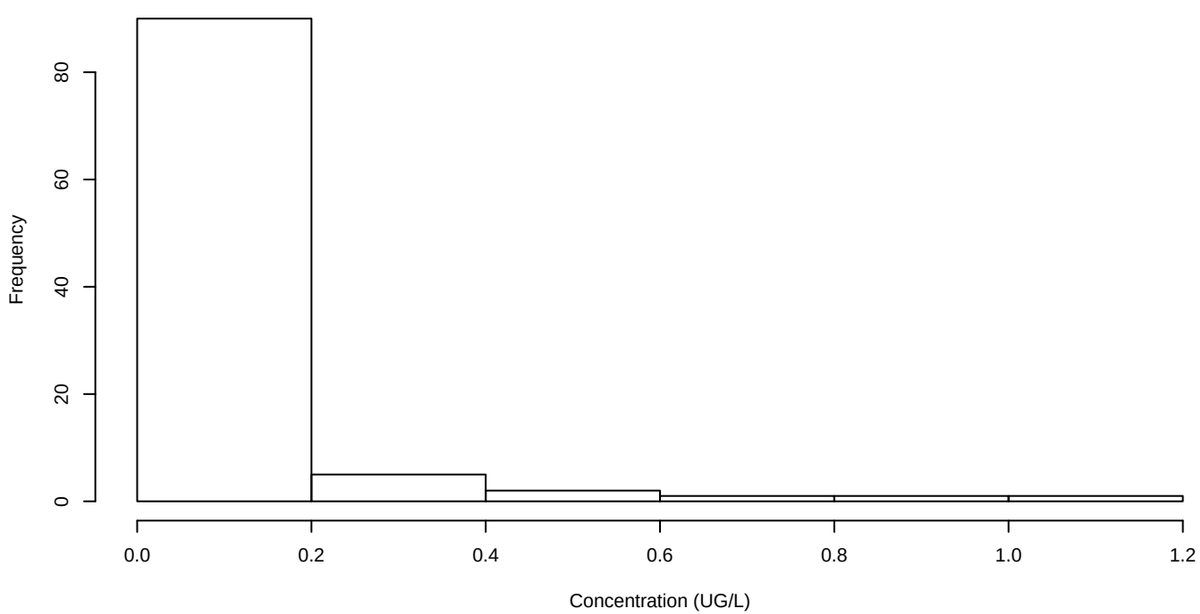
Box Plot



Normal Q−Q Plot



Histogram



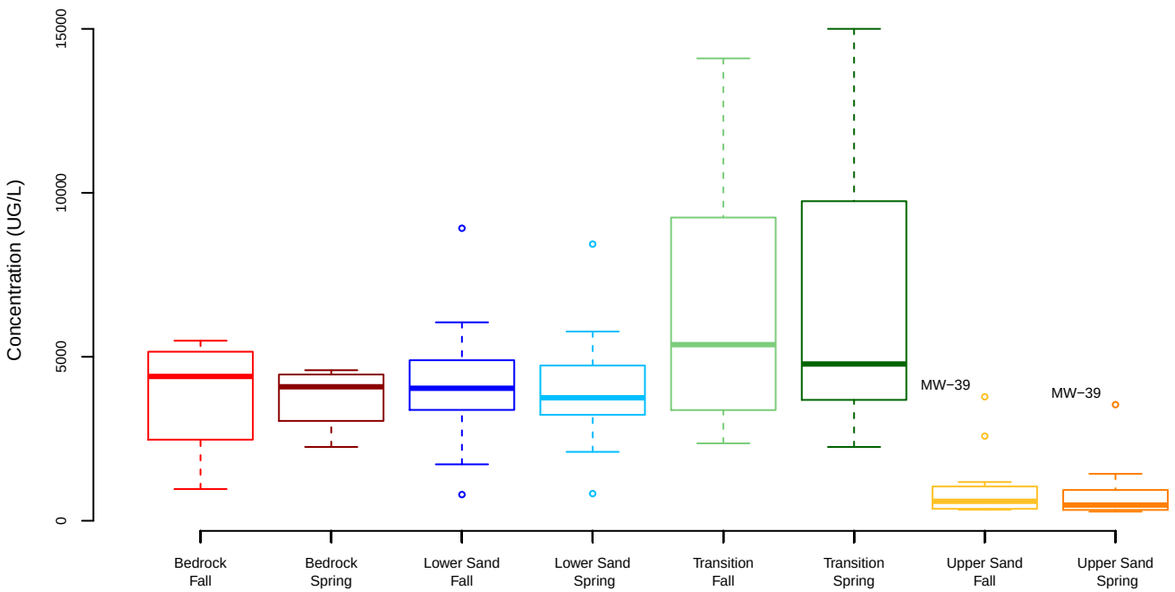
Summary Statistics

	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	0.025	0.05	0.025	0.05	0.025	0.05	0.025	0.05
25th Percentile	0.025	0.069	0.025	0.05	0.03	0.05	0.025	0.05
Median	0.025	0.085	0.032	0.052	0.05	0.05	0.045	0.1
Mean	0.031	0.36	0.13	0.069	0.091	0.14	0.073	0.11
75th Percentile	0.031	0.37	0.15	0.081	0.078	0.092	0.072	0.14
Maximum	0.05	1.2	0.78	0.12	0.6	0.82	0.38	0.32

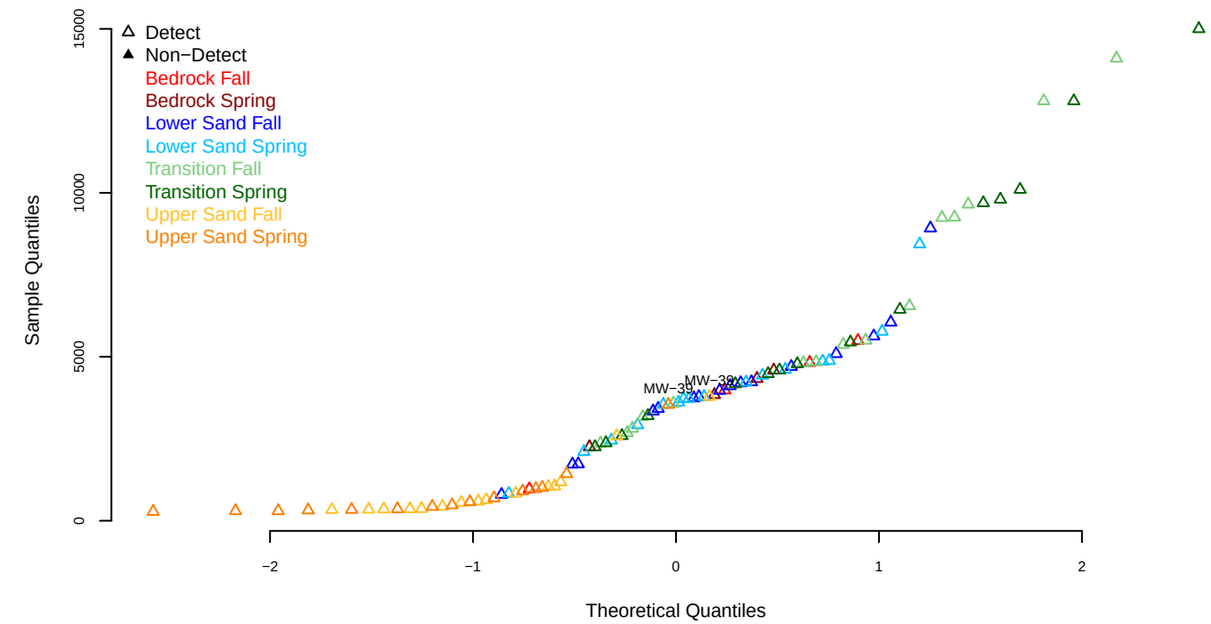
B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

DISSOLVED MAGNESIUM

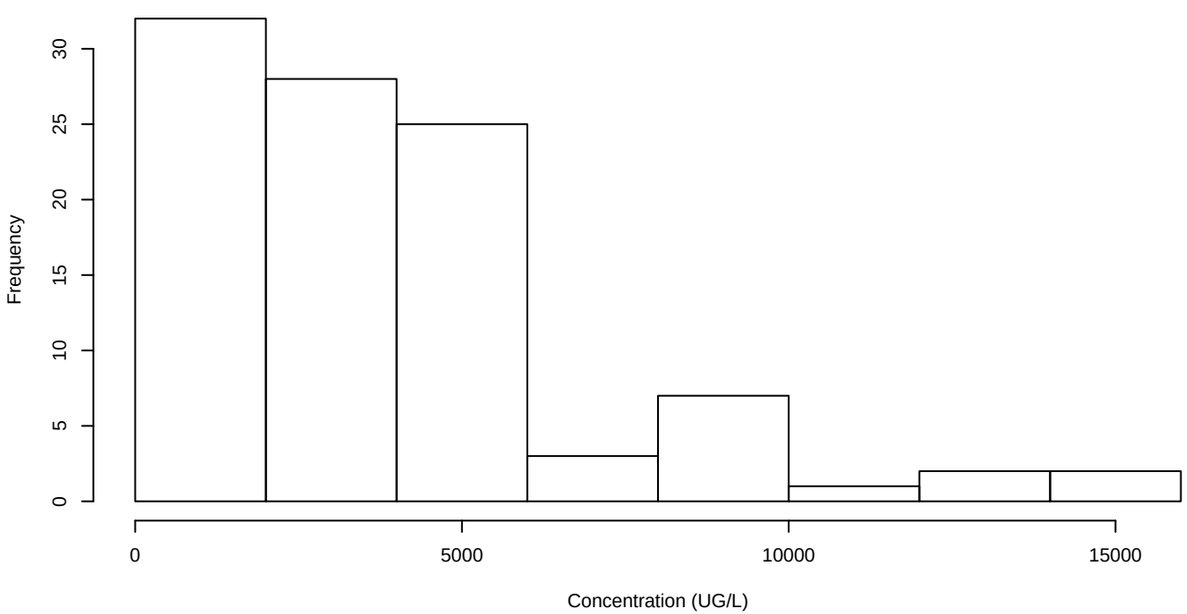
Box Plot



Normal Q−Q Plot



Histogram



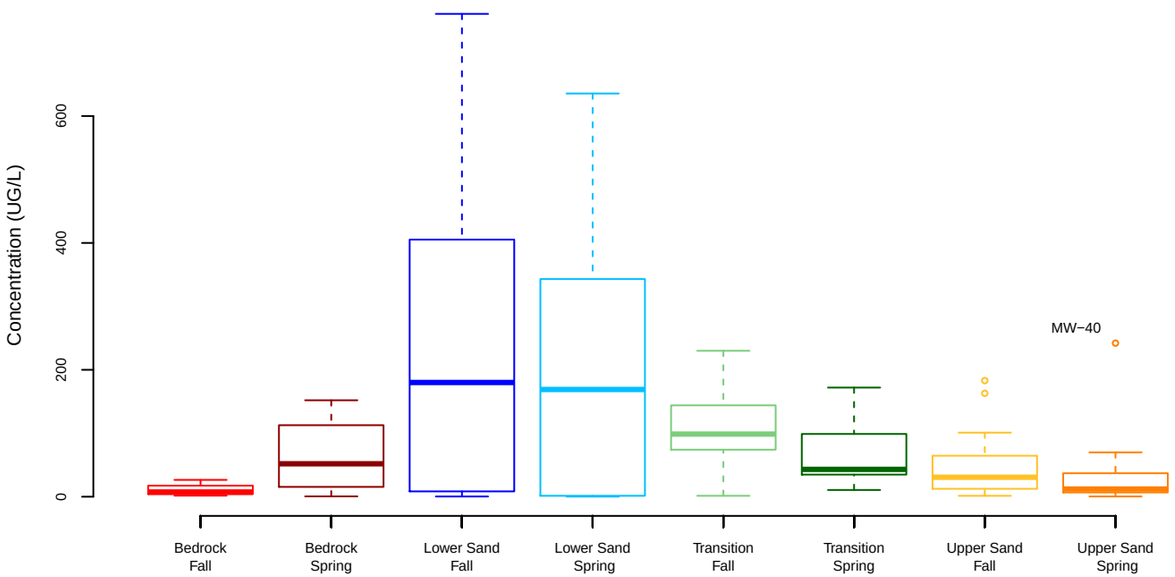
Summary Statistics

	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	970	2200	800	830	2400	2200	340	280
25th Percentile	3200	3400	3400	3400	3400	3700	360	330
Median	4400	4100	4000	3800	5400	4800	590	480
Mean	3800	3800	4100	4000	6400	6500	960	800
75th Percentile	5000	4400	4800	4700	9200	9700	1000	940
Maximum	5500	4600	8900	8400	14000	15000	3800	3500

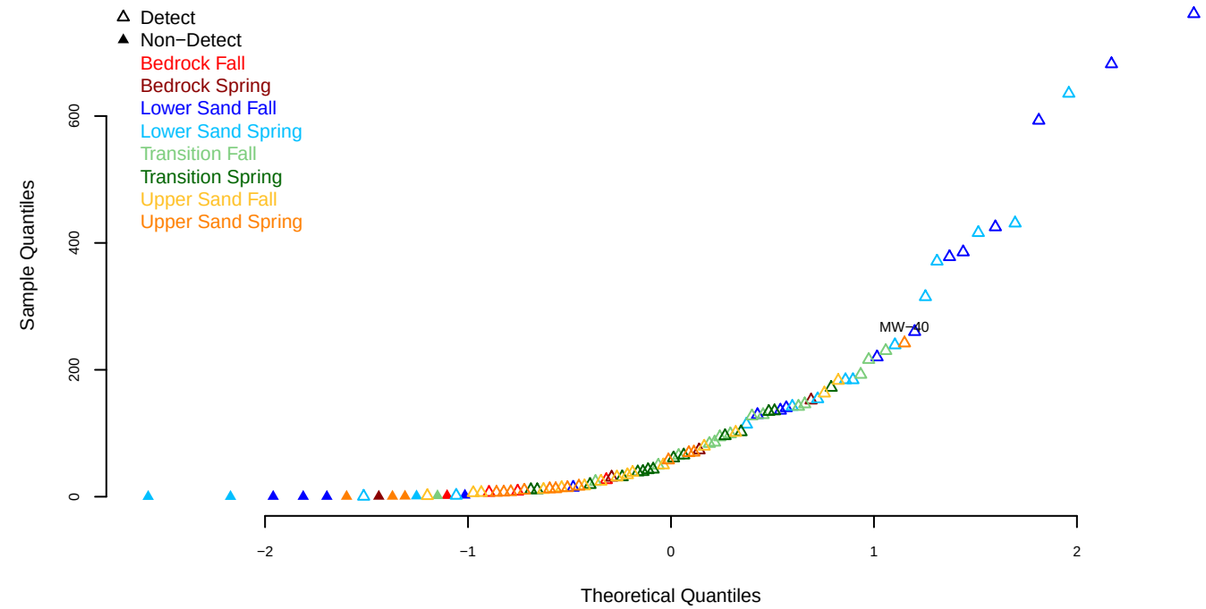
B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

DISSOLVED MANGANESE

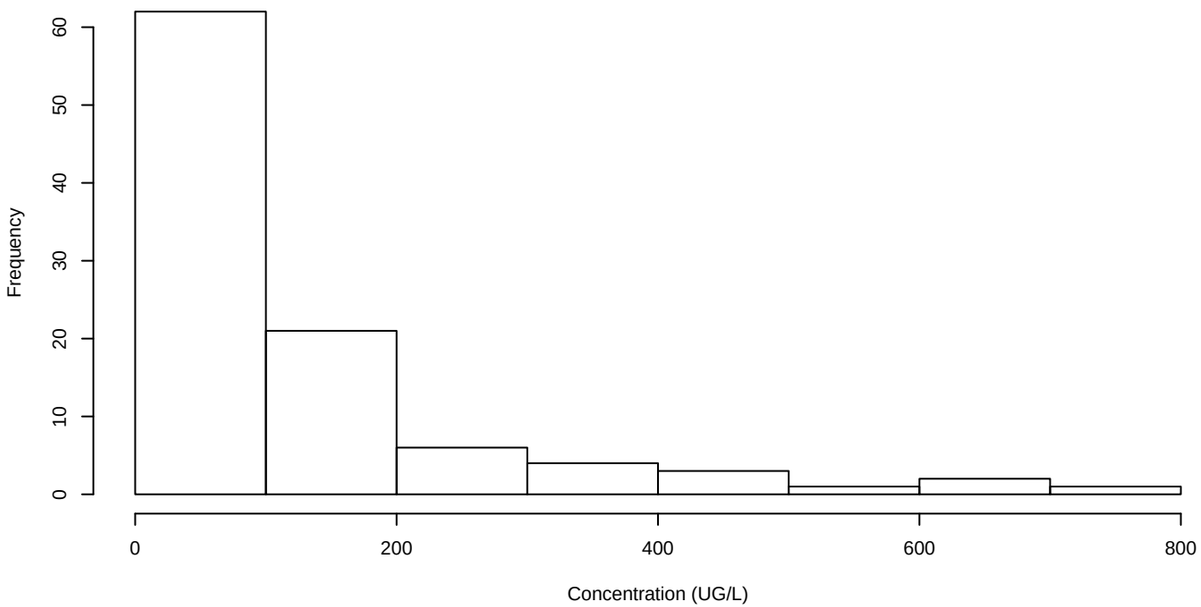
Box Plot



Normal Q−Q Plot



Histogram



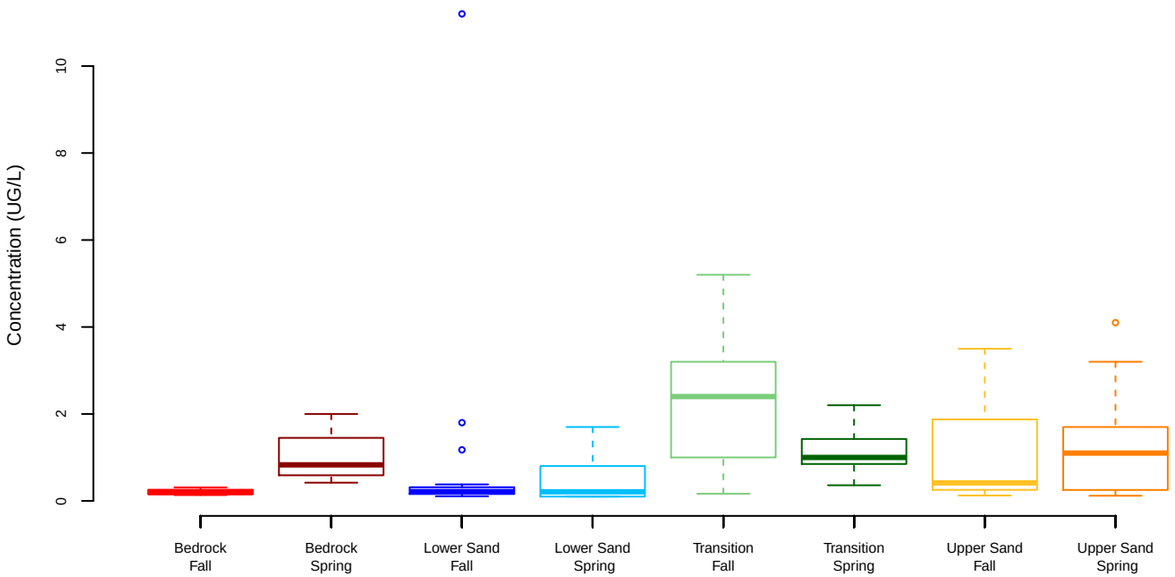
Summary Statistics

	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	1.7	0.5	0.34	0.18	1.4	11	1.4	0.4
25th Percentile	5.2	23	11	1.7	74	35	12	6.8
Median	7.4	52	180	170	99	43	31	12
Mean	11	64	260	200	110	67	51	35
75th Percentile	13	93	400	330	140	99	65	37
Maximum	26	150	760	640	230	170	180	240

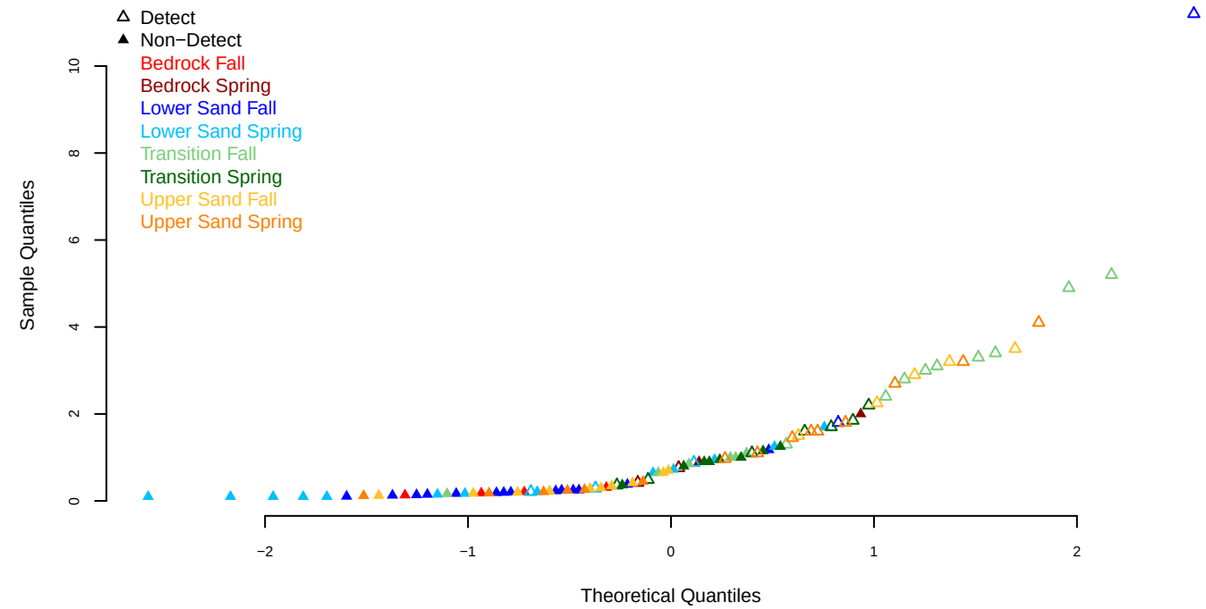
B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

DISSOLVED NICKEL

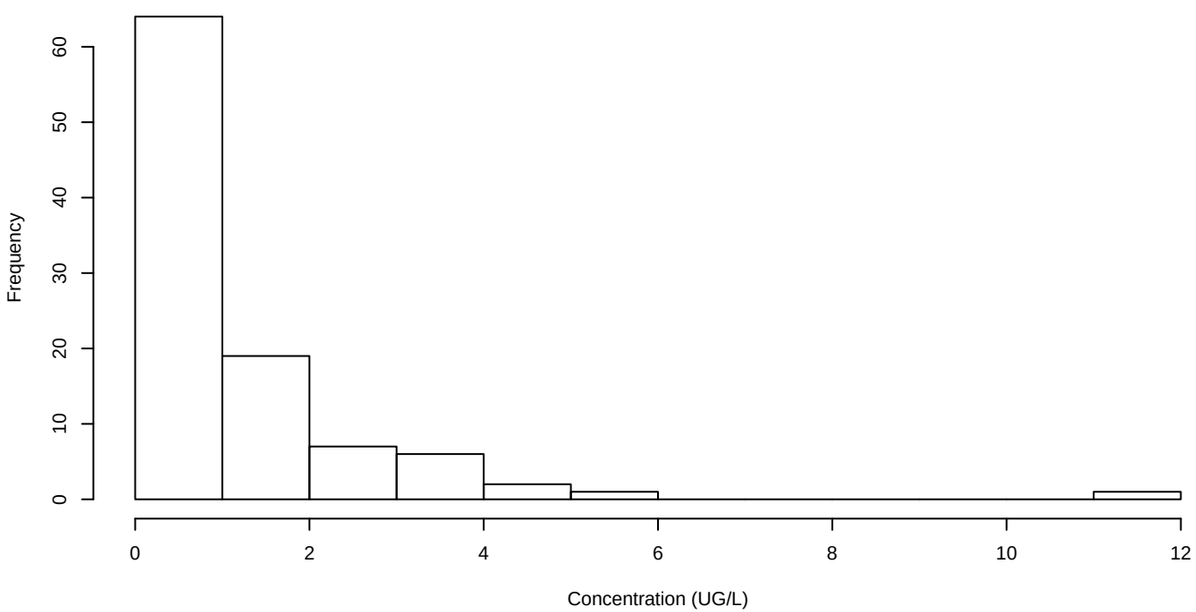
Box Plot



Normal Q−Q Plot



Histogram



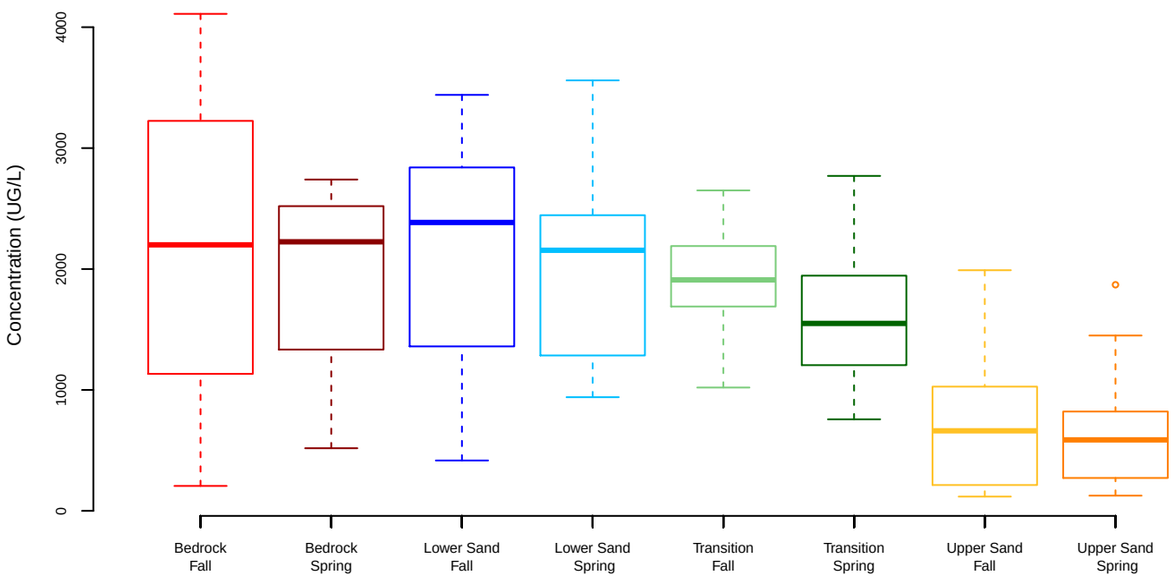
Summary Statistics

	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	0.14	0.42	0.1	0.1	0.16	0.36	0.12	0.12
25th Percentile	0.17	0.68	0.16	0.1	1	0.85	0.26	0.25
Median	0.19	0.83	0.22	0.21	2.4	1	0.42	1.1
Mean	0.21	1	1.1	0.48	2.3	1.1	1.1	1.3
75th Percentile	0.23	1.2	0.28	0.76	3.2	1.4	1.9	1.7
Maximum	0.31	2	11	1.7	5.2	2.2	3.5	4.1

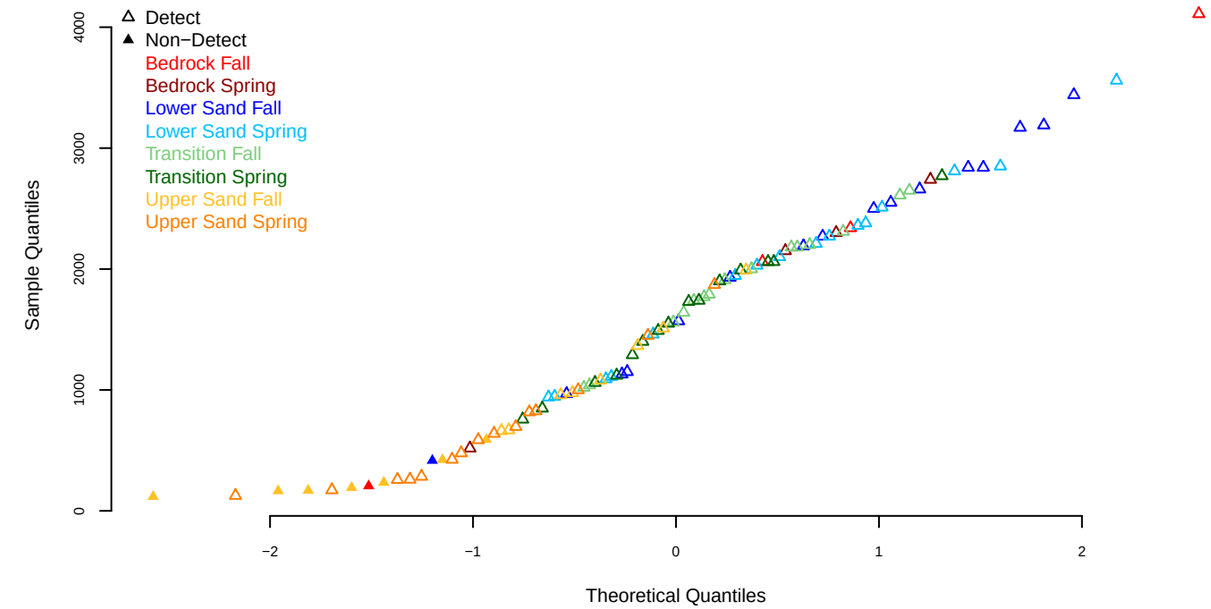
B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

DISSOLVED POTASSIUM

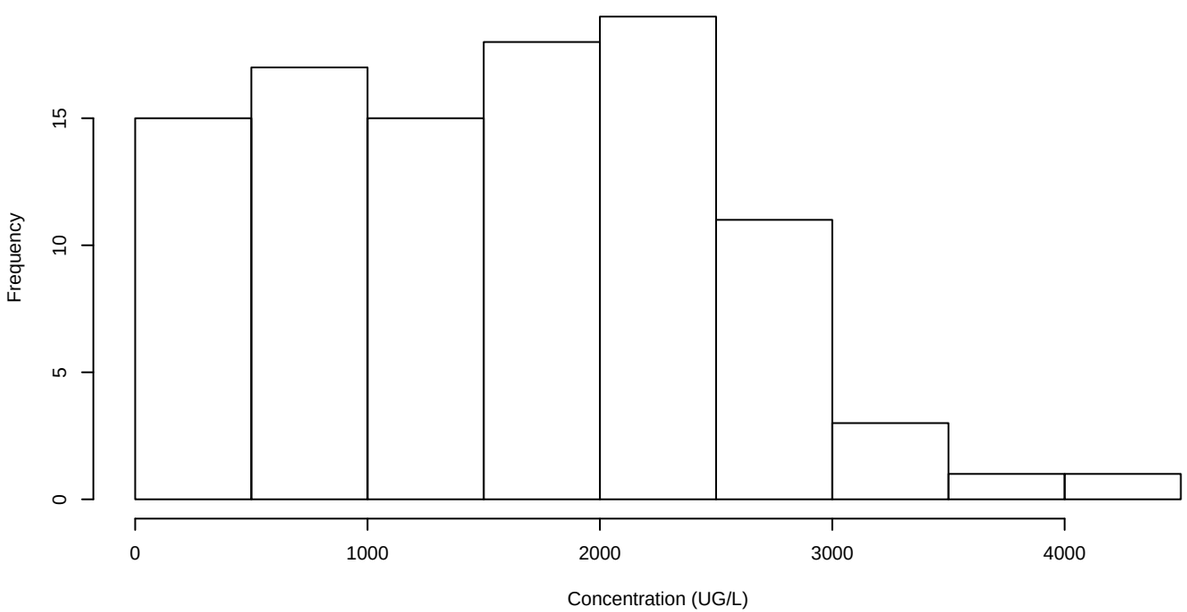
Box Plot



Normal Q−Q Plot



Histogram



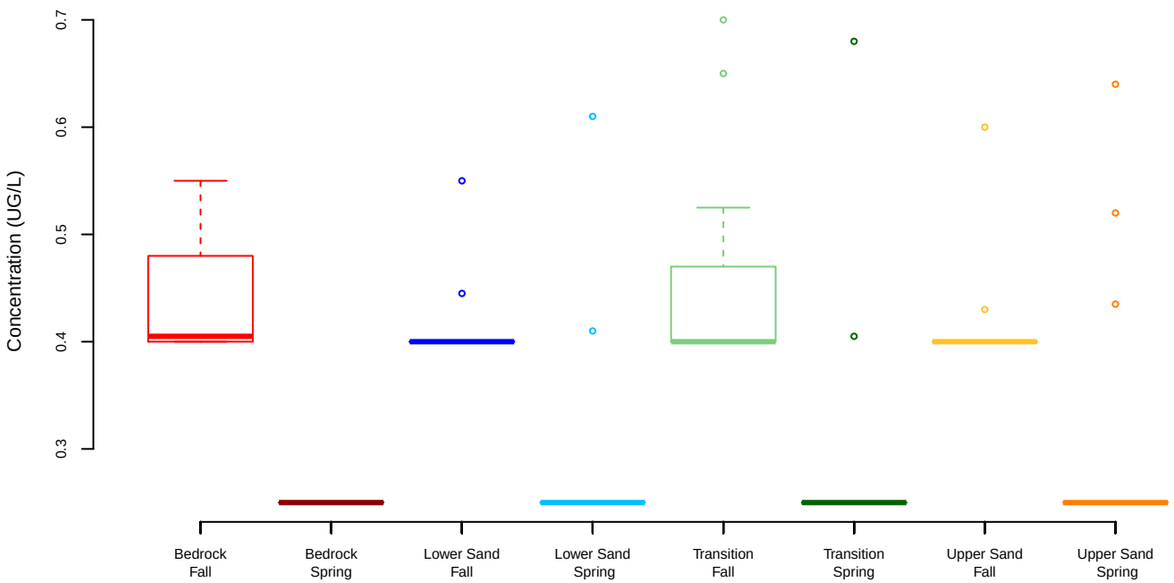
Summary Statistics

	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	210	520	420	940	1000	760	120	130
25th Percentile	1600	1700	1500	1400	1700	1200	210	270
Median	2200	2200	2400	2200	1900	1600	660	590
Mean	2200	1900	2200	2000	1900	1600	740	660
75th Percentile	2800	2400	2800	2400	2200	1900	1000	820
Maximum	4100	2700	3400	3600	2600	2800	2000	1900

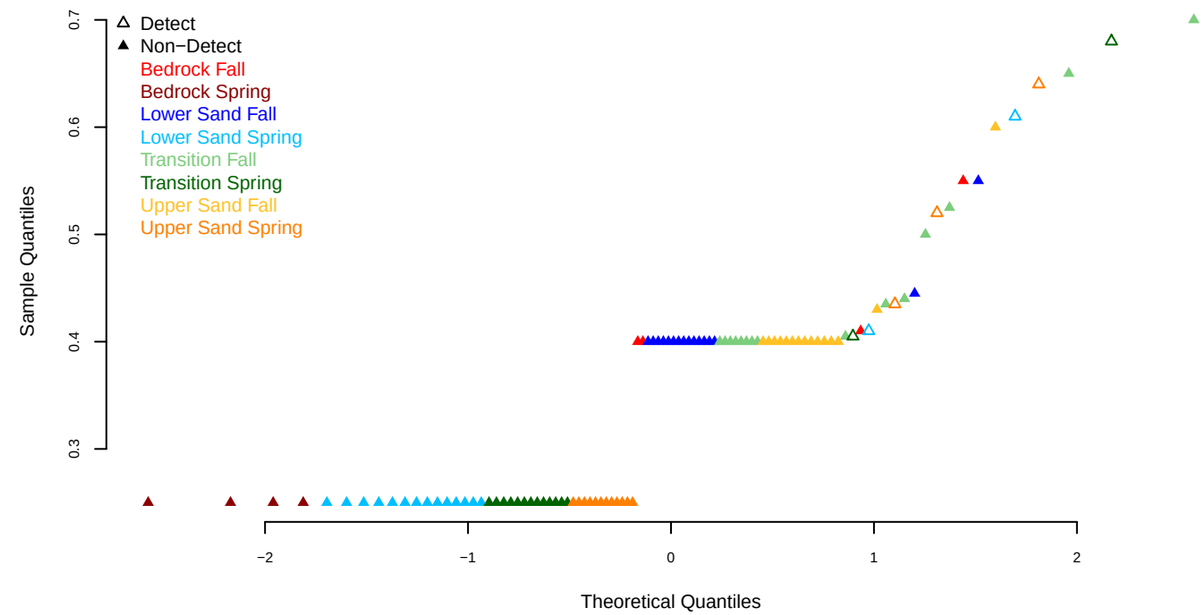
B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

DISSOLVED SELENIUM

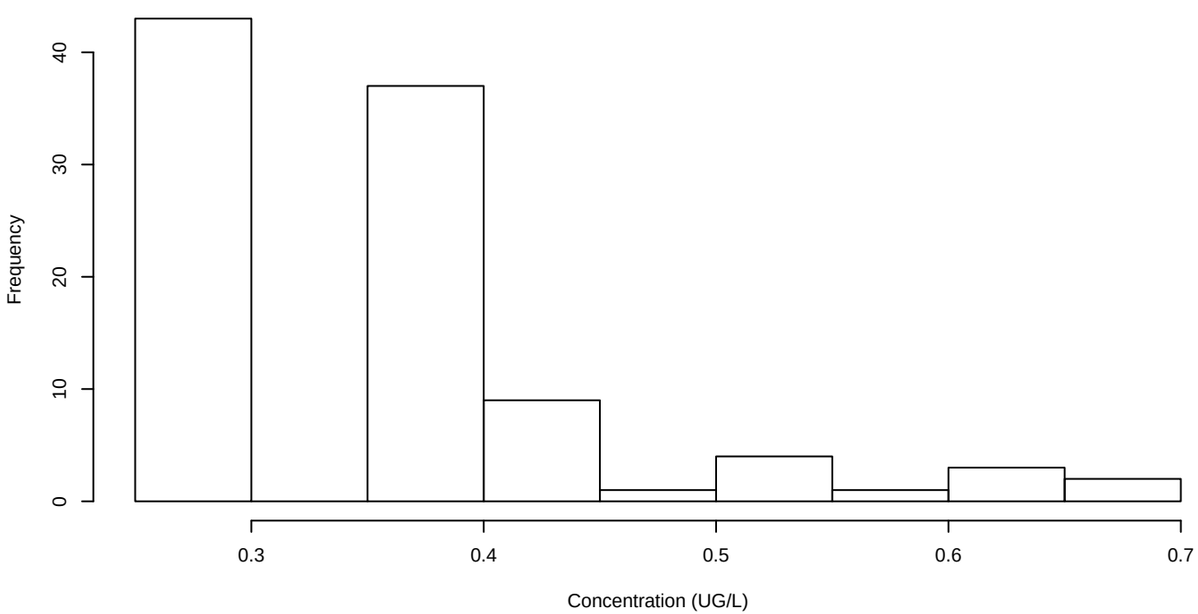
Box Plot



Normal Q−Q Plot



Histogram

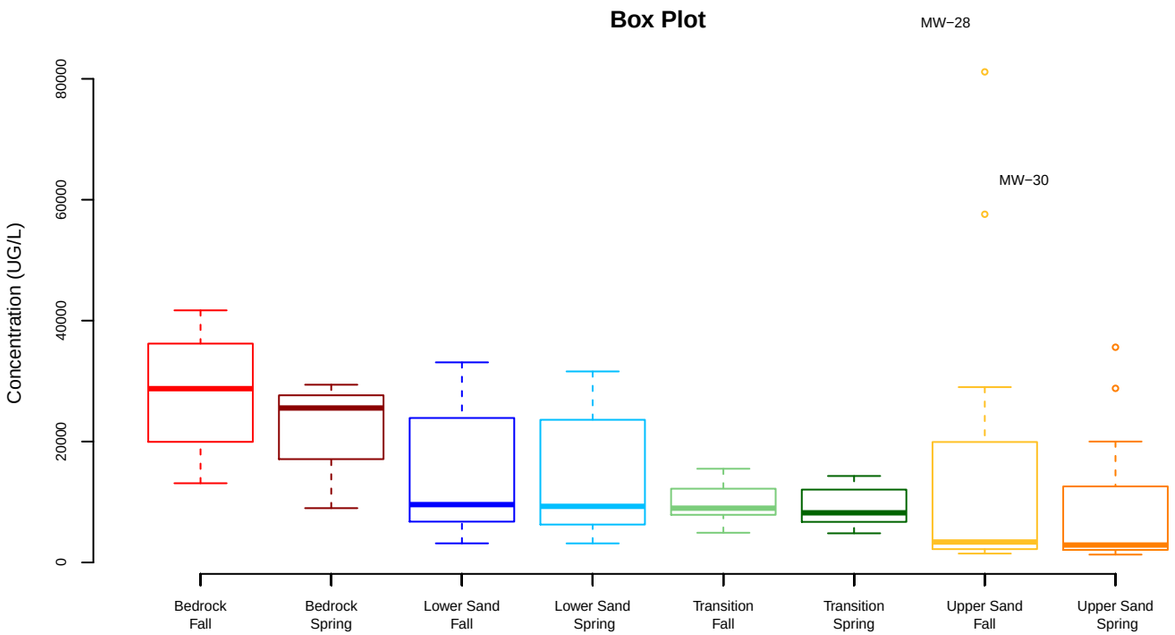


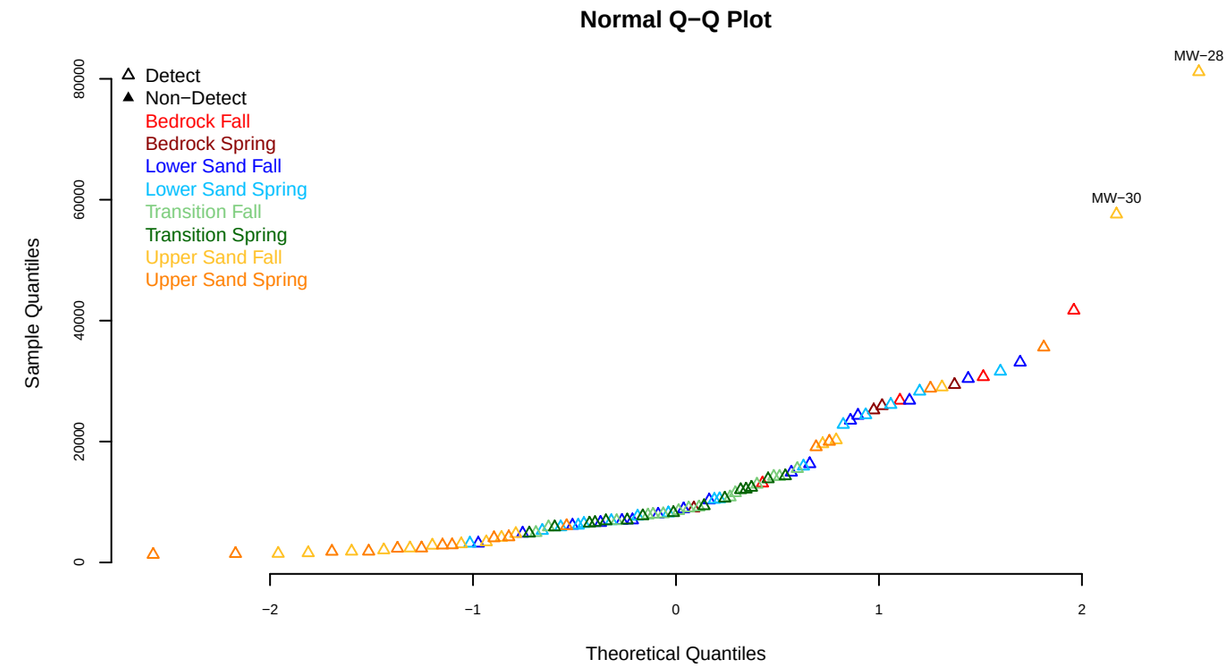
Summary Statistics

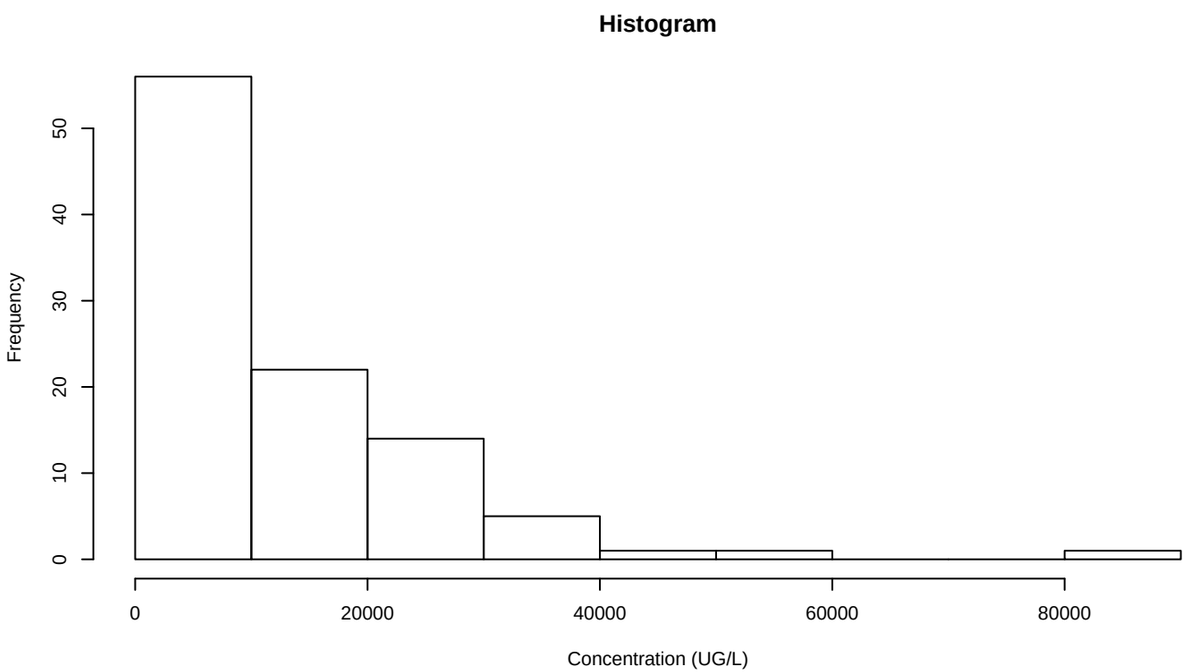
	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	0.4	0.25	0.4	0.25	0.4	0.25	0.4	0.25
25th Percentile	0.4	0.25	0.4	0.25	0.4	0.25	0.4	0.25
Median	0.4	0.25	0.4	0.25	0.4	0.25	0.4	0.25
Mean	0.44	0.25	0.41	0.28	0.46	0.29	0.42	0.31
75th Percentile	0.44	0.25	0.4	0.25	0.47	0.25	0.4	0.25
Maximum	0.55	0.25	0.55	0.61	0.7	0.68	0.6	0.64

B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

DISSOLVED SODIUM







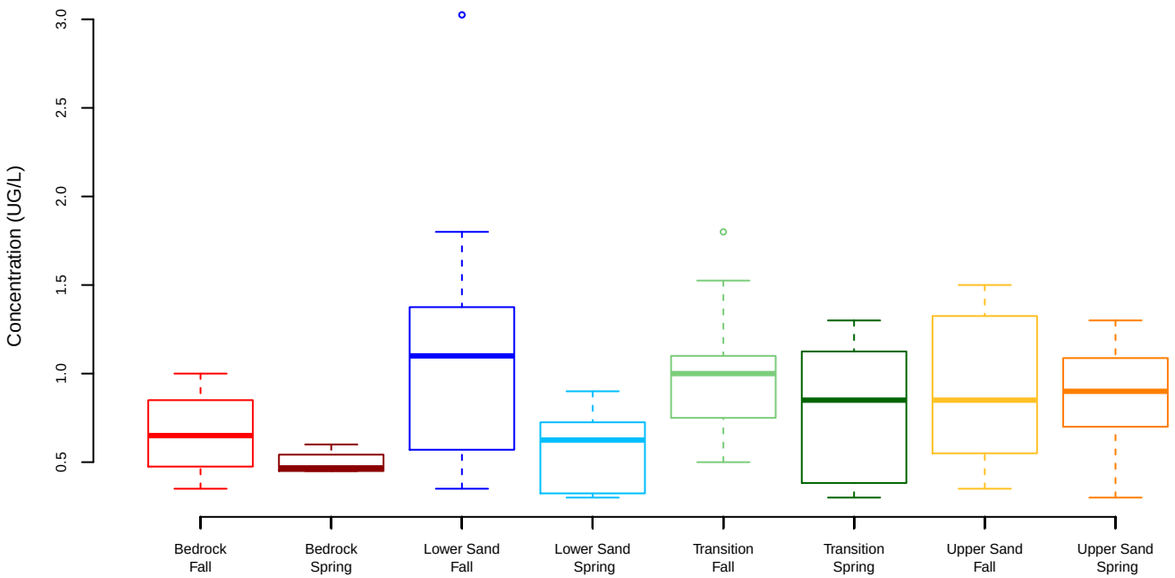
Summary Statistics

	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	13000	9000	3200	3200	4900	4800	1500	1300
25th Percentile	23000	21000	6800	6300	7900	6700	2200	2100
Median	29000	26000	9600	9300	9000	8200	3400	2900
Mean	28000	22000	14000	14000	9800	9200	16000	9000
75th Percentile	33000	27000	24000	23000	12000	12000	20000	13000
Maximum	42000	29000	33000	32000	16000	14000	81000	36000

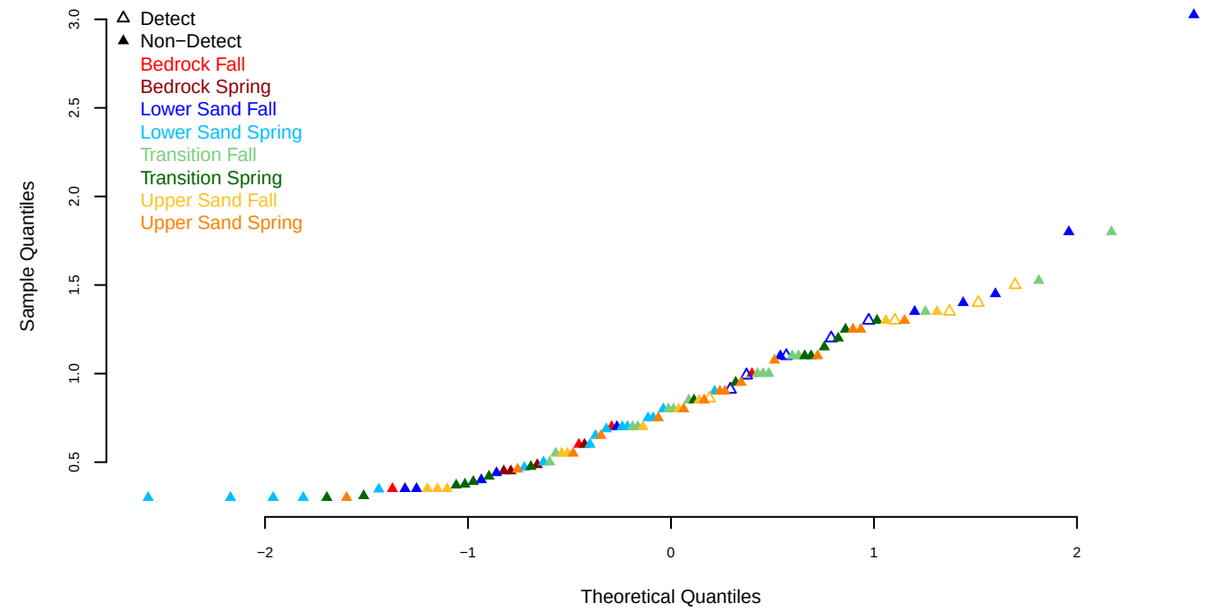
B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

DISSOLVED VANADIUM

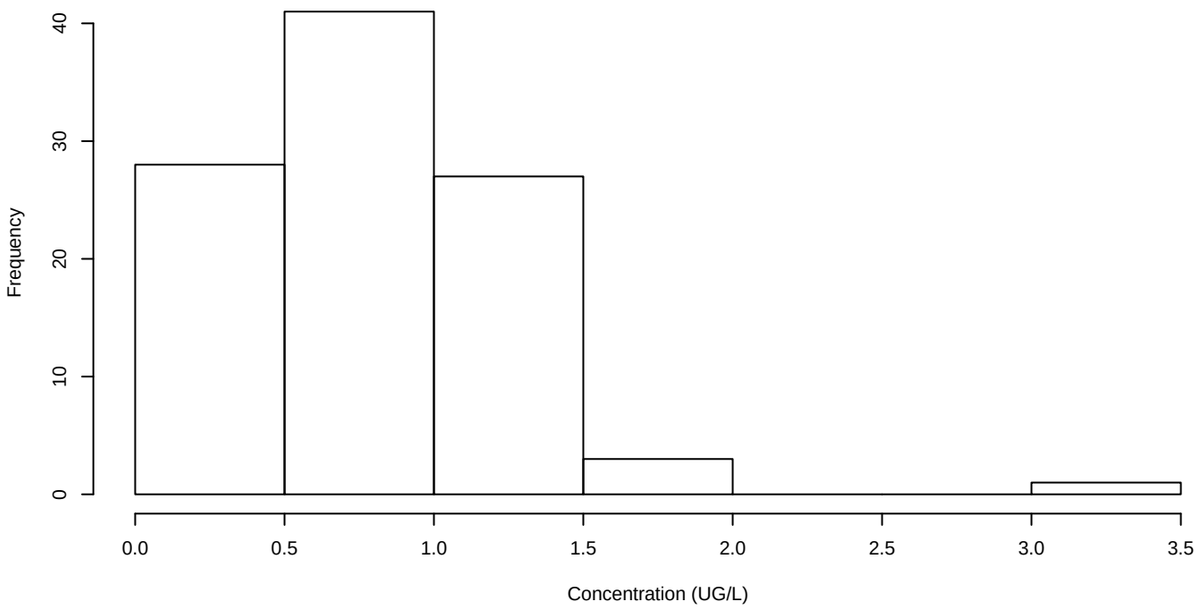
Box Plot



Normal Q−Q Plot



Histogram



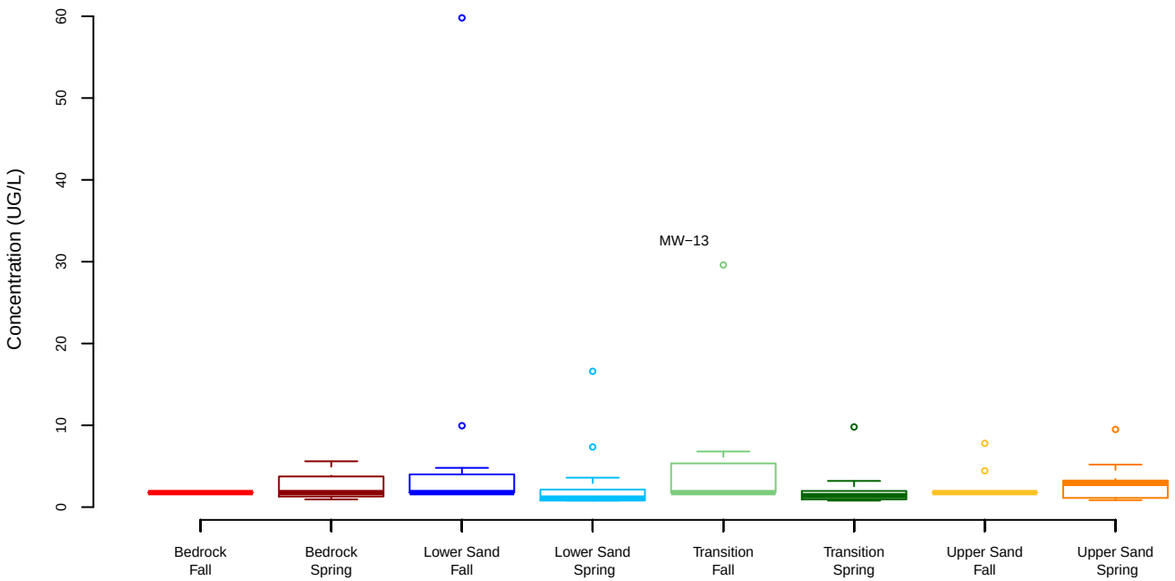
Summary Statistics

	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	0.35	0.45	0.35	0.3	0.5	0.3	0.35	0.3
25th Percentile	0.54	0.45	0.64	0.34	0.75	0.38	0.55	0.7
Median	0.65	0.47	1.1	0.62	1	0.85	0.85	0.9
Mean	0.66	0.5	1.1	0.57	0.98	0.77	0.9	0.87
75th Percentile	0.78	0.51	1.4	0.71	1.1	1.1	1.3	1.1
Maximum	1	0.6	3	0.9	1.8	1.3	1.5	1.3

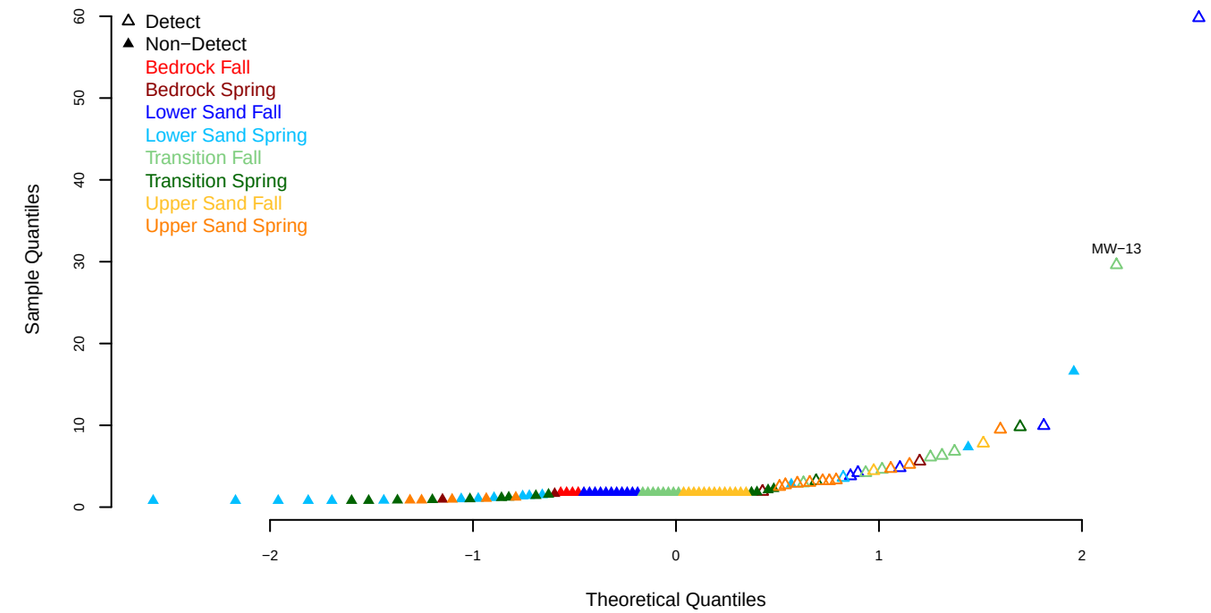
B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

DISSOLVED ZINC

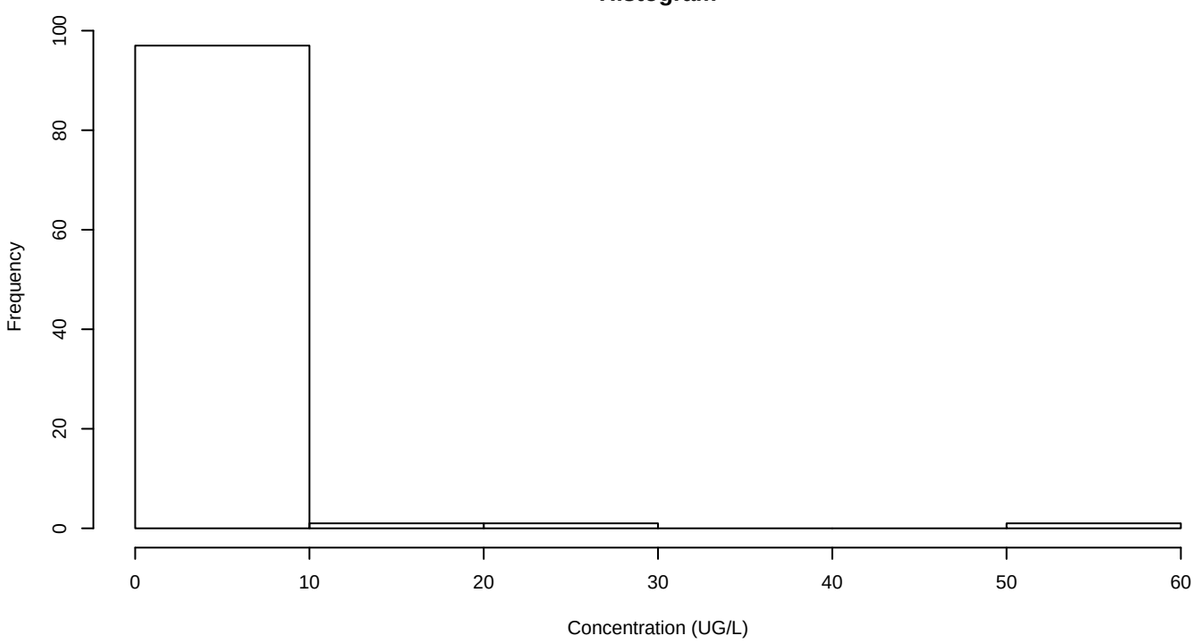
Box Plot



Normal Q−Q Plot



Histogram



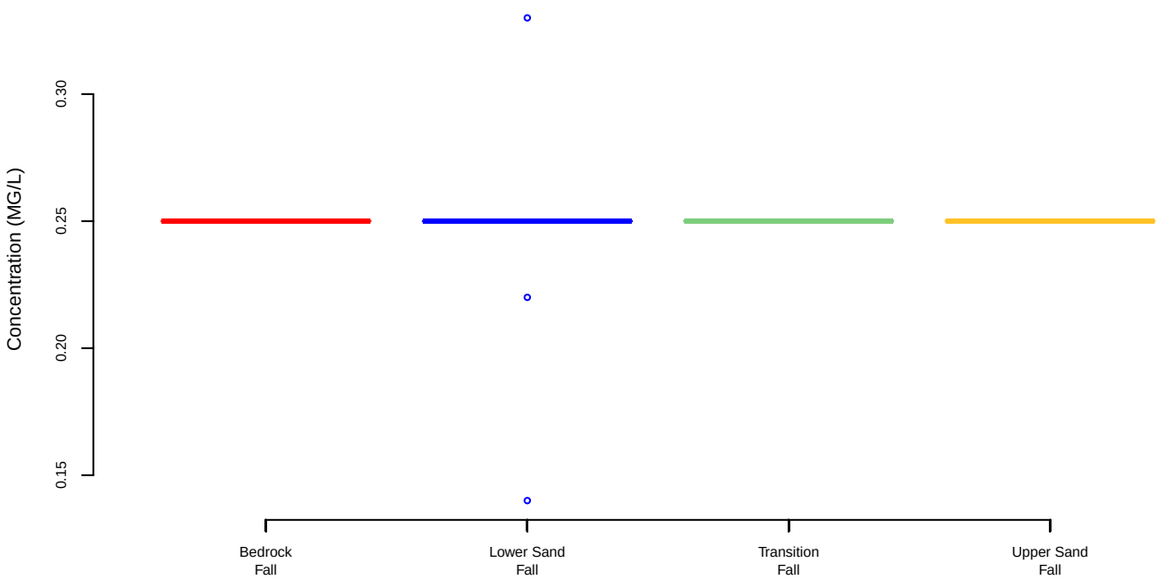
Summary Statistics

	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	1.8	0.95	1.8	0.8	1.8	0.8	1.8	0.85
25th Percentile	1.8	1.5	1.8	0.8	1.8	0.95	1.8	1.1
Median	1.8	1.8	1.8	1.1	1.8	1.4	1.8	2.9
Mean	1.8	2.5	6.4	2.7	5	2	2.4	3
75th Percentile	1.8	2.8	3.9	1.8	5.4	2	1.8	3.2
Maximum	1.8	5.6	60	17	30	9.8	7.8	9.5

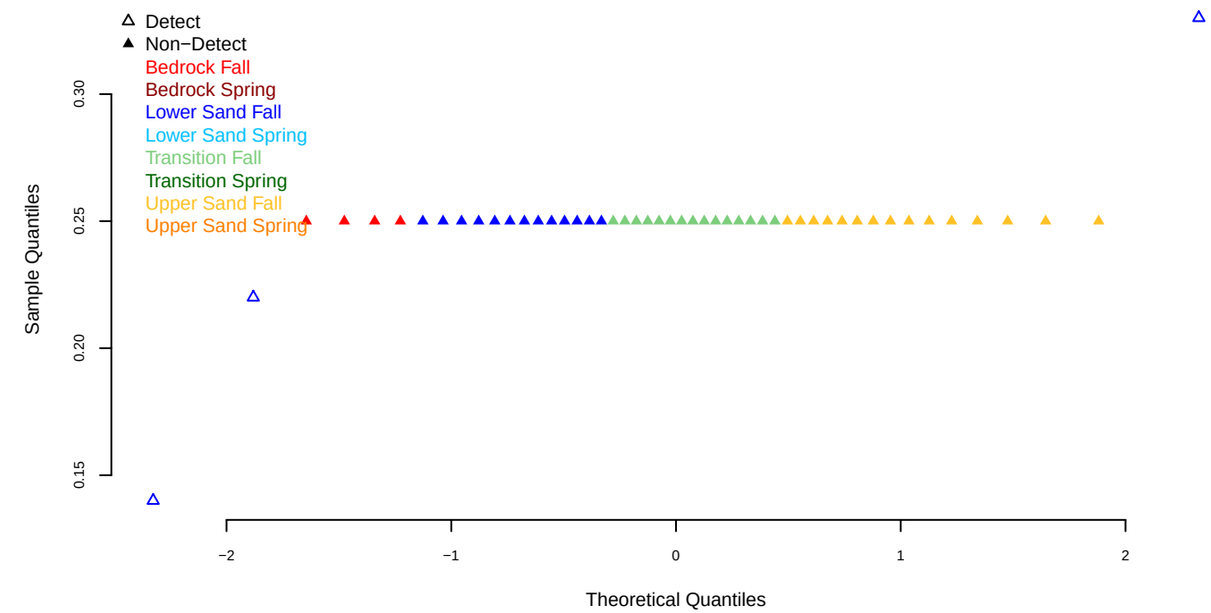
B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

BROMIDE

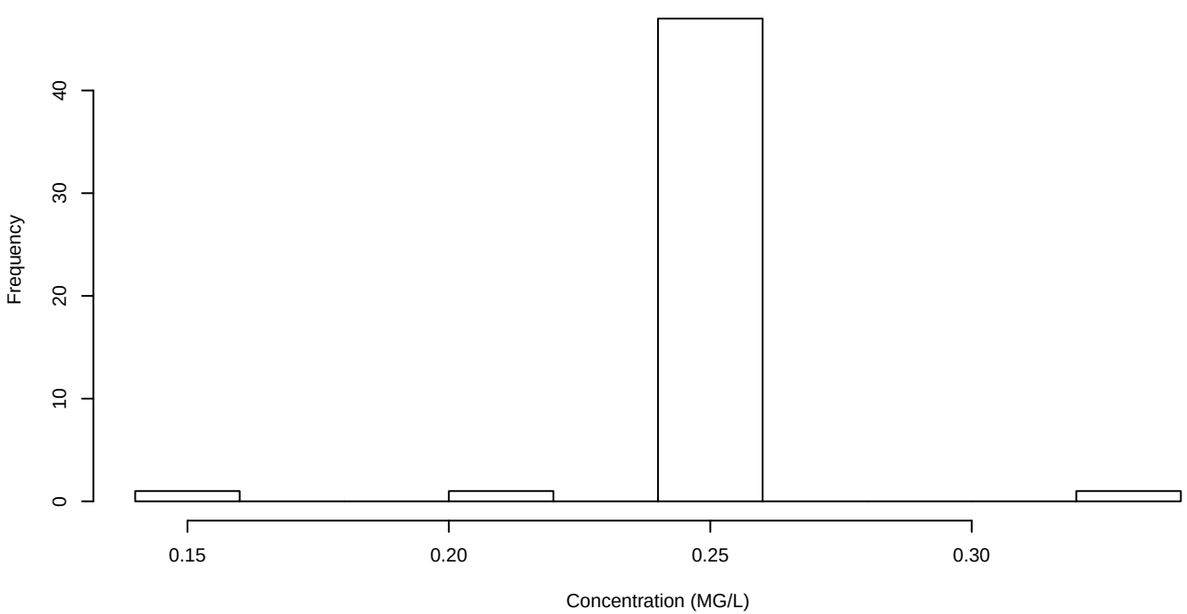
Box Plot



Normal Q−Q Plot



Histogram

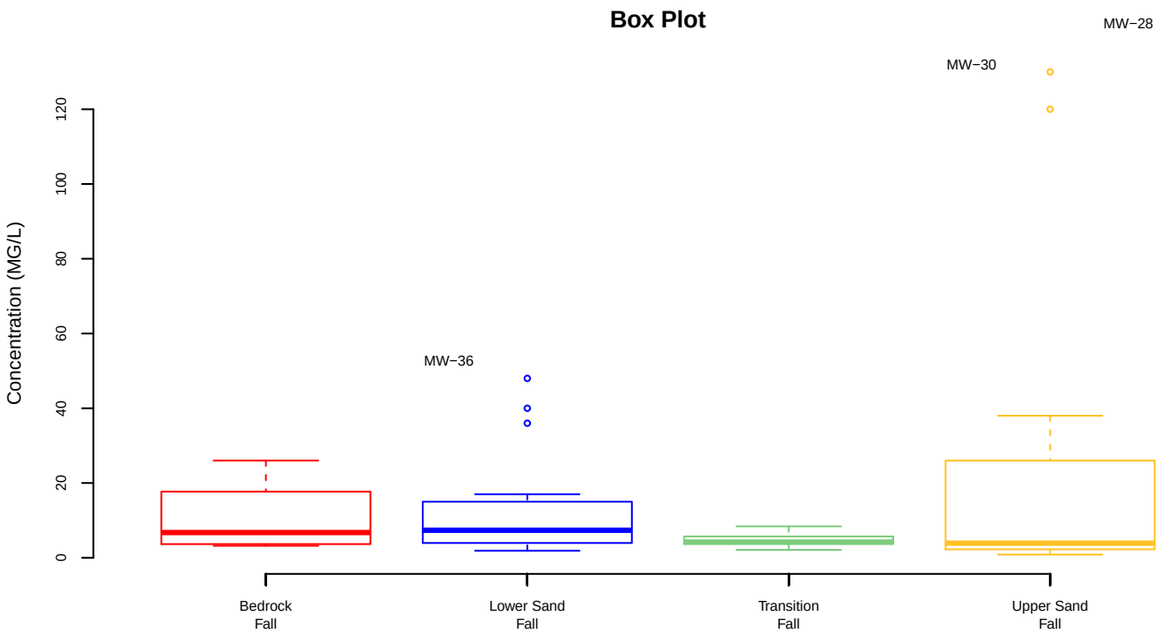


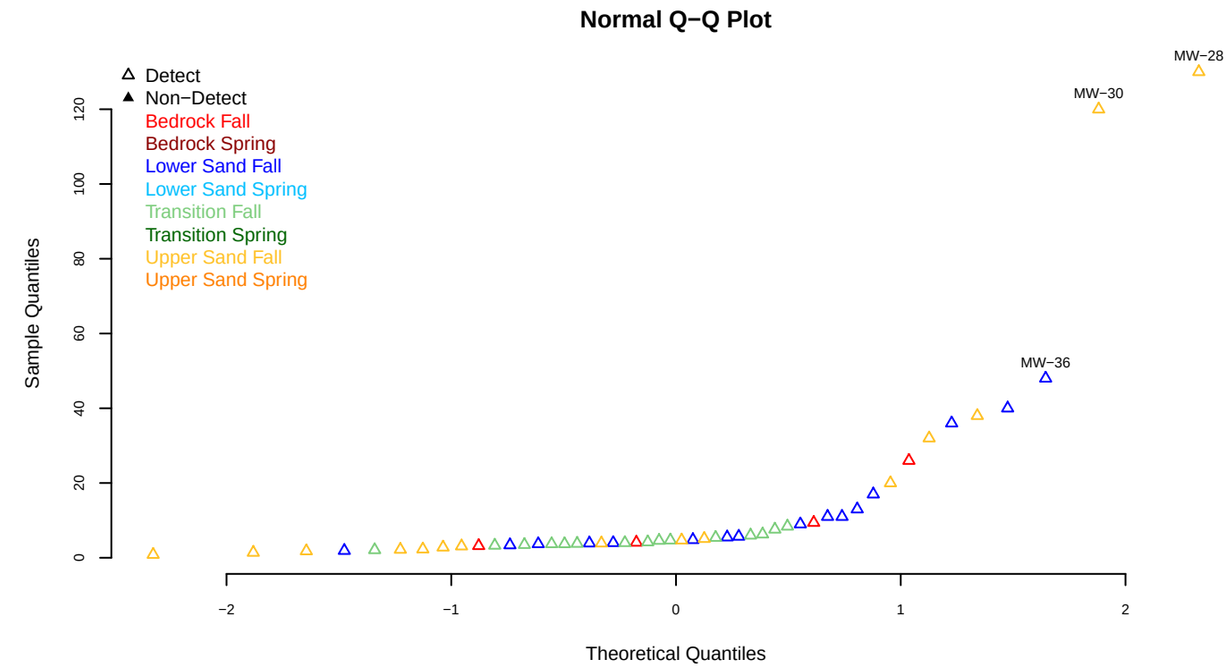
Summary Statistics

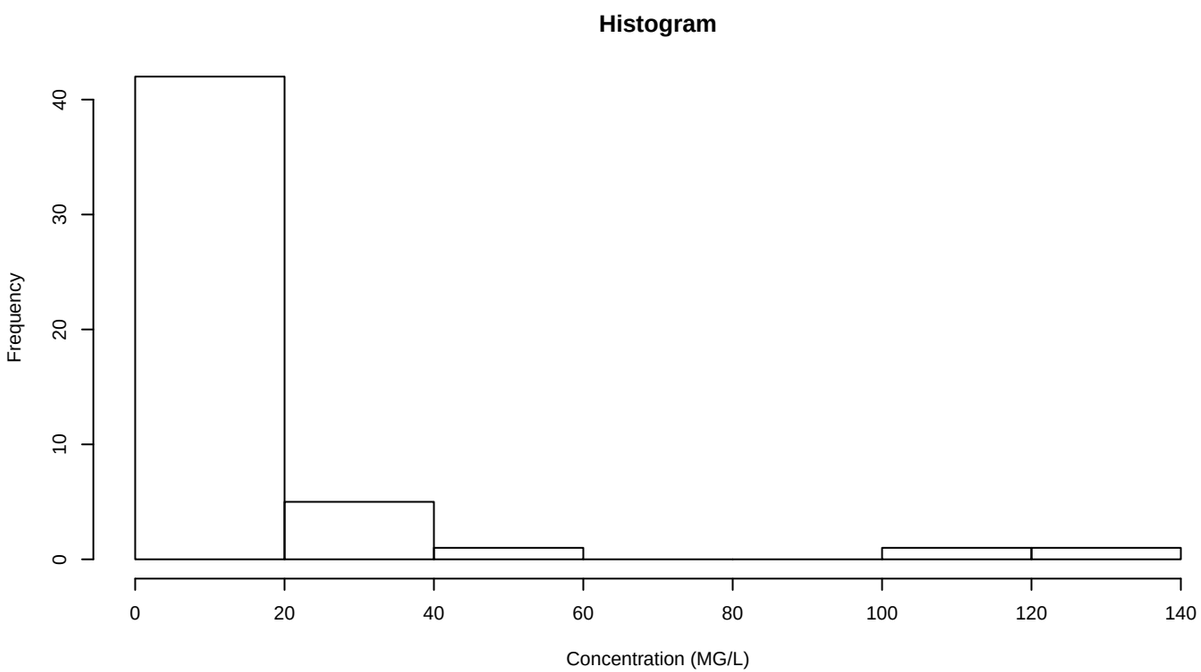
	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	0.25		0.14		0.25		0.25	
25th Percentile	0.25		0.25		0.25		0.25	
Median	0.25		0.25		0.25		0.25	
Mean	0.25	NaN	0.25	NaN	0.25	NaN	0.25	NaN
75th Percentile	0.25		0.25		0.25		0.25	
Maximum	0.25		0.33		0.25		0.25	

B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

CHLORIDE







Summary Statistics

	B F	B S	L F	L S	T F	T S	U F	U S
Minimum	3.2		1.9		2.1		0.85	
25th Percentile	3.9		4		3.7		2.2	
Median	6.8		7.4		4.2		3.9	
Mean	11	NaN	14	NaN	4.8	NaN	25	NaN
75th Percentile	14		14		5.7		26	
Maximum	26		48		8.4		130	

B F = Bedrock Fall
B S = Bedrock Spring
L F = Lower Sand Fall
L S = Lower Sand Spring
T F = Transition Fall
T S = Transition Spring
U F = Upper Sand Fall
U S = Upper Sand Spring
NaN = Not Analyzed For
Summary statistics presented using two significant figures

A.2.4 GROUNDWATER HYPOTHESIS TESTING TO COMPARE DATA GROUPS

APPENDIX A.2.4 HYPOTHESIS TESTING TO COMPARE DATA GROUPS

To determine whether differences exist between groundwater data subgroups, an appropriate statistical hypothesis test was conducted in accordance with the project SAP (Tt, 2009). Table A.2.4.1 presents the frequency of detection, data distribution conclusion (see discussion in Appendix A.2.2) and the appropriate test for each chemical subgroup. If a chemical was not detected in at least two samples in a subgroup, then the chemical subgroup was not included in the statistical hypothesis test. All tests were conducted using a significance level of 0.05.

For the inorganic fraction, with the exception of selenium and TOC there are more than two background data groups to be compared. Either a parametric or nonparametric ANOVA can determine if there are differences among groups. The parametric ANOVA test determines if the means of the groups differ, while the nonparametric Kruskall Wallis ANOVA test determines if the medians of the groups differ. The parametric ANOVA test is valid only if the population variances are equal (homoscedastic) and either the population distributions are normal or the sample sizes are large. The parametric and nonparametric ANOVA only determine that differences, exist not which groups are different. To determine which groups differ, multiple comparisons are used. For chemicals with more than two subgroups, the residuals were not constant and each subgroup was not normally distributed; therefore, Kruskall Wallis ANOVAs were used to determine differences between the appropriate subgroups. The plots of the residuals to check for constant variance are not presented. Table A.2.4.2 presents the p-value for the Kruskall Wallis ANOVA and the conclusion regarding the comparisons of the subgroups. Table A.2.4.3 presents the p-value for the multiple comparisons for chemicals where differences were detected.

When there are two background data groups to be compared, either a parametric or nonparametric two sample test can determine if the two groups are different. When the two groups are not normally distributed, or there are more than two non-detects, then the non-parametric Gehan Test was applied to determine whether two background data sets belong to populations with identical medians and distributions. If the Gehan Test concluded that the two tests were similar than the quantile test, or upper ranks test (EPA, 1992, 2006), was applied to determine whether the upper tail of one data set is greater than the upper tail of the other data set. The data in each subgroup were not normally distributed and/or there were multiple non-detects; therefore, the Gehan Test or proportion test was used depending on the percentages of non-detects. Table A.2.4.4 presents the p-values for the Gehan Test and Quantile Test for each chemical and the conclusions regarding the comparison of the two groups. For the quantile test, if the test statistic is greater than or equal to the critical value, then it was concluded that the two

data sets do not have equal upper tails. For the Gehan and Fisher Exact Test, if the p-value is less than 0.05 it was concluded that the two data sets represent different populations.

Several inorganics (antimony, chromium, mercury, selenium, silver, thallium, dissolved antimony, and bromide) were detected infrequently and therefore statistical hypothesis test were not conducted on these chemicals. Tables A.2.4.3 and A.2.4.4 present how the subgroups for the remaining chemicals can be combined. The SAP stated that at least 15 samples were needed for each background dataset. With the exception of the bedrock wells all subgroups have at least 15 samples. Based one the formal hypothesis test dissolved cadmium bedrock spring wells do not have at least 15 samples.

Table A.2.4.1
Groundwater Hypothesis Tests
Naval Air Station, Brunswick, Maine

Parameter	Frequency of Detection								Data Distribution								Test
	BEDROCK FALL	BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING	BEDROCK FALL	BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING	
Inorganics																	
ALUMINUM	2/4	2/4	2/13	5/16	8/15	13/15	6/15	12/15	NA	NA	Nonparametric	Nonparametric	LogNormal	LogNormal	Nonparametric	LogNormal	KRUSKAL WALLIS
ANTIMONY	0/4	0/4	0/13	1/16	1/15	0/15	0/15	0/15	NA	NA	NA	NA	NA	NA	NA	NA	NA ONLY DETECTED ONCE IN TWO GROUPS
ARSENIC	1/4	2/4	5/13	11/16	2/15	11/15	3/15	0/15	NA	NA	Nonparametric	Nonparametric	Nonparametric	Normal	Nonparametric	NA	KRUSKAL WALLIS
BARIUM	3/4	4/4	11/13	16/16	15/15	15/15	14/15	15/15	NA	NA	LogNormal	LogNormal	LogNormal	Normal	LogNormal	LogNormal	KRUSKAL WALLIS
BERYLLIUM	1/4	1/4	1/13	2/16	0/15	3/15	3/15	8/15	NA	NA	Nonparametric	Nonparametric	NA	Nonparametric	Nonparametric	Nonparametric	KRUSKAL WALLIS
CADMIUM	1/4	4/4	0/13	4/16	0/15	2/15	0/15	1/15	NA	NA	NA	Nonparametric	NA	Nonparametric		Nonparametric	KRUSKAL WALLIS
CALCIUM	4/4	4/4	13/13	16/16	15/15	15/15	15/15	15/15	NA	NA	LogNormal	LogNormal	LogNormal	LogNormal	LogNormal	Nonparametric	KRUSKAL WALLIS
CHROMIUM	0/4	0/4	2/13	0/16	0/15	0/15	0/15	0/15	NA	NA	Nonparametric	NA	NA	NA	NA	NA	NA ONLY DETECTED IN ONE GROUP
COBALT	4/4	2/4	6/13	8/16	15/15	14/15	9/15	12/15	NA	NA	Nonparametric	LogNormal	LogNormal	Normal	LogNormal	LogNormal	KRUSKAL WALLIS
COPPER	3/4	1/4	2/13	5/16	7/15	9/15	3/15	6/15	NA	NA	Nonparametric	Nonparametric	Nonparametric	Nonparametric	Nonparametric	LogNormal	KRUSKAL WALLIS
IRON	4/4	4/4	10/13	15/16	14/15	15/15	12/15	7/15	NA	NA	LogNormal	LogNormal	LogNormal	LogNormal	LogNormal	LogNormal	KRUSKAL WALLIS
LEAD	2/4	2/4	4/13	1/16	6/15	4/15	4/15	11/15	NA	NA	Nonparametric	Nonparametric	Nonparametric	Nonparametric	Nonparametric	Nonparametric	KRUSKAL WALLIS
MAGNESIUM	4/4	4/4	13/13	16/16	15/15	15/15	15/15	15/15	NA	NA	Normal	Normal	LogNormal	LogNormal	LogNormal	Nonparametric	KRUSKAL WALLIS
MANGANESE	4/4	3/4	10/13	15/16	15/15	15/15	15/15	13/15	NA	NA	Normal	Normal	LogNormal	Normal	LogNormal	LogNormal	KRUSKAL WALLIS
MERCURY	1/4	0/4	0/13	0/16	0/15	1/15	0/15	0/15	NA	NA	NA	NA	NA	Nonparametric	NA	LogNormal	NA ONLY DETECTED ONCE IN TWO GROUPS
NICKEL	2/4	2/4	3/13	6/16	12/15	8/15	7/15	7/15	NA	NA	Nonparametric	Nonparametric	Normal	LogNormal	Nonparametric	LogNormal	KRUSKAL WALLIS
POTASSIUM	3/4	4/4	12/13	16/16	15/15	15/15	7/15	15/15	NA	NA	Normal	Normal	LogNormal	LogNormal	Nonparametric	Nonparametric	KRUSKAL WALLIS
SELENIUM	0/4	0/4	0/13	0/16	0/15	2/15	0/15	7/15	NA	NA	NA	NA	NA	Nonparametric	NA	LogNormal	NA ONLY DETECTED IN ONE GROUP
SILVER	0/4	0/4	0/13	1/16	0/15	0/15	0/15	0/15	NA	NA	NA	Nonparametric	NA	NA	NA	NA	NA ONLY DETECTED IN ONE GROUP
SODIUM	4/4	4/4	13/13	16/16	15/15	15/15	15/15	15/15	NA	NA	LogNormal	LogNormal	LogNormal	LogNormal	Nonparametric	Nonparametric	KRUSKAL WALLIS
THALLIUM	0/4	0/4	0/13	1/16	0/15	0/15	0/15	2/15	NA	NA	NA	Nonparametric	NA	NA	NA	Nonparametric	NA LOW FREQUENCY OF DETECTIONS
VANADIUM	0/4	0/4	6/13	0/16	1/15	2/15	7/15	1/15	NA	NA	Nonparametric	NA	Nonparametric	Nonparametric	Nonparametric	Nonparametric	KRUSKAL WALLIS
ZINC	3/4	2/4	5/13	3/16	13/15	3/15	3/15	6/15	NA	NA	Nonparametric	Nonparametric	Normal	Nonparametric	Nonparametric	Nonparametric	KRUSKAL WALLIS
Dissolved Inorganics																	
ALUMINUM	0/4	1/4	0/13	0/16	0/15	2/15	3/15	7/15	NA	NA	NA	NA	NA	Nonparametric	Nonparametric	Nonparametric	KRUSKAL WALLIS
ANTIMONY	0/4	1/4	0/13	1/16	0/15	0/15	0/15	0/15	NA	NA	NA	Nonparametric	NA	NA	NA	NA	NA ONLY DETECTED TWICE IN TWO GROUPS
ARSENIC	1/4	3/4	5/13	12/16	2/15	10/15	2/15	0/15	NA	NA	Nonparametric	Nonparametric	Nonparametric	Normal	Nonparametric	NA	KRUSKAL WALLIS
BARIUM	1/4	4/4	9/13	16/16	14/15	15/15	13/15	15/15	NA	NA	LogNormal	LogNormal	LogNormal	LogNormal	LogNormal	Nonparametric	KRUSKAL WALLIS
BERYLLIUM	0/4	1/4	0/13	0/16	0/15	0/15	3/15	6/15	NA	NA	NA	NA	NA	NA	Nonparametric	Nonparametric	GEHAN
CADMIUM	0/4	3/4	0/13	4/16	0/15	0/15	0/15	1/15	NA	NA	NA	Nonparametric	NA	NA	NA	Nonparametric	GEHAN
CALCIUM	4/4	4/4	13/13	16/16	15/15	15/15	15/15	15/15	NA	NA	LogNormal	LogNormal	LogNormal	LogNormal	LogNormal	LogNormal	KRUSKAL WALLIS
COBALT	1/4	2/4	2/13	3/16	14/15	13/15	7/15	11/15	NA	NA	Nonparametric	Nonparametric	Normal	LogNormal	Nonparametric	LogNormal	KRUSKAL WALLIS
COPPER	0/4	1/4	1/13	5/16	1/15	7/15	2/15	6/15	NA	NA	Nonparametric	Nonparametric	Nonparametric	Nonparametric	Nonparametric	Nonparametric	KRUSKAL WALLIS
IRON	1/4	2/4	9/13	10/16	8/15	9/15	7/15	2/15	NA	NA	LogNormal	Nonparametric	LogNormal	LogNormal	Nonparametric	Nonparametric	KRUSKAL WALLIS
LEAD	0/4	1/4	2/13	0/16	1/15	2/15	2/15	8/15	NA	NA	Nonparametric	NA	Nonparametric	Nonparametric	Nonparametric	Nonparametric	KRUSKAL WALLIS
MAGNESIUM	4/4	4/4	13/13	16/16	15/15	15/15	15/15	15/15	NA	NA	Normal	Normal	LogNormal	LogNormal	Nonparametric	LogNormal	KRUSKAL WALLIS
MANGANESE	3/4	3/4	9/13	13/16	14/15	15/15	15/15	12/15	NA	NA	Nonparametric	Normal	Normal	LogNormal	LogNormal	LogNormal	KRUSKAL WALLIS
NICKEL	0/4	2/4	1/13	3/16	9/15	7/15	5/15	9/15	NA	NA	Nonparametric	Nonparametric	Normal	Nonparametric	Nonparametric	LogNormal	KRUSKAL WALLIS
POTASSIUM	3/4	4/4	12/13	16/16	15/15	15/15	8/15	15/15	NA	NA	Normal	Normal	Normal	Normal	LogNormal	LogNormal	KRUSKAL WALLIS
SELENIUM	0/4	0/4	0/13	2/16	0/15	2/15	0/15	3/15	NA	NA	NA	Nonparametric	NA	Nonparametric	NA	Nonparametric	KRUSKAL WALLIS
SODIUM	4/4	4/4	13/13	16/16	15/15	15/15	15/15	15/15	NA	NA	LogNormal	LogNormal	LogNormal	LogNormal	Nonparametric	Nonparametric	KRUSKAL WALLIS
VANADIUM	0/4	0/4	5/13	0/16	0/15	0/15	5/15	0/15	NA	NA	Nonparametric	NA	NA	NA	Nonparametric	NA	GEHAN
ZINC	0/4	2/4	3/13	1/16	7/15	2/15	2/15	10/15	NA	NA	Nonparametric	Nonparametric	Nonparametric	Nonparametric	Nonparametric	LogNormal	KRUSKAL WALLIS
Miscellaneous																	
BROMIDE	0/4	NA	3/13	NA	0/15	NA	0/15	NA	NA	NA	Nonparametric	NA	NA	NA	NA	NA	NA ONLY DETECTED IN ONE GROUP
CHLORIDE	4/4	NA	13/13	NA	15/15	NA	15/15	NA	NA	NA	LogNormal	NA	LogNormal	NA	Nonparametric	NA	KRUSKAL WALLIS

NA = Not Applicable

Table A.2.4.2
Groundwater Kruskal Wallis Test Results
Naval Air Station, Brunswick, Maine

Parameter	TEST	P-VALUE	CONCLUSION
Inorganics			
ALUMINUM	KRUSKAL WALLIS	0.0045	At Least One Group is Different
ARSENIC	KRUSKAL WALLIS	0.4567	All Groups are Similar
BARIUM	KRUSKAL WALLIS	0.0000	At Least One Group is Different
BERYLLIUM	KRUSKAL WALLIS	0.0218	At Least One Group is Different
CADMIUM	KRUSKAL WALLIS	0.0052	At Least One Group is Different
CALCIUM	KRUSKAL WALLIS	0.0000	At Least One Group is Different
COBALT	KRUSKAL WALLIS	0.0000	At Least One Group is Different
COPPER	KRUSKAL WALLIS	0.0001	At Least One Group is Different
IRON	KRUSKAL WALLIS	0.0041	At Least One Group is Different
LEAD	KRUSKAL WALLIS	0.0043	At Least One Group is Different
MAGNESIUM	KRUSKAL WALLIS	0.0000	At Least One Group is Different
MANGANESE	KRUSKAL WALLIS	0.0110	At Least One Group is Different
NICKEL	KRUSKAL WALLIS	0.0000	At Least One Group is Different
POTASSIUM	KRUSKAL WALLIS	0.0000	At Least One Group is Different
SODIUM	KRUSKAL WALLIS	0.0033	At Least One Group is Different
VANADIUM	KRUSKAL WALLIS	0.1891	All Groups are Similar
ZINC	KRUSKAL WALLIS	0.0006	At Least One Group is Different
Dissolved Inorganics			
ALUMINUM	KRUSKAL WALLIS	0.2206	All Groups are Similar
ARSENIC	KRUSKAL WALLIS	0.0918	All Groups are Similar
BARIUM	KRUSKAL WALLIS	0.0000	At Least One Group is Different
CALCIUM	KRUSKAL WALLIS	0.0000	At Least One Group is Different
COBALT	KRUSKAL WALLIS	0.0000	At Least One Group is Different
COPPER	KRUSKAL WALLIS	0.5457	All Groups are Similar
IRON	KRUSKAL WALLIS	0.0129	At Least One Group is Different
LEAD	KRUSKAL WALLIS	0.0036	At Least One Group is Different
MAGNESIUM	KRUSKAL WALLIS	0.0000	At Least One Group is Different
MANGANESE	KRUSKAL WALLIS	0.0224	At Least One Group is Different
NICKEL	KRUSKAL WALLIS	0.0012	At Least One Group is Different
POTASSIUM	KRUSKAL WALLIS	0.0000	At Least One Group is Different
SELENIUM	KRUSKAL WALLIS	0.8035	All Groups are Similar
SODIUM	KRUSKAL WALLIS	0.0038	At Least One Group is Different
ZINC	KRUSKAL WALLIS	0.1433	All Groups are Similar
Miscellaneous			
CHLORIDE	KRUSKAL WALLIS	0.1993	All Groups are Similar

5 percent Significance Level was used.

Table A.2.4.3
Groundwater Nonparametric Multiple Comparison Test Results
Naval Air Station, Brunswick, Maine

Parameter	P-Values for Nonparametric Multiple Comparisons									Conclusions[1]
Inorganics										
ALUMINUM		BEDROCK FALL	BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING	Bedrock Fall, Bedrock Spring, Lower Sand Fall, Lower Sand Spring, Upper Sand Fall and Upper Sand Spring are Similar. Transition Fall and Transition Spring are Similar.
	BEDROCK FALL		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	
	BEDROCK SPRING	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	
	LOWER SAND FALL	1.000000	1.000000		1.000000	0.117188	0.067883	1.000000	1.000000	
	LOWER SAND SPRING	1.000000	1.000000	1.000000		0.074185	0.040717	1.000000	1.000000	
	TRANSITION FALL	1.000000	1.000000	0.117188	0.074185		1.000000	1.000000	1.000000	
	TRANSITION SPRING	1.000000	1.000000	0.067883	0.040717	1.000000		0.767703	1.000000	
	UPPER SAND FALL	1.000000	1.000000	1.000000	1.000000	1.000000	0.767703		1.000000	
	UPPER SAND SPRING	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		
BARIUM		BEDROCK FALL	BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING	Bedrock Fall, Bedrock Spring, Transition Fall, Transition Spring, Upper Sand Fall and Upper Sand Spring are similar. Lower Sand Fall and Lower Sand Spring are similar.
	BEDROCK FALL		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	
	BEDROCK SPRING	1.000000		1.000000	1.000000	0.191289	1.000000	0.977641	1.000000	
	LOWER SAND FALL	1.000000	1.000000		1.000000	0.001410	0.700425	0.042768	0.188403	
	LOWER SAND SPRING	1.000000	1.000000	1.000000		0.000108	0.190052	0.006384	0.038295	
	TRANSITION FALL	1.000000	0.191289	0.001410	0.000108		1.000000	1.000000	1.000000	
	TRANSITION SPRING	1.000000	1.000000	0.700425	0.190052	1.000000		1.000000	1.000000	
	UPPER SAND FALL	1.000000	0.977641	0.042768	0.006384	1.000000	1.000000		1.000000	
	UPPER SAND SPRING	1.000000	1.000000	0.188403	0.038295	1.000000	1.000000	1.000000		
BERYLLIUM		LOWER SAND SPRING	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING					Lower Sand Spring, Transition Spring, Upper Sand Fall, and Upper Sand Spring are similar.
	LOWER SAND SPRING		1.000000	0.629448	0.128459					
	TRANSITION SPRING	1.000000		1.000000	0.384887					
	UPPER SAND FALL	0.629448	1.000000		1.000000					
	UPPER SAND SPRING	0.128459	0.384887	1.000000						
CADMIUM		BEDROCK SPRING	LOWER SAND SPRING	TRANSITION SPRING						Lower Sand Spring and Bedrock Spring are Similar.
	BEDROCK SPRING		0.175058	0.024321						
	LOWER SAND SPRING	0.175058		0.689267						
	TRANSITION SPRING	0.024321	0.689267							
	BEDROCK SPRING		0.175058	0.024321						
CALCIUM		BEDROCK FALL	BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING	Bedrock Fall, Bedrock Spring, Lower Sand Fall, Lower Sand Spring, Transition Fall, and Transition Spring are Similar. Upper Sand Fall and Upper Sand Spring are Similar.
	BEDROCK FALL		1.000000	1.000000	1.000000	1.000000	1.000000	0.004338	0.001251	
	BEDROCK SPRING	1.000000		1.000000	1.000000	0.747089	0.784171	0.001631	0.000440	
	LOWER SAND FALL	1.000000	1.000000		1.000000	1.000000	1.000000	0.080717	0.017292	
	LOWER SAND SPRING	1.000000	1.000000	1.000000		1.000000	1.000000	0.055394	0.010329	
	TRANSITION FALL	1.000000	0.747089	1.000000	1.000000		1.000000	0.152394	0.033449	
	TRANSITION SPRING	1.000000	0.784171	1.000000	1.000000	1.000000		0.139239	0.030182	
	UPPER SAND FALL	0.004338	0.001631	0.080717	0.055394	0.152394	0.139239		1.000000	
	UPPER SAND SPRING	0.001251	0.000440	0.017292	0.010329	0.033449	0.030182	1.000000		

Table A.2.4.3
Groundwater Nonparametric Multiple Comparison Test Results
Naval Air Station, Brunswick, Maine

Parameter	P-Values for Nonparametric Multiple Comparisons									Conclusions[1]
COBALT		BEDROCK FALL	BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING	Bedrock Fall, Bedrock Spring, Lower Sand Fall, Lower Sand Spring, Upper Sand Fall and Upper Sand Spring are Similar. Transition Fall and Transition Spring are Similar.
	BEDROCK FALL		1.000000	1.000000	0.613290	1.000000	1.000000	1.000000	1.000000	
	BEDROCK SPRING	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	
	LOWER SAND FALL	1.000000	1.000000		1.000000	0.000936	0.058575	1.000000	1.000000	
	LOWER SAND SPRING	0.613290	1.000000	1.000000		0.000005	0.001265	1.000000	1.000000	
	TRANSITION FALL	1.000000	1.000000	0.000936	0.000005		1.000000	0.015828	0.017212	
	TRANSITION SPRING	1.000000	1.000000	0.058575	0.001265	1.000000		0.546849	0.580931	
	UPPER SAND FALL	1.000000	1.000000	1.000000	1.000000	0.015828	0.546849		1.000000	
	UPPER SAND SPRING	1.000000	1.000000	1.000000	1.000000	0.017212	0.580931	1.000000		
COPPER		BEDROCK FALL	BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING	Combine Bedrock Fall, Bedrock Spring, Lower Sand Fall, Lower Sand Spring, Transition Fall and Transition Spring. Combine Upper Sand Fall and Upper Sand Spring.
	BEDROCK FALL		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	0.326884	
	BEDROCK SPRING	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	
	LOWER SAND FALL	1.000000	1.000000		1.000000	0.443515	0.372963	1.000000	1.000000	
	LOWER SAND SPRING	1.000000	1.000000	1.000000		0.062941	0.050421	1.000000	1.000000	
	TRANSITION FALL	1.000000	1.000000	0.443515	0.062941		1.000000	0.250434	0.004900	
	TRANSITION SPRING	1.000000	1.000000	0.372963	0.050421	1.000000		0.206727	0.003775	
	UPPER SAND FALL	1.000000	1.000000	1.000000	1.000000	0.250434	0.206727		1.000000	
	UPPER SAND SPRING	0.326884	1.000000	1.000000	1.000000	0.004900	0.003775	1.000000		
IRON		BEDROCK FALL	BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING	Combine Bedrock Fall, Bedrock Spring, Lower Sand Fall, Lower Sand Spring, Transition Fall and Transition Spring. Combine Upper Sand Fall and Upper Sand Spring.
	BEDROCK FALL		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	
	BEDROCK SPRING	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	
	LOWER SAND FALL	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	
	LOWER SAND SPRING	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	
	TRANSITION FALL	1.000000	1.000000	1.000000	1.000000		1.000000	0.063641	0.050612	
	TRANSITION SPRING	1.000000	1.000000	1.000000	1.000000	1.000000		0.061608	0.048965	
	UPPER SAND FALL	1.000000	1.000000	1.000000	1.000000	0.063641	0.061608		1.000000	
	UPPER SAND SPRING	1.000000	1.000000	1.000000	1.000000	0.050612	0.048965	1.000000		
LEAD		BEDROCK FALL	BEDROCK SPRING	LOWER SAND FALL	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING		Bedrock Fall, Bedrock Spring, Lower Sand Fall, Transition Fall, and Transition Spring are Similar. Upper Sand Fall and Upper Sand Spring are Similar.
	BEDROCK FALL		1.000000	0.810190	1.000000	1.000000	0.444459	1.000000		
	BEDROCK SPRING	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000		
	LOWER SAND FALL	0.810190	1.000000		0.108002	0.541242	1.000000	1.000000		
	TRANSITION FALL	1.000000	1.000000	0.108002		1.000000	0.027235	0.716660		
	TRANSITION SPRING	1.000000	1.000000	0.541242	1.000000		0.180964	1.000000		
	UPPER SAND FALL	0.444459	1.000000	1.000000	0.027235	0.180964		1.000000		
	UPPER SAND SPRING	1.000000	1.000000	1.000000	0.716660	1.000000	1.000000			
MAGNESIUM		BEDROCK FALL	BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING	Bedrock Fall, Bedrock Spring. Lower Sand Fall, Lower Sand Spring, Transition Fall, and Transition Spring are Similar. Upper Sand Fall and Upper Sand Spring are Similar.
	BEDROCK FALL		1.000000	1.000000	1.000000	1.000000	1.000000	0.230909	0.123167	
	BEDROCK SPRING	1.000000		1.000000	1.000000	1.000000	1.000000	0.794749	0.461337	
	LOWER SAND FALL	1.000000	1.000000		1.000000	1.000000	1.000000	0.008926	0.002629	
	LOWER SAND SPRING	1.000000	1.000000	1.000000		1.000000	1.000000	0.011595	0.003256	
	TRANSITION FALL	1.000000	1.000000	1.000000	1.000000		1.000000	0.000020	0.000004	
	TRANSITION SPRING	1.000000	1.000000	1.000000	1.000000	1.000000		0.000019	0.000003	
	UPPER SAND FALL	0.230909	0.794749	0.008926	0.011595	0.000020	0.000019		1.000000	
	UPPER SAND SPRING	0.123167	0.461337	0.002629	0.003256	0.000004	0.000003	1.000000		

Table A.2.4.3
Groundwater Nonparametric Multiple Comparison Test Results
Naval Air Station, Brunswick, Maine

Parameter	P-Values for Nonparametric Multiple Comparisons									Conclusions[1]
MANGANESE		BEDROCK FALL	BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING	Bedrock Fall, Bedrock Spring. Lower Sand Fall, Lower Sand Spring, Transition Fall, and Transition Spring are Similar. Upper Sand Fall and Upper Sand Spring are Similar.
	BEDROCK FALL		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	
	BEDROCK SPRING	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	
	LOWER SAND FALL	1.000000	1.000000		1.000000	1.000000	1.000000	0.898991	0.082186	
	LOWER SAND SPRING	1.000000	1.000000	1.000000		1.000000	1.000000	0.792559	0.060022	
	TRANSITION FALL	1.000000	1.000000	1.000000	1.000000		1.000000	0.479644	0.032696	
	TRANSITION SPRING	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	
	UPPER SAND FALL	1.000000	1.000000	0.898991	0.792559	0.479644	1.000000		1.000000	
	UPPER SAND SPRING	1.000000	1.000000	0.082186	0.060022	0.032696	1.000000	1.000000		
NICKEL		BEDROCK FALL	BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING	Bedrock Fall, Bedrock Spring, Lower Sand Fall, Lower Sand Spring, Upper Sand Fall and Upper Sand Spring are Similar. Transition Fall and Transition Spring are Similar.
	BEDROCK FALL		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	
	BEDROCK SPRING	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	
	LOWER SAND FALL	1.000000	1.000000		1.000000	0.000286	0.059001	1.000000	1.000000	
	LOWER SAND SPRING	1.000000	1.000000	1.000000		0.000466	0.106051	1.000000	1.000000	
	TRANSITION FALL	1.000000	1.000000	0.000286	0.000466		1.000000	0.031596	0.008904	
	TRANSITION SPRING	1.000000	1.000000	0.059001	0.106051	1.000000		1.000000	0.755063	
	UPPER SAND FALL	1.000000	1.000000	1.000000	1.000000	0.031596	1.000000		1.000000	
	UPPER SAND SPRING	1.000000	1.000000	1.000000	1.000000	0.008904	0.755063	1.000000		
POTASSIUM		BEDROCK FALL	BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING	Bedrock Fall, Bedrock Spring, Lower Sand Fall, Lower Sand Spring, Transition Fall, and Transition Spring are Similar. Upper Sand Fall and Upper Sand Spring are Similar.
	BEDROCK FALL		1.000000	1.000000	1.000000	1.000000	1.000000	0.152617	0.135726	
	BEDROCK SPRING	1.000000		1.000000	1.000000	1.000000	1.000000	0.385318	0.346452	
	LOWER SAND FALL	1.000000	1.000000		1.000000	1.000000	1.000000	0.002168	0.001711	
	LOWER SAND SPRING	1.000000	1.000000	1.000000		1.000000	1.000000	0.001151	0.000889	
	TRANSITION FALL	1.000000	1.000000	1.000000	1.000000		1.000000	0.001296	0.001007	
	TRANSITION SPRING	1.000000	1.000000	1.000000	1.000000	1.000000		0.049508	0.040528	
	UPPER SAND FALL	0.152617	0.385318	0.002168	0.001151	0.001296	0.049508		1.000000	
	UPPER SAND SPRING	0.135726	0.346452	0.001711	0.000889	0.001007	0.040528	1.000000		
SODIUM		BEDROCK FALL	BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING	Bedrock Fall, Bedrock Spring, Lower Sand Fall, Lower Sand Spring, Transition Fall, and Transition Spring are Similar. Upper Sand Fall and Upper Sand Spring are Similar.
	BEDROCK FALL		1.000000	1.000000	1.000000	0.945075	0.617771	0.063832	0.019273	
	BEDROCK SPRING	1.000000		1.000000	1.000000	1.000000	1.000000	0.312036	0.110928	
	LOWER SAND FALL	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	0.326307	
	LOWER SAND SPRING	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	0.668499	
	TRANSITION FALL	0.945075	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	
	TRANSITION SPRING	0.617771	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	
	UPPER SAND FALL	0.063832	0.312036	1.000000	1.000000	1.000000	1.000000		1.000000	
	UPPER SAND SPRING	0.019273	0.110928	0.326307	0.668499	1.000000	1.000000	1.000000		
ZINC		BEDROCK FALL	BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING	Transition Fall and Spring are Similar. Bedrock Fall, Bedrock Spring, Lower Sand Fall, Lower Sand Spring, Upper Sand Fall and Upper Sand Spring are Similar.
	BEDROCK FALL		1.000000	1.000000	0.676956	1.000000	1.000000	1.000000	0.259653	
	BEDROCK SPRING	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	
	LOWER SAND FALL	1.000000	1.000000		1.000000	0.789047	1.000000	1.000000	1.000000	
	LOWER SAND SPRING	0.676956	1.000000	1.000000		0.006609	1.000000	1.000000	1.000000	
	TRANSITION FALL	1.000000	1.000000	0.789047	0.006609		0.275242	0.022328	0.000825	
	TRANSITION SPRING	1.000000	1.000000	1.000000	1.000000	0.275242		1.000000	1.000000	
	UPPER SAND FALL	1.000000	1.000000	1.000000	1.000000	0.022328	1.000000		1.000000	
	UPPER SAND SPRING	0.259653	1.000000	1.000000	1.000000	0.000825	1.000000	1.000000		

Table A.2.4.3
Groundwater Nonparametric Multiple Comparison Test Results
Naval Air Station, Brunswick, Maine

Parameter	P-Values for Nonparametric Multiple Comparisons									Conclusions[1]
Dissolved Inorganics										
BARIUM		BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING		Bedrock Spring, Tranisition Fall, Transition Spring, Upper Sand Fall, and Upper Sand Spring are Similar. Lower Sand Fall and Lower Sand Spring are Similar.
	BEDROCK SPRING		1.000000	1.000000	1.000000	1.000000	0.409707	0.736740		
	LOWER SAND FALL	1.000000		1.000000	0.056853	1.000000	0.002004	0.007700		
	LOWER SAND SPRING	1.000000	1.000000		0.033936	1.000000	0.000850	0.003751		
	TRANSITION FALL	1.000000	0.056853	0.033936		1.000000	1.000000	1.000000		
	TRANSITION SPRING	1.000000	1.000000	1.000000	1.000000		0.209164	0.547053		
	UPPER SAND FALL	0.409707	0.002004	0.000850	1.000000	0.209164		1.000000		
	UPPER SAND SPRING	0.736740	0.007700	0.003751	1.000000	0.547053	1.000000			
CALCIUM		BEDROCK FALL	BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING	Bedrock Fall, Bedrock Spring, Lower Sand Fall, Lower Sand Spring, Transition Fall, and Transition Spring are Similar. Upper Sand Fall and Upper Sand Spring are Similar.
	BEDROCK FALL		1.000000	1.000000	1.000000	1.000000	1.000000	0.003723	0.001005	
	BEDROCK SPRING	1.000000		1.000000	1.000000	1.000000	0.841646	0.002609	0.000686	
	LOWER SAND FALL	1.000000	1.000000		1.000000	1.000000	1.000000	0.084008	0.016883	
	LOWER SAND SPRING	1.000000	1.000000	1.000000		1.000000	1.000000	0.068655	0.012225	
	TRANSITION FALL	1.000000	1.000000	1.000000	1.000000		1.000000	0.149377	0.030530	
	TRANSITION SPRING	1.000000	0.841646	1.000000	1.000000	1.000000		0.206727	0.044316	
	UPPER SAND FALL	0.003723	0.002609	0.084008	0.068655	0.149377	0.206727		1.000000	
	UPPER SAND SPRING	0.001005	0.000686	0.016883	0.012225	0.030530	0.044316	1.000000		
COBALT		BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING		Bedrock Fall, Bedrock Spring, Lower Sand Fall, Lower Sand Spring, Upper Sand Fall and Upper Sand Spring are Similar. Transition Fall and Transition Spring are Similar.
	BEDROCK SPRING		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		
	LOWER SAND FALL	1.000000		1.000000	0.001103	0.055283	1.000000	1.000000		
	LOWER SAND SPRING	1.000000	1.000000		0.000001	0.000297	0.196274	0.658682		
	TRANSITION FALL	1.000000	0.001103	0.000001		1.000000	0.110590	0.025999		
	TRANSITION SPRING	1.000000	0.055283	0.000297	1.000000		1.000000	0.655322		
	UPPER SAND FALL	1.000000	1.000000	0.196274	0.110590	1.000000		1.000000		
	UPPER SAND SPRING	1.000000	1.000000	0.658682	0.025999	0.655322	1.000000			
IRON		BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING		Bedrock Spring, Lower Sand Fall, Lower Sand Spring, Transition Fall, and Transition Spring are Similar, Upper Sand Fall and Upper Sand Spring are Similar.
	BEDROCK SPRING		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		
	LOWER SAND FALL	1.000000		1.000000	1.000000	1.000000	0.789816	0.093272		
	LOWER SAND SPRING	1.000000	1.000000		1.000000	1.000000	1.000000	0.114397		
	TRANSITION FALL	1.000000	1.000000	1.000000		1.000000	1.000000	0.150581		
	TRANSITION SPRING	1.000000	1.000000	1.000000	1.000000		0.898241	0.100622		
	UPPER SAND FALL	1.000000	0.789816	1.000000	1.000000	0.898241		1.000000		
	UPPER SAND SPRING	1.000000	0.093272	0.114397	0.150581	0.100622	1.000000			
LEAD		LOWER SAND FALL	UPPER SAND FALL	UPPER SAND SPRING	TRANSITION SPRING					Lower Sand Fall and Upper Sand Fall are Similar, Upper Sand Spring and Transition Spring are Similar.
	LOWER SAND FALL		1.000000	0.032406	0.112722					
	UPPER SAND FALL	1.000000		0.039920	0.141065					
	UPPER SAND SPRING	0.032406	0.039920		1.000000					
	TRANSITION SPRING	0.112722	0.141065	1.000000						

Table A.2.4.3
Groundwater Nonparametric Multiple Comparison Test Results
Naval Air Station, Brunswick, Maine

Parameter	P-Values for Nonparametric Multiple Comparisons									Conclusions[1]
MAGNESIUM		BEDROCK FALL	BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING	Bedrock Fall, Bedrock Spring, Lower Sand Fall, Lower Sand Spring, Transition Fall and Transition Spring are Similar. Upper Sand Fall and Upper Sand Spring are Similar.
	BEDROCK FALL		1.000000	1.000000	1.000000	1.000000	1.000000	0.476120	0.217293	
	BEDROCK SPRING	1.000000		1.000000	1.000000	1.000000	1.000000	0.784171	0.375257	
	LOWER SAND FALL	1.000000	1.000000		1.000000	1.000000	1.000000	0.009610	0.001852	
	LOWER SAND SPRING	1.000000	1.000000	1.000000		1.000000	1.000000	0.010353	0.001831	
	TRANSITION FALL	1.000000	1.000000	1.000000	1.000000		1.000000	0.000030	0.000003	
	TRANSITION SPRING	1.000000	1.000000	1.000000	1.000000	1.000000		0.000040	0.000004	
	UPPER SAND FALL	0.476120	0.784171	0.009610	0.010353	0.000030	0.000040		1.000000	
	UPPER SAND SPRING	0.217293	0.375257	0.001852	0.001831	0.000003	0.000004	1.000000		
MANGANESE		BEDROCK FALL	BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING	All Groups are Similar.
	BEDROCK FALL		1.000000	0.924494	0.616507	0.484358	1.000000	1.000000	1.000000	
	BEDROCK SPRING	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	
	LOWER SAND FALL	0.924494	1.000000		1.000000	1.000000	1.000000	1.000000	0.420092	
	LOWER SAND SPRING	0.616507	1.000000	1.000000		1.000000	1.000000	1.000000	0.174721	
	TRANSITION FALL	0.484358	1.000000	1.000000	1.000000		1.000000	1.000000	0.120809	
	TRANSITION SPRING	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	
	UPPER SAND FALL	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	
	UPPER SAND SPRING	1.000000	1.000000	0.420092	0.174721	0.120809	1.000000	1.000000		
NICKEL		BEDROCK SPRING	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING			Bedrock Fall, Lower Sand Spring, Upper Sand Fall, and Upper Sand Spring are Similar. Transition Fall and Transition Spring are Similar.
	BEDROCK SPRING		1.000000	1.000000	1.000000	1.000000	1.000000			
	LOWER SAND SPRING	1.000000		0.000245	0.060235	1.000000	0.150972			
	TRANSITION FALL	1.000000	0.000245		1.000000	0.197737	1.000000			
	TRANSITION SPRING	1.000000	0.060235	1.000000		1.000000	1.000000			
	UPPER SAND FALL	1.000000	1.000000	0.197737	1.000000		1.000000			
	UPPER SAND SPRING	1.000000	0.150972	1.000000	1.000000	1.000000				
POTASSIUM		BEDROCK FALL	BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING	Bedrock Fall, Bedrock Spring, Lower Sand Fall, Lower Sand Spring, Transition Fall, and Transition Spring are Similar. Upper Sand Fall and Upper Sand Spring are Similar.
	BEDROCK FALL		1.000000	1.000000	1.000000	1.000000	1.000000	0.321545	0.205368	
	BEDROCK SPRING	1.000000		1.000000	1.000000	1.000000	1.000000	0.307376	0.195883	
	LOWER SAND FALL	1.000000	1.000000		1.000000	1.000000	1.000000	0.001837	0.000685	
	LOWER SAND SPRING	1.000000	1.000000	1.000000		1.000000	1.000000	0.000656	0.000219	
	TRANSITION FALL	1.000000	1.000000	1.000000	1.000000		1.000000	0.003927	0.001468	
	TRANSITION SPRING	1.000000	1.000000	1.000000	1.000000	1.000000		0.196929	0.094289	
	UPPER SAND FALL	0.321545	0.307376	0.001837	0.000656	0.003927	0.196929		1.000000	
	UPPER SAND SPRING	0.205368	0.195883	0.000685	0.000219	0.001468	0.094289	1.000000		
SODIUM		BEDROCK FALL	BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING	Bedrock Fall, Bedrock Spring, Lower Sand Fall, Lower Sand Spring, Transition Fall and Transition Spring are Similar. Upper Sand Fall and Upper Sand Spring are Similar.
	BEDROCK FALL		1.000000	1.000000	1.000000	1.000000	0.661852	0.080542	0.021866	
	BEDROCK SPRING	1.000000		1.000000	1.000000	1.000000	1.000000	0.364351	0.117779	
	LOWER SAND FALL	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	0.306140	
	LOWER SAND SPRING	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	0.575663	
	TRANSITION FALL	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	
	TRANSITION SPRING	0.661852	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	
	UPPER SAND FALL	0.080542	0.364351	1.000000	1.000000	1.000000	1.000000		1.000000	
	UPPER SAND SPRING	0.021866	0.117779	0.306140	0.575663	1.000000	1.000000	1.000000		

5 Percent Significance Level was used.

(1) Conclusion based on statistical hypothesis tests, and combining subgroups across hydrogeologic units.

Table A.2.4.4
Two Sample Hypothesis Tests
Groundwater
Naval Air Station, Brunswick, Maine

Parameter	Mann Whitney	Gehan Test	Quantile Test			Proportion Test	Conclusion
	P-Value	P-Value	Test Statistic	Critical Value	Conclusion	P-Value	
Dissolved Inorganics							
BERYLLIUM	NA	0.308	4	7	EQUAL	NA	Groundwater concentrations in the Upper Sand Fall wells are similar to concentrations in the Upper Sand Spring wells.
CADMIUM	NA	0.223	4	3	NOT EQUAL	NA	Groundwater concentrations in the Bedrock Spring wells are Not Similar to Lower Sand Spring wells.
VANADIUM	NA	0.643	6	7	EQUAL	NA	Groundwater concentrations in Lower Sand Fall wells are Similar to Upper Sand Fall wells.

NA = Not Applicable
5 percent Significance Level was used.

A.2.5 GROUNDWATER UPPER PREDICTION LIMITS

APPENDIX A.2.5 UPPER PREDICTION LIMITS

For the evaluation of site data, either site-wide tests or individual comparison tests will be used to compare site concentrations to background concentrations. Site wide tests are used to compare an average/median site concentration to an average/median background concentration. Individual comparison tests are used to compare individual site data concentrations to a representative background concentration. Site wide comparisons are the preferred method of comparison. If site-wide comparisons cannot be used, then the alternative is to use individual comparison tests.

USEPA's Pro UCL version 4.00.05 calculates multiple background values and accounts for non-detected concentration. One of the background threshold values calculated by Pro UCL is a 95 percent Upper Prediction Limit (UPL). The UPL is based on the null hypothesis that individual site concentrations represent background concentrations. Concentrations from one site sample are compared to a threshold level that is statistically derived so as to represent an upper bound of the average background concentration.

The data subgroups were combined to calculate 95 percent UPLs based on the recommendations presented in Appendix A.2.4 (Tables A.2.4.2 through A.2.4.4). Table A.2.5.1 presents the 95 percent UPLs for groundwater. A UPL was calculated only if there were at least three detected concentrations for a specific chemical.

TABLE A.2.5.1

GROUNDWATER UPPER PREDICTION LIMITS
NAVAL AIR STATION, BRUNSWICK, MAINE

Parameter	Upper Prediction Limits															
	BEDROCK FALL		BEDROCK SPRING		LOWER SAND FALL		LOWER SAND SPRING		TRANSITION FALL		TRANSITION SPRING		UPPER SAND FALL		UPPER SAND SPRING	
	UPL	UPL TYPE	UPL	UPL TYPE	UPL	UPL TYPE	UPL	UPL TYPE	UPL	UPL TYPE	UPL	UPL TYPE	UPL	UPL TYPE	UPL	UPL TYPE
Inorganics (ug/L)																
ALUMINUM	1930	Lognormal	1930	Lognormal	1930	Lognormal	1930	Lognormal	3660	Gamma WH	3660	Gamma WH	1930	Lognormal	1930	Lognormal
ANTIMONY	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND
ARSENIC	NA	NA	13.8	Nonparametric	13.8	Nonparametric	13.8	Nonparametric	13.8	Nonparametric	13.8	Nonparametric	13.8	Nonparametric	ND	ND
BARIUM	43.3	Lognormal	43.3	Lognormal	9.8	Gamma WH	9.8	Gamma WH	43.3	Lognormal	43.3	Lognormal	43.3	Lognormal	43.3	Lognormal
BERYLLIUM	NA	NA	NA	NA	NA	NA	0.27	Nonparametric	ND	ND	0.27	Nonparametric	0.27	Nonparametric	0.27	Nonparametric
CADMIUM	NA	NA	0.61	Nonparametric	ND	ND	0.61	Nonparametric	ND	ND	NA	NA	ND	ND	NA	NA
CALCIUM	21800	Lognormal	21800	Lognormal	21800	Lognormal	21800	Lognormal	21800	Lognormal	21800	Lognormal	9640	Gamma WH	9640	Gamma WH
CHROMIUM	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
COBALT	12.1	Nonparametric	12.1	Nonparametric	12.1	Nonparametric	12.1	Nonparametric	2.4	Gamma WH	2.4	Gamma WH	12.1	Nonparametric	12.1	Nonparametric
COPPER	13.9	Nonparametric	13.9	Nonparametric	13.9	Nonparametric	13.9	Nonparametric	13.9	Nonparametric	13.9	Nonparametric	1.5	Gamma WH	1.5	Gamma WH
IRON	5090	Lognormal	5090	Lognormal	5090	Lognormal	5090	Lognormal	5090	Lognormal	5090	Lognormal	2100	Gamma WH	2100	Gamma WH
LEAD	2.2	Gamma WH	2.2	Gamma WH	2.2	Gamma WH	NA	NA	2.2	Gamma WH	2.2	Gamma WH	0.66	Lognormal	0.66	Lognormal
MAGNESIUM	13600	Nonparametric	13600	Nonparametric	13600	Nonparametric	13600	Nonparametric	13600	Nonparametric	13600	Nonparametric	2270	Gamma WH	2270	Gamma WH
MANGANESE	547	Gamma WH	547	Gamma WH	547	Gamma WH	547	Gamma WH	547	Gamma WH	547	Gamma WH	173	Gamma WH	173	Gamma WH
MERCURY	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND
NICKEL	4.1	Gamma WH	4.1	Gamma WH	4.1	Gamma WH	4.1	Gamma WH	7.1	Normal	7.1	Normal	4.1	Gamma WH	4.1	Gamma WH
POTASSIUM	3340	Normal	3340	Normal	3340	Normal	3340	Normal	3340	Normal	3340	Normal	1790	Normal	1790	Normal
SELENIUM	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	0.77	Normal
SILVER	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND
SODIUM	31600	Lognormal	31600	Lognormal	31600	Lognormal	31600	Lognormal	31600	Lognormal	31600	Lognormal	67800	Nonparametric	67800	Nonparametric
THALLIUM	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	NA	NA
VANADIUM	ND	ND	ND	ND	4.6	Gamma WH	ND	ND	NA	NA	4.6	Gamma WH	4.6	Gamma WH	NA	NA
ZINC	18.5	Lognormal	18.5	Lognormal	18.5	Lognormal	18.5	Lognormal	18.5	Lognormal	18.5	Lognormal	6.1	Normal	6.1	Normal
Dissolved Inorganics (ug/L)																
ALUMINUM	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	736	Normal	736	Normal	736	Normal
ANTIMONY	ND	ND	NA	NA	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND
ARSENIC	NA	NA	14.6	Nonparametric	14.6	Nonparametric	14.6	Nonparametric	14.6	Nonparametric	14.6	Nonparametric	14.6	Nonparametric	ND	ND
BARIUM	ND	ND	36.6	Lognormal	9.5	Gamma WH	9.5	Gamma WH	36.6	Lognormal	36.6	Lognormal	36.6	Lognormal	36.6	Lognormal
BERYLLIUM	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	0.4	Normal	0.4	Normal
CADMIUM	ND	ND	NA(1)	NA	ND	ND	0.8	Normal	ND	ND	ND	ND	ND	ND	NA	NA
CALCIUM	23800	Gamma WH	23800	Gamma WH	23800	Gamma WH	23800	Gamma WH	23800	Gamma WH	23800	Gamma WH	11700	Gamma WH	11700	Gamma WH
COBALT	NA	NA	9.1	Nonparametric	9.1	Nonparametric	9.1	Nonparametric	1.8	Gamma WH	1.8	Gamma WH	9.1	Nonparametric	9.1	Nonparametric
COPPER	ND	ND	NA	NA	NA	NA	1.8	Gamma WH	NA	NA	1.8	Gamma WH	1.8	Gamma WH	1.8	Gamma WH
IRON	NA	NA	1240	Lognormal	1240	Lognormal	1240	Lognormal	1240	Lognormal	1240	Lognormal	526	Gamma WH	526	Gamma WH
LEAD	ND	ND	NA	NA	0.20	Lognormal	ND	ND	NA	NA	0.20	Lognormal	0.20	Lognormal	0.20	Lognormal
MAGNESIUM	12000	Lognormal	12000	Lognormal	12000	Lognormal	12000	Lognormal	12000	Lognormal	12000	Lognormal	2250	Gamma WH	2250	Gamma WH
MANGANESE	432	Gamma WH	432	Gamma WH	432	Gamma WH	432	Gamma WH	432	Gamma WH	432	Gamma WH	432	Gamma WH	432	Gamma WH
NICKEL	ND	ND	2.7	Gamma WH	NA	NA	2.7	Gamma WH	5.4	Normal	5.4	Normal	2.7	Gamma WH	2.7	Gamma WH
POTASSIUM	3230	Normal	3230	Normal	3230	Normal	3230	Normal	3230	Normal	3230	Normal	1790	Normal	1790	Normal
SELENIUM	ND	ND	ND	ND	ND	ND	0.72	Normal	ND	ND	0.72	Normal	ND	ND	0.72	Normal
SODIUM	31200	Nonparametric	31200	Nonparametric	31200	Nonparametric	31200	Nonparametric	31200	Nonparametric	31200	Nonparametric	68200	Nonparametric	68200	Nonparametric
VANADIUM	ND	ND	ND	ND	1.7	Nonparametric	ND	ND	ND	ND	ND	ND	1.7	Nonparametric	ND	ND
ZINC	ND	ND	16.2	Nonparametric	NA	NA	16.2	Nonparametric	16.2	Nonparametric	16.2	Nonparametric	16.2	Nonparametric	16.2	Nonparametric
Miscellaneous (mg/L)																
BROMIDE	ND	ND	--	--	0.32	Normal	--	--	ND	ND	--	--	ND	ND	--	--
CHLORIDE	91.2	Nonparametric	--	--	91.2	Nonparametric	--	--	91.2	Nonparametric	--	--	91.2	Nonparametric	--	--

(1) Four samples is not enough to calculate a UPL.
UPLs were calculated using Pro UCL version 4.1.00.
Chemicals are listed only if there are enough detected samples to calculate a UPL.

ND = Non-Detect
NA = Not enough detected samples to calculate a meaningful UPL.
UPL = 95% Upper Prediction
WH = Wilson Hilferty
-- Chemcial was not analyzed for

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Data Sets with Non-Detects								
2			User Selected Options									
3			From File	WorkSheet.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	Selenium Upper Sand Spring											
12												
13						General Statistics						
14						Number of Valid Data	15			Number of Detected Data	7	
15						Number of Distinct Detected Data	7			Number of Non-Detect Data	8	
16						Tolerance Factor	2.068			Percent Non-Detects	53.33%	
17												
18						Raw Statistics				Log-transformed Statistics		
19						Minimum Detected	0.465			Minimum Detected	-0.766	
20						Maximum Detected	0.73			Maximum Detected	-0.315	
21						Mean of Detected	0.605			Mean of Detected	-0.514	
22						SD of Detected	0.0973			SD of Detected	0.163	
23						Minimum Non-Detect	0.5			Minimum Non-Detect	-0.693	
24						Maximum Non-Detect	0.5			Maximum Non-Detect	-0.693	
25												
26												
27												
28						Warning: There are only 7 Detected Values in this data						
29						Note: It should be noted that even though bootstrap may be performed on this data set						
30						the resulting calculations may not be reliable enough to draw conclusions						
31												
32						It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.						
33												
34						Background Statistics						
35						Normal Distribution Test with Detected Values Only				Lognormal Distribution Test with Detected Values Only		
36						Shapiro Wilk Test Statistic	0.953			Shapiro Wilk Test Statistic	0.958	
37						5% Shapiro Wilk Critical Value	0.803			5% Shapiro Wilk Critical Value	0.803	
38						Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level		
39												
40						Assuming Normal Distribution				Assuming Lognormal Distribution		
41						DL/2 Substitution Method				DL/2 Substitution Method		
42						Mean	0.416			Mean (Log Scale)	-0.979	
43						SD	0.194			SD (Log Scale)	0.463	
44						95% UTL 90% Coverage	0.817			95% UTL 90% Coverage	0.979	
45						95% UPL (t)	0.769			95% UPL (t)	0.872	
46						90% Percentile (z)	0.664			90% Percentile (z)	0.68	
47						95% Percentile (z)	0.735			95% Percentile (z)	0.804	
48						99% Percentile (z)	0.867			99% Percentile (z)	1.103	
49												
50						Maximum Likelihood Estimate(MLE) Method				Log ROS Method		
51						Mean	0.465			Mean in Original Scale	0.519	
52						SD	0.163			SD in Original Scale	0.112	
53						95% UTL with 90% Coverage	0.802			95% UTL with 90% Coverage	0.785	
54										95% BCA UTL with 90% Coverage	0.73	
55										95% Bootstrap (%) UTL with 90% Coverage	0.73	

	A	B	C	D	E	F	G	H	I	J	K	L
56					95% UPL (t)	0.762					95% UPL (t)	0.745
57					90% Percentile (z)	0.674					90% Percentile (z)	0.666
58					95% Percentile (z)	0.733					95% Percentile (z)	0.718
59					99% Percentile (z)	0.844					99% Percentile (z)	0.829
60												
61			**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**			
62					k star (bias corrected)	25.57			Data appear Normal at 5% Significance Level			
63					Theta Star	0.0237						
64					nu star	358						
65												
66					A-D Test Statistic	0.217			**Nonparametric Statistics**			
67					5% A-D Critical Value	0.707					Kaplan-Meier (KM) Method	
68					K-S Test Statistic	0.179					Mean	0.53
69					5% K-S Critical Value	0.311					SD	0.0931
70			Data appear Gamma Distributed at 5% Significance Level								SE of Mean	0.026
71											95% KM UTL with 90% Coverage	0.723
72			**Assuming Gamma Distribution**								95% KM Chebyshev UPL	0.949
73					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	0.7
74					Mean	0.497					90% Percentile (z)	0.65
75					Median	0.515					95% Percentile (z)	0.683
76					SD	0.15					99% Percentile (z)	0.747
77					k star	7.631						
78					Theta star	0.0651			**Gamma ROS Limits with Extrapolated Data**			
79					Nu star	228.9					95% Wilson Hilferty (WH) Approx. Gamma UPL	0.842
80					95% Percentile of Chisquare (2k)	25.34					95% Hawkins Wixley (HW) Approx. Gamma UPL	0.856
81											95% WH Approx. Gamma UTL with 90% Coverage	0.902
82					90% Percentile	0.737					95% HW Approx. Gamma UTL with 90% Coverage	0.922
83					95% Percentile	0.825						
84					99% Percentile	1.008						
85												
86	Note: DL/2 is not a recommended method.											
87												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Data Sets with Non-Detects								
2			User Selected Options									
3			From File	WorkSheet.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	BROMIDE											
12												
13				General Statistics								
14			Number of Valid Data	13			Number of Detected Data	3				
15			Number of Distinct Detected Data	3			Number of Non-Detect Data	10				
16				Warning: Data set has only 3 Detected Values.								
17				This is not enough to compute meaningful and reliable test statistics and estimates.								
18				No statistics will be produced!								
19												
20			Tolerance Factor	2.155			Percent Non-Detects	76.92%				
21												
22			Raw Statistics				Log-transformed Statistics					
23			Minimum Detected	0.14			Minimum Detected	-1.966				
24			Maximum Detected	0.33			Maximum Detected	-1.109				
25			Mean of Detected	0.23			Mean of Detected	-1.53				
26			SD of Detected	0.0954			SD of Detected	0.429				
27			Minimum Non-Detect	0.5			Minimum Non-Detect	-0.693				
28			Maximum Non-Detect	0.5			Maximum Non-Detect	-0.693				
29												
30												
31												
32				Warning: There are only 3 Distinct Detected Values in this data set								
33				The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.								
34				Those methods will return a 'N/A' value on your output display!								
35												
36				It is necessary to have 4 or more Distinct Values for bootstrap methods.								
37				However, results obtained using 4 to 9 distinct values may not be reliable.								
38				It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.								
39												
40				Background Statistics								
41			Normal Distribution Test with Detected Values Only				Lognormal Distribution Test with Detected Values Only					
42			Shapiro Wilk Test Statistic	0.992			Shapiro Wilk Test Statistic	0.999				
43			5% Shapiro Wilk Critical Value	0.767			5% Shapiro Wilk Critical Value	0.767				
44				Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level				
45												
46			Assuming Normal Distribution				Assuming Lognormal Distribution					
47			DL/2 Substitution Method				DL/2 Substitution Method					
48			Mean	0.245			Mean (Log Scale)	-1.419				
49			SD	0.0399			SD (Log Scale)	0.186				
50			95% UTL 90% Coverage	0.331			95% UTL 90% Coverage	0.361				
51			95% UPL (t)	0.319			95% UPL (t)	0.341				
52			90% Percentile (z)	0.297			90% Percentile (z)	0.307				
53			95% Percentile (z)	0.311			95% Percentile (z)	0.328				
54			99% Percentile (z)	0.338			99% Percentile (z)	0.373				
55												

	A	B	C	D	E	F	G	H	I	J	K	L
56				Maximum Likelihood Estimate(MLE) Method		N/A					Log ROS Method	
57											Mean in Original Scale	0.242
58											SD in Original Scale	0.118
59											Mean in Log Scale	-1.53
60											SD in Log Scale	0.49
61											95% UTL 90% Coverage	0.623
62											95% UPL (t)	0.536
63											90% Percentile (z)	0.406
64											95% Percentile (z)	0.485
65											99% Percentile (z)	0.677
66												
67				**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**		
68					k star (bias corrected)	N/A				Data appear Normal at 5% Significance Level		
69					Theta Star	N/A						
70					nu star	N/A						
71												
72					A-D Test Statistic	N/A				**Nonparametric Statistics**		
73					5% A-D Critical Value	N/A					Kaplan-Meier (KM) Method	
74					K-S Test Statistic	N/A					Mean	0.23
75					5% K-S Critical Value	N/A					SD	0.0779
76				Data not Gamma Distributed at 5% Significance Level							SE of Mean	0.0551
77											95% KM UTL with 90% Coverage	0.398
78				**Assuming Gamma Distribution**							95% KM Chebyshev UPL	0.582
79					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	0.374
80					Mean	N/A					90% Percentile (z)	0.33
81					Median	N/A					95% Percentile (z)	0.358
82					SD	N/A					99% Percentile (z)	0.411
83					k star	N/A						
84					Theta star	N/A				**Gamma ROS Limits with Extrapolated Data**		
85					Nu star	N/A					95% Wilson Hilferty (WH) Approx. Gamma UPL	N/A
86					95% Percentile of Chisquare (2k)	N/A					95% Hawkins Wixley (HW) Approx. Gamma UPL	N/A
87											95% WH Approx. Gamma UTL with 90% Coverage	N/A
88					90% Percentile	N/A					95% HW Approx. Gamma UTL with 90% Coverage	N/A
89					95% Percentile	N/A						
90					99% Percentile	N/A						
91												
92	Note: DL/2 is not a recommended method.											
93												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Data Sets with Non-Detects								
2			User Selected Options									
3			From File	WorkSheet.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	Nickel no Transition											
12												
13						General Statistics						
14						Number of Valid Data	50			Number of Detected Data	19	
15						Number of Distinct Detected Data	17			Number of Non-Detect Data	31	
16						Tolerance Factor	1.64			Percent Non-Detects	62.00%	
17												
18						Raw Statistics				Log-transformed Statistics		
19						Minimum Detected	0.21			Minimum Detected	-1.561	
20						Maximum Detected	4.1			Maximum Detected	1.411	
21						Mean of Detected	1.812			Mean of Detected	0.324	
22						SD of Detected	1.165			SD of Detected	0.848	
23						Minimum Non-Detect	0.2			Minimum Non-Detect	-1.609	
24						Maximum Non-Detect	4			Maximum Non-Detect	1.386	
25												
26						Data with Multiple Detection Limits				Single Detection Limit Scenario		
27						Note: Data have multiple DLs - Use of KM Method is recommended				Number treated as Non-Detect with Single DL	49	
28						For all methods (except KM, DL/2, and ROS Methods),				Number treated as Detected with Single DL	1	
29						Observations < Largest ND are treated as NDs				Single DL Non-Detect Percentage	98.00%	
30												
31						Background Statistics						
32						Normal Distribution Test with Detected Values Only				Lognormal Distribution Test with Detected Values Only		
33						Shapiro Wilk Test Statistic	0.945			Shapiro Wilk Test Statistic	0.922	
34						5% Shapiro Wilk Critical Value	0.901			5% Shapiro Wilk Critical Value	0.901	
35						Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level		
36												
37						Assuming Normal Distribution				Assuming Lognormal Distribution		
38						DL/2 Substitution Method				DL/2 Substitution Method		
39						Mean	0.97			Mean (Log Scale)	-0.622	
40						SD	1.039			SD (Log Scale)	1.144	
41						95% UTL 90% Coverage	2.675			95% UTL 90% Coverage	3.502	
42						95% UPL (t)	2.73			95% UPL (t)	3.723	
43						90% Percentile (z)	2.302			90% Percentile (z)	2.325	
44						95% Percentile (z)	2.68			95% Percentile (z)	3.522	
45						99% Percentile (z)	3.388			99% Percentile (z)	7.679	
46												
47						Maximum Likelihood Estimate(MLE) Method	N/A			Log ROS Method		
48										Mean in Original Scale	0.84	
49										SD in Original Scale	1.046	
50										Mean in Log Scale	-0.789	
51										SD in Log Scale	1.061	
52										95% UTL 90% Coverage	2.587	
53										95% UPL (t)	2.738	
54										90% Percentile (z)	1.769	
55										95% Percentile (z)	2.601	

	A	B	C	D	E	F	G	H	I	J	K	L
56											99% Percentile (z)	5.359
57												
58				Gamma Distribution Test with Detected Values Only					Data Distribution Test with Detected Values Only			
59					k star (bias corrected)	1.72			Data appear Normal at 5% Significance Level			
60					Theta Star	1.054						
61					nu star	65.36						
62												
63					A-D Test Statistic	0.287			Nonparametric Statistics			
64					5% A-D Critical Value	0.752					Kaplan-Meier (KM) Method	
65					K-S Test Statistic	0.114					Mean	0.874
66					5% K-S Critical Value	0.201					SD	1.047
67				Data appear Gamma Distributed at 5% Significance Level							SE of Mean	0.156
68											95% KM UTL with 90% Coverage	2.591
69				Assuming Gamma Distribution							95% KM Chebyshev UPL	5.484
70					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	2.647
71					Mean	0.689					90% Percentile (z)	2.216
72					Median	0.000001					95% Percentile (z)	2.597
73					SD	1.135					99% Percentile (z)	3.31
74					k star	0.108						
75					Theta star	6.384			Gamma ROS Limits with Extrapolated Data			
76					Nu star	10.79					95% Wilson Hilferty (WH) Approx. Gamma UPL	2.993
77					95% Percentile of Chisquare (2k)	1.245					95% Hawkins Wixley (HW) Approx. Gamma UPL	3.419
78											95% WH Approx. Gamma UTL with 90% Coverage	2.802
79					90% Percentile	1.887					95% HW Approx. Gamma UTL with 90% Coverage	3.136
80					95% Percentile	3.975						
81					99% Percentile	10.53						
82												
83	Note: DL/2 is not a recommended method.											
84												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	WorkSheet.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	CACLIUM NO UPPER SAND											
12												
13						General Statistics						
14						Total Number of Observations	67			Number of Distinct Observations	64	
15						Tolerance Factor	1.585					
16												
17						Raw Statistics				Log-Transformed Statistics		
18						Minimum	2510			Minimum	7.828	
19						Maximum	26800			Maximum	10.2	
20						Second Largest	26400			Second Largest	10.18	
21						First Quartile	5270			First Quartile	8.57	
22						Median	7740			Median	8.954	
23						Third Quartile	12600			Third Quartile	9.441	
24						Mean	9726			Mean	9.018	
25						SD	5801			SD	0.579	
26						Coefficient of Variation	0.596					
27						Skewness	1.168					
28												
29						Background Statistics						
30						Normal Distribution Test				Lognormal Distribution Test		
31						Lilliefors Test Statistic	0.163			Lilliefors Test Statistic	0.085	
32						Lilliefors Critical Value	0.108			Lilliefors Critical Value	0.108	
33						Data not Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level		
34												
35						Assuming Normal Distribution				Assuming Lognormal Distribution		
36						95% UTL with 90% Coverage	18918			95% UTL with 90% Coverage	20647	
37						95% UPL (t)	19475			95% UPL (t)	21827	
38						90% Percentile (z)	17160			90% Percentile (z)	17325	
39						95% Percentile (z)	19267			95% Percentile (z)	21379	
40						99% Percentile (z)	23221			99% Percentile (z)	31717	
41												
42						Gamma Distribution Test				Data Distribution Test		
43						k star	3.066			Data Follow Appr. Gamma Distribution at 5% Significance Level		
44						Theta Star	3172					
45						MLE of Mean	9726					
46						MLE of Standard Deviation	5554					
47						nu star	410.9					
48												
49						A-D Test Statistic	0.774			Nonparametric Statistics		
50						5% A-D Critical Value	0.757			90% Percentile	17200	
51						K-S Test Statistic	0.101			95% Percentile	21085	
52						5% K-S Critical Value	0.11			99% Percentile	26536	
53						Data follow Appx. Gamma Distribution at 5% Significance Level						
54												
55						Assuming Gamma Distribution				95% UTL with 90% Coverage	22300	

	A	B	C	D	E	F	G	H	I	J	K	L
56					90% Percentile	17173			95% Percentile Bootstrap UTL with		90% Coverage	20870
57					95% Percentile	20283			95% BCA Bootstrap UTL with		90% Coverage	20120
58					99% Percentile	27017					95% UPL	23800
59											95% Chebyshev UPL	35200
60					95% WH Approx. Gamma UPL	20394					Upper Threshold Limit Based upon IQR	23595
61					95% HW Approx. Gamma UPL	20658						
62				95% WH Approx. Gamma UTL with	90% Coverage	19544						
63				95% HW Approx. Gamma UTL with	90% Coverage	19745						
64												
65												
66												
67	CALCIUM UPPER SAND											
68												
69					General Statistics							
70					Total Number of Observations	30					Number of Distinct Observations	30
71					Tolerance Factor	1.777						
72												
73					Raw Statistics						Log-Transformed Statistics	
74					Minimum	405.5					Minimum	6.005
75					Maximum	12200					Maximum	9.409
76					Second Largest	11300					Second Largest	9.333
77					First Quartile	1068					First Quartile	6.973
78					Median	1815					Median	7.504
79					Third Quartile	4820					Third Quartile	8.469
80					Mean	3321					Mean	7.665
81					SD	3366					SD	0.948
82					Coefficient of Variation	1.013						
83					Skewness	1.517						
84												
85					Background Statistics							
86					Normal Distribution Test						Lognormal Distribution Test	
87					Shapiro Wilk Test Statistic	0.771					Shapiro Wilk Test Statistic	0.952
88					Shapiro Wilk Critical Value	0.927					Shapiro Wilk Critical Value	0.927
89					Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level	
90												
91					Assuming Normal Distribution						Assuming Lognormal Distribution	
92					95% UTL with	90% Coverage	9303				95% UTL with	90% Coverage	11501
93					95% UPL (t)	9135					95% UPL (t)	10971
94					90% Percentile (z)	7635					90% Percentile (z)	7190
95					95% Percentile (z)	8858					95% Percentile (z)	10147
96					99% Percentile (z)	11152					99% Percentile (z)	19363
97												
98					Gamma Distribution Test						Data Distribution Test	
99					k star	1.165					Data Follow Appr. Gamma Distribution at 5% Significance Level	
100					Theta Star	2851						
101					MLE of Mean	3321						
102					MLE of Standard Deviation	3077						
103					nu star	69.91						
104												
105					A-D Test Statistic	0.988					Nonparametric Statistics	
106					5% A-D Critical Value	0.769					90% Percentile	8591
107					K-S Test Statistic	0.161					95% Percentile	10895
108					5% K-S Critical Value	0.164					99% Percentile	11939
109					Data follow Appx. Gamma Distribution at 5% Significance Level							
110												

	A	B	C	D	E	F	G	H	I	J	K	L
111	Assuming Gamma Distribution										95% UTL with 90% Coverage	11300
112					90% Percentile	7364					95% Percentile Bootstrap UTL with 90% Coverage	11390
113					95% Percentile	9431					95% BCA Bootstrap UTL with 90% Coverage	11300
114					99% Percentile	14177					95% UPL	11705
115											95% Chebyshev UPL	18236
116					95% WH Approx. Gamma UPL	9587					Upper Threshold Limit Based upon IQR	10449
117					95% HW Approx. Gamma UPL	9796						
118					95% WH Approx. Gamma UTL with 90% Coverage	9891						
119					95% HW Approx. Gamma UTL with 90% Coverage	10136						
120												
121												
122												
123	Magnesium no Upper Sand											
124												
125					General Statistics							
126					Total Number of Observations	67					Number of Distinct Observations	62
127					Tolerance Factor	1.585						
128												
129					Raw Statistics						Log-Transformed Statistics	
130					Minimum	798					Minimum	6.682
131					Maximum	15000					Maximum	9.616
132					Second Largest	14100					Second Largest	9.554
133					First Quartile	3310					First Quartile	8.104
134					Median	4430					Median	8.396
135					Third Quartile	5565					Third Quartile	8.624
136					Mean	5118					Mean	8.371
137					SD	3096					SD	0.607
138					Coefficient of Variation	0.605						
139					Skewness	1.421						
140												
141					Background Statistics							
142					Normal Distribution Test						Lognormal Distribution Test	
143					Lilliefors Test Statistic	0.202					Lilliefors Test Statistic	0.103
144					Lilliefors Critical Value	0.108					Lilliefors Critical Value	0.108
145					Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level	
146												
147					Assuming Normal Distribution						Assuming Lognormal Distribution	
148					95% UTL with 90% Coverage	10025					95% UTL with 90% Coverage	11293
149					95% UPL (t)	10323					95% UPL (t)	11971
150					90% Percentile (z)	9087					90% Percentile (z)	9397
151					95% Percentile (z)	10212					95% Percentile (z)	11714
152					99% Percentile (z)	12322					99% Percentile (z)	17710
153												
154					Gamma Distribution Test						Data Distribution Test	
155					k star	2.972					Data appear Lognormal at 5% Significance Level	
156					Theta Star	1722						
157					MLE of Mean	5118						
158					MLE of Standard Deviation	2969						
159					nu star	398.3						
160												
161					A-D Test Statistic	1.086					Nonparametric Statistics	
162					5% A-D Critical Value	0.757					90% Percentile	9666
163					K-S Test Statistic	0.129					95% Percentile	11990
164					5% K-S Critical Value	0.11					99% Percentile	14406
165					Data not Gamma Distributed at 5% Significance Level							

	A	B	C	D	E	F	G	H	I	J	K	L
166												
167				Assuming Gamma Distribution						95% UTL with	90% Coverage	12800
168					90% Percentile	9099			95% Percentile Bootstrap UTL with		90% Coverage	12800
169					95% Percentile	10770			95% BCA Bootstrap UTL with		90% Coverage	11180
170					99% Percentile	14395					95% UPL	12800
171											95% Chebyshev UPL	18716
172					95% WH Approx. Gamma UPL	10813					Upper Threshold Limit Based upon IQR	8948
173					95% HW Approx. Gamma UPL	11003						
174				95% WH Approx. Gamma UTL with	90% Coverage	10358						
175				95% HW Approx. Gamma UTL with	90% Coverage	10509						
176												
177												
178												
179	Magnesium Upper SAnd											
180												
181					General Statistics							
182					Total Number of Observations	30					Number of Distinct Observations	29
183					Tolerance Factor	1.777						
184												
185				Raw Statistics						Log-Transformed Statistics		
186					Minimum	279					Minimum	5.631
187					Maximum	3780					Maximum	8.237
188					Second Largest	3540					Second Largest	8.172
189					First Quartile	353.5					First Quartile	5.868
190					Median	563.8					Median	6.335
191					Third Quartile	1001					Third Quartile	6.909
192					Mean	879					Mean	6.468
193					SD	892.4					SD	0.728
194					Coefficient of Variation	1.015						
195					Skewness	2.403						
196												
197					Background Statistics							
198				Normal Distribution Test						Lognormal Distribution Test		
199					Shapiro Wilk Test Statistic	0.648					Shapiro Wilk Test Statistic	0.881
200					Shapiro Wilk Critical Value	0.927					Shapiro Wilk Critical Value	0.927
201				Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level		
202												
203				Assuming Normal Distribution						Assuming Lognormal Distribution		
204					95% UTL with	90% Coverage 2465					95% UTL with	90% Coverage 2349
205					95% UPL (t)	2420					95% UPL (t)	2266
206					90% Percentile (z)	2023					90% Percentile (z)	1638
207					95% Percentile (z)	2347					95% Percentile (z)	2134
208					99% Percentile (z)	2955					99% Percentile (z)	3505
209												
210				Gamma Distribution Test						Data Distribution Test		
211					k star	1.602				Data Follow Appr. Gamma Distribution at 5% Significance Level		
212					Theta Star	548.6						
213					MLE of Mean	879						
214					MLE of Standard Deviation	694.4						
215					nu star	96.14						
216												
217					A-D Test Statistic	1.809				Nonparametric Statistics		
218					5% A-D Critical Value	0.761					90% Percentile	1545
219					K-S Test Statistic	0.158					95% Percentile	3108
220					5% K-S Critical Value	0.162					99% Percentile	3710

	A	B	C	D	E	F	G	H	I	J	K	L
221	Data follow Appx. Gamma Distribution at 5% Significance Level											
222												
223	Assuming Gamma Distribution						95% UTL with 90% Coverage					3540
224					90% Percentile	1803	95% Percentile Bootstrap UTL with 90% Coverage					3540
225					95% Percentile	2240	95% BCA Bootstrap UTL with 90% Coverage					3540
226					99% Percentile	3224					95% UPL	3648
227											95% Chebyshev UPL	4833
228				95% WH Approx. Gamma UPL		2254	Upper Threshold Limit Based upon IQR					1972
229				95% HW Approx. Gamma UPL		2247						
230			95% WH Approx. Gamma UTL with 90% Coverage			2317						
231			95% HW Approx. Gamma UTL with 90% Coverage			2314						
232												
233												
234												
235	Sodium No Upper Sand											
236												
237					General Statistics							
238				Total Number of Observations		67			Number of Distinct Observations			63
239				Tolerance Factor		1.585						
240												
241			Raw Statistics						Log-Transformed Statistics			
242				Minimum		3150				Minimum		8.055
243				Maximum		41700				Maximum		10.64
244				Second Largest		33100				Second Largest		10.41
245				First Quartile		6875				First Quartile		8.836
246				Median		10300				Median		9.24
247				Third Quartile		15700				Third Quartile		9.661
248				Mean		13539				Mean		9.317
249				SD		9035				SD		0.622
250				Coefficient of Variation		0.667						
251				Skewness		1.176						
252												
253					Background Statistics							
254			Normal Distribution Test						Lognormal Distribution Test			
255				Lilliefors Test Statistic		0.186				Lilliefors Test Statistic		0.115
256				Lilliefors Critical Value		0.108				Lilliefors Critical Value		0.108
257			Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level			
258												
259			Assuming Normal Distribution						Assuming Lognormal Distribution			
260				95% UTL with 90% Coverage		27855				95% UTL with 90% Coverage		29804
261				95% UPL (t)		28723				95% UPL (t)		31639
262				90% Percentile (z)		25117				90% Percentile (z)		24684
263				95% Percentile (z)		28400				95% Percentile (z)		30942
264				99% Percentile (z)		34557				99% Percentile (z)		47273
265												
266			Gamma Distribution Test						Data Distribution Test			
267				k star		2.59			Data do not follow a Discernable Distribution (0.05)			
268				Theta Star		5228						
269				MLE of Mean		13539						
270				MLE of Standard Deviation		8413						
271				nu star		347						
272												
273				A-D Test Statistic		2.058			Nonparametric Statistics			
274				5% A-D Critical Value		0.759				90% Percentile		27400
275				K-S Test Statistic		0.134				95% Percentile		30610

	A	B	C	D	E	F	G	H	I	J	K	L
276					5% K-S Critical Value	0.11					99% Percentile	36024
277		Data not Gamma Distributed at 5% Significance Level										
278												
279				Assuming Gamma Distribution						95% UTL with	90% Coverage	30700
280					90% Percentile	24813			95% Percentile Bootstrap UTL with		90% Coverage	30700
281					95% Percentile	29662			95% BCA Bootstrap UTL with		90% Coverage	30520
282					99% Percentile	40260					95% UPL	31240
283											95% Chebyshev UPL	53213
284					95% WH Approx. Gamma UPL	29793					Upper Threshold Limit Based upon IQR	28938
285					95% HW Approx. Gamma UPL	30122						
286					95% WH Approx. Gamma UTL with	90% Coverage 28463						
287					95% HW Approx. Gamma UTL with	90% Coverage 28696						
288												
289												
290												
291	Sodium Upper Sand											
292												
293					General Statistics							
294					Total Number of Observations	30					Number of Distinct Observations	28
295					Tolerance Factor	1.777						
296												
297				Raw Statistics					Log-Transformed Statistics			
298					Minimum	1300					Minimum	7.17
299					Maximum	81150					Maximum	11.3
300					Second Largest	57600					Second Largest	10.96
301					First Quartile	2119					First Quartile	7.657
302					Median	3215					Median	8.074
303					Third Quartile	19475					Third Quartile	9.877
304					Mean	12320					Mean	8.585
305					SD	18607					SD	1.237
306					Coefficient of Variation	1.51						
307					Skewness	2.427						
308												
309					Background Statistics							
310				Normal Distribution Test					Lognormal Distribution Test			
311					Shapiro Wilk Test Statistic	0.638					Shapiro Wilk Test Statistic	0.859
312					Shapiro Wilk Critical Value	0.927					Shapiro Wilk Critical Value	0.927
313				Data not Normal at 5% Significance Level					Data not Lognormal at 5% Significance Level			
314												
315				Assuming Normal Distribution					Assuming Lognormal Distribution			
316					95% UTL with	90% Coverage 45385					95% UTL with	90% Coverage 48220
317					95% UPL (t)	44459					95% UPL (t)	45339
318					90% Percentile (z)	36166					90% Percentile (z)	26121
319					95% Percentile (z)	42926					95% Percentile (z)	40947
320					99% Percentile (z)	55607					99% Percentile (z)	95156
321												
322				Gamma Distribution Test					Data Distribution Test			
323					k star	0.672			Data do not follow a Discernable Distribution (0.05)			
324					Theta Star	18346						
325					MLE of Mean	12320						
326					MLE of Standard Deviation	15034						
327					nu star	40.29						
328												
329					A-D Test Statistic	2.509			Nonparametric Statistics			
330					5% A-D Critical Value	0.79					90% Percentile	29660

	A	B	C	D	E	F	G	H	I	J	K	L
331					K-S Test Statistic	0.278					95% Percentile	47700
332					5% K-S Critical Value	0.167					99% Percentile	74321
333		Data not Gamma Distributed at 5% Significance Level										
334												
335				Assuming Gamma Distribution							95% UTL with 90% Coverage	57600
336					90% Percentile	31227					95% Percentile Bootstrap UTL with 90% Coverage	59955
337					95% Percentile	42567					95% BCA Bootstrap UTL with 90% Coverage	57600
338					99% Percentile	69730					95% UPL	68198
339											95% Chebyshev UPL	94769
340					95% WH Approx. Gamma UPL	41690					Upper Threshold Limit Based upon IQR	45509
341					95% HW Approx. Gamma UPL	42024						
342					95% WH Approx. Gamma UTL with 90% Coverage	43327						
343					95% HW Approx. Gamma UTL with 90% Coverage	43858						
344												
345												
346												
347	Chloride											
348												
349					General Statistics							
350					Total Number of Observations	47					Number of Distinct Observations	42
351					Tolerance Factor	1.653						
352												
353				Raw Statistics							Log-Transformed Statistics	
354					Minimum	0.85					Minimum	-0.163
355					Maximum	130					Maximum	4.868
356					Second Largest	120					Second Largest	4.787
357					First Quartile	3.6					First Quartile	1.281
358					Median	4.7					Median	1.548
359					Third Quartile	10.2					Third Quartile	2.319
360					Mean	14.47					Mean	1.889
361					SD	26.18					SD	1.113
362					Coefficient of Variation	1.81						
363					Skewness	3.493						
364												
365					Background Statistics							
366				Normal Distribution Test							Lognormal Distribution Test	
367					Shapiro Wilk Test Statistic	0.505					Shapiro Wilk Test Statistic	0.911
368					Shapiro Wilk Critical Value	0.946					Shapiro Wilk Critical Value	0.946
369				Data not Normal at 5% Significance Level							Data not Lognormal at 5% Significance Level	
370												
371				Assuming Normal Distribution							Assuming Lognormal Distribution	
372					95% UTL with 90% Coverage	57.74					95% UTL with 90% Coverage	41.66
373					95% UPL (t)	58.88					95% UPL (t)	43.73
374					90% Percentile (z)	48.02					90% Percentile (z)	27.55
375					95% Percentile (z)	57.53					95% Percentile (z)	41.29
376					99% Percentile (z)	75.37					99% Percentile (z)	88.17
377												
378				Gamma Distribution Test							Data Distribution Test	
379					k star	0.729					Data do not follow a Discernable Distribution (0.05)	
380					Theta Star	19.86						
381					MLE of Mean	14.47						
382					MLE of Standard Deviation	16.95						
383					nu star	68.48						
384												
385					A-D Test Statistic	3.9					Nonparametric Statistics	

	A	B	C	D	E	F	G	H	I	J	K	L
386					5% A-D Critical Value	0.79					90% Percentile	36.8
387					K-S Test Statistic	0.252					95% Percentile	45.6
388					5% K-S Critical Value	0.134					99% Percentile	125.4
389		Data not Gamma Distributed at 5% Significance Level										
390												
391			Assuming Gamma Distribution							95% UTL with	90% Coverage	48
392					90% Percentile	35.97			95% Percentile Bootstrap UTL with		90% Coverage	48
393					95% Percentile	48.54			95% BCA Bootstrap UTL with		90% Coverage	48
394					99% Percentile	78.43					95% UPL	91.2
395											95% Chebyshev UPL	129.8
396					95% WH Approx. Gamma UPL	45.16					Upper Threshold Limit Based upon IQR	20.1
397					95% HW Approx. Gamma UPL	44.2						
398				95% WH Approx. Gamma UTL with	90% Coverage	43.68						
399				95% HW Approx. Gamma UTL with	90% Coverage	42.63						
400												
401												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	Sheet1.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	CALCIUM NOT UPPER SAND											
12												
13						General Statistics						
14						Total Number of Observations	67			Number of Distinct Observations	64	
15						Tolerance Factor	1.585					
16												
17						Raw Statistics				Log-Transformed Statistics		
18						Minimum	2530			Minimum	7.836	
19						Maximum	27100			Maximum	10.21	
20						Second Largest	26400			Second Largest	10.18	
21						First Quartile	5410			First Quartile	8.596	
22						Median	7820			Median	8.964	
23						Third Quartile	13000			Third Quartile	9.473	
24						Mean	9719			Mean	9.015	
25						SD	5888			SD	0.58	
26						Coefficient of Variation	0.606					
27						Skewness	1.237					
28												
29						Background Statistics						
30						Normal Distribution Test				Lognormal Distribution Test		
31						Lilliefors Test Statistic	0.174			Lilliefors Test Statistic	0.0848	
32						Lilliefors Critical Value	0.108			Lilliefors Critical Value	0.108	
33						Data not Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level		
34												
35						Assuming Normal Distribution				Assuming Lognormal Distribution		
36						95% UTL with 90% Coverage	19049			95% UTL with 90% Coverage	20640	
37						95% UPL (t)	19615			95% UPL (t)	21823	
38						90% Percentile (z)	17265			90% Percentile (z)	17311	
39						95% Percentile (z)	19404			95% Percentile (z)	21374	
40						99% Percentile (z)	23417			99% Percentile (z)	31742	
41												
42						Gamma Distribution Test				Data Distribution Test		
43						k star	3.03			Data appear Lognormal at 5% Significance Level		
44						Theta Star	3208					
45						MLE of Mean	9719					
46						MLE of Standard Deviation	5584					
47						nu star	406					
48												
49						A-D Test Statistic	0.855			Nonparametric Statistics		
50						5% A-D Critical Value	0.757			90% Percentile	17360	
51						K-S Test Statistic	0.114			95% Percentile	22630	
52						5% K-S Critical Value	0.11			99% Percentile	26638	
53						Data not Gamma Distributed at 5% Significance Level						
54												
55						Assuming Gamma Distribution				95% UTL with 90% Coverage	24400	

	A	B	C	D	E	F	G	H	I	J	K	L
56					90% Percentile	17207				95% Percentile Bootstrap UTL with	90% Coverage	20860
57					95% Percentile	20340				95% BCA Bootstrap UTL with	90% Coverage	21100
58					99% Percentile	27128					95% UPL	24760
59											95% Chebyshev UPL	35575
60					95% WH Approx. Gamma UPL	20445					Upper Threshold Limit Based upon IQR	24385
61					95% HW Approx. Gamma UPL	20696						
62				95% WH Approx. Gamma UTL with	90% Coverage	19588						
63				95% HW Approx. Gamma UTL with	90% Coverage	19777						
64												
65												
66												
67	CALCIUM UPPER SAND											
68												
69						General Statistics						
70					Total Number of Observations	30					Number of Distinct Observations	30
71					Tolerance Factor	1.777						
72												
73					Raw Statistics						Log-Transformed Statistics	
74					Minimum	335					Minimum	5.814
75					Maximum	11800					Maximum	9.376
76					Second Largest	11500					Second Largest	9.35
77					First Quartile	1006					First Quartile	6.914
78					Median	1775					Median	7.479
79					Third Quartile	4705					Third Quartile	8.441
80					Mean	3266					Mean	7.616
81					SD	3388					SD	0.994
82					Coefficient of Variation	1.037						
83					Skewness	1.508						
84												
85						Background Statistics						
86					Normal Distribution Test						Lognormal Distribution Test	
87					Shapiro Wilk Test Statistic	0.765					Shapiro Wilk Test Statistic	0.956
88					Shapiro Wilk Critical Value	0.927					Shapiro Wilk Critical Value	0.927
89					Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level	
90												
91					Assuming Normal Distribution						Assuming Lognormal Distribution	
92					95% UTL with	90% Coverage	9287				95% UTL with	90% Coverage	11874
93					95% UPL (t)	9118					95% UPL (t)	11301
94					90% Percentile (z)	7608					90% Percentile (z)	7257
95					95% Percentile (z)	8839					95% Percentile (z)	10413
96					99% Percentile (z)	11148					99% Percentile (z)	20499
97												
98					Gamma Distribution Test						Data Distribution Test	
99					k star	1.094					Data Follow Appr. Gamma Distribution at 5% Significance Level	
100					Theta Star	2986						
101					MLE of Mean	3266						
102					MLE of Standard Deviation	3123						
103					nu star	65.63						
104												
105					A-D Test Statistic	0.922					Nonparametric Statistics	
106					5% A-D Critical Value	0.771					90% Percentile	9032
107					K-S Test Statistic	0.158					95% Percentile	11005
108					5% K-S Critical Value	0.164					99% Percentile	11713
109					Data follow Appx. Gamma Distribution at 5% Significance Level							
110												

	A	B	C	D	E	F	G	H	I	J	K	L
111	Assuming Gamma Distribution						95% UTL with 90% Coverage					11500
112					90% Percentile	7356	95% Percentile Bootstrap UTL with 90% Coverage					11530
113					95% Percentile	9481	95% BCA Bootstrap UTL with 90% Coverage					11530
114					99% Percentile	14382					95% UPL	11635
115											95% Chebyshev UPL	18279
116					95% WH Approx. Gamma UPL	9635	Upper Threshold Limit Based upon IQR					10253
117					95% HW Approx. Gamma UPL	9878						
118				95% WH Approx. Gamma UTL with	90% Coverage	9948						
119				95% HW Approx. Gamma UTL with	90% Coverage	10231						
120												
121												
122												
123	Magnesium No Upper Sand											
124												
125					General Statistics							
126					Total Number of Observations	67	Number of Distinct Observations					65
127					Tolerance Factor	1.585						
128												
129					Raw Statistics		Log-Transformed Statistics					
130					Minimum	826					Minimum	6.717
131					Maximum	15200					Maximum	9.629
132					Second Largest	14000					Second Largest	9.547
133					First Quartile	3460					First Quartile	8.149
134					Median	4580					Median	8.429
135					Third Quartile	5630					Third Quartile	8.636
136					Mean	5219					Mean	8.393
137					SD	3140					SD	0.603
138					Coefficient of Variation	0.602						
139					Skewness	1.47						
140												
141					Background Statistics							
142					Normal Distribution Test		Lognormal Distribution Test					
143					Lilliefors Test Statistic	0.217					Lilliefors Test Statistic	0.114
144					Lilliefors Critical Value	0.108					Lilliefors Critical Value	0.108
145					Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level	
146												
147					Assuming Normal Distribution		Assuming Lognormal Distribution					
148					95% UTL with 90% Coverage	10196					95% UTL with 90% Coverage	11479
149					95% UPL (t)	10497					95% UPL (t)	12164
150					90% Percentile (z)	9244					90% Percentile (z)	9562
151					95% Percentile (z)	10385					95% Percentile (z)	11904
152					99% Percentile (z)	12525					99% Percentile (z)	17953
153												
154					Gamma Distribution Test		Data Distribution Test					
155					k star	3.016	Data do not follow a Discernable Distribution (0.05)					
156					Theta Star	1730						
157					MLE of Mean	5219						
158					MLE of Standard Deviation	3005						
159					nu star	404.2						
160												
161					A-D Test Statistic	1.178	Nonparametric Statistics					
162					5% A-D Critical Value	0.757					90% Percentile	9820
163					K-S Test Statistic	0.142					95% Percentile	12570
164					5% K-S Critical Value	0.11					99% Percentile	14408
165					Data not Gamma Distributed at 5% Significance Level							

	A	B	C	D	E	F	G	H	I	J	K	L
166												
167				Assuming Gamma Distribution						95% UTL with	90% Coverage	13500
168					90% Percentile	9249			95% Percentile Bootstrap UTL with		90% Coverage	11720
169					95% Percentile	10936			95% BCA Bootstrap UTL with		90% Coverage	11720
170					99% Percentile	14593					95% UPL	13620
171											95% Chebyshev UPL	19010
172					95% WH Approx. Gamma UPL	10978					Upper Threshold Limit Based upon IQR	8885
173					95% HW Approx. Gamma UPL	11171						
174				95% WH Approx. Gamma UTL with	90% Coverage	10519						
175				95% HW Approx. Gamma UTL with	90% Coverage	10673						
176												
177												
178												
179	Magnesium UpperSand											
180												
181					General Statistics							
182					Total Number of Observations	30					Number of Distinct Observations	27
183					Tolerance Factor	1.777						
184												
185				Raw Statistics						Log-Transformed Statistics		
186					Minimum	268					Minimum	5.591
187					Maximum	3710					Maximum	8.219
188					Second Largest	3660					Second Largest	8.205
189					First Quartile	362					First Quartile	5.891
190					Median	558.5					Median	6.325
191					Third Quartile	1020					Third Quartile	6.926
192					Mean	894.1					Mean	6.494
193					SD	893.8					SD	0.719
194					Coefficient of Variation	1						
195					Skewness	2.398						
196												
197					Background Statistics							
198				Normal Distribution Test						Lognormal Distribution Test		
199					Shapiro Wilk Test Statistic	0.65					Shapiro Wilk Test Statistic	0.897
200					Shapiro Wilk Critical Value	0.927					Shapiro Wilk Critical Value	0.927
201				Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level		
202												
203				Assuming Normal Distribution						Assuming Lognormal Distribution		
204					95% UTL with	90% Coverage	2482				95% UTL with	90% Coverage	2371
205					95% UPL (t)	2438					95% UPL (t)	2287
206					90% Percentile (z)	2040					90% Percentile (z)	1660
207					95% Percentile (z)	2364					95% Percentile (z)	2156
208					99% Percentile (z)	2973					99% Percentile (z)	3519
209												
210				Gamma Distribution Test						Data Distribution Test		
211					k star	1.645				Data Follow Appr. Gamma Distribution at 5% Significance Level		
212					Theta Star	543.5						
213					MLE of Mean	894.1						
214					MLE of Standard Deviation	697.1						
215					nu star	98.71						
216												
217					A-D Test Statistic	1.661				Nonparametric Statistics		
218					5% A-D Critical Value	0.76					90% Percentile	1581
219					K-S Test Statistic	0.149					95% Percentile	3174
220					5% K-S Critical Value	0.162					99% Percentile	3696

	A	B	C	D	E	F	G	H	I	J	K	L
221	Data follow Appx. Gamma Distribution at 5% Significance Level											
222												
223	Assuming Gamma Distribution						95% UTL with 90% Coverage					3660
224					90% Percentile	1822	95% Percentile Bootstrap UTL with 90% Coverage					3665
225					95% Percentile	2259	95% BCA Bootstrap UTL with 90% Coverage					3665
226					99% Percentile	3240				95% UPL		3683
227										95% Chebyshev UPL		4854
228				95% WH Approx. Gamma UPL		2273	Upper Threshold Limit Based upon IQR					2006
229				95% HW Approx. Gamma UPL		2267						
230			95% WH Approx. Gamma UTL with 90% Coverage			2336						
231			95% HW Approx. Gamma UTL with 90% Coverage			2334						
232												
233												
234												
235	Sodium Upper Sand											
236												
237	General Statistics											
238			Total Number of Observations			30	Number of Distinct Observations					29
239			Tolerance Factor			1.777						
240												
241	Raw Statistics						Log-Transformed Statistics					
242			Minimum			1320	Minimum					7.185
243			Maximum			79800	Maximum					11.29
244			Second Largest			58000	Second Largest					10.97
245			First Quartile			2075	First Quartile					7.636
246			Median			3110	Median					8.042
247			Third Quartile			19425	Third Quartile					9.874
248			Mean			12253	Mean					8.576
249			SD			18491	SD					1.24
250			Coefficient of Variation			1.509						
251			Skewness			2.392						
252												
253	Background Statistics											
254	Normal Distribution Test						Lognormal Distribution Test					
255			Shapiro Wilk Test Statistic			0.639	Shapiro Wilk Test Statistic					0.856
256			Shapiro Wilk Critical Value			0.927	Shapiro Wilk Critical Value					0.927
257	Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level					
258												
259	Assuming Normal Distribution						Assuming Lognormal Distribution					
260			95% UTL with 90% Coverage			45111	95% UTL with 90% Coverage					47996
261			95% UPL (t)			44190	95% UPL (t)					45123
262			90% Percentile (z)			35950	90% Percentile (z)					25968
263			95% Percentile (z)			42667	95% Percentile (z)					40743
264			99% Percentile (z)			55269	99% Percentile (z)					94840
265												
266	Gamma Distribution Test						Data Distribution Test					
267			k star			0.669	Data do not follow a Discernable Distribution (0.05)					
268			Theta Star			18312						
269			MLE of Mean			12253						
270			MLE of Standard Deviation			14979						
271			nu star			40.15						
272												
273			A-D Test Statistic			2.533	Nonparametric Statistics					
274			5% A-D Critical Value			0.79	90% Percentile					30430
275			K-S Test Statistic			0.275	95% Percentile					48145

	A	B	C	D	E	F	G	H	I	J	K	L
276					5% K-S Critical Value	0.167					99% Percentile	73478
277		Data not Gamma Distributed at 5% Significance Level										
278												
279				Assuming Gamma Distribution							95% UTL with 90% Coverage	58000
280					90% Percentile	31083				95% Percentile Bootstrap UTL with	90% Coverage	60180
281					95% Percentile	42390				95% BCA Bootstrap UTL with	90% Coverage	58000
282					99% Percentile	69483					95% UPL	67810
283											95% Chebyshev UPL	94185
284					95% WH Approx. Gamma UPL	41511					Upper Threshold Limit Based upon IQR	45450
285					95% HW Approx. Gamma UPL	41844						
286				95% WH Approx. Gamma UTL with	90% Coverage	43144						
287				95% HW Approx. Gamma UTL with	90% Coverage	43672						
288												
289												
290												
291	Sodium No Upper Sand											
292												
293					General Statistics							
294					Total Number of Observations	67					Number of Distinct Observations	62
295					Tolerance Factor	1.585						
296												
297				Raw Statistics						Log-Transformed Statistics		
298					Minimum	3180					Minimum	8.065
299					Maximum	44300					Maximum	10.7
300					Second Largest	33200					Second Largest	10.41
301					First Quartile	7023					First Quartile	8.857
302					Median	9880					Median	9.198
303					Third Quartile	16250					Third Quartile	9.695
304					Mean	13563					Mean	9.319
305					SD	9129					SD	0.62
306					Coefficient of Variation	0.673						
307					Skewness	1.264						
308												
309					Background Statistics							
310				Normal Distribution Test						Lognormal Distribution Test		
311					Lilliefors Test Statistic	0.204					Lilliefors Test Statistic	0.105
312					Lilliefors Critical Value	0.108					Lilliefors Critical Value	0.108
313				Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
314												
315				Assuming Normal Distribution						Assuming Lognormal Distribution		
316					95% UTL with 90% Coverage	28029					95% UTL with 90% Coverage	29782
317					95% UPL (t)	28906					95% UPL (t)	31611
318					90% Percentile (z)	25262					90% Percentile (z)	24677
319					95% Percentile (z)	28579					95% Percentile (z)	30916
320					99% Percentile (z)	34800					99% Percentile (z)	47184
321												
322				Gamma Distribution Test						Data Distribution Test		
323					k star	2.588				Data appear Lognormal at 5% Significance Level		
324					Theta Star	5241						
325					MLE of Mean	13563						
326					MLE of Standard Deviation	8431						
327					nu star	346.8						
328												
329					A-D Test Statistic	2.024				Nonparametric Statistics		
330					5% A-D Critical Value	0.759					90% Percentile	28280

	A	B	C	D	E	F	G	H	I	J	K	L
331					K-S Test Statistic	0.129					95% Percentile	30150
332					5% K-S Critical Value	0.11					99% Percentile	36974
333		Data not Gamma Distributed at 5% Significance Level										
334												
335			Assuming Gamma Distribution							95% UTL with	90% Coverage	30300
336					90% Percentile	24861			95% Percentile Bootstrap UTL with		90% Coverage	30000
337					95% Percentile	29722			95% BCA Bootstrap UTL with		90% Coverage	30000
338					99% Percentile	40343					95% UPL	31140
339											95% Chebyshev UPL	53650
340					95% WH Approx. Gamma UPL	29842					Upper Threshold Limit Based upon IQR	30091
341					95% HW Approx. Gamma UPL	30155						
342			95% WH Approx. Gamma UTL with		90% Coverage	28510						
343			95% HW Approx. Gamma UTL with		90% Coverage	28727						
344												
345												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Data Sets with Non-Detects								
2			User Selected Options									
3			From File	WorkSheet.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	Dissolved Aluminum											
12												
13						General Statistics						
14						Number of Valid Data	45			Number of Detected Data	12	
15						Number of Distinct Detected Data	12			Number of Non-Detect Data	33	
16						Tolerance Factor	1.662			Percent Non-Detects	73.33%	
17												
18						Raw Statistics				Log-transformed Statistics		
19						Minimum Detected	115			Minimum Detected	4.745	
20						Maximum Detected	944			Maximum Detected	6.85	
21						Mean of Detected	503.3			Mean of Detected	6.095	
22						SD of Detected	233.8			SD of Detected	0.573	
23						Minimum Non-Detect	11.9			Minimum Non-Detect	2.477	
24						Maximum Non-Detect	206			Maximum Non-Detect	5.328	
25												
26						Data with Multiple Detection Limits				Single Detection Limit Scenario		
27						Note: Data have multiple DLs - Use of KM Method is recommended				Number treated as Non-Detect with Single DL	34	
28						For all methods (except KM, DL/2, and ROS Methods),				Number treated as Detected with Single DL	11	
29						Observations < Largest ND are treated as NDs				Single DL Non-Detect Percentage	75.56%	
30												
31						Background Statistics						
32						Normal Distribution Test with Detected Values Only				Lognormal Distribution Test with Detected Values Only		
33						Shapiro Wilk Test Statistic	0.977			Shapiro Wilk Test Statistic	0.917	
34						5% Shapiro Wilk Critical Value	0.859			5% Shapiro Wilk Critical Value	0.859	
35						Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level		
36												
37						Assuming Normal Distribution				Assuming Lognormal Distribution		
38						DL/2 Substitution Method				DL/2 Substitution Method		
39						Mean	148.7			Mean (Log Scale)	3.577	
40						SD	246.5			SD (Log Scale)	1.68	
41						95% UTL 90% Coverage	558.5			95% UTL 90% Coverage	584.1	
42						95% UPL (t)	567.4			95% UPL (t)	620.8	
43						90% Percentile (z)	464.6			90% Percentile (z)	308	
44						95% Percentile (z)	554.1			95% Percentile (z)	567	
45						99% Percentile (z)	722.1			99% Percentile (z)	1782	
46												
47						Maximum Likelihood Estimate(MLE) Method				Log ROS Method		
48						Mean	-138.9			Mean in Original Scale	186.2	
49						SD	514.8			SD in Original Scale	226	
50						95% UTL with 90% Coverage	716.9			95% UTL with 90% Coverage	493.3	
51										95% BCA UTL with 90% Coverage	649	
52										95% Bootstrap (%) UTL with 90% Coverage	649	
53						95% UPL (t)	735.6			95% UPL (t)	509.2	
54						90% Percentile (z)	520.8			90% Percentile (z)	353.5	
55						95% Percentile (z)	707.8			95% Percentile (z)	485.8	

	A–E	F	G–K	L
56	99% Percentile (z)	1059	99% Percentile (z)	881.6
57				
58	**Gamma Distribution Test with Detected Values Only**		**Data Distribution Test with Detected Values Only**	
59	k star (bias corrected)	3.149	Data appear Normal at 5% Significance Level	
60	Theta Star	159.8		
61	nu star	75.58		
62				
63	A-D Test Statistic	0.287	**Nonparametric Statistics**	
64	5% A-D Critical Value	0.735	Kaplan-Meier (KM) Method	
65	K-S Test Statistic	0.197	Mean	218.5
66	5% K-S Critical Value	0.246	SD	207
67	Data appear Gamma Distributed at 5% Significance Level		SE of Mean	32.23
68			95% KM UTL with 90% Coverage	562.6
69	**Assuming Gamma Distribution**		95% KM Chebyshev UPL	1131
70	Gamma ROS Statistics with Extrapolated Data		95% KM UPL (t)	570.1
71	Mean	134.2	90% Percentile (z)	483.8
72	Median	0.000001	95% Percentile (z)	559
73	SD	253.6	99% Percentile (z)	700
74	k star	0.0743		
75	Theta star	1805	**Gamma ROS Limits with Extrapolated Data**	
76	Nu star	6.69	95% Wilson Hilferty (WH) Approx. Gamma UPL	524.5
77	95% Percentile of Chisquare (2k)	0.86	95% Hawkins Wixley (HW) Approx. Gamma UPL	527.3
78			95% WH Approx. Gamma UTL with 90% Coverage	499.9
79	90% Percentile	302.9	95% HW Approx. Gamma UTL with 90% Coverage	494.8
80	95% Percentile	776.7		
81	99% Percentile	2460		
82				
83	Note: DL/2 is not a recommended method.			
84				
85				
86	DISSOLVED ARSENIC			
87				
88	**General Statistics**			
89	Number of Valid Data	78	Number of Detected Data	34
90	Number of Distinct Detected Data	30	Number of Non-Detect Data	44
91	Tolerance Factor	1.56	Percent Non-Detects	56.41%
92				
93	**Raw Statistics**		**Log-transformed Statistics**	
94	Minimum Detected	0.83	Minimum Detected	-0.186
95	Maximum Detected	34.2	Maximum Detected	3.532
96	Mean of Detected	6.801	Mean of Detected	1.23
97	SD of Detected	9.125	SD of Detected	1.129
98	Minimum Non-Detect	0.8	Minimum Non-Detect	-0.223
99	Maximum Non-Detect	5.8	Maximum Non-Detect	1.758
100				
101	**Data with Multiple Detection Limits**		**Single Detection Limit Scenario**	
102	Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect with Single DL	68
103	For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected with Single DL	10
104	Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	87.18%
105				
106	**Background Statistics**			
107	**Normal Distribution Test with Detected Values Only**		**Lognormal Distribution Test with Detected Values Only**	
108	Shapiro Wilk Test Statistic	0.672	Shapiro Wilk Test Statistic	0.895
109	5% Shapiro Wilk Critical Value	0.933	5% Shapiro Wilk Critical Value	0.933
110	Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

	A	B	C	D	E	F	G	H	I	J	K	L
111												
112	**Assuming Normal Distribution**						**Assuming Lognormal Distribution**					
113					DL/2 Substitution Method						DL/2 Substitution Method	
114					Mean	3.611					Mean (Log Scale)	0.532
115					SD	6.622					SD (Log Scale)	1.05
116					95% UTL 90% Coverage	13.94					95% UTL 90% Coverage	8.764
117					95% UPL (t)	14.71					95% UPL (t)	9.897
118					90% Percentile (z)	12.1					90% Percentile (z)	6.543
119					95% Percentile (z)	14.5					95% Percentile (z)	9.583
120					99% Percentile (z)	19.02					99% Percentile (z)	19.61
121												
122				Maximum Likelihood Estimate(MLE) Method							Log ROS Method	
123					Mean	-21.34					Mean in Original Scale	3.347
124					SD	24					SD in Original Scale	6.717
125					95% UTL with 90% Coverage	16.1					95% UTL with 90% Coverage	9.319
126											95% BCA UTL with 90% Coverage	17.55
127											95% Bootstrap (%) UTL with 90% Coverage	17.55
128					95% UPL (t)	18.88					95% UPL (t)	10.85
129					90% Percentile (z)	9.421					90% Percentile (z)	6.467
130					95% Percentile (z)	18.14					95% Percentile (z)	10.42
131					99% Percentile (z)	34.5					99% Percentile (z)	25.5
132												
133	**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**					
134					k star (bias corrected)	0.8	Data do not follow a Discernable Distribution (0.05)					
135					Theta Star	8.496						
136					nu star	54.43						
137												
138					A-D Test Statistic	2.142	**Nonparametric Statistics**					
139					5% A-D Critical Value	0.783					Kaplan-Meier (KM) Method	
140					K-S Test Statistic	0.204					Mean	3.586
141					5% K-S Critical Value	0.156					SD	6.582
142	Data not Gamma Distributed at 5% Significance Level										SE of Mean	0.758
143											95% KM UTL with 90% Coverage	13.85
144	**Assuming Gamma Distribution**										95% KM Chebyshev UPL	32.46
145			Gamma ROS Statistics with Extrapolated Data								95% KM UPL (t)	14.61
146					Mean	3.112					90% Percentile (z)	12.02
147					Median	0.855					95% Percentile (z)	14.41
148					SD	6.828					99% Percentile (z)	18.9
149					k star	0.117						
150					Theta star	26.7	**Gamma ROS Limits with Extrapolated Data**					
151					Nu star	18.18					95% Wilson Hilferty (WH) Approx. Gamma UPL	12.55
152					95% Percentile of Chisquare (2k)	1.335					95% Hawkins Wixley (HW) Approx. Gamma UPL	14.79
153											95% WH Approx. Gamma UTL with 90% Coverage	10.94
154					90% Percentile	8.743					95% HW Approx. Gamma UTL with 90% Coverage	12.39
155					95% Percentile	17.82						
156					99% Percentile	45.73						
157												
158	Note: DL/2 is not a recommended method.											
159												
160												
161	**Barium No Lower Sand**											
162												
163					**General Statistics**							
164					Number of Valid Data	64					Number of Detected Data	61
165					Number of Distinct Detected Data	53					Number of Non-Detect Data	3

	A	B	C	D	E	F	G	H	I	J	K	L
166					Tolerance Factor	1.593				Percent Non-Detects		4.69%
167												
168				Raw Statistics						Log-transformed Statistics		
169					Minimum Detected	0.61					Minimum Detected	-0.494
170					Maximum Detected	214					Maximum Detected	5.366
171					Mean of Detected	13.44					Mean of Detected	1.897
172					SD of Detected	28.98					SD of Detected	1.035
173					Minimum Non-Detect	3					Minimum Non-Detect	1.099
174					Maximum Non-Detect	4.5					Maximum Non-Detect	1.504
175												
176				Data with Multiple Detection Limits						Single Detection Limit Scenario		
177			Note: Data have multiple DLs - Use of KM Method is recommended								Number treated as Non-Detect with Single DL	22
178			For all methods (except KM, DL/2, and ROS Methods),								Number treated as Detected with Single DL	42
179			Observations < Largest ND are treated as NDs								Single DL Non-Detect Percentage	34.38%
180												
181					Background Statistics							
182				Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only		
183					Lilliefors Test Statistic	0.329					Lilliefors Test Statistic	0.0981
184					5% Lilliefors Critical Value	0.113					5% Lilliefors Critical Value	0.113
185				Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
186												
187				Assuming Normal Distribution						Assuming Lognormal Distribution		
188					DL/2 Substitution Method						DL/2 Substitution Method	
189					Mean	12.89					Mean (Log Scale)	1.835
190					SD	28.39					SD (Log Scale)	1.049
191					95% UTL 90% Coverage	58.1					95% UTL 90% Coverage	33.32
192					95% UPL (t)	60.65					95% UPL (t)	36.61
193					90% Percentile (z)	49.27					90% Percentile (z)	24.04
194					95% Percentile (z)	59.59					95% Percentile (z)	35.2
195					99% Percentile (z)	78.93					99% Percentile (z)	71.96
196												
197					Maximum Likelihood Estimate(MLE) Method						Log ROS Method	
198					Mean	3.461					Mean in Original Scale	12.9
199					SD	36.44					SD in Original Scale	28.39
200					95% UTL with 90% Coverage	61.5					95% UTL with 90% Coverage	33.21
201											95% BCA UTL with 90% Coverage	39.95
202											95% Bootstrap (%) UTL with 90% Coverage	42.8
203					95% UPL (t)	64.77					95% UPL (t)	36.48
204					90% Percentile (z)	50.16					90% Percentile (z)	23.99
205					95% Percentile (z)	63.4					95% Percentile (z)	35.08
206					99% Percentile (z)	88.23					99% Percentile (z)	71.54
207												
208				Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only		
209					k star (bias corrected)	0.811				Data appear Lognormal at 5% Significance Level		
210					Theta Star	16.58						
211					nu star	98.88						
212												
213					A-D Test Statistic	3.565				Nonparametric Statistics		
214					5% A-D Critical Value	0.787					Kaplan-Meier (KM) Method	
215					K-S Test Statistic	0.204					Mean	12.91
216					5% K-S Critical Value	0.118					SD	28.16
217				Data not Gamma Distributed at 5% Significance Level							SE of Mean	3.549
218											95% KM UTL with 90% Coverage	57.76
219				Assuming Gamma Distribution							95% KM Chebyshev UPL	136.6
220					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	60.28

	A	B	C	D	E	F	G	H	I	J	K	L
221					Mean	12.81					90% Percentile (z)	49
222					Median	5.6					95% Percentile (z)	59.23
223					SD	28.42					99% Percentile (z)	78.42
224					k star	0.451						
225					Theta star	28.37			**Gamma ROS Limits with Extrapolated Data**			
226					Nu star	57.78				95% Wilson Hilferty (WH) Approx. Gamma UPL		41.1
227					95% Percentile of Chisquare (2k)	3.596				95% Hawkins Wixley (HW) Approx. Gamma UPL		44.3
228										95% WH Approx. Gamma UTL with	90% Coverage	38.23
229					90% Percentile	35.37				95% HW Approx. Gamma UTL with	90% Coverage	40.77
230					95% Percentile	51.02						
231					99% Percentile	89.87						
232												
233	Note: DL/2 is not a recommended method.											
234												
235												
236	**Barium Lower Sand**											
237												
238					**General Statistics**							
239					Number of Valid Data	29				Number of Detected Data		25
240					Number of Distinct Detected Data	19				Number of Non-Detect Data		4
241					Tolerance Factor	1.788				Percent Non-Detects		13.79%
242												
243				**Raw Statistics**					**Log-transformed Statistics**			
244					Minimum Detected	0.7				Minimum Detected		-0.357
245					Maximum Detected	14.7				Maximum Detected		2.688
246					Mean of Detected	3.228				Mean of Detected		0.883
247					SD of Detected	3.066				SD of Detected		0.732
248					Minimum Non-Detect	0.35				Minimum Non-Detect		-1.05
249					Maximum Non-Detect	2.9				Maximum Non-Detect		1.065
250												
251				**Data with Multiple Detection Limits**					**Single Detection Limit Scenario**			
252	Note: Data have multiple DLs - Use of KM Method is recommended									Number treated as Non-Detect with Single DL		20
253	For all methods (except KM, DL/2, and ROS Methods),									Number treated as Detected with Single DL		9
254	Observations < Largest ND are treated as NDs									Single DL Non-Detect Percentage		68.97%
255												
256					**Background Statistics**							
257				**Normal Distribution Test with Detected Values Only**					**Lognormal Distribution Test with Detected Values Only**			
258					Shapiro Wilk Test Statistic	0.702				Shapiro Wilk Test Statistic		0.959
259					5% Shapiro Wilk Critical Value	0.918				5% Shapiro Wilk Critical Value		0.918
260				Data not Normal at 5% Significance Level					Data appear Lognormal at 5% Significance Level			
261												
262				**Assuming Normal Distribution**					**Assuming Lognormal Distribution**			
263					DL/2 Substitution Method					DL/2 Substitution Method		
264					Mean	2.901				Mean (Log Scale)		0.705
265					SD	2.964				SD (Log Scale)		0.87
266					95% UTL 90% Coverage	8.2				95% UTL 90% Coverage		9.585
267					95% UPL (t)	8.029				95% UPL (t)		9.115
268					90% Percentile (z)	6.699				90% Percentile (z)		6.17
269					95% Percentile (z)	7.776				95% Percentile (z)		8.463
270					99% Percentile (z)	9.795				99% Percentile (z)		15.31
271												
272					Maximum Likelihood Estimate(MLE) Method					Log ROS Method		
273					Mean	-0.119				Mean in Original Scale		2.924
274					SD	5.614				SD in Original Scale		2.947
275					95% UTL with 90% Coverage	9.919				95% UTL with 90% Coverage		8.589

	A	B	C	D	E	F	G	H	I	J	K	L
276											95% BCA UTL with 90% Coverage	8.58
277											95% Bootstrap (%) UTL with 90% Coverage	9.5
278					95% UPL (t)	9.595					95% UPL (t)	8.208
279					90% Percentile (z)	7.076					90% Percentile (z)	5.773
280					95% Percentile (z)	9.116					95% Percentile (z)	7.677
281					99% Percentile (z)	12.94					99% Percentile (z)	13.1
282												
283				**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**		
284					k star (bias corrected)	1.679				Data follow Appr. Gamma Distribution at 5% Significance Level		
285					Theta Star	1.923						
286					nu star	83.94						
287												
288					A-D Test Statistic	0.929				**Nonparametric Statistics**		
289					5% A-D Critical Value	0.758				Kaplan-Meier (KM) Method		
290					K-S Test Statistic	0.161				Mean		2.943
291					5% K-S Critical Value	0.177				SD		2.886
292				Data follow Appx. Gamma Distribution at 5% Significance Level						SE of Mean		0.548
293										95% KM UTL with 90% Coverage		8.103
294				**Assuming Gamma Distribution**						95% KM Chebyshev UPL		15.74
295				Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)		7.936
296					Mean	2.89				90% Percentile (z)		6.641
297					Median	1.804				95% Percentile (z)		7.69
298					SD	2.981				99% Percentile (z)		9.656
299					k star	0.486						
300					Theta star	5.947				**Gamma ROS Limits with Extrapolated Data**		
301					Nu star	28.19				95% Wilson Hilferty (WH) Approx. Gamma UPL		9.527
302					95% Percentile of Chisquare (2k)	3.772				95% Hawkins Wixley (HW) Approx. Gamma UPL		11.69
303										95% WH Approx. Gamma UTL with 90% Coverage		9.914
304					90% Percentile	7.866				95% HW Approx. Gamma UTL with 90% Coverage		12.27
305					95% Percentile	11.22						
306					99% Percentile	19.48						
307												
308	Note: DL/2 is not a recommended method.											
309												
310												
311	**BERYLLIUM UPPER SAND**											
312												
313					**General Statistics**							
314					Number of Valid Data	30				Number of Detected Data		9
315					Number of Distinct Detected Data	7				Number of Non-Detect Data		21
316					Tolerance Factor	1.777				Percent Non-Detects		70.00%
317												
318				**Raw Statistics**						**Log-transformed Statistics**		
319					Minimum Detected	0.09				Minimum Detected		-2.408
320					Maximum Detected	0.54				Maximum Detected		-0.616
321					Mean of Detected	0.237				Mean of Detected		-1.62
322					SD of Detected	0.146				SD of Detected		0.651
323					Minimum Non-Detect	0.05				Minimum Non-Detect		-2.996
324					Maximum Non-Detect	0.12				Maximum Non-Detect		-2.12
325												
326				**Data with Multiple Detection Limits**						**Single Detection Limit Scenario**		
327				Note: Data have multiple DLs - Use of KM Method is recommended						Number treated as Non-Detect with Single DL		24
328				For all methods (except KM, DL/2, and ROS Methods),						Number treated as Detected with Single DL		6
329				Observations < Largest ND are treated as NDs						Single DL Non-Detect Percentage		80.00%
330												

	A	B	C	D	E	F	G	H	I	J	K	L
331												
332	Warning: There are only 9 Detected Values in this data											
333	Note: It should be noted that even though bootstrap may be performed on this data set											
334	the resulting calculations may not be reliable enough to draw conclusions											
335												
336	It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.											
337												
338	Background Statistics											
339	Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only					
340					Shapiro Wilk Test Statistic	0.885				Shapiro Wilk Test Statistic		0.886
341					5% Shapiro Wilk Critical Value	0.829				5% Shapiro Wilk Critical Value		0.829
342	Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level					
343												
344	Assuming Normal Distribution						Assuming Lognormal Distribution					
345					DL/2 Substitution Method					DL/2 Substitution Method		
346					Mean	0.0907				Mean (Log Scale)		-3.013
347					SD	0.124				SD (Log Scale)		1.01
348					95% UTL 90% Coverage	0.311				95% UTL 90% Coverage		0.296
349					95% UPL (t)	0.305				95% UPL (t)		0.282
350					90% Percentile (z)	0.25				90% Percentile (z)		0.179
351					95% Percentile (z)	0.295				95% Percentile (z)		0.259
352					99% Percentile (z)	0.38				99% Percentile (z)		0.516
353												
354					Maximum Likelihood Estimate(MLE) Method					Log ROS Method		
355					Mean	-0.136				Mean in Original Scale		0.0908
356					SD	0.312				SD in Original Scale		0.125
357					95% UTL with 90% Coverage	0.418				95% UTL with 90% Coverage		0.42
358										95% BCA UTL with 90% Coverage		0.34
359										95% Bootstrap (%) UTL with 90% Coverage		0.34
360					95% UPL (t)	0.402				95% UPL (t)		0.394
361					90% Percentile (z)	0.263				90% Percentile (z)		0.22
362					95% Percentile (z)	0.376				95% Percentile (z)		0.354
363					99% Percentile (z)	0.589				99% Percentile (z)		0.858
364												
365	Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only					
366					k star (bias corrected)	2.046	Data appear Normal at 5% Significance Level					
367					Theta Star	0.116						
368					nu star	36.83						
369												
370					A-D Test Statistic	0.448	Nonparametric Statistics					
371					5% A-D Critical Value	0.727				Kaplan-Meier (KM) Method		
372					K-S Test Statistic	0.223				Mean		0.134
373					5% K-S Critical Value	0.281				SD		0.101
374	Data appear Gamma Distributed at 5% Significance Level									SE of Mean		0.0196
375										95% KM UTL with 90% Coverage		0.314
376	Assuming Gamma Distribution									95% KM Chebyshev UPL		0.582
377					Gamma ROS Statistics with Extrapolated Data					95% KM UPL (t)		0.309
378					Mean	0.071				90% Percentile (z)		0.264
379					Median	0.000001				95% Percentile (z)		0.3
380					SD	0.134				99% Percentile (z)		0.369
381					k star	0.119						
382					Theta star	0.598	Gamma ROS Limits with Extrapolated Data					
383					Nu star	7.12				95% Wilson Hilferty (WH) Approx. Gamma UPL		0.301
384					95% Percentile of Chisquare (2k)	1.356				95% Hawkins Wixley (HW) Approx. Gamma UPL		0.319
385										95% WH Approx. Gamma UTL with 90% Coverage		0.321

	A	B	C	D	E	F	G	H	I	J	K	L
386					90% Percentile	0.201		95% HW Approx. Gamma UTL with		90% Coverage		0.346
387					95% Percentile	0.406						
388					99% Percentile	1.034						
389												
390	Note: DL/2 is not a recommended method.											
391												
392												
393	Cadmium Bedrock Spring											
394												
395					General Statistics							
396					Number of Valid Data	4				Number of Detected Data		3
397					Number of Distinct Detected Data	3				Number of Non-Detect Data		1
398												
399					Warning: This data set only has 4 observations!							
400					Data set is too small to compute reliable and meaningful statistics and estimates!							
401					The data set for variable Cadmium Bedrock Spring was not processed!							
402												
403					It is suggested to collect at least 8 to 10 observations before using these statistical methods!							
404					If possible, compute and collect Data Quality Objectives (DQO) based sample size and analytical results.							
405												
406												
407												
408	Cadmium Lower Sand Spring											
409												
410					General Statistics							
411					Number of Valid Data	16				Number of Detected Data		4
412					Number of Distinct Detected Data	4				Number of Non-Detect Data		12
413					Tolerance Factor	2.033				Percent Non-Detects		75.00%
414												
415					Raw Statistics					Log-transformed Statistics		
416					Minimum Detected	0.09				Minimum Detected		-2.408
417					Maximum Detected	1				Maximum Detected		0
418					Mean of Detected	0.425				Mean of Detected		-1.327
419					SD of Detected	0.427				SD of Detected		1.17
420					Minimum Non-Detect	0.05				Minimum Non-Detect		-2.996
421					Maximum Non-Detect	0.05				Maximum Non-Detect		-2.996
422												
423												
424												
425					Warning: There are only 4 Distinct Detected Values in this data							
426					Note: It should be noted that even though bootstrap may be performed on this data set							
427					the resulting calculations may not be reliable enough to draw conclusions							
428												
429					It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.							
430												
431					Background Statistics							
432					Normal Distribution Test with Detected Values Only					Lognormal Distribution Test with Detected Values Only		
433					Shapiro Wilk Test Statistic	0.871				Shapiro Wilk Test Statistic		0.887
434					5% Shapiro Wilk Critical Value	0.748				5% Shapiro Wilk Critical Value		0.748
435					Data appear Normal at 5% Significance Level					Data appear Lognormal at 5% Significance Level		
436												
437					Assuming Normal Distribution					Assuming Lognormal Distribution		
438					DL/2 Substitution Method					DL/2 Substitution Method		
439					Mean	0.125				Mean (Log Scale)		-3.098
440					SD	0.262				SD (Log Scale)		1.179

	A	B	C	D	E	F	G	H	I	J	K	L
441					95% UTL 90% Coverage	0.657					95% UTL 90% Coverage	0.496
442					95% UPL (t)	0.598					95% UPL (t)	0.38
443					90% Percentile (z)	0.46					90% Percentile (z)	0.204
444					95% Percentile (z)	0.556					95% Percentile (z)	0.314
445					99% Percentile (z)	0.734					99% Percentile (z)	0.7
446												
447				Maximum Likelihood Estimate(MLE) Method							Log ROS Method	
448					Mean	-0.414					Mean in Original Scale	0.111
449					SD	0.672					SD in Original Scale	0.268
450					95% UTL with 90% Coverage	0.952					95% UTL with 90% Coverage	2.284
451											95% BCA UTL with 90% Coverage	1
452											95% Bootstrap (%) UTL with 90% Coverage	1
453					95% UPL (t)	0.8					95% UPL (t)	1.167
454					90% Percentile (z)	0.447					90% Percentile (z)	0.245
455					95% Percentile (z)	0.691					95% Percentile (z)	0.721
456					99% Percentile (z)	1.149					99% Percentile (z)	5.461
457												
458				**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**		
459					k star (bias corrected)	0.467				Data appear Normal at 5% Significance Level		
460					Theta Star	0.911						
461					nu star	3.733						
462												
463					A-D Test Statistic	0.384				**Nonparametric Statistics**		
464					5% A-D Critical Value	0.665					Kaplan-Meier (KM) Method	
465					K-S Test Statistic	0.311					Mean	0.174
466					5% K-S Critical Value	0.401					SD	0.235
467				Data appear Gamma Distributed at 5% Significance Level							SE of Mean	0.0679
468											95% KM UTL with 90% Coverage	0.652
469				**Assuming Gamma Distribution**							95% KM Chebyshev UPL	1.23
470				Gamma ROS Statistics with Extrapolated Data							95% KM UPL (t)	0.599
471					Mean	0.106					90% Percentile (z)	0.475
472					Median	0.000001					95% Percentile (z)	0.56
473					SD	0.27					99% Percentile (z)	0.721
474					k star	0.12						
475					Theta star	0.885				**Gamma ROS Limits with Extrapolated Data**		
476					Nu star	3.843					95% Wilson Hilferty (WH) Approx. Gamma UPL	0.439
477					95% Percentile of Chisquare (2k)	1.37					95% Hawkins Wixley (HW) Approx. Gamma UPL	0.428
478											95% WH Approx. Gamma UTL with 90% Coverage	0.577
479					90% Percentile	0.301					95% HW Approx. Gamma UTL with 90% Coverage	0.61
480					95% Percentile	0.606						
481					99% Percentile	1.537						
482												
483	Note: DL/2 is not a recommended method.											
484												
485												
486	cobalt no transition											
487												
488						**General Statistics**						
489					Number of Valid Data	67					Number of Detected Data	26
490					Number of Distinct Detected Data	21					Number of Non-Detect Data	41
491					Tolerance Factor	1.585					Percent Non-Detects	61.19%
492												
493				**Raw Statistics**						**Log-transformed Statistics**		
494					Minimum Detected	0.05					Minimum Detected	-2.996
495					Maximum Detected	15.5					Maximum Detected	2.741

	A	B	C	D	E	F	G	H	I	J	K	L
496					Mean of Detected	1.147					Mean of Detected	-1.209
497					SD of Detected	3.085					SD of Detected	1.419
498					Minimum Non-Detect	0.05					Minimum Non-Detect	-2.996
499					Maximum Non-Detect	0.69					Maximum Non-Detect	-0.371
500												
501				Data with Multiple Detection Limits						Single Detection Limit Scenario		
502	Note: Data have multiple DLs - Use of KM Method is recommended										Number treated as Non-Detect with Single DL	61
503	For all methods (except KM, DL/2, and ROS Methods),										Number treated as Detected with Single DL	6
504	Observations < Largest ND are treated as NDs										Single DL Non-Detect Percentage	91.04%
505												
506					Background Statistics							
507				Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only		
508					Shapiro Wilk Test Statistic	0.379					Shapiro Wilk Test Statistic	0.909
509					5% Shapiro Wilk Critical Value	0.92					5% Shapiro Wilk Critical Value	0.92
510				Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level		
511												
512				Assuming Normal Distribution						Assuming Lognormal Distribution		
513					DL/2 Substitution Method						DL/2 Substitution Method	
514					Mean	0.48					Mean (Log Scale)	-2.376
515					SD	1.973					SD (Log Scale)	1.368
516					95% UTL 90% Coverage	3.607					95% UTL 90% Coverage	0.813
517					95% UPL (t)	3.796					95% UPL (t)	0.927
518					90% Percentile (z)	3.009					90% Percentile (z)	0.537
519					95% Percentile (z)	3.726					95% Percentile (z)	0.883
520					99% Percentile (z)	5.07					99% Percentile (z)	2.243
521												
522					Maximum Likelihood Estimate(MLE) Method						Log ROS Method	
523					Mean	-11.88					Mean in Original Scale	0.453
524					SD	9.227					SD in Original Scale	1.978
525					95% UTL with 90% Coverage	2.738					95% UTL with 90% Coverage	1.164
526											95% BCA UTL with 90% Coverage	1.32
527											95% Bootstrap (%) UTL with 90% Coverage	1.32
528					95% UPL (t)	3.624					95% UPL (t)	1.453
529					90% Percentile (z)	-0.0587					90% Percentile (z)	0.577
530					95% Percentile (z)	3.294					95% Percentile (z)	1.338
531					99% Percentile (z)	9.582					99% Percentile (z)	6.481
532												
533				Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only		
534					k star (bias corrected)	0.446				Data do not follow a Discernable Distribution (0.05)		
535					Theta Star	2.571						
536					nu star	23.2						
537												
538					A-D Test Statistic	2.533				Nonparametric Statistics		
539					5% A-D Critical Value	0.814					Kaplan-Meier (KM) Method	
540					K-S Test Statistic	0.252					Mean	0.479
541					5% K-S Critical Value	0.182					SD	1.958
542				Data not Gamma Distributed at 5% Significance Level							SE of Mean	0.244
543											95% KM UTL with 90% Coverage	3.582
544				Assuming Gamma Distribution							95% KM Chebyshev UPL	9.077
545					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	3.77
546					Mean	0.445					90% Percentile (z)	2.988
547					Median	0.000001					95% Percentile (z)	3.7
548					SD	1.98					99% Percentile (z)	5.034
549					k star	0.106						
550					Theta star	4.218				Gamma ROS Limits with Extrapolated Data		

	A	B	C	D	E	F	G	H	I	J	K	L
551					Nu star	14.14				95% Wilson Hilferty (WH) Approx. Gamma UPL		1.284
552					95% Percentile of Chisquare (2k)	1.221				95% Hawkins Wixley (HW) Approx. Gamma UPL		1.203
553										95% WH Approx. Gamma UTL with	90% Coverage	1.131
554					90% Percentile	1.21				95% HW Approx. Gamma UTL with	90% Coverage	1.024
555					95% Percentile	2.575						
556					99% Percentile	6.883						
557												
558	Note: DL/2 is not a recommended method.											
559												
560												
561	cobalt transition											
562												
563					General Statistics							
564					Number of Valid Data	30				Number of Detected Data		27
565					Number of Distinct Detected Data	24				Number of Non-Detect Data		3
566					Tolerance Factor	1.777				Percent Non-Detects		10.00%
567												
568				Raw Statistics						Log-transformed Statistics		
569					Minimum Detected	0.11				Minimum Detected		-2.207
570					Maximum Detected	1.2				Maximum Detected		0.182
571					Mean of Detected	0.621				Mean of Detected		-0.689
572					SD of Detected	0.357				SD of Detected		0.726
573					Minimum Non-Detect	0.1				Minimum Non-Detect		-2.303
574					Maximum Non-Detect	0.65				Maximum Non-Detect		-0.431
575												
576				Data with Multiple Detection Limits						Single Detection Limit Scenario		
577	Note: Data have multiple DLs - Use of KM Method is recommended									Number treated as Non-Detect with Single DL		16
578	For all methods (except KM, DL/2, and ROS Methods),									Number treated as Detected with Single DL		14
579	Observations < Largest ND are treated as NDs									Single DL Non-Detect Percentage		53.33%
580												
581					Background Statistics							
582				Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only		
583					Shapiro Wilk Test Statistic	0.916				Shapiro Wilk Test Statistic		0.904
584					5% Shapiro Wilk Critical Value	0.923				5% Shapiro Wilk Critical Value		0.923
585				Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level		
586												
587				Assuming Normal Distribution						Assuming Lognormal Distribution		
588					DL/2 Substitution Method					DL/2 Substitution Method		
589					Mean	0.576				Mean (Log Scale)		-0.828
590					SD	0.367				SD (Log Scale)		0.844
591					95% UTL 90% Coverage	1.229				95% UTL 90% Coverage		1.958
592					95% UPL (t)	1.21				95% UPL (t)		1.878
593					90% Percentile (z)	1.047				90% Percentile (z)		1.289
594					95% Percentile (z)	1.18				95% Percentile (z)		1.752
595					99% Percentile (z)	1.431				99% Percentile (z)		3.114
596												
597					Maximum Likelihood Estimate(MLE) Method					Log ROS Method		
598					Mean	0.638				Mean in Original Scale		0.577
599					SD	0.328				SD in Original Scale		0.365
600					95% UTL with 90% Coverage	1.221				95% UTL with 90% Coverage		1.815
601										95% BCA UTL with 90% Coverage		1.2
602										95% Bootstrap (%) UTL with 90% Coverage		1.2
603					95% UPL (t)	1.205				95% UPL (t)		1.745
604					90% Percentile (z)	1.059				90% Percentile (z)		1.227
605					95% Percentile (z)	1.178				95% Percentile (z)		1.635

	A	B	C	D	E	F	G	H	I	J	K	L
606					99% Percentile (z)	1.402					99% Percentile (z)	2.799
607												
608				Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only		
609					k star (bias corrected)	2.242				Data follow Appr. Gamma Distribution at 5% Significance Level		
610					Theta Star	0.277						
611					nu star	121						
612												
613					A-D Test Statistic	0.796				Nonparametric Statistics		
614					5% A-D Critical Value	0.754					Kaplan-Meier (KM) Method	
615					K-S Test Statistic	0.164					Mean	0.577
616					5% K-S Critical Value	0.17					SD	0.36
617				Data follow Appx. Gamma Distribution at 5% Significance Level							SE of Mean	0.0671
618											95% KM UTL with 90% Coverage	1.216
619				Assuming Gamma Distribution							95% KM Chebyshev UPL	2.171
620					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	1.198
621					Mean	0.569					90% Percentile (z)	1.038
622					Median	0.49					95% Percentile (z)	1.169
623					SD	0.376					99% Percentile (z)	1.414
624					k star	0.568						
625					Theta star	1.003				Gamma ROS Limits with Extrapolated Data		
626					Nu star	34.06					95% Wilson Hilferty (WH) Approx. Gamma UPL	1.824
627					95% Percentile of Chisquare (2k)	4.167					95% Hawkins Wixley (HW) Approx. Gamma UPL	2.284
628											95% WH Approx. Gamma UTL with 90% Coverage	1.885
629					90% Percentile	1.499					95% HW Approx. Gamma UTL with 90% Coverage	2.378
630					95% Percentile	2.09						
631					99% Percentile	3.527						
632												
633	Note: DL/2 is not a recommended method.											
634												
635												
636	COPPER											
637												
638					General Statistics							
639					Number of Valid Data	61					Number of Detected Data	20
640					Number of Distinct Detected Data	19					Number of Non-Detect Data	41
641					Tolerance Factor	1.601					Percent Non-Detects	67.21%
642												
643				Raw Statistics						Log-transformed Statistics		
644					Minimum Detected	0.435					Minimum Detected	-0.832
645					Maximum Detected	2.5					Maximum Detected	0.916
646					Mean of Detected	0.867					Mean of Detected	-0.254
647					SD of Detected	0.492					SD of Detected	0.455
648					Minimum Non-Detect	0.48					Minimum Non-Detect	-0.734
649					Maximum Non-Detect	1.4					Maximum Non-Detect	0.336
650												
651				Data with Multiple Detection Limits						Single Detection Limit Scenario		
652				Note: Data have multiple DLs - Use of KM Method is recommended							Number treated as Non-Detect with Single DL	58
653				For all methods (except KM, DL/2, and ROS Methods),							Number treated as Detected with Single DL	3
654				Observations < Largest ND are treated as NDs							Single DL Non-Detect Percentage	95.08%
655												
656					Background Statistics							
657				Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only		
658					Shapiro Wilk Test Statistic	0.764					Shapiro Wilk Test Statistic	0.915
659					5% Shapiro Wilk Critical Value	0.905					5% Shapiro Wilk Critical Value	0.905
660				Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		

	A	B	C	D	E	F	G	H	I	J	K	L
661												
662	**Assuming Normal Distribution**						**Assuming Lognormal Distribution**					
663					DL/2 Substitution Method						DL/2 Substitution Method	
664					Mean	0.504					Mean (Log Scale)	-0.873
665					SD	0.39					SD (Log Scale)	0.57
666				95% UTL	90% Coverage	1.129				95% UTL	90% Coverage	1.04
667					95% UPL (t)	1.162					95% UPL (t)	1.091
668					90% Percentile (z)	1.004					90% Percentile (z)	0.867
669					95% Percentile (z)	1.146					95% Percentile (z)	1.066
670					99% Percentile (z)	1.412					99% Percentile (z)	1.573
671												
672				Maximum Likelihood Estimate(MLE) Method							Log ROS Method	
673					Mean	-0.346					Mean in Original Scale	0.506
674					SD	1.051					SD in Original Scale	0.387
675				95% UTL with	90% Coverage	1.337				95% UTL with	90% Coverage	1.081
676										95% BCA UTL with	90% Coverage	1.2
677										95% Bootstrap (%) UTL with	90% Coverage	1.2
678					95% UPL (t)	1.425					95% UPL (t)	1.136
679					90% Percentile (z)	1.001					90% Percentile (z)	0.894
680					95% Percentile (z)	1.383					95% Percentile (z)	1.109
681					99% Percentile (z)	2.1					99% Percentile (z)	1.663
682												
683	**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**					
684					k star (bias corrected)	3.976	Data follow Appr. Gamma Distribution at 5% Significance Level					
685					Theta Star	0.218						
686					nu star	159						
687												
688					A-D Test Statistic	0.822	**Nonparametric Statistics**					
689					5% A-D Critical Value	0.745					Kaplan-Meier (KM) Method	
690					K-S Test Statistic	0.189					Mean	0.592
691					5% K-S Critical Value	0.195					SD	0.34
692	Data follow Appx. Gamma Distribution at 5% Significance Level										SE of Mean	0.0455
693										95% KM UTL with	90% Coverage	1.138
694	**Assuming Gamma Distribution**										95% KM Chebyshev UPL	2.089
695				Gamma ROS Statistics with Extrapolated Data							95% KM UPL (t)	1.166
696					Mean	0.405					90% Percentile (z)	1.029
697					Median	0.298					95% Percentile (z)	1.152
698					SD	0.464					99% Percentile (z)	1.385
699					k star	0.19						
700					Theta star	2.133	**Gamma ROS Limits with Extrapolated Data**					
701					Nu star	23.15				95% Wilson Hilferty (WH) Approx. Gamma UPL		1.82
702				95% Percentile of Chisquare (2k)		1.982				95% Hawkins Wixley (HW) Approx. Gamma UPL		2.458
703										95% WH Approx. Gamma UTL with	90% Coverage	1.676
704					90% Percentile	1.223				95% HW Approx. Gamma UTL with	90% Coverage	2.209
705					95% Percentile	2.114						
706					99% Percentile	4.587						
707												
708	Note: DL/2 is not a recommended method.											
709												
710												
711	IRON NO UPPER SAND											
712												
713	**General Statistics**											
714					Number of Valid Data	63					Number of Detected Data	38
715					Number of Distinct Detected Data	37					Number of Non-Detect Data	25

	A	B	C	D	E	F	G	H	I	J	K	L
716					Tolerance Factor	1.595				Percent Non-Detects		39.68%
717												
718				Raw Statistics						Log-transformed Statistics		
719					Minimum Detected	16					Minimum Detected	2.773
720					Maximum Detected	5800					Maximum Detected	8.666
721					Mean of Detected	404.2					Mean of Detected	5.175
722					SD of Detected	934.9					SD of Detected	1.172
723					Minimum Non-Detect	5.17					Minimum Non-Detect	1.643
724					Maximum Non-Detect	134					Maximum Non-Detect	4.898
725												
726				Data with Multiple Detection Limits						Single Detection Limit Scenario		
727			Note: Data have multiple DLs - Use of KM Method is recommended								Number treated as Non-Detect with Single DL	42
728			For all methods (except KM, DL/2, and ROS Methods),								Number treated as Detected with Single DL	21
729			Observations < Largest ND are treated as NDs								Single DL Non-Detect Percentage	66.67%
730												
731					Background Statistics							
732				Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only		
733					Shapiro Wilk Test Statistic	0.368					Shapiro Wilk Test Statistic	0.974
734					5% Shapiro Wilk Critical Value	0.938					5% Shapiro Wilk Critical Value	0.938
735				Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
736												
737				Assuming Normal Distribution						Assuming Lognormal Distribution		
738					DL/2 Substitution Method						DL/2 Substitution Method	
739					Mean	249.2					Mean (Log Scale)	3.942
740					SD	747.6					SD (Log Scale)	1.892
741					95% UTL 90% Coverage	1442					95% UTL 90% Coverage	1054
742					95% UPL (t)	1507					95% UPL (t)	1244
743					90% Percentile (z)	1207					90% Percentile (z)	582.3
744					95% Percentile (z)	1479					95% Percentile (z)	1158
745					99% Percentile (z)	1988					99% Percentile (z)	4203
746												
747					Maximum Likelihood Estimate(MLE) Method						Log ROS Method	
748					Mean	-702.5					Mean in Original Scale	249.2
749					SD	1455					SD in Original Scale	747.5
750					95% UTL with 90% Coverage	1618					95% UTL with 90% Coverage	825.5
751											95% BCA UTL with 90% Coverage	759.6
752											95% Bootstrap (%) UTL with 90% Coverage	759.6
753					95% UPL (t)	1746					95% UPL (t)	952.5
754					90% Percentile (z)	1162					90% Percentile (z)	494.6
755					95% Percentile (z)	1690					95% Percentile (z)	895
756					99% Percentile (z)	2682					99% Percentile (z)	2722
757												
758				Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only		
759					k star (bias corrected)	0.687				Data appear Lognormal at 5% Significance Level		
760					Theta Star	588.2						
761					nu star	52.23						
762												
763					A-D Test Statistic	1.819				Nonparametric Statistics		
764					5% A-D Critical Value	0.791					Kaplan-Meier (KM) Method	
765					K-S Test Statistic	0.161					Mean	251
766					5% K-S Critical Value	0.149					SD	741
767				Data not Gamma Distributed at 5% Significance Level							SE of Mean	94.61
768											95% KM UTL with 90% Coverage	1433
769				Assuming Gamma Distribution							95% KM Chebyshev UPL	3507
770					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	1498

771					Mean	243.8					90% Percentile (z)	1201
772					Median	62.55					95% Percentile (z)	1470
773					SD	749.3					99% Percentile (z)	1975
774					k star	0.109						
775					Theta star	2244					**Gamma ROS Limits with Extrapolated Data**	
776					Nu star	13.69					95% Wilson Hilferty (WH) Approx. Gamma UPL	956.4
777					95% Percentile of Chisquare (2k)	1.254					95% Hawkins Wixley (HW) Approx. Gamma UPL	1158
778											95% WH Approx. Gamma UTL with 90% Coverage	865.7
779					90% Percentile	669.8					95% HW Approx. Gamma UTL with 90% Coverage	1019
780					95% Percentile	1407						
781					99% Percentile	3714						
782												
783	Note: DL/2 is not a recommended method.											
784												
785												
786	IRON UPPER SAND											
787												
788						**General Statistics**						
789					Number of Valid Data	30					Number of Detected Data	9
790					Number of Distinct Detected Data	9					Number of Non-Detect Data	21
791					Tolerance Factor	1.777					Percent Non-Detects	70.00%
792												
793					**Raw Statistics**						**Log-transformed Statistics**	
794					Minimum Detected	6					Minimum Detected	1.792
795					Maximum Detected	2590					Maximum Detected	7.859
796					Mean of Detected	619.9					Mean of Detected	4.392
797					SD of Detected	1051					SD of Detected	2.384
798					Minimum Non-Detect	5.17					Minimum Non-Detect	1.643
799					Maximum Non-Detect	172					Maximum Non-Detect	5.147
800												
801					**Data with Multiple Detection Limits**						**Single Detection Limit Scenario**	
802	Note: Data have multiple DLs - Use of KM Method is recommended										Number treated as Non-Detect with Single DL	27
803	For all methods (except KM, DL/2, and ROS Methods),										Number treated as Detected with Single DL	3
804	Observations < Largest ND are treated as NDs										Single DL Non-Detect Percentage	90.00%
805												
806												
807						Warning: There are only 9 Detected Values in this data						
808						Note: It should be noted that even though bootstrap may be performed on this data set						
809						the resulting calculations may not be reliable enough to draw conclusions						
810												
811						It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.						
812												
813						**Background Statistics**						
814					**Normal Distribution Test with Detected Values Only**						**Lognormal Distribution Test with Detected Values Only**	
815					Shapiro Wilk Test Statistic	0.634					Shapiro Wilk Test Statistic	0.882
816					5% Shapiro Wilk Critical Value	0.829					5% Shapiro Wilk Critical Value	0.829
817					Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level	
818												
819					**Assuming Normal Distribution**						**Assuming Lognormal Distribution**	
820					DL/2 Substitution Method						DL/2 Substitution Method	
821					Mean	191.4					Mean (Log Scale)	2.321
822					SD	621.7					SD (Log Scale)	1.973
823					95% UTL 90% Coverage	1296					95% UTL 90% Coverage	339.5
824					95% UPL (t)	1265					95% UPL (t)	307.7
825					90% Percentile (z)	988.2					90% Percentile (z)	127.7

	A	B	C	D	E	F	G	H	I	J	K	L
826					95% Percentile (z)	1214					95% Percentile (z)	261.6
827					99% Percentile (z)	1638					99% Percentile (z)	1004
828												
829				Maximum Likelihood Estimate(MLE) Method							Log ROS Method	
830					Mean	1976					Mean in Original Scale	186.2
831					SD	961.9					SD in Original Scale	623.1
832					95% UTL with 90% Coverage	3685					95% UTL with 90% Coverage	665.3
833											95% BCA UTL with 90% Coverage	2320
834											95% Bootstrap (%) UTL with 90% Coverage	2320
835					95% UPL (t)	3637					95% UPL (t)	548.7
836					90% Percentile (z)	3208					90% Percentile (z)	97.68
837					95% Percentile (z)	3558					95% Percentile (z)	398.8
838					99% Percentile (z)	4213					99% Percentile (z)	5583
839												
840				**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**		
841					k star (bias corrected)	0.296				Data appear Gamma Distributed at 5% Significance Level		
842					Theta Star	2095						
843					nu star	5.326						
844												
845					A-D Test Statistic	0.716				**Nonparametric Statistics**		
846					5% A-D Critical Value	0.801					Kaplan-Meier (KM) Method	
847					K-S Test Statistic	0.248					Mean	190.5
848					5% K-S Critical Value	0.3					SD	611.4
849				Data appear Gamma Distributed at 5% Significance Level							SE of Mean	118.4
850											95% KM UTL with 90% Coverage	1277
851				**Assuming Gamma Distribution**							95% KM Chebyshev UPL	2900
852					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	1247
853					Mean	186					90% Percentile (z)	974.1
854					Median	0.000001					95% Percentile (z)	1196
855					SD	623.2					99% Percentile (z)	1613
856					k star	0.079						
857					Theta star	2356				**Gamma ROS Limits with Extrapolated Data**		
858					Nu star	4.737					95% Wilson Hilferty (WH) Approx. Gamma UPL	525.8
859					95% Percentile of Chisquare (2k)	0.918					95% Hawkins Wixley (HW) Approx. Gamma UPL	425
860											95% WH Approx. Gamma UTL with 90% Coverage	562.3
861					90% Percentile	437.3					95% HW Approx. Gamma UTL with 90% Coverage	463.6
862					95% Percentile	1081						
863					99% Percentile	3314						
864												
865	Note: DL/2 is not a recommended method.											
866												
867												
868	**Lead Fall**											
869												
870						**General Statistics**						
871					Number of Valid Data	28					Number of Detected Data	4
872					Number of Distinct Detected Data	4					Number of Non-Detect Data	24
873					Tolerance Factor	1.799					Percent Non-Detects	85.71%
874												
875				**Raw Statistics**						**Log-transformed Statistics**		
876					Minimum Detected	0.0475					Minimum Detected	-3.047
877					Maximum Detected	0.38					Maximum Detected	-0.968
878					Mean of Detected	0.167					Mean of Detected	-2.111
879					SD of Detected	0.152					SD of Detected	0.931
880					Minimum Non-Detect	0.05					Minimum Non-Detect	-2.996

	A	B	C	D	E	F	G	H	I	J	K	L
881					Maximum Non-Detect	0.31					Maximum Non-Detect	-1.171
882												
883				Data with Multiple Detection Limits						Single Detection Limit Scenario		
884				Note: Data have multiple DLs - Use of KM Method is recommended							Number treated as Non-Detect with Single DL	27
885				For all methods (except KM, DL/2, and ROS Methods),							Number treated as Detected with Single DL	1
886				Observations < Largest ND are treated as NDs							Single DL Non-Detect Percentage	96.43%
887												
888												
889					Warning: There are only 4 Distinct Detected Values in this data							
890					Note: It should be noted that even though bootstrap may be performed on this data set							
891					the resulting calculations may not be reliable enough to draw conclusions							
892												
893					It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.							
894												
895					Background Statistics							
896				Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only		
897					Shapiro Wilk Test Statistic	0.871					Shapiro Wilk Test Statistic	0.958
898					5% Shapiro Wilk Critical Value	0.748					5% Shapiro Wilk Critical Value	0.748
899					Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level	
900												
901				Assuming Normal Distribution						Assuming Lognormal Distribution		
902					DL/2 Substitution Method						DL/2 Substitution Method	
903					Mean	0.067					Mean (Log Scale)	-3.088
904					SD	0.0772					SD (Log Scale)	0.802
905					95% UTL 90% Coverage	0.206					95% UTL 90% Coverage	0.193
906					95% UPL (t)	0.201					95% UPL (t)	0.183
907					90% Percentile (z)	0.166					90% Percentile (z)	0.127
908					95% Percentile (z)	0.194					95% Percentile (z)	0.17
909					99% Percentile (z)	0.246					99% Percentile (z)	0.294
910												
911					Maximum Likelihood Estimate(MLE) Method	N/A					Log ROS Method	
912											Mean in Original Scale	0.0603
913											SD in Original Scale	0.0697
914											Mean in Log Scale	-3.102
915											SD in Log Scale	0.693
916											95% UTL 90% Coverage	0.156
917											95% UPL (t)	0.149
918											90% Percentile (z)	0.109
919											95% Percentile (z)	0.14
920											99% Percentile (z)	0.225
921												
922				Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only		
923					k star (bias corrected)	0.593				Data appear Normal at 5% Significance Level		
924					Theta Star	0.281						
925					nu star	4.744						
926												
927					A-D Test Statistic	0.293				Nonparametric Statistics		
928					5% A-D Critical Value	0.662					Kaplan-Meier (KM) Method	
929					K-S Test Statistic	0.264					Mean	0.066
930					5% K-S Critical Value	0.399					SD	0.0655
931				Data appear Gamma Distributed at 5% Significance Level							SE of Mean	0.0145
932											95% KM UTL with 90% Coverage	0.184
933				Assuming Gamma Distribution							95% KM Chebyshev UPL	0.357
934					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	0.18
935					Mean	0.0584					90% Percentile (z)	0.15

	A	B	C	D	E	F	G	H	I	J	K	L
936					Median	0.0332				95% Percentile (z)		0.174
937					SD	0.0797				99% Percentile (z)		0.218
938					k star	0.247						
939					Theta star	0.237			Gamma ROS Limits with Extrapolated Data			
940					Nu star	13.81			95% Wilson Hilferty (WH) Approx. Gamma UPL			0.261
941					95% Percentile of Chisquare (2k)	2.398			95% Hawkins Wixley (HW) Approx. Gamma UPL			0.342
942									95% WH Approx. Gamma UTL with		90% Coverage	0.278
943					90% Percentile	0.176			95% HW Approx. Gamma UTL with		90% Coverage	0.37
944					95% Percentile	0.284						
945					99% Percentile	0.573						
946												
947	Note: DL/2 is not a recommended method.											
948												
949												
950	Lead Spring											
951												
952					General Statistics							
953					Number of Valid Data	30				Number of Detected Data		10
954					Number of Distinct Detected Data	8				Number of Non-Detect Data		20
955					Tolerance Factor	1.777				Percent Non-Detects		66.67%
956												
957				Raw Statistics						Log-transformed Statistics		
958					Minimum Detected	0.1				Minimum Detected		-2.303
959					Maximum Detected	0.82				Maximum Detected		-0.198
960					Mean of Detected	0.226				Mean of Detected		-1.738
961					SD of Detected	0.22				SD of Detected		0.65
962					Minimum Non-Detect	0.1				Minimum Non-Detect		-2.303
963					Maximum Non-Detect	0.74				Maximum Non-Detect		-0.301
964												
965				Data with Multiple Detection Limits						Single Detection Limit Scenario		
966	Note: Data have multiple DLs - Use of KM Method is recommended									Number treated as Non-Detect with Single DL		29
967	For all methods (except KM, DL/2, and ROS Methods),									Number treated as Detected with Single DL		1
968	Observations < Largest ND are treated as NDs									Single DL Non-Detect Percentage		96.67%
969												
970					Background Statistics							
971				Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only		
972					Shapiro Wilk Test Statistic	0.6				Shapiro Wilk Test Statistic		0.788
973					5% Shapiro Wilk Critical Value	0.842				5% Shapiro Wilk Critical Value		0.842
974				Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level		
975												
976				Assuming Normal Distribution						Assuming Lognormal Distribution		
977					DL/2 Substitution Method					DL/2 Substitution Method		
978					Mean	0.126				Mean (Log Scale)		-2.44
979					SD	0.156				SD (Log Scale)		0.762
980					95% UTL 90% Coverage	0.403				95% UTL 90% Coverage		0.338
981					95% UPL (t)	0.395				95% UPL (t)		0.325
982					90% Percentile (z)	0.325				90% Percentile (z)		0.232
983					95% Percentile (z)	0.382				95% Percentile (z)		0.305
984					99% Percentile (z)	0.488				99% Percentile (z)		0.513
985												
986					Maximum Likelihood Estimate(MLE) Method	N/A				Log ROS Method		
987										Mean in Original Scale		0.099
988										SD in Original Scale		0.153
989										Mean in Log Scale		-2.911
990										SD in Log Scale		1.057

	A	B	C	D	E	F	G	H	I	J	K	L
991											95% UTL 90% Coverage	0.356
992											95% UPL (t)	0.338
993											90% Percentile (z)	0.211
994											95% Percentile (z)	0.31
995											99% Percentile (z)	0.636
996												
997				Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only		
998					k star (bias corrected)	1.581				Data do not follow a Discernable Distribution (0.05)		
999					Theta Star	0.143						
1000					nu star	31.62						
1001												
1002					A-D Test Statistic	1.217				Nonparametric Statistics		
1003					5% A-D Critical Value	0.735					Kaplan-Meier (KM) Method	
1004					K-S Test Statistic	0.36					Mean	0.143
1005					5% K-S Critical Value	0.27					SD	0.134
1006				Data not Gamma Distributed at 5% Significance Level							SE of Mean	0.026
1007											95% KM UTL with 90% Coverage	0.382
1008				Assuming Gamma Distribution							95% KM Chebyshev UPL	0.739
1009					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	0.376
1010					Mean	0.0752					90% Percentile (z)	0.316
1011					Median	0.000001					95% Percentile (z)	0.364
1012					SD	0.163					99% Percentile (z)	0.456
1013					k star	0.122						
1014					Theta star	0.614				Gamma ROS Limits with Extrapolated Data		
1015					Nu star	7.34					95% Wilson Hilferty (WH) Approx. Gamma UPL	0.321
1016					95% Percentile of Chisquare (2k)	1.393					95% Hawkins Wixley (HW) Approx. Gamma UPL	0.35
1017											95% WH Approx. Gamma UTL with 90% Coverage	0.341
1018					90% Percentile	0.214					95% HW Approx. Gamma UTL with 90% Coverage	0.379
1019					95% Percentile	0.428						
1020					99% Percentile	1.077						
1021												
1022	Note: DL/2 is not a recommended method.											
1023												
1024												
1025	Manganese											
1026												
1027					General Statistics							
1028					Number of Valid Data	97					Number of Detected Data	84
1029					Number of Distinct Detected Data	79					Number of Non-Detect Data	13
1030					Tolerance Factor	1.528					Percent Non-Detects	13.40%
1031												
1032				Raw Statistics						Log-transformed Statistics		
1033					Minimum Detected	0.41					Minimum Detected	-0.892
1034					Maximum Detected	761					Maximum Detected	6.635
1035					Mean of Detected	128.5					Mean of Detected	4.032
1036					SD of Detected	160.5					SD of Detected	1.501
1037					Minimum Non-Detect	0.37					Minimum Non-Detect	-0.994
1038					Maximum Non-Detect	4.5					Maximum Non-Detect	1.504
1039												
1040				Data with Multiple Detection Limits						Single Detection Limit Scenario		
1041	Note: Data have multiple DLs - Use of KM Method is recommended										Number treated as Non-Detect with Single DL	16
1042	For all methods (except KM, DL/2, and ROS Methods),										Number treated as Detected with Single DL	81
1043	Observations < Largest ND are treated as NDs										Single DL Non-Detect Percentage	16.49%
1044												
1045					Background Statistics							

	A	B	C	D	E	F	G	H	I	J	K	L
1046	Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only					
1047					Lilliefors Test Statistic	0.212					Lilliefors Test Statistic	0.0868
1048					5% Lilliefors Critical Value	0.0967					5% Lilliefors Critical Value	0.0967
1049	Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level					
1050												
1051	Assuming Normal Distribution						Assuming Lognormal Distribution					
1052					DL/2 Substitution Method						DL/2 Substitution Method	
1053					Mean	111.4					Mean (Log Scale)	3.413
1054					SD	155.5					SD (Log Scale)	2.128
1055					95% UTL 90% Coverage	349					95% UTL 90% Coverage	784.7
1056					95% UPL (t)	371					95% UPL (t)	1060
1057					90% Percentile (z)	310.7					90% Percentile (z)	464.3
1058					95% Percentile (z)	367.2					95% Percentile (z)	1006
1059					99% Percentile (z)	473.1					99% Percentile (z)	4290
1060												
1061				Maximum Likelihood Estimate(MLE) Method							Log ROS Method	
1062					Mean	93.42					Mean in Original Scale	111.6
1063					SD	175.8					SD in Original Scale	155.3
1064					95% UTL with 90% Coverage	362					95% UTL with 90% Coverage	550.7
1065											95% BCA UTL with 90% Coverage	416
1066											95% Bootstrap (%) UTL with 90% Coverage	419.6
1067					95% UPL (t)	386.8					95% UPL (t)	707
1068					90% Percentile (z)	318.7					90% Percentile (z)	356.1
1069					95% Percentile (z)	382.5					95% Percentile (z)	676.9
1070					99% Percentile (z)	502.3					99% Percentile (z)	2258
1071												
1072	Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only					
1073					k star (bias corrected)	0.711	Data appear Gamma Distributed at 5% Significance Level					
1074					Theta Star	180.6						
1075					nu star	119.5						
1076												
1077					A-D Test Statistic	0.448	Nonparametric Statistics					
1078					5% A-D Critical Value	0.795					Kaplan-Meier (KM) Method	
1079					K-S Test Statistic	0.0615					Mean	111.3
1080					5% K-S Critical Value	0.102					SD	154.7
1081	Data appear Gamma Distributed at 5% Significance Level										SE of Mean	15.81
1082											95% KM UTL with 90% Coverage	347.8
1083	Assuming Gamma Distribution										95% KM Chebyshev UPL	789.3
1084				Gamma ROS Statistics with Extrapolated Data							95% KM UPL (t)	369.6
1085					Mean	111.3					90% Percentile (z)	309.6
1086					Median	49.8					95% Percentile (z)	365.8
1087					SD	155.6					99% Percentile (z)	471.3
1088					k star	0.233						
1089					Theta star	476.7	Gamma ROS Limits with Extrapolated Data					
1090					Nu star	45.28					95% Wilson Hilferty (WH) Approx. Gamma UPL	431.9
1091					95% Percentile of Chisquare (2k)	2.305					95% Hawkins Wixley (HW) Approx. Gamma UPL	531.2
1092											95% WH Approx. Gamma UTL with 90% Coverage	378.5
1093					90% Percentile	335.3					95% HW Approx. Gamma UTL with 90% Coverage	451.2
1094					95% Percentile	549.5						
1095					99% Percentile	1125						
1096												
1097	Note: DL/2 is not a recommended method.											
1098												
1099												
1100												

	A	B	C	D	E	F	G	H	I	J	K	L
1101												
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	A	B	C	D	E	F	G	H	I	J	K	L
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1163												
1164												
1165												
1166												
1167												
1168												
1169												
1170												
1171												
1172												
1173												
1174												
1175	**Nickel Transition**											
1176												
1177					**General Statistics**							
1178					Number of Valid Data	30				Number of Detected Data		16
1179					Number of Distinct Detected Data	16				Number of Non-Detect Data		14
1180					Tolerance Factor	1.777				Percent Non-Detects		46.67%
1181												
1182					**Raw Statistics**					**Log-transformed Statistics**		
1183					Minimum Detected	0.36				Minimum Detected		-1.022
1184					Maximum Detected	5.2				Maximum Detected		1.649
1185					Mean of Detected	2.419				Mean of Detected		0.676
1186					SD of Detected	1.393				SD of Detected		0.744
1187					Minimum Non-Detect	0.33				Minimum Non-Detect		-1.109
1188					Maximum Non-Detect	2.5				Maximum Non-Detect		0.916
1189												
1190					**Data with Multiple Detection Limits**					**Single Detection Limit Scenario**		
1191					Note: Data have multiple DLs - Use of KM Method is recommended					Number treated as Non-Detect with Single DL		23
1192					For all methods (except KM, DL/2, and ROS Methods),					Number treated as Detected with Single DL		7
1193					Observations < Largest ND are treated as NDs					Single DL Non-Detect Percentage		76.67%
1194												
1195					**Background Statistics**							
1196					**Normal Distribution Test with Detected Values Only**					**Lognormal Distribution Test with Detected Values Only**		
1197					Shapiro Wilk Test Statistic	0.956				Shapiro Wilk Test Statistic		0.912
1198					5% Shapiro Wilk Critical Value	0.887				5% Shapiro Wilk Critical Value		0.887
1199					Data appear Normal at 5% Significance Level					Data appear Lognormal at 5% Significance Level		
1200												
1201					**Assuming Normal Distribution**					**Assuming Lognormal Distribution**		
1202					DL/2 Substitution Method					DL/2 Substitution Method		
1203					Mean	1.693				Mean (Log Scale)		0.246
1204					SD	1.291				SD (Log Scale)		0.797
1205					95% UTL 90% Coverage	3.986				95% UTL 90% Coverage		5.273
1206					95% UPL (t)	3.922				95% UPL (t)		5.068
1207					90% Percentile (z)	3.347				90% Percentile (z)		3.553
1208					95% Percentile (z)	3.815				95% Percentile (z)		4.746
1209					99% Percentile (z)	4.695				99% Percentile (z)		8.169
1210												

	A	B	C	D	E	F	G	H	I	J	K	L
1211				Maximum Likelihood Estimate(MLE) Method							Log ROS Method	
1212					Mean	3.869					Mean in Original Scale	1.62
1213					SD	0.894					SD in Original Scale	1.335
1214				95% UTL with	90% Coverage	5.457					95% UTL with 90% Coverage	4.978
1215											95% BCA UTL with 90% Coverage	4.93
1216											95% Bootstrap (%) UTL with 90% Coverage	4.9
1217					95% UPL (t)	5.413					95% UPL (t)	4.782
1218					90% Percentile (z)	5.014					90% Percentile (z)	3.337
1219					95% Percentile (z)	5.339					95% Percentile (z)	4.474
1220					99% Percentile (z)	5.948					99% Percentile (z)	7.755
1221												
1222				Gamma Distribution Test with Detected Values Only							Data Distribution Test with Detected Values Only	
1223					k star (bias corrected)	2.128					Data appear Normal at 5% Significance Level	
1224					Theta Star	1.136						
1225					nu star	68.11						
1226												
1227					A-D Test Statistic	0.272					Nonparametric Statistics	
1228					5% A-D Critical Value	0.747					Kaplan-Meier (KM) Method	
1229					K-S Test Statistic	0.11					Mean	1.656
1230					5% K-S Critical Value	0.217					SD	1.329
1231				Data appear Gamma Distributed at 5% Significance Level							SE of Mean	0.266
1232											95% KM UTL with 90% Coverage	4.018
1233				Assuming Gamma Distribution							95% KM Chebyshev UPL	7.545
1234				Gamma ROS Statistics with Extrapolated Data							95% KM UPL (t)	3.952
1235					Mean	1.533					90% Percentile (z)	3.36
1236					Median	1.16					95% Percentile (z)	3.842
1237					SD	1.437					99% Percentile (z)	4.748
1238					k star	0.274						
1239					Theta star	5.602					Gamma ROS Limits with Extrapolated Data	
1240					Nu star	16.42					95% Wilson Hilferty (WH) Approx. Gamma UPL	6.372
1241					95% Percentile of Chisquare (2k)	2.578					95% Hawkins Wixley (HW) Approx. Gamma UPL	8.581
1242											95% WH Approx. Gamma UTL with 90% Coverage	6.643
1243					90% Percentile	4.568					95% HW Approx. Gamma UTL with 90% Coverage	9.048
1244					95% Percentile	7.22						
1245					99% Percentile	14.2						
1246												
1247	Note: DL/2 is not a recommended method.											
1248												
1249												
1250	Potassium No Upper Sand											
1251												
1252					General Statistics							
1253					Number of Valid Data	67					Number of Detected Data	65
1254					Number of Distinct Detected Data	61					Number of Non-Detect Data	2
1255					Tolerance Factor	1.585					Percent Non-Detects	2.99%
1256												
1257				Raw Statistics							Log-transformed Statistics	
1258					Minimum Detected	518					Minimum Detected	6.25
1259					Maximum Detected	4110					Maximum Detected	8.321
1260					Mean of Detected	1968					Mean of Detected	7.507
1261					SD of Detected	739.3					SD of Detected	0.415
1262					Minimum Non-Detect	412					Minimum Non-Detect	6.021
1263					Maximum Non-Detect	833					Maximum Non-Detect	6.725
1264												
1265				Data with Multiple Detection Limits							Single Detection Limit Scenario	

	A	B	C	D	E	F	G	H	I	J	K	L
1266	Note: Data have multiple DLs - Use of KM Method is recommended										Number treated as Non-Detect with Single DL	4
1267	For all methods (except KM, DL/2, and ROS Methods),										Number treated as Detected with Single DL	63
1268	Observations < Largest ND are treated as NDs										Single DL Non-Detect Percentage	5.97%
1269												
1270					Background Statistics							
1271				Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only		
1272					Lilliefors Test Statistic	0.081					Lilliefors Test Statistic	0.126
1273					5% Lilliefors Critical Value	0.11					5% Lilliefors Critical Value	0.11
1274				Data appear Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level		
1275												
1276				Assuming Normal Distribution						Assuming Lognormal Distribution		
1277					DL/2 Substitution Method						DL/2 Substitution Method	
1278					Mean	1918					Mean (Log Scale)	7.452
1279					SD	781.7					SD (Log Scale)	0.519
1280					95% UTL 90% Coverage	3157					95% UTL 90% Coverage	3923
1281					95% UPL (t)	3232					95% UPL (t)	4123
1282					90% Percentile (z)	2920					90% Percentile (z)	3352
1283					95% Percentile (z)	3204					95% Percentile (z)	4047
1284					99% Percentile (z)	3737					99% Percentile (z)	5764
1285												
1286					Maximum Likelihood Estimate(MLE) Method						Log ROS Method	
1287					Mean	1918					Mean in Original Scale	1930
1288					SD	777.4					SD in Original Scale	760.2
1289					95% UTL with 90% Coverage	3150					95% UTL with 90% Coverage	3562
1290											95% BCA UTL with 90% Coverage	3190
1291											95% Bootstrap (%) UTL with 90% Coverage	3190
1292					95% UPL (t)	3225					95% UPL (t)	3717
1293					90% Percentile (z)	2915					90% Percentile (z)	3116
1294					95% Percentile (z)	3197					95% Percentile (z)	3658
1295					99% Percentile (z)	3727					99% Percentile (z)	4944
1296												
1297				Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only		
1298					k star (bias corrected)	6.298				Data appear Normal at 5% Significance Level		
1299					Theta Star	312.4						
1300					nu star	818.7						
1301												
1302					A-D Test Statistic	0.603				Nonparametric Statistics		
1303					5% A-D Critical Value	0.753					Kaplan-Meier (KM) Method	
1304					K-S Test Statistic	0.101					Mean	1925
1305					5% K-S Critical Value	0.111					SD	761.5
1306				Data appear Gamma Distributed at 5% Significance Level							SE of Mean	93.78
1307											95% KM UTL with 90% Coverage	3132
1308				Assuming Gamma Distribution							95% KM Chebyshev UPL	5270
1309					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	3205
1310					Mean	1909					90% Percentile (z)	2901
1311					Median	1990					95% Percentile (z)	3178
1312					SD	801.7					99% Percentile (z)	3697
1313					k star	1.246						
1314					Theta star	1532				Gamma ROS Limits with Extrapolated Data		
1315					Nu star	166.9					95% Wilson Hilferty (WH) Approx. Gamma UPL	4236
1316					95% Percentile of Chisquare (2k)	6.913					95% Hawkins Wixley (HW) Approx. Gamma UPL	4866
1317											95% WH Approx. Gamma UTL with 90% Coverage	4051
1318					90% Percentile	4164					95% HW Approx. Gamma UTL with 90% Coverage	4611
1319					95% Percentile	5297						
1320					99% Percentile	7887						

	A	B	C	D	E	F	G	H	I	J	K	L
1321												
1322	Note: DL/2 is not a recommended method.											
1323												
1324												
1325	Potassium Upper Sand											
1326												
1327						General Statistics						
1328					Number of Valid Data	30				Number of Detected Data		23
1329					Number of Distinct Detected Data	23				Number of Non-Detect Data		7
1330					Tolerance Factor	1.777				Percent Non-Detects		23.33%
1331												
1332				Raw Statistics						Log-transformed Statistics		
1333					Minimum Detected	126				Minimum Detected		4.836
1334					Maximum Detected	1990				Maximum Detected		7.596
1335					Mean of Detected	830.3				Mean of Detected		6.494
1336					SD of Detected	523.2				SD of Detected		0.746
1337					Minimum Non-Detect	236				Minimum Non-Detect		5.464
1338					Maximum Non-Detect	1180				Maximum Non-Detect		7.073
1339												
1340				Data with Multiple Detection Limits						Single Detection Limit Scenario		
1341	Note: Data have multiple DLs - Use of KM Method is recommended									Number treated as Non-Detect with Single DL		25
1342	For all methods (except KM, DL/2, and ROS Methods),									Number treated as Detected with Single DL		5
1343	Observations < Largest ND are treated as NDs									Single DL Non-Detect Percentage		83.33%
1344												
1345						Background Statistics						
1346				Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only		
1347					Shapiro Wilk Test Statistic	0.937				Shapiro Wilk Test Statistic		0.953
1348					5% Shapiro Wilk Critical Value	0.914				5% Shapiro Wilk Critical Value		0.914
1349				Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
1350												
1351				Assuming Normal Distribution						Assuming Lognormal Distribution		
1352					DL/2 Substitution Method					DL/2 Substitution Method		
1353					Mean	699.6				Mean (Log Scale)		6.25
1354					SD	521.4				SD (Log Scale)		0.831
1355					95% UTL 90% Coverage	1626				95% UTL 90% Coverage		2270
1356					95% UPL (t)	1600				95% UPL (t)		2178
1357					90% Percentile (z)	1368				90% Percentile (z)		1504
1358					95% Percentile (z)	1557				95% Percentile (z)		2034
1359					99% Percentile (z)	1913				99% Percentile (z)		3584
1360												
1361					Maximum Likelihood Estimate(MLE) Method					Log ROS Method		
1362					Mean	440.5				Mean in Original Scale		702.6
1363					SD	779.5				SD in Original Scale		514.7
1364					95% UTL with 90% Coverage	1826				95% UTL with 90% Coverage		2104
1365										95% BCA UTL with 90% Coverage		1882
1366										95% Bootstrap (%) UTL with 90% Coverage		1870
1367					95% UPL (t)	1787				95% UPL (t)		2025
1368					90% Percentile (z)	1439				90% Percentile (z)		1437
1369					95% Percentile (z)	1723				95% Percentile (z)		1900
1370					99% Percentile (z)	2254				99% Percentile (z)		3209
1371												
1372				Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only		
1373					k star (bias corrected)	2.071				Data appear Normal at 5% Significance Level		
1374					Theta Star	401						
1375					nu star	95.24						

	A	B	C	D	E	F	G	H	I	J	K	L
1376												
1377					A-D Test Statistic	0.21	Nonparametric Statistics					
1378					5% A-D Critical Value	0.753					Kaplan-Meier (KM) Method	
1379					K-S Test Statistic	0.0948					Mean	701
1380					5% K-S Critical Value	0.183					SD	514.8
1381			Data appear Gamma Distributed at 5% Significance Level								SE of Mean	97.32
1382										95% KM UTL with	90% Coverage	1616
1383			Assuming Gamma Distribution								95% KM Chebyshev UPL	2982
1384				Gamma ROS Statistics with Extrapolated Data							95% KM UPL (t)	1590
1385					Mean	688.5					90% Percentile (z)	1361
1386					Median	623.7					95% Percentile (z)	1548
1387					SD	535.4					99% Percentile (z)	1899
1388					k star	0.595						
1389					Theta star	1157	Gamma ROS Limits with Extrapolated Data					
1390					Nu star	35.69					95% Wilson Hilferty (WH) Approx. Gamma UPL	2108
1391					95% Percentile of Chisquare (2k)	4.294					95% Hawkins Wixley (HW) Approx. Gamma UPL	2466
1392											95% WH Approx. Gamma UTL with 90% Coverage	2176
1393					90% Percentile	1794					95% HW Approx. Gamma UTL with 90% Coverage	2562
1394					95% Percentile	2485						
1395					99% Percentile	4158						
1396												
1397	Note: DL/2 is not a recommended method.											
1398												
1399												
1400	Selenium											
1401												
1402					General Statistics							
1403					Number of Valid Data	46					Number of Detected Data	7
1404					Number of Distinct Detected Data	7					Number of Non-Detect Data	39
1405					Tolerance Factor	1.658					Percent Non-Detects	84.78%
1406												
1407				Raw Statistics						Log-transformed Statistics		
1408					Minimum Detected	0.405					Minimum Detected	-0.904
1409					Maximum Detected	0.68					Maximum Detected	-0.386
1410					Mean of Detected	0.529					Mean of Detected	-0.658
1411					SD of Detected	0.116					SD of Detected	0.22
1412					Minimum Non-Detect	0.5					Minimum Non-Detect	-0.693
1413					Maximum Non-Detect	0.5					Maximum Non-Detect	-0.693
1414												
1415												
1416												
1417					Warning: There are only 7 Detected Values in this data							
1418					Note: It should be noted that even though bootstrap may be performed on this data set							
1419					the resulting calculations may not be reliable enough to draw conclusions							
1420												
1421					It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.							
1422												
1423					Background Statistics							
1424				Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only		
1425					Shapiro Wilk Test Statistic	0.881					Shapiro Wilk Test Statistic	0.877
1426					5% Shapiro Wilk Critical Value	0.803					5% Shapiro Wilk Critical Value	0.803
1427					Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level	
1428												
1429					Assuming Normal Distribution						Assuming Lognormal Distribution	
1430					DL/2 Substitution Method						DL/2 Substitution Method	

	A	B	C	D	E	F	G	H	I	J	K	L
1431					Mean	0.292					Mean (Log Scale)	-1.276
1432					SD	0.11					SD (Log Scale)	0.276
1433				95% UTL	90% Coverage	0.474				95% UTL	90% Coverage	0.442
1434					95% UPL (t)	0.478					95% UPL (t)	0.446
1435					90% Percentile (z)	0.433					90% Percentile (z)	0.398
1436					95% Percentile (z)	0.473					95% Percentile (z)	0.44
1437					99% Percentile (z)	0.547					99% Percentile (z)	0.531
1438												
1439				Maximum Likelihood Estimate(MLE) Method							Log ROS Method	
1440					Mean	0.622					Mean in Original Scale	0.439
1441					SD	0.0589					SD in Original Scale	0.0825
1442				95% UTL with	90% Coverage	0.72				95% UTL with	90% Coverage	0.584
1443										95% BCA UTL with	90% Coverage	0.61
1444										95% Bootstrap (%) UTL with	90% Coverage	0.61
1445					95% UPL (t)	0.722					95% UPL (t)	0.588
1446					90% Percentile (z)	0.697					90% Percentile (z)	0.545
1447					95% Percentile (z)	0.719					95% Percentile (z)	0.583
1448					99% Percentile (z)	0.759					99% Percentile (z)	0.66
1449												
1450				**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**		
1451					k star (bias corrected)	13.98				Data appear Normal at 5% Significance Level		
1452					Theta Star	0.0378						
1453					nu star	195.8						
1454												
1455					A-D Test Statistic	0.464				**Nonparametric Statistics**		
1456					5% A-D Critical Value	0.707					Kaplan-Meier (KM) Method	
1457					K-S Test Statistic	0.234					Mean	0.434
1458					5% K-S Critical Value	0.311					SD	0.0592
1459				Data appear Gamma Distributed at 5% Significance Level							SE of Mean	0.0119
1460										95% KM UTL with	90% Coverage	0.532
1461				**Assuming Gamma Distribution**							95% KM Chebyshev UPL	0.694
1462				Gamma ROS Statistics with Extrapolated Data							95% KM UPL (t)	0.534
1463					Mean	0.442					90% Percentile (z)	0.51
1464					Median	0.462					95% Percentile (z)	0.531
1465					SD	0.128					99% Percentile (z)	0.571
1466					k star	7.868						
1467					Theta star	0.0562				**Gamma ROS Limits with Extrapolated Data**		
1468					Nu star	723.9					95% Wilson Hilferty (WH) Approx. Gamma UPL	0.733
1469					95% Percentile of Chisquare (2k)	25.95					95% Hawkins Wixley (HW) Approx. Gamma UPL	0.749
1470											95% WH Approx. Gamma UTL with 90% Coverage	0.725
1471					90% Percentile	0.652					95% HW Approx. Gamma UTL with 90% Coverage	0.74
1472					95% Percentile	0.729						
1473					99% Percentile	0.888						
1474												
1475	Note: DL/2 is not a recommended method.											
1476												
1477												
1478	**vanadium**											
1479												
1480					**General Statistics**							
1481					Number of Valid Data	28					Number of Detected Data	10
1482					Number of Distinct Detected Data	9					Number of Non-Detect Data	18
1483					Tolerance Factor	1.799					Percent Non-Detects	64.29%
1484												
1485				**Raw Statistics**						**Log-transformed Statistics**		

	A–E	F	G–K	L
1486	Minimum Detected	0.86	Minimum Detected	-0.151
1487	Maximum Detected	1.5	Maximum Detected	0.405
1488	Mean of Detected	1.191	Mean of Detected	0.159
1489	SD of Detected	0.217	SD of Detected	0.191
1490	Minimum Non-Detect	0.7	Minimum Non-Detect	-0.357
1491	Maximum Non-Detect	3.6	Maximum Non-Detect	1.281
1492				
1493	**Data with Multiple Detection Limits**		**Single Detection Limit Scenario**	
1494	Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect with Single DL	28
1495	For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected with Single DL	0
1496	Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%
1497				
1498	**Background Statistics**			
1499	**Normal Distribution Test with Detected Values Only**		**Lognormal Distribution Test with Detected Values Only**	
1500	Shapiro Wilk Test Statistic	0.945	Shapiro Wilk Test Statistic	0.929
1501	5% Shapiro Wilk Critical Value	0.842	5% Shapiro Wilk Critical Value	0.842
1502	Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
1503				
1504	**Assuming Normal Distribution**		**Assuming Lognormal Distribution**	
1505	DL/2 Substitution Method		DL/2 Substitution Method	
1506	Mean	0.948	Mean (Log Scale)	-0.175
1507	SD	0.427	SD (Log Scale)	0.533
1508	95% UTL 90% Coverage	1.717	95% UTL 90% Coverage	2.191
1509	95% UPL (t)	1.689	95% UPL (t)	2.115
1510	90% Percentile (z)	1.496	90% Percentile (z)	1.663
1511	95% Percentile (z)	1.651	95% Percentile (z)	2.018
1512	99% Percentile (z)	1.943	99% Percentile (z)	2.902
1513				
1514	Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
1515			Mean in Original Scale	0.987
1516			SD in Original Scale	0.221
1517			Mean in Log Scale	-0.0363
1518			SD in Log Scale	0.217
1519			95% UTL 90% Coverage	1.425
1520			95% UPL (t)	1.405
1521			90% Percentile (z)	1.273
1522			95% Percentile (z)	1.378
1523			99% Percentile (z)	1.597
1524				
1525	**Gamma Distribution Test with Detected Values Only**		**Data Distribution Test with Detected Values Only**	
1526	k star (bias corrected)	22.23	Data appear Normal at 5% Significance Level	
1527	Theta Star	0.0536		
1528	nu star	444.7		
1529				
1530	A-D Test Statistic	0.354	**Nonparametric Statistics**	
1531	5% A-D Critical Value	0.724	Kaplan-Meier (KM) Method	
1532	K-S Test Statistic	0.212	Mean	1.041
1533	5% K-S Critical Value	0.266	SD	0.221
1534	Data appear Gamma Distributed at 5% Significance Level		SE of Mean	0.0541
1535			95% KM UTL with 90% Coverage	1.438
1536	**Assuming Gamma Distribution**		95% KM Chebyshev UPL	2.019
1537	Gamma ROS Statistics with Extrapolated Data		95% KM UPL (t)	1.423
1538	Mean	0.835	90% Percentile (z)	1.324
1539	Median	0.906	95% Percentile (z)	1.404
1540	SD	0.408	99% Percentile (z)	1.554

	A	B	C	D	E	F	G	H	I	J	K	L
1541					k star	0.577						
1542					Theta star	1.447		Gamma ROS Limits with Extrapolated Data				
1543					Nu star	32.3			95% Wilson Hilferty (WH) Approx. Gamma UPL			2.544
1544				95% Percentile of Chisquare (2k)		4.21			95% Hawkins Wixley (HW) Approx. Gamma UPL			3.316
1545									95% WH Approx. Gamma UTL with	90% Coverage		2.648
1546					90% Percentile	2.19			95% HW Approx. Gamma UTL with	90% Coverage		3.49
1547					95% Percentile	3.046						
1548					99% Percentile	5.124						
1549												
1550	Note: DL/2 is not a recommended method.											
1551												
1552												
1553	ZINC											
1554												
1555					General Statistics							
1556					Number of Valid Data	77				Number of Detected Data		26
1557					Number of Distinct Detected Data	23				Number of Non-Detect Data		51
1558					Tolerance Factor	1.562				Percent Non-Detects		66.23%
1559												
1560				Raw Statistics						Log-transformed Statistics		
1561					Minimum Detected	1.9				Minimum Detected		0.642
1562					Maximum Detected	59.8				Maximum Detected		4.091
1563					Mean of Detected	7.741				Mean of Detected		1.625
1564					SD of Detected	11.87				SD of Detected		0.752
1565					Minimum Non-Detect	1.6				Minimum Non-Detect		0.47
1566					Maximum Non-Detect	4.5				Maximum Non-Detect		1.504
1567												
1568				Data with Multiple Detection Limits						Single Detection Limit Scenario		
1569	Note: Data have multiple DLs - Use of KM Method is recommended									Number treated as Non-Detect with Single DL		65
1570	For all methods (except KM, DL/2, and ROS Methods),									Number treated as Detected with Single DL		12
1571	Observations < Largest ND are treated as NDs									Single DL Non-Detect Percentage		84.42%
1572												
1573					Background Statistics							
1574				Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only		
1575					Shapiro Wilk Test Statistic	0.445				Shapiro Wilk Test Statistic		0.824
1576					5% Shapiro Wilk Critical Value	0.92				5% Shapiro Wilk Critical Value		0.92
1577				Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level		
1578												
1579				Assuming Normal Distribution						Assuming Lognormal Distribution		
1580					DL/2 Substitution Method					DL/2 Substitution Method		
1581					Mean	3.655				Mean (Log Scale)		0.824
1582					SD	7.419				SD (Log Scale)		0.756
1583					95% UTL 90% Coverage	15.24				95% UTL 90% Coverage		7.428
1584					95% UPL (t)	16.09				95% UPL (t)		8.097
1585					90% Percentile (z)	13.16				90% Percentile (z)		6.009
1586					95% Percentile (z)	15.86				95% Percentile (z)		7.909
1587					99% Percentile (z)	20.91				99% Percentile (z)		13.24
1588												
1589					Maximum Likelihood Estimate(MLE) Method					Log ROS Method		
1590					Mean	-19.72				Mean in Original Scale		3.478
1591					SD	22.79				SD in Original Scale		7.497
1592					95% UTL with 90% Coverage	15.87				95% UTL with 90% Coverage		8.759
1593										95% BCA UTL with 90% Coverage		7.88
1594										95% Bootstrap (%) UTL with 90% Coverage		7.8
1595					95% UPL (t)	18.47				95% UPL (t)		9.832

	A	B	C	D	E	F	G	H	I	J	K	L
1596					90% Percentile (z)	9.485					90% Percentile (z)	6.596
1597					95% Percentile (z)	17.76					95% Percentile (z)	9.527
1598					99% Percentile (z)	33.29					99% Percentile (z)	18.99
1599												
1600			**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**			
1601					k star (bias corrected)	1.2			Data do not follow a Discernable Distribution (0.05)			
1602					Theta Star	6.45						
1603					nu star	62.41						
1604												
1605					A-D Test Statistic	2.89			**Nonparametric Statistics**			
1606					5% A-D Critical Value	0.766					Kaplan-Meier (KM) Method	
1607					K-S Test Statistic	0.248					Mean	4.067
1608					5% K-S Critical Value	0.175					SD	7.264
1609			Data not Gamma Distributed at 5% Significance Level								SE of Mean	0.847
1610											95% KM UTL with 90% Coverage	15.41
1611			**Assuming Gamma Distribution**								95% KM Chebyshev UPL	35.93
1612					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	16.24
1613					Mean	2.999					90% Percentile (z)	13.38
1614					Median	0.000001					95% Percentile (z)	16.02
1615					SD	7.721					99% Percentile (z)	20.97
1616					k star	0.104						
1617					Theta star	28.72			**Gamma ROS Limits with Extrapolated Data**			
1618					Nu star	16.08			95% Wilson Hilferty (WH) Approx. Gamma UPL			12.2
1619					95% Percentile of Chisquare (2k)	1.209			95% Hawkins Wixley (HW) Approx. Gamma UPL			14.24
1620									95% WH Approx. Gamma UTL with 90% Coverage			10.6
1621					90% Percentile	8.12			95% HW Approx. Gamma UTL with 90% Coverage			11.87
1622					95% Percentile	17.36						
1623					99% Percentile	46.61						
1624												
1625	Note: DL/2 is not a recommended method.											
1626												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Data Sets with Non-Detects								
2			User Selected Options									
3			From File	WorkSheet.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	AluminumNoTransition											
12												
13						General Statistics						
14						Number of Valid Data	67			Number of Detected Data	29	
15						Number of Distinct Detected Data	29			Number of Non-Detect Data	38	
16						Tolerance Factor	1.585			Percent Non-Detects	56.72%	
17												
18						Raw Statistics				Log-transformed Statistics		
19						Minimum Detected	118			Minimum Detected	4.771	
20						Maximum Detected	7930			Maximum Detected	8.978	
21						Mean of Detected	960.6			Mean of Detected	6.297	
22						SD of Detected	1512			SD of Detected	1.004	
23						Minimum Non-Detect	16.4			Minimum Non-Detect	2.797	
24						Maximum Non-Detect	441			Maximum Non-Detect	6.089	
25												
26						Data with Multiple Detection Limits				Single Detection Limit Scenario		
27						Note: Data have multiple DLs - Use of KM Method is recommended				Number treated as Non-Detect with Single DL	49	
28						For all methods (except KM, DL/2, and ROS Methods),				Number treated as Detected with Single DL	18	
29						Observations < Largest ND are treated as NDs				Single DL Non-Detect Percentage	73.13%	
30												
31						Background Statistics						
32						Normal Distribution Test with Detected Values Only				Lognormal Distribution Test with Detected Values Only		
33						Shapiro Wilk Test Statistic	0.514			Shapiro Wilk Test Statistic	0.956	
34						5% Shapiro Wilk Critical Value	0.926			5% Shapiro Wilk Critical Value	0.926	
35						Data not Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level		
36												
37						Assuming Normal Distribution				Assuming Lognormal Distribution		
38						DL/2 Substitution Method				DL/2 Substitution Method		
39						Mean	445.1			Mean (Log Scale)	4.701	
40						SD	1085			SD (Log Scale)	1.705	
41						95% UTL 90% Coverage	2165			95% UTL 90% Coverage	1640	
42						95% UPL (t)	2269			95% UPL (t)	1932	
43						90% Percentile (z)	1836			90% Percentile (z)	978.4	
44						95% Percentile (z)	2230			95% Percentile (z)	1817	
45						99% Percentile (z)	2969			99% Percentile (z)	5807	
46												
47						Maximum Likelihood Estimate(MLE) Method				Log ROS Method		
48						Mean	-1221			Mean in Original Scale	438.6	
49						SD	2361			SD in Original Scale	1087	
50						95% UTL with 90% Coverage	2519			95% UTL with 90% Coverage	1262	
51										95% BCA UTL with 90% Coverage	1260	
52										95% Bootstrap (%) UTL with 90% Coverage	1320	
53						95% UPL (t)	2746			95% UPL (t)	1454	
54						90% Percentile (z)	1804			90% Percentile (z)	808.1	
55						95% Percentile (z)	2662			95% Percentile (z)	1379	

	A	B	C	D	E	F	G	H	I	J	K	L
56					99% Percentile (z)	4270					99% Percentile (z)	3760
57												
58				Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only		
59					k star (bias corrected)	0.929				Data appear Lognormal at 5% Significance Level		
60					Theta Star	1034						
61					nu star	53.88						
62												
63					A-D Test Statistic	1.109				Nonparametric Statistics		
64					5% A-D Critical Value	0.774					Kaplan-Meier (KM) Method	
65					K-S Test Statistic	0.17					Mean	484.1
66					5% K-S Critical Value	0.167					SD	1062
67				Data not Gamma Distributed at 5% Significance Level							SE of Mean	132.1
68											95% KM UTL with 90% Coverage	2168
69				Assuming Gamma Distribution							95% KM Chebyshev UPL	5150
70					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	2270
71					Mean	415.8					90% Percentile (z)	1846
72					Median	0.000001					95% Percentile (z)	2232
73					SD	1095					99% Percentile (z)	2956
74					k star	0.082						
75					Theta star	5073				Gamma ROS Limits with Extrapolated Data		
76					Nu star	10.98					95% Wilson Hilferty (WH) Approx. Gamma UPL	1646
77					95% Percentile of Chisquare (2k)	0.954					95% Hawkins Wixley (HW) Approx. Gamma UPL	1881
78											95% WH Approx. Gamma UTL with 90% Coverage	1460
79					90% Percentile	1001					95% HW Approx. Gamma UTL with 90% Coverage	1609
80					95% Percentile	2420						
81					99% Percentile	7280						
82												
83	Note: DL/2 is not a recommended method.											
84												
85												
86	Aluminum Transition											
87												
88						General Statistics						
89					Number of Valid Data	30					Number of Detected Data	21
90					Number of Distinct Detected Data	21					Number of Non-Detect Data	9
91					Tolerance Factor	1.777					Percent Non-Detects	30.00%
92												
93				Raw Statistics						Log-transformed Statistics		
94					Minimum Detected	105					Minimum Detected	4.654
95					Maximum Detected	2890					Maximum Detected	7.969
96					Mean of Detected	1098					Mean of Detected	6.608
97					SD of Detected	872					SD of Detected	0.999
98					Minimum Non-Detect	61.4					Minimum Non-Detect	4.117
99					Maximum Non-Detect	427					Maximum Non-Detect	6.057
100												
101				Data with Multiple Detection Limits						Single Detection Limit Scenario		
102				Note: Data have multiple DLs - Use of KM Method is recommended							Number treated as Non-Detect with Single DL	17
103				For all methods (except KM, DL/2, and ROS Methods),							Number treated as Detected with Single DL	13
104				Observations < Largest ND are treated as NDs							Single DL Non-Detect Percentage	56.67%
105												
106						Background Statistics						
107				Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only		
108					Shapiro Wilk Test Statistic	0.892					Shapiro Wilk Test Statistic	0.933
109					5% Shapiro Wilk Critical Value	0.908					5% Shapiro Wilk Critical Value	0.908
110				Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		

	A	B	C	D	E	F	G	H	I	J	K	L
111												
112	**Assuming Normal Distribution**						**Assuming Lognormal Distribution**					
113					DL/2 Substitution Method						DL/2 Substitution Method	
114					Mean	804.4					Mean (Log Scale)	5.992
115					SD	856.6					SD (Log Scale)	1.329
116				95% UTL	90% Coverage	2327				95% UTL	90% Coverage	4244
117					95% UPL (t)	2284					95% UPL (t)	3972
118					90% Percentile (z)	1902					90% Percentile (z)	2197
119					95% Percentile (z)	2213					95% Percentile (z)	3560
120					99% Percentile (z)	2797					99% Percentile (z)	8806
121												
122				Maximum Likelihood Estimate(MLE) Method							Log ROS Method	
123					Mean	242.6					Mean in Original Scale	804.5
124					SD	1447					SD in Original Scale	856
125				95% UTL with	90% Coverage	2813				95% UTL with	90% Coverage	3746
126										95% BCA UTL with	90% Coverage	2584
127										95% Bootstrap (%) UTL with	90% Coverage	2550
128					95% UPL (t)	2741					95% UPL (t)	3523
129					90% Percentile (z)	2096					90% Percentile (z)	2034
130					95% Percentile (z)	2622					95% Percentile (z)	3183
131					99% Percentile (z)	3608					99% Percentile (z)	7371
132												
133	**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**					
134					k star (bias corrected)	1.244	Data appear Gamma Distributed at 5% Significance Level					
135					Theta Star	882.5						
136					nu star	52.25						
137												
138					A-D Test Statistic	0.5	**Nonparametric Statistics**					
139					5% A-D Critical Value	0.76					Kaplan-Meier (KM) Method	
140					K-S Test Statistic	0.167					Mean	811.4
141					5% K-S Critical Value	0.193					SD	836.8
142	Data appear Gamma Distributed at 5% Significance Level										SE of Mean	156.8
143										95% KM UTL with	90% Coverage	2298
144	**Assuming Gamma Distribution**										95% KM Chebyshev UPL	4519
145				Gamma ROS Statistics with Extrapolated Data							95% KM UPL (t)	2257
146					Mean	768.6					90% Percentile (z)	1884
147					Median	382.5					95% Percentile (z)	2188
148					SD	886.7					99% Percentile (z)	2758
149					k star	0.137						
150					Theta star	5608	**Gamma ROS Limits with Extrapolated Data**					
151					Nu star	8.223					95% Wilson Hilferty (WH) Approx. Gamma UPL	3657
152					95% Percentile of Chisquare (2k)	1.534					95% Hawkins Wixley (HW) Approx. Gamma UPL	5064
153											95% WH Approx. Gamma UTL with 90% Coverage	3840
154					90% Percentile	2246					95% HW Approx. Gamma UTL with 90% Coverage	5395
155					95% Percentile	4300						
156					99% Percentile	10378						
157												
158	Note: DL/2 is not a recommended method.											
159												
160												
161	ARSENIC											
162												
163					**General Statistics**							
164					Number of Valid Data	97					Number of Detected Data	35
165					Number of Distinct Detected Data	31					Number of Non-Detect Data	62

	A	B	C	D	E	F	G	H	I	J	K	L
166					Tolerance Factor	1.528				Percent Non-Detects		63.92%
167												
168				Raw Statistics						Log-transformed Statistics		
169					Minimum Detected	1.1					Minimum Detected	0.0953
170					Maximum Detected	35.6					Maximum Detected	3.572
171					Mean of Detected	7.464					Mean of Detected	1.441
172					SD of Detected	9.077					SD of Detected	1.038
173					Minimum Non-Detect	0.8					Minimum Non-Detect	-0.223
174					Maximum Non-Detect	6.7					Maximum Non-Detect	1.902
175												
176				Data with Multiple Detection Limits						Single Detection Limit Scenario		
177			Note: Data have multiple DLs - Use of KM Method is recommended								Number treated as Non-Detect with Single DL	86
178			For all methods (except KM, DL/2, and ROS Methods),								Number treated as Detected with Single DL	11
179			Observations < Largest ND are treated as NDs								Single DL Non-Detect Percentage	88.66%
180												
181					Background Statistics							
182				Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only		
183					Shapiro Wilk Test Statistic	0.704					Shapiro Wilk Test Statistic	0.907
184					5% Shapiro Wilk Critical Value	0.934					5% Shapiro Wilk Critical Value	0.934
185				Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level		
186												
187				Assuming Normal Distribution						Assuming Lognormal Distribution		
188					DL/2 Substitution Method						DL/2 Substitution Method	
189					Mean	3.378					Mean (Log Scale)	0.473
190					SD	6.239					SD (Log Scale)	1.05
191					95% UTL 90% Coverage	12.91					95% UTL 90% Coverage	7.98
192					95% UPL (t)	13.79					95% UPL (t)	9.256
193					90% Percentile (z)	11.37					90% Percentile (z)	6.16
194					95% Percentile (z)	13.64					95% Percentile (z)	9.021
195					99% Percentile (z)	17.89					99% Percentile (z)	18.45
196												
197					Maximum Likelihood Estimate(MLE) Method						Log ROS Method	
198					Mean	-21.15					Mean in Original Scale	3.002
199					SD	23.09					SD in Original Scale	6.371
200					95% UTL with 90% Coverage	14.12					95% UTL with 90% Coverage	8.277
201											95% BCA UTL with 90% Coverage	13.86
202											95% Bootstrap (%) UTL with 90% Coverage	13.86
203					95% UPL (t)	17.39					95% UPL (t)	10.15
204					90% Percentile (z)	8.432					90% Percentile (z)	5.798
205					95% Percentile (z)	16.82					95% Percentile (z)	9.797
206					99% Percentile (z)	32.55					99% Percentile (z)	26.21
207												
208				Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only		
209					k star (bias corrected)	0.945				Data do not follow a Discernable Distribution (0.05)		
210					Theta Star	7.899						
211					nu star	66.15						
212												
213					A-D Test Statistic	1.755				Nonparametric Statistics		
214					5% A-D Critical Value	0.775					Kaplan-Meier (KM) Method	
215					K-S Test Statistic	0.2					Mean	3.482
216					5% K-S Critical Value	0.153					SD	6.157
217				Data not Gamma Distributed at 5% Significance Level							SE of Mean	0.635
218											95% KM UTL with 90% Coverage	12.89
219				Assuming Gamma Distribution							95% KM Chebyshev UPL	30.46
220					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	13.76

	A	B	C	D	E	F	G	H	I	J	K	L
221					Mean	2.693				90% Percentile (z)		11.37
222					Median	0.000001				95% Percentile (z)		13.61
223					SD	6.493				99% Percentile (z)		17.8
224					k star	0.0927						
225					Theta star	29.04			**Gamma ROS Limits with Extrapolated Data**			
226					Nu star	17.99			95% Wilson Hilferty (WH) Approx. Gamma UPL			9.91
227					95% Percentile of Chisquare (2k)	1.08			95% Hawkins Wixley (HW) Approx. Gamma UPL			10.39
228									95% WH Approx. Gamma UTL with	90% Coverage		8.232
229					90% Percentile	6.931			95% HW Approx. Gamma UTL with	90% Coverage		8.165
230					95% Percentile	15.68						
231					99% Percentile	44.41						
232												
233	Note: DL/2 is not a recommended method.											
234												
235												
236	**Barium Majority**											
237												
238					**General Statistics**							
239					Number of Valid Data	68				Number of Detected Data		66
240					Number of Distinct Detected Data	62				Number of Non-Detect Data		2
241					Tolerance Factor	1.582				Percent Non-Detects		2.94%
242												
243				**Raw Statistics**						**Log-transformed Statistics**		
244					Minimum Detected	1.1				Minimum Detected		0.0953
245					Maximum Detected	215				Maximum Detected		5.371
246					Mean of Detected	15.59				Mean of Detected		2.235
247					SD of Detected	27.7				SD of Detected		0.91
248					Minimum Non-Detect	1.7				Minimum Non-Detect		0.531
249					Maximum Non-Detect	3.4				Maximum Non-Detect		1.224
250												
251				**Data with Multiple Detection Limits**						**Single Detection Limit Scenario**		
252	Note: Data have multiple DLs - Use of KM Method is recommended									Number treated as Non-Detect with Single DL		9
253	For all methods (except KM, DL/2, and ROS Methods),									Number treated as Detected with Single DL		59
254	Observations < Largest ND are treated as NDs									Single DL Non-Detect Percentage		13.24%
255												
256					**Background Statistics**							
257				**Normal Distribution Test with Detected Values Only**						**Lognormal Distribution Test with Detected Values Only**		
258					Lilliefors Test Statistic	0.301				Lilliefors Test Statistic		0.0897
259					5% Lilliefors Critical Value	0.109				5% Lilliefors Critical Value		0.109
260					Data not Normal at 5% Significance Level					Data appear Lognormal at 5% Significance Level		
261												
262				**Assuming Normal Distribution**						**Assuming Lognormal Distribution**		
263					DL/2 Substitution Method					DL/2 Substitution Method		
264					Mean	15.16				Mean (Log Scale)		2.174
265					SD	27.4				SD (Log Scale)		0.963
266					95% UTL 90% Coverage	58.51				95% UTL 90% Coverage		40.4
267					95% UPL (t)	61.19				95% UPL (t)		44.4
268					90% Percentile (z)	50.27				90% Percentile (z)		30.24
269					95% Percentile (z)	60.23				95% Percentile (z)		42.91
270					99% Percentile (z)	78.9				99% Percentile (z)		82.74
271												
272					Maximum Likelihood Estimate(MLE) Method					Log ROS Method		
273					Mean	12.61				Mean in Original Scale		15.18
274					SD	29.74				SD in Original Scale		27.39
275					95% UTL with 90% Coverage	59.67				95% UTL with 90% Coverage		39.51

	A	B	C	D	E	F	G	H	I	J	K	L
276										95% BCA UTL with	90% Coverage	39.9
277										95% Bootstrap (%) UTL with	90% Coverage	43.4
278					95% UPL (t)	62.58					95% UPL (t)	43.34
279					90% Percentile (z)	50.73					90% Percentile (z)	29.76
280					95% Percentile (z)	61.53					95% Percentile (z)	41.92
281					99% Percentile (z)	81.8					99% Percentile (z)	79.74
282												
283				**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**		
284					k star (bias corrected)	1.074				Data appear Lognormal at 5% Significance Level		
285					Theta Star	14.51						
286					nu star	141.8						
287												
288					A-D Test Statistic	2.717				**Nonparametric Statistics**		
289					5% A-D Critical Value	0.777				Kaplan-Meier (KM) Method		
290					K-S Test Statistic	0.162				Mean		15.18
291					5% K-S Critical Value	0.113				SD		27.19
292				Data not Gamma Distributed at 5% Significance Level						SE of Mean		3.322
293										95% KM UTL with	90% Coverage	58.19
294				**Assuming Gamma Distribution**						95% KM Chebyshev UPL		134.6
295				Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)		60.86
296					Mean	15.13				90% Percentile (z)		50.02
297					Median	8.5				95% Percentile (z)		59.9
298					SD	27.42				99% Percentile (z)		78.43
299					k star	0.623						
300					Theta star	24.28				**Gamma ROS Limits with Extrapolated Data**		
301					Nu star	84.73				95% Wilson Hilferty (WH) Approx. Gamma UPL		45.17
302					95% Percentile of Chisquare (2k)	4.423				95% Hawkins Wixley (HW) Approx. Gamma UPL		48.48
303										95% WH Approx. Gamma UTL with	90% Coverage	42.1
304					90% Percentile	39.01				95% HW Approx. Gamma UTL with	90% Coverage	44.75
305					95% Percentile	53.7						
306					99% Percentile	89.11						
307												
308	Note: DL/2 is not a recommended method.											
309												
310												
311	barium LS											
312												
313					**General Statistics**							
314					Number of Valid Data	29				Number of Detected Data		27
315					Number of Distinct Detected Data	25				Number of Non-Detect Data		2
316					Tolerance Factor	1.788				Percent Non-Detects		6.90%
317												
318				**Raw Statistics**						**Log-transformed Statistics**		
319					Minimum Detected	0.405				Minimum Detected		-0.904
320					Maximum Detected	14.9				Maximum Detected		2.701
321					Mean of Detected	3.963				Mean of Detected		1.081
322					SD of Detected	3.303				SD of Detected		0.801
323					Minimum Non-Detect	2.4				Minimum Non-Detect		0.875
324					Maximum Non-Detect	3.7				Maximum Non-Detect		1.308
325												
326				**Data with Multiple Detection Limits**						**Single Detection Limit Scenario**		
327				Note: Data have multiple DLs - Use of KM Method is recommended						Number treated as Non-Detect with Single DL		20
328				For all methods (except KM, DL/2, and ROS Methods),						Number treated as Detected with Single DL		9
329				Observations < Largest ND are treated as NDs						Single DL Non-Detect Percentage		68.97%
330												

	A	B	C	D	E	F	G	H	I	J	K	L
331	Background Statistics											
332	Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only					
333					Shapiro Wilk Test Statistic	0.818					Shapiro Wilk Test Statistic	0.985
334					5% Shapiro Wilk Critical Value	0.923					5% Shapiro Wilk Critical Value	0.923
335	Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level					
336												
337	Assuming Normal Distribution						Assuming Lognormal Distribution					
338					DL/2 Substitution Method						DL/2 Substitution Method	
339					Mean	3.795					Mean (Log Scale)	1.034
340					SD	3.245					SD (Log Scale)	0.794
341					95% UTL 90% Coverage	9.598					95% UTL 90% Coverage	11.63
342					95% UPL (t)	9.41					95% UPL (t)	11.11
343					90% Percentile (z)	7.954					90% Percentile (z)	7.779
344					95% Percentile (z)	9.133					95% Percentile (z)	10.38
345					99% Percentile (z)	11.34					99% Percentile (z)	17.83
346												
347					Maximum Likelihood Estimate(MLE) Method						Log ROS Method	
348					Mean	0.681					Mean in Original Scale	3.807
349					SD	6.093					SD in Original Scale	3.237
350					95% UTL with 90% Coverage	11.57					95% UTL with 90% Coverage	11.59
351											95% BCA UTL with 90% Coverage	11.06
352											95% Bootstrap (%) UTL with 90% Coverage	11.06
353					95% UPL (t)	11.22					95% UPL (t)	11.07
354					90% Percentile (z)	8.489					90% Percentile (z)	7.775
355					95% Percentile (z)	10.7					95% Percentile (z)	10.35
356					99% Percentile (z)	14.85					99% Percentile (z)	17.7
357												
358	Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only					
359					k star (bias corrected)	1.658	Data appear Gamma Distributed at 5% Significance Level					
360					Theta Star	2.39						
361					nu star	89.53						
362												
363					A-D Test Statistic	0.424	Nonparametric Statistics					
364					5% A-D Critical Value	0.759					Kaplan-Meier (KM) Method	
365					K-S Test Statistic	0.133					Mean	3.813
366					5% K-S Critical Value	0.171					SD	3.182
367	Data appear Gamma Distributed at 5% Significance Level										SE of Mean	0.603
368											95% KM UTL with 90% Coverage	9.503
369	Assuming Gamma Distribution										95% KM Chebyshev UPL	17.92
370					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	9.319
371					Mean	3.822					90% Percentile (z)	7.891
372					Median	2.9					95% Percentile (z)	9.047
373					SD	3.233					99% Percentile (z)	11.22
374					k star	1.672						
375					Theta star	2.286	Gamma ROS Limits with Extrapolated Data					
376					Nu star	96.96					95% Wilson Hilferty (WH) Approx. Gamma UPL	9.778
377					95% Percentile of Chisquare (2k)	8.402					95% Hawkins Wixley (HW) Approx. Gamma UPL	9.987
378											95% WH Approx. Gamma UTL with 90% Coverage	10.09
379					90% Percentile	7.757					95% HW Approx. Gamma UTL with 90% Coverage	10.33
380					95% Percentile	9.604						
381					99% Percentile	13.75						
382												
383	Note: DL/2 is not a recommended method.											
384												
385												

	A	B	C	D	E	F	G	H	I	J	K	L
386	Beryllium											
387												
388					General Statistics							
389					Number of Valid Data	61				Number of Detected Data		16
390					Number of Distinct Detected Data	12				Number of Non-Detect Data		45
391					Tolerance Factor	1.601				Percent Non-Detects		73.77%
392												
393					Raw Statistics					Log-transformed Statistics		
394					Minimum Detected	0.06				Minimum Detected		-2.813
395					Maximum Detected	0.58				Maximum Detected		-0.545
396					Mean of Detected	0.196				Mean of Detected		-1.994
397					SD of Detected	0.18				SD of Detected		0.857
398					Minimum Non-Detect	0.05				Minimum Non-Detect		-2.996
399					Maximum Non-Detect	0.14				Maximum Non-Detect		-1.966
400												
401					Data with Multiple Detection Limits					Single Detection Limit Scenario		
402					Note: Data have multiple DLs - Use of KM Method is recommended					Number treated as Non-Detect with Single DL		54
403					For all methods (except KM, DL/2, and ROS Methods),					Number treated as Detected with Single DL		7
404					Observations < Largest ND are treated as NDs					Single DL Non-Detect Percentage		88.52%
405												
406					Background Statistics							
407					Normal Distribution Test with Detected Values Only					Lognormal Distribution Test with Detected Values Only		
408					Shapiro Wilk Test Statistic	0.771				Shapiro Wilk Test Statistic		0.846
409					5% Shapiro Wilk Critical Value	0.887				5% Shapiro Wilk Critical Value		0.887
410					Data not Normal at 5% Significance Level					Data not Lognormal at 5% Significance Level		
411												
412					Assuming Normal Distribution					Assuming Lognormal Distribution		
413					DL/2 Substitution Method					DL/2 Substitution Method		
414					Mean	0.0712				Mean (Log Scale)		-3.207
415					SD	0.117				SD (Log Scale)		0.863
416					95% UTL 90% Coverage	0.259				95% UTL 90% Coverage		0.161
417					95% UPL (t)	0.269				95% UPL (t)		0.173
418					90% Percentile (z)	0.221				90% Percentile (z)		0.122
419					95% Percentile (z)	0.264				95% Percentile (z)		0.167
420					99% Percentile (z)	0.344				99% Percentile (z)		0.302
421												
422					Maximum Likelihood Estimate(MLE) Method					Log ROS Method		
423					Mean	-0.366				Mean in Original Scale		0.0598
424					SD	0.423				SD in Original Scale		0.122
425					95% UTL with 90% Coverage	0.312				95% UTL with 90% Coverage		0.241
426										95% BCA UTL with 90% Coverage		0.32
427										95% Bootstrap (%) UTL with 90% Coverage		0.32
428					95% UPL (t)	0.347				95% UPL (t)		0.279
429					90% Percentile (z)	0.177				90% Percentile (z)		0.138
430					95% Percentile (z)	0.33				95% Percentile (z)		0.26
431					99% Percentile (z)	0.619				99% Percentile (z)		0.858
432												
433					Gamma Distribution Test with Detected Values Only					Data Distribution Test with Detected Values Only		
434					k star (bias corrected)	1.282				Data do not follow a Discernable Distribution (0.05)		
435					Theta Star	0.153						
436					nu star	41.01						
437												
438					A-D Test Statistic	1.1				Nonparametric Statistics		
439					5% A-D Critical Value	0.754				Kaplan-Meier (KM) Method		
440					K-S Test Statistic	0.24				Mean		0.0956

	A	B	C	D	E	F	G	H	I	J	K	L
441					5% K-S Critical Value	0.219					SD	0.107
442	Data not Gamma Distributed at 5% Significance Level										SE of Mean	0.0142
443										95% KM UTL with	90% Coverage	0.267
444			Assuming Gamma Distribution								95% KM Chebyshev UPL	0.567
445				Gamma ROS Statistics with Extrapolated Data							95% KM UPL (t)	0.276
446					Mean	0.0513					90% Percentile (z)	0.233
447					Median	0.000001					95% Percentile (z)	0.272
448					SD	0.125					99% Percentile (z)	0.345
449					k star	0.11						
450					Theta star	0.466			Gamma ROS Limits with Extrapolated Data			
451					Nu star	13.43				95% Wilson Hilferty (WH) Approx. Gamma UPL		0.179
452					95% Percentile of Chisquare (2k)	1.269				95% Hawkins Wixley (HW) Approx. Gamma UPL		0.17
453										95% WH Approx. Gamma UTL with	90% Coverage	0.16
454					90% Percentile	0.142				95% HW Approx. Gamma UTL with	90% Coverage	0.147
455					95% Percentile	0.296						
456					99% Percentile	0.776						
457												
458	Note: DL/2 is not a recommended method.											
459												
460												
461	Cadmium Bedrock LowerSand											
462												
463					General Statistics							
464					Number of Valid Data	20					Number of Detected Data	8
465					Number of Distinct Detected Data	6					Number of Non-Detect Data	12
466					Tolerance Factor	1.926					Percent Non-Detects	60.00%
467												
468				Raw Statistics						Log-transformed Statistics		
469					Minimum Detected	0.1					Minimum Detected	-2.303
470					Maximum Detected	1.1					Maximum Detected	0.0953
471					Mean of Detected	0.323					Mean of Detected	-1.543
472					SD of Detected	0.352					SD of Detected	0.908
473					Minimum Non-Detect	0.05					Minimum Non-Detect	-2.996
474					Maximum Non-Detect	0.41					Maximum Non-Detect	-0.892
475												
476				Data with Multiple Detection Limits						Single Detection Limit Scenario		
477				Note: Data have multiple DLs - Use of KM Method is recommended							Number treated as Non-Detect with Single DL	18
478				For all methods (except KM, DL/2, and ROS Methods),							Number treated as Detected with Single DL	2
479				Observations < Largest ND are treated as NDs							Single DL Non-Detect Percentage	90.00%
480												
481												
482					Warning: There are only 8 Detected Values in this data							
483					Note: It should be noted that even though bootstrap may be performed on this data set							
484					the resulting calculations may not be reliable enough to draw conclusions							
485												
486					It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.							
487												
488					Background Statistics							
489				Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only		
490					Shapiro Wilk Test Statistic	0.71					Shapiro Wilk Test Statistic	0.81
491					5% Shapiro Wilk Critical Value	0.818					5% Shapiro Wilk Critical Value	0.818
492				Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level		
493												
494				Assuming Normal Distribution						Assuming Lognormal Distribution		
495					DL/2 Substitution Method						DL/2 Substitution Method	

	A	B	C	D	E	F	G	H	I	J	K	L
496					Mean	0.153					Mean (Log Scale)	-2.725
497					SD	0.26					SD (Log Scale)	1.224
498				95% UTL	90% Coverage	0.653				95% UTL	90% Coverage	0.693
499					95% UPL (t)	0.613					95% UPL (t)	0.573
500					90% Percentile (z)	0.486					90% Percentile (z)	0.315
501					95% Percentile (z)	0.58					95% Percentile (z)	0.491
502					99% Percentile (z)	0.757					99% Percentile (z)	1.131
503												
504				Maximum Likelihood Estimate(MLE) Method		N/A					Log ROS Method	
505											Mean in Original Scale	0.143
506											SD in Original Scale	0.262
507											Mean in Log Scale	-3.053
508											SD in Log Scale	1.543
509										95% UTL	90% Coverage	0.922
510											95% UPL (t)	0.727
511											90% Percentile (z)	0.341
512											95% Percentile (z)	0.598
513											99% Percentile (z)	1.711
514												
515				Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only		
516					k star (bias corrected)	0.933				Data do not follow a Discernable Distribution (0.05)		
517					Theta Star	0.346						
518					nu star	14.93						
519												
520					A-D Test Statistic	0.869				Nonparametric Statistics		
521					5% A-D Critical Value	0.73					Kaplan-Meier (KM) Method	
522					K-S Test Statistic	0.356					Mean	0.19
523					5% K-S Critical Value	0.3					SD	0.235
524				Data not Gamma Distributed at 5% Significance Level							SE of Mean	0.0563
525										95% KM UTL with	90% Coverage	0.643
526				Assuming Gamma Distribution							95% KM Chebyshev UPL	1.24
527				Gamma ROS Statistics with Extrapolated Data							95% KM UPL (t)	0.607
528					Mean	0.129					90% Percentile (z)	0.491
529					Median	0.000001					95% Percentile (z)	0.577
530					SD	0.268					99% Percentile (z)	0.737
531					k star	0.132						
532					Theta star	0.977				Gamma ROS Limits with Extrapolated Data		
533					Nu star	5.282				95% Wilson Hilferty (WH) Approx. Gamma UPL		0.608
534					95% Percentile of Chisquare (2k)	1.487				95% Hawkins Wixley (HW) Approx. Gamma UPL		0.708
535										95% WH Approx. Gamma UTL with	90% Coverage	0.725
536					90% Percentile	0.374				95% HW Approx. Gamma UTL with	90% Coverage	0.89
537					95% Percentile	0.726						
538					99% Percentile	1.776						
539												
540	Note: DL/2 is not a recommended method.											
541												
542												
543	Cadmium Transition Spring											
544												
545						General Statistics						
546					Number of Valid Data	15					Number of Detected Data	2
547					Number of Distinct Detected Data	2					Number of Non-Detect Data	13
548						Warning: Data set has only 2 Detected Values.						
549						This is not enough to compute meaningful and reliable test statistics and estimates.						
550						No statistics will be produced!						

	A	B	C	D	E	F	G	H	I	J	K	L
551												
552					Tolerance Factor	2.068					Percent Non-Detects	86.67%
553												
554				Raw Statistics						Log-transformed Statistics		
555					Minimum Detected	0.05					Minimum Detected	-2.996
556					Maximum Detected	0.06					Maximum Detected	-2.813
557					Mean of Detected	0.055					Mean of Detected	-2.905
558					SD of Detected	0.00707					SD of Detected	0.129
559					Minimum Non-Detect	0.05					Minimum Non-Detect	-2.996
560					Maximum Non-Detect	0.05					Maximum Non-Detect	-2.996
561												
562												
563												
564					Warning: Data set has only 2 Distinct Detected Values.							
565					This may not be adequate enough to compute meaningful and reliable test statistics and estimates.							
566					The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).							
567												
568					Unless Data Quality Objectives (DQOs) have been met, it is suggested to collect additional observations.							
569												
570					The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.							
571					Those methods will return a 'N/A' value on your output display!							
572												
573					It is necessary to have 4 or more Distinct Values for bootstrap methods.							
574					However, results obtained using 4 to 9 distinct values may not be reliable.							
575					It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.							
576												
577					Background Statistics							
578					Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only	
579					Shapiro Wilk Test Statistic	N/A					Shapiro Wilk Test Statistic	N/A
580					5% Shapiro Wilk Critical Value	N/A					5% Shapiro Wilk Critical Value	N/A
581					Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level	
582												
583					Assuming Normal Distribution						Assuming Lognormal Distribution	
584					DL/2 Substitution Method						DL/2 Substitution Method	
585					Mean	0.029					Mean (Log Scale)	-3.584
586					SD	0.0107					SD (Log Scale)	0.278
587					95% UTL 90% Coverage	0.0512					95% UTL 90% Coverage	0.0493
588					95% UPL (t)	0.0485					95% UPL (t)	0.046
589					90% Percentile (z)	0.0427					90% Percentile (z)	0.0396
590					95% Percentile (z)	0.0466					95% Percentile (z)	0.0439
591					99% Percentile (z)	0.0539					99% Percentile (z)	0.053
592												
593					Maximum Likelihood Estimate(MLE) Method	N/A					Log ROS Method	
594											Mean in Original Scale	N/A
595											SD in Original Scale	N/A
596											Mean in Log Scale	N/A
597											SD in Log Scale	N/A
598											95% UTL 90% Coverage	N/A
599											95% UPL (t)	N/A
600											90% Percentile (z)	N/A
601											95% Percentile (z)	N/A
602											99% Percentile (z)	N/A
603												
604					Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only	
605					k star (bias corrected)	N/A					Data do not follow a Discernable Distribution (0.05)	

	A	B	C	D	E	F	G	H	I	J	K	L
606					Theta Star	N/A						
607					nu star	N/A						
608												
609					A-D Test Statistic	N/A	Nonparametric Statistics					
610					5% A-D Critical Value	N/A					Kaplan-Meier (KM) Method	
611					K-S Test Statistic	N/A					Mean	0.0507
612					5% K-S Critical Value	N/A					SD	0.00249
613	Data not Gamma Distributed at 5% Significance Level										SE of Mean	0.0009108
614										95% KM UTL with	90% Coverage	0.0558
615			Assuming Gamma Distribution								95% KM Chebyshev UPL	0.0619
616			Gamma ROS Statistics with Extrapolated Data								95% KM UPL (t)	0.0552
617					Mean	N/A					90% Percentile (z)	0.0539
618					Median	N/A					95% Percentile (z)	0.0548
619					SD	N/A					99% Percentile (z)	0.0565
620					k star	N/A						
621					Theta star	N/A	Gamma ROS Limits with Extrapolated Data					
622					Nu star	N/A				95% Wilson Hilferty (WH) Approx. Gamma UPL		N/A
623					95% Percentile of Chisquare (2k)	N/A				95% Hawkins Wixley (HW) Approx. Gamma UPL		N/A
624										95% WH Approx. Gamma UTL with	90% Coverage	N/A
625					90% Percentile	N/A				95% HW Approx. Gamma UTL with	90% Coverage	N/A
626					95% Percentile	N/A						
627					99% Percentile	N/A						
628												
629	Note: DL/2 is not a recommended method.											
630												
631												
632	COBALT NO TRANSITION											
633												
634					General Statistics							
635					Number of Valid Data	67					Number of Detected Data	41
636					Number of Distinct Detected Data	35					Number of Non-Detect Data	26
637					Tolerance Factor	1.585					Percent Non-Detects	38.81%
638												
639					Raw Statistics		Log-transformed Statistics					
640					Minimum Detected	0.0475					Minimum Detected	-3.047
641					Maximum Detected	41.5					Maximum Detected	3.726
642					Mean of Detected	2.453					Mean of Detected	-0.991
643					SD of Detected	7.967					SD of Detected	1.51
644					Minimum Non-Detect	0.05					Minimum Non-Detect	-2.996
645					Maximum Non-Detect	0.69					Maximum Non-Detect	-0.371
646												
647			Data with Multiple Detection Limits				Single Detection Limit Scenario					
648	Note: Data have multiple DLs - Use of KM Method is recommended									Number treated as Non-Detect with Single DL		58
649	For all methods (except KM, DL/2, and ROS Methods),									Number treated as Detected with Single DL		9
650	Observations < Largest ND are treated as NDs									Single DL Non-Detect Percentage		86.57%
651												
652					Background Statistics							
653			Normal Distribution Test with Detected Values Only				Lognormal Distribution Test with Detected Values Only					
654					Shapiro Wilk Test Statistic	0.333					Shapiro Wilk Test Statistic	0.842
655					5% Shapiro Wilk Critical Value	0.941					5% Shapiro Wilk Critical Value	0.941
656			Data not Normal at 5% Significance Level				Data not Lognormal at 5% Significance Level					
657												
658			Assuming Normal Distribution				Assuming Lognormal Distribution					
659					DL/2 Substitution Method						DL/2 Substitution Method	
660					Mean	1.536					Mean (Log Scale)	-1.682

	A	B	C	D	E	F	G	H	I	J	K	L
661					SD	6.31					SD (Log Scale)	1.546
662					95% UTL 90% Coverage	11.53					95% UTL 90% Coverage	2.156
663					95% UPL (t)	12.14					95% UPL (t)	2.501
664					90% Percentile (z)	9.622					90% Percentile (z)	1.349
665					95% Percentile (z)	11.91					95% Percentile (z)	2.366
666					99% Percentile (z)	16.21					99% Percentile (z)	6.787
667												
668				Maximum Likelihood Estimate(MLE) Method							Log ROS Method	
669					Mean	-26.03					Mean in Original Scale	1.515
670					SD	23.51					SD in Original Scale	6.315
671					95% UTL with 90% Coverage	11.23					95% UTL with 90% Coverage	2.421
672											95% BCA UTL with 90% Coverage	2.88
673											95% Bootstrap (%) UTL with 90% Coverage	2.88
674					95% UPL (t)	13.49					95% UPL (t)	2.886
675					90% Percentile (z)	4.107					90% Percentile (z)	1.391
676					95% Percentile (z)	12.65					95% Percentile (z)	2.703
677					99% Percentile (z)	28.67					99% Percentile (z)	9.401
678												
679				**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**		
680					k star (bias corrected)	0.345				Data do not follow a Discernable Distribution (0.05)		
681					Theta Star	7.1						
682					nu star	28.33						
683												
684					A-D Test Statistic	6.721				**Nonparametric Statistics**		
685					5% A-D Critical Value	0.846					Kaplan-Meier (KM) Method	
686					K-S Test Statistic	0.34					Mean	1.529
687					5% K-S Critical Value	0.149					SD	6.264
688				Data not Gamma Distributed at 5% Significance Level							SE of Mean	0.775
689											95% KM UTL with 90% Coverage	11.46
690				**Assuming Gamma Distribution**							95% KM Chebyshev UPL	29.04
691					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	12.06
692					Mean	1.501					90% Percentile (z)	9.557
693					Median	0.12					95% Percentile (z)	11.83
694					SD	6.318					99% Percentile (z)	16.1
695					k star	0.128						
696					Theta star	11.7				**Gamma ROS Limits with Extrapolated Data**		
697					Nu star	17.19					95% Wilson Hilferty (WH) Approx. Gamma UPL	4.271
698					95% Percentile of Chisquare (2k)	1.451					95% Hawkins Wixley (HW) Approx. Gamma UPL	4.108
699											95% WH Approx. Gamma UTL with 90% Coverage	3.792
700					90% Percentile	4.325					95% HW Approx. Gamma UTL with 90% Coverage	3.551
701					95% Percentile	8.487						
702					99% Percentile	20.99						
703												
704	Note: DL/2 is not a recommended method.											
705												
706												
707	COBALT TRANSITION											
708												
709					**General Statistics**							
710					Number of Valid Data	30					Number of Detected Data	29
711					Number of Distinct Detected Data	24					Number of Non-Detect Data	1
712					Tolerance Factor	1.777					Percent Non-Detects	3.33%
713												
714				**Raw Statistics**						**Log-transformed Statistics**		
715					Minimum Detected	0.16					Minimum Detected	-1.833

	A	B	C	D	E	F	G	H	I	J	K	L
716					Maximum Detected	3					Maximum Detected	1.099
717					Mean of Detected	1.01					Mean of Detected	-0.189
718					SD of Detected	0.636					SD of Detected	0.678
719					Minimum Non-Detect	0.38					Minimum Non-Detect	-0.968
720					Maximum Non-Detect	0.38					Maximum Non-Detect	-0.968
721												
722												
723					Background Statistics							
724			Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only			
725					Shapiro Wilk Test Statistic	0.903					Shapiro Wilk Test Statistic	0.971
726					5% Shapiro Wilk Critical Value	0.926					5% Shapiro Wilk Critical Value	0.926
727					Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level	
728												
729			Assuming Normal Distribution						Assuming Lognormal Distribution			
730					DL/2 Substitution Method						DL/2 Substitution Method	
731					Mean	0.982					Mean (Log Scale)	-0.238
732					SD	0.642					SD (Log Scale)	0.719
733					95% UTL 90% Coverage	2.124					95% UTL 90% Coverage	2.826
734					95% UPL (t)	2.092					95% UPL (t)	2.727
735					90% Percentile (z)	1.806					90% Percentile (z)	1.98
736					95% Percentile (z)	2.039					95% Percentile (z)	2.57
737					99% Percentile (z)	2.477					99% Percentile (z)	4.194
738												
739					Maximum Likelihood Estimate(MLE) Method						Log ROS Method	
740					Mean	0.938					Mean in Original Scale	0.986
741					SD	0.701					SD in Original Scale	0.638
742					95% UTL with 90% Coverage	2.183					95% UTL with 90% Coverage	2.741
743											95% BCA UTL with 90% Coverage	2.4
744											95% Bootstrap (%) UTL with 90% Coverage	2.46
745					95% UPL (t)	2.149					95% UPL (t)	2.648
746					90% Percentile (z)	1.836					90% Percentile (z)	1.944
747					95% Percentile (z)	2.091					95% Percentile (z)	2.501
748					99% Percentile (z)	2.568					99% Percentile (z)	4.012
749												
750			Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only			
751					k star (bias corrected)	2.422			Data appear Gamma Distributed at 5% Significance Level			
752					Theta Star	0.417						
753					nu star	140.4						
754												
755					A-D Test Statistic	0.171			Nonparametric Statistics			
756					5% A-D Critical Value	0.754					Kaplan-Meier (KM) Method	
757					K-S Test Statistic	0.0797					Mean	0.985
758					5% K-S Critical Value	0.164					SD	0.629
759					Data appear Gamma Distributed at 5% Significance Level						SE of Mean	0.117
760											95% KM UTL with 90% Coverage	2.102
761			Assuming Gamma Distribution								95% KM Chebyshev UPL	3.772
762					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	2.071
763					Mean	0.977					90% Percentile (z)	1.791
764					Median	0.91					95% Percentile (z)	2.019
765					SD	0.649					99% Percentile (z)	2.448
766					k star	1.843						
767					Theta star	0.53			Gamma ROS Limits with Extrapolated Data			
768					Nu star	110.6					95% Wilson Hilferty (WH) Approx. Gamma UPL	2.426
769					95% Percentile of Chisquare (2k)	8.974					95% Hawkins Wixley (HW) Approx. Gamma UPL	2.551
770											95% WH Approx. Gamma UTL with 90% Coverage	2.489

	A	B	C	D	E	F	G	H	I	J	K	L
771					90% Percentile	1.938			95% HW Approx. Gamma UTL with		90% Coverage	2.625
772					95% Percentile	2.379						
773					99% Percentile	3.364						
774												
775	Note: DL/2 is not a recommended method.											
776												
777												
778	Copper No Upper Sand											
779												
780					General Statistics							
781					Number of Valid Data	67				Number of Detected Data		27
782					Number of Distinct Detected Data	23				Number of Non-Detect Data		40
783					Tolerance Factor	1.585				Percent Non-Detects		59.70%
784												
785				Raw Statistics						Log-transformed Statistics		
786					Minimum Detected	0.44				Minimum Detected		-0.821
787					Maximum Detected	33.8				Maximum Detected		3.52
788					Mean of Detected	6.001				Mean of Detected		0.943
789					SD of Detected	9.755				SD of Detected		1.206
790					Minimum Non-Detect	0.48				Minimum Non-Detect		-0.734
791					Maximum Non-Detect	13.4				Maximum Non-Detect		2.595
792												
793				Data with Multiple Detection Limits						Single Detection Limit Scenario		
794	Note: Data have multiple DLs - Use of KM Method is recommended									Number treated as Non-Detect with Single DL		63
795	For all methods (except KM, DL/2, and ROS Methods),									Number treated as Detected with Single DL		4
796	Observations < Largest ND are treated as NDs									Single DL Non-Detect Percentage		94.03%
797												
798					Background Statistics							
799				Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only		
800					Shapiro Wilk Test Statistic	0.568				Shapiro Wilk Test Statistic		0.89
801					5% Shapiro Wilk Critical Value	0.923				5% Shapiro Wilk Critical Value		0.923
802				Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level		
803												
804				Assuming Normal Distribution						Assuming Lognormal Distribution		
805					DL/2 Substitution Method					DL/2 Substitution Method		
806					Mean	2.871				Mean (Log Scale)		-0.0263
807					SD	6.7				SD (Log Scale)		1.255
808					95% UTL 90% Coverage	13.49				95% UTL 90% Coverage		7.118
809					95% UPL (t)	14.13				95% UPL (t)		8.03
810					90% Percentile (z)	11.46				90% Percentile (z)		4.866
811					95% Percentile (z)	13.89				95% Percentile (z)		7.677
812					99% Percentile (z)	18.46				99% Percentile (z)		18.06
813												
814					Maximum Likelihood Estimate(MLE) Method					Log ROS Method		
815					Mean	-34.16				Mean in Original Scale		2.576
816					SD	30.75				SD in Original Scale		6.748
817					95% UTL with 90% Coverage	14.56				95% UTL with 90% Coverage		7.12
818										95% BCA UTL with 90% Coverage		10.38
819										95% Bootstrap (%) UTL with 90% Coverage		18.3
820					95% UPL (t)	17.51				95% UPL (t)		8.305
821					90% Percentile (z)	5.241				90% Percentile (z)		4.381
822					95% Percentile (z)	16.41				95% Percentile (z)		7.842
823					99% Percentile (z)	37.37				99% Percentile (z)		23.37
824												
825				Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only		

	A	B	C	D	E	F	G	H	I	J	K	L
826					k star (bias corrected)	0.656	Data do not follow a Discernable Distribution (0.05)					
827					Theta Star	9.15						
828					nu star	35.42						
829												
830					A-D Test Statistic	2.378	Nonparametric Statistics					
831					5% A-D Critical Value	0.788					Kaplan-Meier (KM) Method	
832					K-S Test Statistic	0.245					Mean	2.738
833					5% K-S Critical Value	0.175					SD	6.647
834		Data not Gamma Distributed at 5% Significance Level									SE of Mean	0.828
835										95% KM UTL with	90% Coverage	13.27
836		Assuming Gamma Distribution									95% KM Chebyshev UPL	31.93
837				Gamma ROS Statistics with Extrapolated Data							95% KM UPL (t)	13.91
838					Mean	2.418					90% Percentile (z)	11.26
839					Median	0.000001					95% Percentile (z)	13.67
840					SD	6.803					99% Percentile (z)	18.2
841					k star	0.0993						
842					Theta star	24.35	Gamma ROS Limits with Extrapolated Data					
843					Nu star	13.31				95% Wilson Hilferty (WH) Approx. Gamma UPL		8.605
844					95% Percentile of Chisquare (2k)	1.154				95% Hawkins Wixley (HW) Approx. Gamma UPL		9.006
845										95% WH Approx. Gamma UTL with	90% Coverage	7.608
846					90% Percentile	6.418				95% HW Approx. Gamma UTL with	90% Coverage	7.685
847					95% Percentile	14.04						
848					99% Percentile	38.54						
849												
850	Note: DL/2 is not a recommended method.											
851												
852												
853	Copper UpperSand											
854												
855					General Statistics							
856					Number of Valid Data	30					Number of Detected Data	9
857					Number of Distinct Detected Data	8					Number of Non-Detect Data	21
858					Tolerance Factor	1.777					Percent Non-Detects	70.00%
859												
860					Raw Statistics		Log-transformed Statistics					
861					Minimum Detected	0.54					Minimum Detected	-0.616
862					Maximum Detected	2.1					Maximum Detected	0.742
863					Mean of Detected	1.019					Mean of Detected	-0.0938
864					SD of Detected	0.558					SD of Detected	0.483
865					Minimum Non-Detect	0.48					Minimum Non-Detect	-0.734
866					Maximum Non-Detect	1.3					Maximum Non-Detect	0.262
867												
868		Data with Multiple Detection Limits					Single Detection Limit Scenario					
869		Note: Data have multiple DLs - Use of KM Method is recommended									Number treated as Non-Detect with Single DL	28
870		For all methods (except KM, DL/2, and ROS Methods),									Number treated as Detected with Single DL	2
871		Observations < Largest ND are treated as NDs									Single DL Non-Detect Percentage	93.33%
872												
873												
874					Warning: There are only 9 Detected Values in this data							
875					Note: It should be noted that even though bootstrap may be performed on this data set							
876					the resulting calculations may not be reliable enough to draw conclusions							
877												
878					It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.							
879												
880					Background Statistics							

	A	B	C	D	E	F	G	H	I	J	K	L
881	Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only					
882					Shapiro Wilk Test Statistic	0.8					Shapiro Wilk Test Statistic	0.887
883					5% Shapiro Wilk Critical Value	0.829					5% Shapiro Wilk Critical Value	0.829
884	Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level					
885												
886	Assuming Normal Distribution						Assuming Lognormal Distribution					
887					DL/2 Substitution Method						DL/2 Substitution Method	
888					Mean	0.532					Mean (Log Scale)	-0.844
889					SD	0.445					SD (Log Scale)	0.604
890					95% UTL 90% Coverage	1.322					95% UTL 90% Coverage	1.257
891					95% UPL (t)	1.3					95% UPL (t)	1.22
892					90% Percentile (z)	1.102					90% Percentile (z)	0.932
893					95% Percentile (z)	1.264					95% Percentile (z)	1.161
894					99% Percentile (z)	1.567					99% Percentile (z)	1.751
895												
896					Maximum Likelihood Estimate(MLE) Method	N/A					Log ROS Method	
897											Mean in Original Scale	0.499
898											SD in Original Scale	0.465
899											Mean in Log Scale	-1.003
900											SD in Log Scale	0.77
901											95% UTL 90% Coverage	1.441
902											95% UPL (t)	1.387
903											90% Percentile (z)	0.984
904											95% Percentile (z)	1.302
905											99% Percentile (z)	2.201
906												
907	Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only					
908					k star (bias corrected)	3.143	Data appear Gamma Distributed at 5% Significance Level					
909					Theta Star	0.324						
910					nu star	56.58						
911												
912					A-D Test Statistic	0.609	Nonparametric Statistics					
913					5% A-D Critical Value	0.724					Kaplan-Meier (KM) Method	
914					K-S Test Statistic	0.231					Mean	0.69
915					5% K-S Critical Value	0.28					SD	0.361
916	Data appear Gamma Distributed at 5% Significance Level										SE of Mean	0.0702
917											95% KM UTL with 90% Coverage	1.331
918	Assuming Gamma Distribution										95% KM Chebyshev UPL	2.29
919					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	1.313
920					Mean	0.331					90% Percentile (z)	1.153
921					Median	0.000001					95% Percentile (z)	1.284
922					SD	0.554					99% Percentile (z)	1.53
923					k star	0.116						
924					Theta star	2.855	Gamma ROS Limits with Extrapolated Data					
925					Nu star	6.966					95% Wilson Hilferty (WH) Approx. Gamma UPL	1.529
926					95% Percentile of Chisquare (2k)	1.33					95% Hawkins Wixley (HW) Approx. Gamma UPL	1.771
927											95% WH Approx. Gamma UTL with 90% Coverage	1.623
928					90% Percentile	0.93					95% HW Approx. Gamma UTL with 90% Coverage	1.914
929					95% Percentile	1.899						
930					99% Percentile	4.88						
931												
932	Note: DL/2 is not a recommended method.											
933												
934												
935	Iron No Upper Sand											

	A	B	C	D	E	F	G	H	I	J	K	L
936												
937						General Statistics						
938						Number of Valid Data	67				Number of Detected Data	62
939						Number of Distinct Detected Data	61				Number of Non-Detect Data	5
940						Tolerance Factor	1.585				Percent Non-Detects	7.46%
941												
942						Raw Statistics					Log-transformed Statistics	
943						Minimum Detected	38.3				Minimum Detected	3.645
944						Maximum Detected	5810				Maximum Detected	8.667
945						Mean of Detected	1009				Mean of Detected	6.355
946						SD of Detected	1149				SD of Detected	1.123
947						Minimum Non-Detect	8.7				Minimum Non-Detect	2.163
948						Maximum Non-Detect	142.5				Maximum Non-Detect	4.959
949												
950						Data with Multiple Detection Limits					Single Detection Limit Scenario	
951						Note: Data have multiple DLs - Use of KM Method is recommended					Number treated as Non-Detect with Single DL	12
952						For all methods (except KM, DL/2, and ROS Methods),					Number treated as Detected with Single DL	55
953						Observations < Largest ND are treated as NDs					Single DL Non-Detect Percentage	17.91%
954												
955						Background Statistics						
956						Normal Distribution Test with Detected Values Only					Lognormal Distribution Test with Detected Values Only	
957						Lilliefors Test Statistic	0.244				Lilliefors Test Statistic	0.0792
958						5% Lilliefors Critical Value	0.113				5% Lilliefors Critical Value	0.113
959						Data not Normal at 5% Significance Level					Data appear Lognormal at 5% Significance Level	
960												
961						Assuming Normal Distribution					Assuming Lognormal Distribution	
962						DL/2 Substitution Method					DL/2 Substitution Method	
963						Mean	936.1				Mean (Log Scale)	6.091
964						SD	1134				SD (Log Scale)	1.454
965						95% UTL 90% Coverage	2734				95% UTL 90% Coverage	4424
966						95% UPL (t)	2843				95% UPL (t)	5087
967						90% Percentile (z)	2390				90% Percentile (z)	2847
968						95% Percentile (z)	2802				95% Percentile (z)	4829
969						99% Percentile (z)	3575				99% Percentile (z)	13007
970												
971						Maximum Likelihood Estimate(MLE) Method					Log ROS Method	
972						Mean	803.9				Mean in Original Scale	938
973						SD	1288				SD in Original Scale	1133
974						95% UTL with 90% Coverage	2845				95% UTL with 90% Coverage	3536
975											95% BCA UTL with 90% Coverage	3450
976											95% Bootstrap (%) UTL with 90% Coverage	3256
977						95% UPL (t)	2968				95% UPL (t)	3992
978						90% Percentile (z)	2454				90% Percentile (z)	2413
979						95% Percentile (z)	2922				95% Percentile (z)	3815
980						99% Percentile (z)	3800				99% Percentile (z)	9013
981												
982						Gamma Distribution Test with Detected Values Only					Data Distribution Test with Detected Values Only	
983						k star (bias corrected)	0.985				Data appear Lognormal at 5% Significance Level	
984						Theta Star	1025					
985						nu star	122.1					
986												
987						A-D Test Statistic	0.828				Nonparametric Statistics	
988						5% A-D Critical Value	0.779				Kaplan-Meier (KM) Method	
989						K-S Test Statistic	0.144				Mean	937.4
990						5% K-S Critical Value	0.116				SD	1125

	A	B	C	D	E	F	G	H	I	J	K	L
991	Data not Gamma Distributed at 5% Significance Level										SE of Mean	138.5
992											95% KM UTL with 90% Coverage	2720
993	Assuming Gamma Distribution										95% KM Chebyshev UPL	5877
994				Gamma ROS Statistics with Extrapolated Data							95% KM UPL (t)	2828
995					Mean	934.1					90% Percentile (z)	2379
996					Median	519					95% Percentile (z)	2788
997					SD	1136					99% Percentile (z)	3554
998					k star	0.334						
999					Theta star	2794	Gamma ROS Limits with Extrapolated Data					
1000					Nu star	44.8					95% Wilson Hilferty (WH) Approx. Gamma UPL	3272
1001					95% Percentile of Chisquare (2k)	2.952					95% Hawkins Wixley (HW) Approx. Gamma UPL	3916
1002											95% WH Approx. Gamma UTL with 90% Coverage	3028
1003					90% Percentile	2716					95% HW Approx. Gamma UTL with 90% Coverage	3566
1004					95% Percentile	4125						
1005					99% Percentile	7738						
1006												
1007	Note: DL/2 is not a recommended method.											
1008												
1009												
1010	Iron Upper Sand											
1011												
1012	General Statistics											
1013					Number of Valid Data	30					Number of Detected Data	19
1014					Number of Distinct Detected Data	19					Number of Non-Detect Data	11
1015					Tolerance Factor	1.777					Percent Non-Detects	36.67%
1016												
1017	Raw Statistics						Log-transformed Statistics					
1018					Minimum Detected	10.4					Minimum Detected	2.342
1019					Maximum Detected	4380					Maximum Detected	8.385
1020					Mean of Detected	770.5					Mean of Detected	5.416
1021					SD of Detected	1204					SD of Detected	1.814
1022					Minimum Non-Detect	6.27					Minimum Non-Detect	1.836
1023					Maximum Non-Detect	63.7					Maximum Non-Detect	4.154
1024												
1025	Data with Multiple Detection Limits						Single Detection Limit Scenario					
1026	Note: Data have multiple DLs - Use of KM Method is recommended										Number treated as Non-Detect with Single DL	16
1027	For all methods (except KM, DL/2, and ROS Methods),										Number treated as Detected with Single DL	14
1028	Observations < Largest ND are treated as NDs										Single DL Non-Detect Percentage	53.33%
1029												
1030	Background Statistics											
1031	Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only					
1032					Shapiro Wilk Test Statistic	0.662					Shapiro Wilk Test Statistic	0.95
1033					5% Shapiro Wilk Critical Value	0.901					5% Shapiro Wilk Critical Value	0.901
1034	Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level					
1035												
1036	Assuming Normal Distribution						Assuming Lognormal Distribution					
1037					DL/2 Substitution Method						DL/2 Substitution Method	
1038					Mean	492					Mean (Log Scale)	4.18
1039					SD	1019					SD (Log Scale)	2.242
1040					95% UTL 90% Coverage	2303					95% UTL 90% Coverage	3514
1041					95% UPL (t)	2252					95% UPL (t)	3143
1042					90% Percentile (z)	1798					90% Percentile (z)	1157
1043					95% Percentile (z)	2168					95% Percentile (z)	2613
1044					99% Percentile (z)	2862					99% Percentile (z)	12042
1045												

	A	B	C	D	E	F	G	H	I	J	K	L
1046				Maximum Likelihood Estimate(MLE) Method							Log ROS Method	
1047					Mean	-271.7					Mean in Original Scale	490
1048					SD	1693					SD in Original Scale	1020
1049					95% UTL with 90% Coverage	2737					95% UTL with 90% Coverage	4047
1050											95% BCA UTL with 90% Coverage	2958
1051											95% Bootstrap (%) UTL with 90% Coverage	2958
1052					95% UPL (t)	2653					95% UPL (t)	3585
1053					90% Percentile (z)	1898					90% Percentile (z)	1209
1054					95% Percentile (z)	2513					95% Percentile (z)	2933
1055					99% Percentile (z)	3667					99% Percentile (z)	15449
1056												
1057				Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only		
1058					k star (bias corrected)	0.468				Data appear Gamma Distributed at 5% Significance Level		
1059					Theta Star	1647						
1060					nu star	17.78						
1061												
1062					A-D Test Statistic	0.564				Nonparametric Statistics		
1063					5% A-D Critical Value	0.801					Kaplan-Meier (KM) Method	
1064					K-S Test Statistic	0.169					Mean	492.3
1065					5% K-S Critical Value	0.21					SD	1002
1066				Data appear Gamma Distributed at 5% Significance Level							SE of Mean	187.9
1067											95% KM UTL with 90% Coverage	2272
1068				Assuming Gamma Distribution							95% KM Chebyshev UPL	4931
1069					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	2222
1070					Mean	488					90% Percentile (z)	1776
1071					Median	43.1					95% Percentile (z)	2140
1072					SD	1021					99% Percentile (z)	2822
1073					k star	0.115						
1074					Theta star	4235				Gamma ROS Limits with Extrapolated Data		
1075					Nu star	6.914					95% Wilson Hilferty (WH) Approx. Gamma UPL	2104
1076					95% Percentile of Chisquare (2k)	1.321					95% Hawkins Wixley (HW) Approx. Gamma UPL	2522
1077											95% WH Approx. Gamma UTL with 90% Coverage	2224
1078					90% Percentile	1367					95% HW Approx. Gamma UTL with 90% Coverage	2707
1079					95% Percentile	2798						
1080					99% Percentile	7214						
1081												
1082	Note: DL/2 is not a recommended method.											
1083												
1084												
1085	LEAD NO UPPER SAND											
1086												
1087					General Statistics							
1088					Number of Valid Data	51					Number of Detected Data	18
1089					Number of Distinct Detected Data	16					Number of Non-Detect Data	33
1090					Tolerance Factor	1.636					Percent Non-Detects	64.71%
1091												
1092				Raw Statistics						Log-transformed Statistics		
1093					Minimum Detected	0.09					Minimum Detected	-2.408
1094					Maximum Detected	5.3					Maximum Detected	1.668
1095					Mean of Detected	1.58					Mean of Detected	-0.053
1096					SD of Detected	1.604					SD of Detected	1.114
1097					Minimum Non-Detect	0.05					Minimum Non-Detect	-2.996
1098					Maximum Non-Detect	1.2					Maximum Non-Detect	0.182
1099												
1100				Data with Multiple Detection Limits						Single Detection Limit Scenario		

	A	B	C	D	E	F	G	H	I	J	K	L
1101	Note: Data have multiple DLs - Use of KM Method is recommended										Number treated as Non-Detect with Single DL	44
1102	For all methods (except KM, DL/2, and ROS Methods),										Number treated as Detected with Single DL	7
1103	Observations < Largest ND are treated as NDs										Single DL Non-Detect Percentage	86.27%
1104												
1105					Background Statistics							
1106				Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only		
1107					Shapiro Wilk Test Statistic	0.797					Shapiro Wilk Test Statistic	0.968
1108					5% Shapiro Wilk Critical Value	0.897					5% Shapiro Wilk Critical Value	0.897
1109				Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
1110												
1111				Assuming Normal Distribution						Assuming Lognormal Distribution		
1112					DL/2 Substitution Method						DL/2 Substitution Method	
1113					Mean	0.679					Mean (Log Scale)	-1.32
1114					SD	1.158					SD (Log Scale)	1.352
1115					95% UTL 90% Coverage	2.573					95% UTL 90% Coverage	2.439
1116					95% UPL (t)	2.639					95% UPL (t)	2.632
1117					90% Percentile (z)	2.163					90% Percentile (z)	1.511
1118					95% Percentile (z)	2.584					95% Percentile (z)	2.469
1119					99% Percentile (z)	3.373					99% Percentile (z)	6.203
1120												
1121					Maximum Likelihood Estimate(MLE) Method						Log ROS Method	
1122					Mean	-2.805					Mean in Original Scale	0.597
1123					SD	3.679					SD in Original Scale	1.189
1124					95% UTL with 90% Coverage	3.213					95% UTL with 90% Coverage	1.94
1125											95% BCA UTL with 90% Coverage	2.8
1126											95% Bootstrap (%) UTL with 90% Coverage	3.1
1127					95% UPL (t)	3.421					95% UPL (t)	2.119
1128					90% Percentile (z)	1.91					90% Percentile (z)	1.117
1129					95% Percentile (z)	3.247					95% Percentile (z)	1.968
1130					99% Percentile (z)	5.754					99% Percentile (z)	5.697
1131												
1132				Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only		
1133					k star (bias corrected)	0.968				Data appear Gamma Distributed at 5% Significance Level		
1134					Theta Star	1.633						
1135					nu star	34.84						
1136												
1137					A-D Test Statistic	0.297				Nonparametric Statistics		
1138					5% A-D Critical Value	0.764					Kaplan-Meier (KM) Method	
1139					K-S Test Statistic	0.125					Mean	0.635
1140					5% K-S Critical Value	0.209					SD	1.162
1141				Data appear Gamma Distributed at 5% Significance Level							SE of Mean	0.168
1142											95% KM UTL with 90% Coverage	2.536
1143				Assuming Gamma Distribution							95% KM Chebyshev UPL	5.751
1144					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	2.602
1145					Mean	0.558					90% Percentile (z)	2.125
1146					Median	0.000001					95% Percentile (z)	2.547
1147					SD	1.207					99% Percentile (z)	3.339
1148					k star	0.105						
1149					Theta star	5.328				Gamma ROS Limits with Extrapolated Data		
1150					Nu star	10.68					95% Wilson Hilferty (WH) Approx. Gamma UPL	2.192
1151					95% Percentile of Chisquare (2k)	1.211					95% Hawkins Wixley (HW) Approx. Gamma UPL	2.331
1152											95% WH Approx. Gamma UTL with 90% Coverage	2.039
1153					90% Percentile	1.511					95% HW Approx. Gamma UTL with 90% Coverage	2.123
1154					95% Percentile	3.227						
1155					99% Percentile	8.658						

	A	B	C	D	E	F	G	H	I	J	K	L
1156												
1157	Note: DL/2 is not a recommended method.											
1158												
1159												
1160	LEAD UPPER SAND											
1161												
1162						General Statistics						
1163					Number of Valid Data	30				Number of Detected Data		15
1164					Number of Distinct Detected Data	13				Number of Non-Detect Data		15
1165					Tolerance Factor	1.777				Percent Non-Detects		50.00%
1166												
1167				Raw Statistics						Log-transformed Statistics		
1168					Minimum Detected	0.09				Minimum Detected		-2.408
1169					Maximum Detected	1.3				Maximum Detected		0.262
1170					Mean of Detected	0.34				Mean of Detected		-1.437
1171					SD of Detected	0.354				SD of Detected		0.808
1172					Minimum Non-Detect	0.05				Minimum Non-Detect		-2.996
1173					Maximum Non-Detect	0.54				Maximum Non-Detect		-0.616
1174												
1175				Data with Multiple Detection Limits						Single Detection Limit Scenario		
1176	Note: Data have multiple DLs - Use of KM Method is recommended									Number treated as Non-Detect with Single DL		27
1177	For all methods (except KM, DL/2, and ROS Methods),									Number treated as Detected with Single DL		3
1178	Observations < Largest ND are treated as NDs									Single DL Non-Detect Percentage		90.00%
1179												
1180						Background Statistics						
1181				Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only		
1182					Shapiro Wilk Test Statistic	0.695				Shapiro Wilk Test Statistic		0.899
1183					5% Shapiro Wilk Critical Value	0.881				5% Shapiro Wilk Critical Value		0.881
1184				Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
1185												
1186				Assuming Normal Distribution						Assuming Lognormal Distribution		
1187					DL/2 Substitution Method					DL/2 Substitution Method		
1188					Mean	0.207				Mean (Log Scale)		-2.118
1189					SD	0.283				SD (Log Scale)		0.99
1190					95% UTL 90% Coverage	0.711				95% UTL 90% Coverage		0.699
1191					95% UPL (t)	0.697				95% UPL (t)		0.665
1192					90% Percentile (z)	0.57				90% Percentile (z)		0.428
1193					95% Percentile (z)	0.673				95% Percentile (z)		0.613
1194					99% Percentile (z)	0.866				99% Percentile (z)		1.204
1195												
1196					Maximum Likelihood Estimate(MLE) Method					Log ROS Method		
1197					Mean	1.028				Mean in Original Scale		0.195
1198					SD	0.274				SD in Original Scale		0.287
1199					95% UTL with 90% Coverage	1.514				95% UTL with 90% Coverage		0.684
1200										95% BCA UTL with 90% Coverage		0.96
1201										95% Bootstrap (%) UTL with 90% Coverage		0.994
1202					95% UPL (t)	1.5				95% UPL (t)		0.649
1203					90% Percentile (z)	1.378				90% Percentile (z)		0.405
1204					95% Percentile (z)	1.478				95% Percentile (z)		0.594
1205					99% Percentile (z)	1.664				99% Percentile (z)		1.223
1206												
1207				Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only		
1208					k star (bias corrected)	1.281				Data appear Lognormal at 5% Significance Level		
1209					Theta Star	0.265						
1210					nu star	38.43						

	A	B	C	D	E	F	G	H	I	J	K	L
1211												
1212					A-D Test Statistic	1.036				Nonparametric Statistics		
1213					5% A-D Critical Value	0.753					Kaplan-Meier (KM) Method	
1214					K-S Test Statistic	0.236					Mean	0.219
1215					5% K-S Critical Value	0.225					SD	0.271
1216		Data not Gamma Distributed at 5% Significance Level									SE of Mean	0.0512
1217										95% KM UTL with	90% Coverage	0.7
1218				Assuming Gamma Distribution							95% KM Chebyshev UPL	1.418
1219				Gamma ROS Statistics with Extrapolated Data							95% KM UPL (t)	0.686
1220					Mean	0.172					90% Percentile (z)	0.566
1221					Median	0.0759					95% Percentile (z)	0.664
1222					SD	0.299					99% Percentile (z)	0.849
1223					k star	0.149						
1224					Theta star	1.152				Gamma ROS Limits with Extrapolated Data		
1225					Nu star	8.95					95% Wilson Hilferty (WH) Approx. Gamma UPL	0.809
1226					95% Percentile of Chisquare (2k)	1.644					95% Hawkins Wixley (HW) Approx. Gamma UPL	1.021
1227											95% WH Approx. Gamma UTL with 90% Coverage	0.854
1228					90% Percentile	0.509					95% HW Approx. Gamma UTL with 90% Coverage	1.095
1229					95% Percentile	0.947						
1230					99% Percentile	2.218						
1231												
1232	Note: DL/2 is not a recommended method.											
1233												
1234												
1235	Manganese No Upper Sand											
1236												
1237					General Statistics							
1238					Number of Valid Data	70					Number of Detected Data	65
1239					Number of Distinct Detected Data	59					Number of Non-Detect Data	5
1240					Tolerance Factor	1.577					Percent Non-Detects	7.14%
1241												
1242				Raw Statistics						Log-transformed Statistics		
1243					Minimum Detected	2.2					Minimum Detected	0.788
1244					Maximum Detected	723					Maximum Detected	6.583
1245					Mean of Detected	168.6					Mean of Detected	4.587
1246					SD of Detected	167.5					SD of Detected	1.243
1247					Minimum Non-Detect	0.67					Minimum Non-Detect	-0.4
1248					Maximum Non-Detect	6.1					Maximum Non-Detect	1.808
1249												
1250				Data with Multiple Detection Limits						Single Detection Limit Scenario		
1251				Note: Data have multiple DLs - Use of KM Method is recommended							Number treated as Non-Detect with Single DL	9
1252				For all methods (except KM, DL/2, and ROS Methods),							Number treated as Detected with Single DL	61
1253				Observations < Largest ND are treated as NDs							Single DL Non-Detect Percentage	12.86%
1254												
1255					Background Statistics							
1256				Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only		
1257					Lilliefors Test Statistic	0.197					Lilliefors Test Statistic	0.134
1258					5% Lilliefors Critical Value	0.11					5% Lilliefors Critical Value	0.11
1259				Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level		
1260												
1261				Assuming Normal Distribution						Assuming Lognormal Distribution		
1262					DL/2 Substitution Method						DL/2 Substitution Method	
1263					Mean	156.6					Mean (Log Scale)	4.229
1264					SD	167					SD (Log Scale)	1.783
1265					95% UTL 90% Coverage	420.1					95% UTL 90% Coverage	1144

	A	B	C	D	E	F	G	H	I	J	K	L
1266					95% UPL (t)	437.1					95% UPL (t)	1372
1267					90% Percentile (z)	370.7					90% Percentile (z)	675.1
1268					95% Percentile (z)	431.4					95% Percentile (z)	1290
1269					99% Percentile (z)	545.2					99% Percentile (z)	4351
1270												
1271				Maximum Likelihood Estimate(MLE) Method							Log ROS Method	
1272					Mean	143.5					Mean in Original Scale	157.1
1273					SD	183.7					SD in Original Scale	166.6
1274				95% UTL with	90% Coverage	433.2					95% UTL with 90% Coverage	719.8
1275											95% BCA UTL with 90% Coverage	599
1276											95% Bootstrap (%) UTL with 90% Coverage	599
1277					95% UPL (t)	452					95% UPL (t)	828.7
1278					90% Percentile (z)	378.9					90% Percentile (z)	478.3
1279					95% Percentile (z)	445.7					95% Percentile (z)	790.4
1280					99% Percentile (z)	570.9					99% Percentile (z)	2028
1281												
1282				**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**		
1283					k star (bias corrected)	1.023				Data appear Gamma Distributed at 5% Significance Level		
1284					Theta Star	164.9						
1285					nu star	132.9						
1286												
1287					A-D Test Statistic	0.495				**Nonparametric Statistics**		
1288					5% A-D Critical Value	0.778					Kaplan-Meier (KM) Method	
1289					K-S Test Statistic	0.077					Mean	156.7
1290					5% K-S Critical Value	0.114					SD	165.8
1291				Data appear Gamma Distributed at 5% Significance Level							SE of Mean	19.97
1292											95% KM UTL with 90% Coverage	418.2
1293				**Assuming Gamma Distribution**							95% KM Chebyshev UPL	884.4
1294				Gamma ROS Statistics with Extrapolated Data							95% KM UPL (t)	435.1
1295					Mean	156.6					90% Percentile (z)	369.2
1296					Median	117					95% Percentile (z)	429.4
1297					SD	167.1					99% Percentile (z)	542.3
1298					k star	0.367						
1299					Theta star	426.4				**Gamma ROS Limits with Extrapolated Data**		
1300					Nu star	51.4					95% Wilson Hilferty (WH) Approx. Gamma UPL	546.6
1301					95% Percentile of Chisquare (2k)	3.142					95% Hawkins Wixley (HW) Approx. Gamma UPL	665.3
1302											95% WH Approx. Gamma UTL with 90% Coverage	504.4
1303					90% Percentile	448.7					95% HW Approx. Gamma UTL with 90% Coverage	603.2
1304					95% Percentile	669.9						
1305					99% Percentile	1231						
1306												
1307	Note: DL/2 is not a recommended method.											
1308												
1309												
1310	**Manganese Upper Sand**											
1311												
1312					**General Statistics**							
1313					Number of Valid Data	30					Number of Detected Data	28
1314					Number of Distinct Detected Data	26					Number of Non-Detect Data	2
1315					Tolerance Factor	1.777					Percent Non-Detects	6.67%
1316												
1317				**Raw Statistics**						**Log-transformed Statistics**		
1318					Minimum Detected	1.3					Minimum Detected	0.262
1319					Maximum Detected	238					Maximum Detected	5.472
1320					Mean of Detected	50.73					Mean of Detected	3.333

	A–E	F	G–K	L
1321	SD of Detected	58.17	SD of Detected	1.194
1322	Minimum Non-Detect	0.83	Minimum Non-Detect	-0.186
1323	Maximum Non-Detect	0.86	Maximum Non-Detect	-0.151
1324				
1325	**Data with Multiple Detection Limits**		**Single Detection Limit Scenario**	
1326	Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect with Single DL	2
1327	For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected with Single DL	28
1328	Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	6.67%
1329				
1330	**Background Statistics**			
1331	**Normal Distribution Test with Detected Values Only**		**Lognormal Distribution Test with Detected Values Only**	
1332	Shapiro Wilk Test Statistic	0.748	Shapiro Wilk Test Statistic	0.979
1333	5% Shapiro Wilk Critical Value	0.924	5% Shapiro Wilk Critical Value	0.924
1334	Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
1335				
1336	**Assuming Normal Distribution**		**Assuming Lognormal Distribution**	
1337	DL/2 Substitution Method		DL/2 Substitution Method	
1338	Mean	47.37	Mean (Log Scale)	3.054
1339	SD	57.57	SD (Log Scale)	1.568
1340	95% UTL 90% Coverage	149.7	95% UTL 90% Coverage	344
1341	95% UPL (t)	146.8	95% UPL (t)	318.2
1342	90% Percentile (z)	121.1	90% Percentile (z)	158.2
1343	95% Percentile (z)	142.1	95% Percentile (z)	279.6
1344	99% Percentile (z)	181.3	99% Percentile (z)	814.3
1345				
1346	Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
1347	Mean	45.1	Mean in Original Scale	47.46
1348	SD	59.53	SD in Original Scale	57.49
1349	95% UTL with 90% Coverage	150.9	95% UTL with 90% Coverage	256.9
1350			95% BCA UTL with 90% Coverage	180
1351			95% Bootstrap (%) UTL with 90% Coverage	185.8
1352	95% UPL (t)	147.9	95% UPL (t)	240.2
1353	90% Percentile (z)	121.4	90% Percentile (z)	131.5
1354	95% Percentile (z)	143	95% Percentile (z)	214.9
1355	99% Percentile (z)	183.6	99% Percentile (z)	539.6
1356				
1357	**Gamma Distribution Test with Detected Values Only**		**Data Distribution Test with Detected Values Only**	
1358	k star (bias corrected)	0.895	Data appear Gamma Distributed at 5% Significance Level	
1359	Theta Star	56.65		
1360	nu star	50.14		
1361				
1362	A-D Test Statistic	0.388	**Nonparametric Statistics**	
1363	5% A-D Critical Value	0.775	Kaplan-Meier (KM) Method	
1364	K-S Test Statistic	0.13	Mean	47.43
1365	5% K-S Critical Value	0.17	SD	56.55
1366	Data appear Gamma Distributed at 5% Significance Level		SE of Mean	10.51
1367			95% KM UTL with 90% Coverage	147.9
1368	**Assuming Gamma Distribution**		95% KM Chebyshev UPL	298
1369	Gamma ROS Statistics with Extrapolated Data		95% KM UPL (t)	145.1
1370	Mean	47.35	90% Percentile (z)	119.9
1371	Median	25.55	95% Percentile (z)	140.4
1372	SD	57.59	99% Percentile (z)	179
1373	k star	0.378		
1374	Theta star	125.2	**Gamma ROS Limits with Extrapolated Data**	
1375	Nu star	22.69	95% Wilson Hilferty (WH) Approx. Gamma UPL	173.1

	A	B	C	D	E	F	G	H	I	J	K	L
1376					95% Percentile of Chisquare (2k)	3.203			95% Hawkins Wixley (HW) Approx. Gamma UPL			206.4
1377									95% WH Approx. Gamma UTL with		90% Coverage	180
1378					90% Percentile	135			95% HW Approx. Gamma UTL with		90% Coverage	216.3
1379					95% Percentile	200.6						
1380					99% Percentile	366.3						
1381												
1382	Note: DL/2 is not a recommended method.											
1383												
1384												
1385	Nickel No Transition											
1386												
1387					General Statistics							
1388					Number of Valid Data	67				Number of Detected Data		27
1389					Number of Distinct Detected Data	24				Number of Non-Detect Data		40
1390					Tolerance Factor	1.585				Percent Non-Detects		59.70%
1391												
1392				Raw Statistics						Log-transformed Statistics		
1393					Minimum Detected	0.21				Minimum Detected		-1.561
1394					Maximum Detected	11.4				Maximum Detected		2.434
1395					Mean of Detected	2.4				Mean of Detected		0.533
1396					SD of Detected	2.282				SD of Detected		0.871
1397					Minimum Non-Detect	0.15				Minimum Non-Detect		-1.897
1398					Maximum Non-Detect	4.6				Maximum Non-Detect		1.526
1399												
1400				Data with Multiple Detection Limits						Single Detection Limit Scenario		
1401	Note: Data have multiple DLs - Use of KM Method is recommended									Number treated as Non-Detect with Single DL		65
1402	For all methods (except KM, DL/2, and ROS Methods),									Number treated as Detected with Single DL		2
1403	Observations < Largest ND are treated as NDs									Single DL Non-Detect Percentage		97.01%
1404												
1405					Background Statistics							
1406				Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only		
1407					Shapiro Wilk Test Statistic	0.734				Shapiro Wilk Test Statistic		0.983
1408					5% Shapiro Wilk Critical Value	0.923				5% Shapiro Wilk Critical Value		0.923
1409				Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
1410												
1411				Assuming Normal Distribution						Assuming Lognormal Distribution		
1412					DL/2 Substitution Method					DL/2 Substitution Method		
1413					Mean	1.229				Mean (Log Scale)		-0.515
1414					SD	1.766				SD (Log Scale)		1.223
1415					95% UTL 90% Coverage	4.027				95% UTL 90% Coverage		4.148
1416					95% UPL (t)	4.196				95% UPL (t)		4.665
1417					90% Percentile (z)	3.492				90% Percentile (z)		2.863
1418					95% Percentile (z)	4.133				95% Percentile (z)		4.465
1419					99% Percentile (z)	5.336				99% Percentile (z)		10.27
1420												
1421					Maximum Likelihood Estimate(MLE) Method	N/A				Log ROS Method		
1422										Mean in Original Scale		1.112
1423										SD in Original Scale		1.787
1424										Mean in Log Scale		-0.675
1425										SD in Log Scale		1.178
1426										95% UTL 90% Coverage		3.296
1427										95% UPL (t)		3.691
1428										90% Percentile (z)		2.306
1429										95% Percentile (z)		3.539
1430										99% Percentile (z)		7.9

	A	B	C	D	E	F	G	H	I	J	K	L
1431												
1432	Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only					
1433					k star (bias corrected)	1.451	Data appear Gamma Distributed at 5% Significance Level					
1434					Theta Star	1.654						
1435					nu star	78.38						
1436												
1437					A-D Test Statistic	0.303	Nonparametric Statistics					
1438					5% A-D Critical Value	0.762					Kaplan-Meier (KM) Method	
1439					K-S Test Statistic	0.104					Mean	1.142
1440					5% K-S Critical Value	0.171					SD	1.775
1441	Data appear Gamma Distributed at 5% Significance Level										SE of Mean	0.223
1442										95% KM UTL with	90% Coverage	3.954
1443	Assuming Gamma Distribution										95% KM Chebyshev UPL	8.936
1444				Gamma ROS Statistics with Extrapolated Data							95% KM UPL (t)	4.125
1445					Mean	0.967					90% Percentile (z)	3.417
1446					Median	0.000001					95% Percentile (z)	4.061
1447					SD	1.86					99% Percentile (z)	5.271
1448					k star	0.107						
1449					Theta star	9.06	Gamma ROS Limits with Extrapolated Data					
1450					Nu star	14.31				95% Wilson Hilferty (WH) Approx. Gamma UPL		4.072
1451					95% Percentile of Chisquare (2k)	1.234				95% Hawkins Wixley (HW) Approx. Gamma UPL		4.67
1452										95% WH Approx. Gamma UTL with	90% Coverage	3.614
1453					90% Percentile	2.64				95% HW Approx. Gamma UTL with	90% Coverage	3.998
1454					95% Percentile	5.588						
1455					99% Percentile	14.87						
1456												
1457	Note: DL/2 is not a recommended method.											
1458												
1459												
1460	Nickel Transition											
1461												
1462	General Statistics											
1463					Number of Valid Data	30					Number of Detected Data	20
1464					Number of Distinct Detected Data	17					Number of Non-Detect Data	10
1465					Tolerance Factor	1.777					Percent Non-Detects	33.33%
1466												
1467	Raw Statistics						Log-transformed Statistics					
1468					Minimum Detected	1					Minimum Detected	0
1469					Maximum Detected	9.7					Maximum Detected	2.272
1470					Mean of Detected	3.73					Mean of Detected	1.169
1471					SD of Detected	2.072					SD of Detected	0.574
1472					Minimum Non-Detect	1.7					Minimum Non-Detect	0.531
1473					Maximum Non-Detect	4.4					Maximum Non-Detect	1.482
1474												
1475	Data with Multiple Detection Limits						Single Detection Limit Scenario					
1476	Note: Data have multiple DLs - Use of KM Method is recommended										Number treated as Non-Detect with Single DL	22
1477	For all methods (except KM, DL/2, and ROS Methods),										Number treated as Detected with Single DL	8
1478	Observations < Largest ND are treated as NDs										Single DL Non-Detect Percentage	73.33%
1479												
1480	Background Statistics											
1481	Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only					
1482					Shapiro Wilk Test Statistic	0.914					Shapiro Wilk Test Statistic	0.976
1483					5% Shapiro Wilk Critical Value	0.905					5% Shapiro Wilk Critical Value	0.905
1484	Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level					
1485												

	A	B	C	D	E	F	G	H	I	J	K	L
1486	**Assuming Normal Distribution**						**Assuming Lognormal Distribution**					
1487					DL/2 Substitution Method						DL/2 Substitution Method	
1488					Mean	2.91					Mean (Log Scale)	0.847
1489					SD	2.062					SD (Log Scale)	0.673
1490					95% UTL 90% Coverage	6.574					95% UTL 90% Coverage	7.718
1491					95% UPL (t)	6.471					95% UPL (t)	7.464
1492					90% Percentile (z)	5.552					90% Percentile (z)	5.529
1493					95% Percentile (z)	6.302					95% Percentile (z)	7.061
1494					99% Percentile (z)	7.707					99% Percentile (z)	11.17
1495												
1496				Maximum Likelihood Estimate(MLE) Method							Log ROS Method	
1497					Mean	2.667					Mean in Original Scale	3.005
1498					SD	2.57					SD in Original Scale	1.98
1499					95% UTL with 90% Coverage	7.234					95% UTL with 90% Coverage	7.202
1500											95% BCA UTL with 90% Coverage	6.4
1501											95% Bootstrap (%) UTL with 90% Coverage	6.73
1502					95% UPL (t)	7.106					95% UPL (t)	6.993
1503					90% Percentile (z)	5.961					90% Percentile (z)	5.371
1504					95% Percentile (z)	6.895					95% Percentile (z)	6.66
1505					99% Percentile (z)	8.646					99% Percentile (z)	9.971
1506												
1507	**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**					
1508					k star (bias corrected)	3.054	Data appear Normal at 5% Significance Level					
1509					Theta Star	1.221						
1510					nu star	122.2						
1511												
1512					A-D Test Statistic	0.198	**Nonparametric Statistics**					
1513					5% A-D Critical Value	0.746					Kaplan-Meier (KM) Method	
1514					K-S Test Statistic	0.092					Mean	2.995
1515					5% K-S Critical Value	0.195					SD	1.972
1516	Data appear Gamma Distributed at 5% Significance Level										SE of Mean	0.376
1517											95% KM UTL with 90% Coverage	6.5
1518	**Assuming Gamma Distribution**										95% KM Chebyshev UPL	11.73
1519				Gamma ROS Statistics with Extrapolated Data							95% KM UPL (t)	6.402
1520					Mean	2.937					90% Percentile (z)	5.523
1521					Median	2.229					95% Percentile (z)	6.239
1522					SD	2.067					99% Percentile (z)	7.584
1523					k star	0.817						
1524					Theta star	3.593	**Gamma ROS Limits with Extrapolated Data**					
1525					Nu star	49.04					95% Wilson Hilferty (WH) Approx. Gamma UPL	8.176
1526					95% Percentile of Chisquare (2k)	5.262					95% Hawkins Wixley (HW) Approx. Gamma UPL	9.583
1527											95% WH Approx. Gamma UTL with 90% Coverage	8.416
1528					90% Percentile	7.104					95% HW Approx. Gamma UTL with 90% Coverage	9.92
1529					95% Percentile	9.453						
1530					99% Percentile	14.99						
1531												
1532	Note: DL/2 is not a recommended method.											
1533												
1534												
1535	**Potassium No Upper Sand**											
1536												
1537	**General Statistics**											
1538					Number of Valid Data	67					Number of Detected Data	65
1539					Number of Distinct Detected Data	60					Number of Non-Detect Data	2
1540					Tolerance Factor	1.585					Percent Non-Detects	2.99%

	A	B	C	D	E	F	G	H	I	J	K	L
1541												
1542				Raw Statistics						Log-transformed Statistics		
1543					Minimum Detected	558					Minimum Detected	6.324
1544					Maximum Detected	3880					Maximum Detected	8.264
1545					Mean of Detected	2069					Mean of Detected	7.563
1546					SD of Detected	742.6					SD of Detected	0.401
1547					Minimum Non-Detect	270					Minimum Non-Detect	5.598
1548					Maximum Non-Detect	860					Maximum Non-Detect	6.757
1549												
1550				Data with Multiple Detection Limits						Single Detection Limit Scenario		
1551			Note: Data have multiple DLs - Use of KM Method is recommended								Number treated as Non-Detect with Single DL	4
1552			For all methods (except KM, DL/2, and ROS Methods),								Number treated as Detected with Single DL	63
1553			Observations < Largest ND are treated as NDs								Single DL Non-Detect Percentage	5.97%
1554												
1555					Background Statistics							
1556				Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only		
1557					Lilliefors Test Statistic	0.0746					Lilliefors Test Statistic	0.113
1558					5% Lilliefors Critical Value	0.11					5% Lilliefors Critical Value	0.11
1559				Data appear Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level		
1560												
1561				Assuming Normal Distribution						Assuming Lognormal Distribution		
1562					DL/2 Substitution Method						DL/2 Substitution Method	
1563					Mean	2016					Mean (Log Scale)	7.501
1564					SD	793.3					SD (Log Scale)	0.542
1565					95% UTL 90% Coverage	3273					95% UTL 90% Coverage	4268
1566					95% UPL (t)	3349					95% UPL (t)	4496
1567					90% Percentile (z)	3033					90% Percentile (z)	3622
1568					95% Percentile (z)	3321					95% Percentile (z)	4409
1569					99% Percentile (z)	3861					99% Percentile (z)	6377
1570												
1571					Maximum Likelihood Estimate(MLE) Method						Log ROS Method	
1572					Mean	2017					Mean in Original Scale	2030
1573					SD	785.9					SD in Original Scale	765.2
1574					95% UTL with 90% Coverage	3263					95% UTL with 90% Coverage	3682
1575											95% BCA UTL with 90% Coverage	3236
1576											95% Bootstrap (%) UTL with 90% Coverage	3172
1577					95% UPL (t)	3338					95% UPL (t)	3836
1578					90% Percentile (z)	3024					90% Percentile (z)	3235
1579					95% Percentile (z)	3310					95% Percentile (z)	3778
1580					99% Percentile (z)	3846					99% Percentile (z)	5053
1581												
1582				Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only		
1583					k star (bias corrected)	6.758				Data appear Normal at 5% Significance Level		
1584					Theta Star	306.2						
1585					nu star	878.6						
1586												
1587					A-D Test Statistic	0.517				Nonparametric Statistics		
1588					5% A-D Critical Value	0.753					Kaplan-Meier (KM) Method	
1589					K-S Test Statistic	0.0986					Mean	2026
1590					5% K-S Critical Value	0.111					SD	767.6
1591				Data appear Gamma Distributed at 5% Significance Level							SE of Mean	94.54
1592											95% KM UTL with 90% Coverage	3242
1593				Assuming Gamma Distribution							95% KM Chebyshev UPL	5396
1594					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	3316
1595					Mean	2008					90% Percentile (z)	3009

	A	B	C	D	E	F	G	H	I	J	K	L
1596					Median	2010					95% Percentile (z)	3288
1597					SD	810.4					99% Percentile (z)	3811
1598					k star	1.305						
1599					Theta star	1539			Gamma ROS Limits with Extrapolated Data			
1600					Nu star	174.9			95% Wilson Hilferty (WH) Approx. Gamma UPL			4340
1601				95% Percentile of Chisquare (2k)		7.126			95% Hawkins Wixley (HW) Approx. Gamma UPL			4958
1602									95% WH Approx. Gamma UTL with		90% Coverage	4156
1603					90% Percentile	4331			95% HW Approx. Gamma UTL with		90% Coverage	4707
1604					95% Percentile	5485						
1605					99% Percentile	8114						
1606												
1607	Note: DL/2 is not a recommended method.											
1608												
1609												
1610	Potassium Upper Sand											
1611												
1612					General Statistics							
1613					Number of Valid Data	30					Number of Detected Data	22
1614					Number of Distinct Detected Data	22					Number of Non-Detect Data	8
1615					Tolerance Factor	1.777					Percent Non-Detects	26.67%
1616												
1617					Raw Statistics						Log-transformed Statistics	
1618					Minimum Detected	175.5					Minimum Detected	5.168
1619					Maximum Detected	1980					Maximum Detected	7.591
1620					Mean of Detected	843.5					Mean of Detected	6.525
1621					SD of Detected	524.8					SD of Detected	0.707
1622					Minimum Non-Detect	239					Minimum Non-Detect	5.476
1623					Maximum Non-Detect	1140					Maximum Non-Detect	7.039
1624												
1625					Data with Multiple Detection Limits						Single Detection Limit Scenario	
1626					Note: Data have multiple DLs - Use of KM Method is recommended						Number treated as Non-Detect with Single DL	25
1627					For all methods (except KM, DL/2, and ROS Methods),						Number treated as Detected with Single DL	5
1628					Observations < Largest ND are treated as NDs						Single DL Non-Detect Percentage	83.33%
1629												
1630					Background Statistics							
1631					Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only	
1632					Shapiro Wilk Test Statistic	0.933					Shapiro Wilk Test Statistic	0.957
1633					5% Shapiro Wilk Critical Value	0.911					5% Shapiro Wilk Critical Value	0.911
1634					Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level	
1635												
1636					Assuming Normal Distribution						Assuming Lognormal Distribution	
1637					DL/2 Substitution Method						DL/2 Substitution Method	
1638					Mean	688.5					Mean (Log Scale)	6.232
1639					SD	523.5					SD (Log Scale)	0.824
1640					95% UTL 90% Coverage	1619					95% UTL 90% Coverage	2202
1641					95% UPL (t)	1593					95% UPL (t)	2113
1642					90% Percentile (z)	1359					90% Percentile (z)	1463
1643					95% Percentile (z)	1550					95% Percentile (z)	1974
1644					99% Percentile (z)	1906					99% Percentile (z)	3463
1645												
1646					Maximum Likelihood Estimate(MLE) Method						Log ROS Method	
1647					Mean	354.4					Mean in Original Scale	694.9
1648					SD	831.2					SD in Original Scale	513.9
1649					95% UTL with 90% Coverage	1831					95% UTL with 90% Coverage	1994
1650											95% BCA UTL with 90% Coverage	1854

	A	B	C	D	E	F	G	H	I	J	K	L
1651											95% Bootstrap (%) UTL with 90% Coverage	1854
1652					95% UPL (t)	1790					95% UPL (t)	1922
1653					90% Percentile (z)	1420					90% Percentile (z)	1382
1654					95% Percentile (z)	1722					95% Percentile (z)	1808
1655					99% Percentile (z)	2288					99% Percentile (z)	2993
1656												
1657			**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**			
1658					k star (bias corrected)	2.195			Data appear Normal at 5% Significance Level			
1659					Theta Star	384.2						
1660					nu star	96.59						
1661												
1662					A-D Test Statistic	0.208			**Nonparametric Statistics**			
1663					5% A-D Critical Value	0.753					Kaplan-Meier (KM) Method	
1664					K-S Test Statistic	0.102					Mean	693.9
1665					5% K-S Critical Value	0.187					SD	512.8
1666			Data appear Gamma Distributed at 5% Significance Level								SE of Mean	96.98
1667											95% KM UTL with 90% Coverage	1605
1668			**Assuming Gamma Distribution**								95% KM Chebyshev UPL	2966
1669					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	1580
1670					Mean	668.9					90% Percentile (z)	1351
1671					Median	581.7					95% Percentile (z)	1537
1672					SD	546.2					99% Percentile (z)	1887
1673					k star	0.389						
1674					Theta star	1720			**Gamma ROS Limits with Extrapolated Data**			
1675					Nu star	23.33					95% Wilson Hilferty (WH) Approx. Gamma UPL	2292
1676					95% Percentile of Chisquare (2k)	3.263					95% Hawkins Wixley (HW) Approx. Gamma UPL	2865
1677											95% WH Approx. Gamma UTL with 90% Coverage	2374
1678					90% Percentile	1899					95% HW Approx. Gamma UTL with 90% Coverage	2992
1679					95% Percentile	2807						
1680					99% Percentile	5096						
1681												
1682	Note: DL/2 is not a recommended method.											
1683												
1684												
1685	**Vanadium**											
1686												
1687					**General Statistics**							
1688					Number of Valid Data	43					Number of Detected Data	15
1689					Number of Distinct Detected Data	14					Number of Non-Detect Data	28
1690					Tolerance Factor	1.673					Percent Non-Detects	65.12%
1691												
1692			**Raw Statistics**						**Log-transformed Statistics**			
1693					Minimum Detected	0.545					Minimum Detected	-0.607
1694					Maximum Detected	6.5					Maximum Detected	1.872
1695					Mean of Detected	2.037					Mean of Detected	0.409
1696					SD of Detected	1.872					SD of Detected	0.76
1697					Minimum Non-Detect	0.7					Minimum Non-Detect	-0.357
1698					Maximum Non-Detect	6.4					Maximum Non-Detect	1.856
1699												
1700			**Data with Multiple Detection Limits**						**Single Detection Limit Scenario**			
1701			Note: Data have multiple DLs - Use of KM Method is recommended								Number treated as Non-Detect with Single DL	42
1702			For all methods (except KM, DL/2, and ROS Methods),								Number treated as Detected with Single DL	1
1703			Observations < Largest ND are treated as NDs								Single DL Non-Detect Percentage	97.67%
1704												
1705					**Background Statistics**							

	A	B	C	D	E	F	G	H	I	J	K	L
1706	Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only					
1707					Shapiro Wilk Test Statistic	0.733					Shapiro Wilk Test Statistic	0.926
1708					5% Shapiro Wilk Critical Value	0.881					5% Shapiro Wilk Critical Value	0.881
1709	Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level					
1710												
1711	Assuming Normal Distribution						Assuming Lognormal Distribution					
1712					DL/2 Substitution Method						DL/2 Substitution Method	
1713					Mean	1.477					Mean (Log Scale)	0.163
1714					SD	1.263					SD (Log Scale)	0.638
1715					95% UTL 90% Coverage	3.589					95% UTL 90% Coverage	3.423
1716					95% UPL (t)	3.625					95% UPL (t)	3.486
1717					90% Percentile (z)	3.095					90% Percentile (z)	2.667
1718					95% Percentile (z)	3.554					95% Percentile (z)	3.363
1719					99% Percentile (z)	4.414					99% Percentile (z)	5.195
1720												
1721					Maximum Likelihood Estimate(MLE) Method	N/A					Log ROS Method	
1722											Mean in Original Scale	1.255
1723											SD in Original Scale	1.243
1724											Mean in Log Scale	-0.00298
1725											SD in Log Scale	0.59
1726											95% UTL 90% Coverage	2.674
1727											95% UPL (t)	2.719
1728											90% Percentile (z)	2.123
1729											95% Percentile (z)	2.63
1730											99% Percentile (z)	3.931
1731												
1732	Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only					
1733					k star (bias corrected)	1.487	Data follow Appr. Gamma Distribution at 5% Significance Level					
1734					Theta Star	1.369						
1735					nu star	44.62						
1736												
1737					A-D Test Statistic	0.799	Nonparametric Statistics					
1738					5% A-D Critical Value	0.75					Kaplan-Meier (KM) Method	
1739					K-S Test Statistic	0.219					Mean	1.294
1740					5% K-S Critical Value	0.225					SD	1.249
1741	Data follow Appx. Gamma Distribution at 5% Significance Level										SE of Mean	0.21
1742											95% KM UTL with 90% Coverage	3.382
1743	Assuming Gamma Distribution										95% KM Chebyshev UPL	6.799
1744					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	3.418
1745					Mean	1.341					90% Percentile (z)	2.894
1746					Median	1.15					95% Percentile (z)	3.348
1747					SD	1.31					99% Percentile (z)	4.199
1748					k star	0.424						
1749					Theta star	3.164	Gamma ROS Limits with Extrapolated Data					
1750					Nu star	36.45					95% Wilson Hilferty (WH) Approx. Gamma UPL	4.603
1751					95% Percentile of Chisquare (2k)	3.452					95% Hawkins Wixley (HW) Approx. Gamma UPL	5.84
1752											95% WH Approx. Gamma UTL with 90% Coverage	4.507
1753					90% Percentile	3.748					95% HW Approx. Gamma UTL with 90% Coverage	5.689
1754					95% Percentile	5.461						
1755					99% Percentile	9.741						
1756												
1757	Note: DL/2 is not a recommended method.											
1758												
1759												
1760	Zinc no Upper Sand											

	A	B	C	D	E	F	G	H	I	J	K	L
1761												
1762	General Statistics											
1763	Number of Valid Data					67	Number of Detected Data					29
1764	Number of Distinct Detected Data					26	Number of Non-Detect Data					38
1765	Tolerance Factor					1.585	Percent Non-Detects					56.72%
1766												
1767	Raw Statistics						Log-transformed Statistics					
1768	Minimum Detected					1.9	Minimum Detected					0.642
1769	Maximum Detected					70.6	Maximum Detected					4.257
1770	Mean of Detected					12.32	Mean of Detected					2.094
1771	SD of Detected					15.7	SD of Detected					0.851
1772	Minimum Non-Detect					1.6	Minimum Non-Detect					0.47
1773	Maximum Non-Detect					13.7	Maximum Non-Detect					2.617
1774												
1775	Data with Multiple Detection Limits						Single Detection Limit Scenario					
1776	Note: Data have multiple DLs - Use of KM Method is recommended						Number treated as Non-Detect with Single DL					58
1777	For all methods (except KM, DL/2, and ROS Methods),						Number treated as Detected with Single DL					9
1778	Observations < Largest ND are treated as NDs						Single DL Non-Detect Percentage					86.57%
1779												
1780	Background Statistics											
1781	Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only					
1782	Shapiro Wilk Test Statistic					0.557	Shapiro Wilk Test Statistic					0.944
1783	5% Shapiro Wilk Critical Value					0.926	5% Shapiro Wilk Critical Value					0.926
1784	Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level					
1785												
1786	Assuming Normal Distribution						Assuming Lognormal Distribution					
1787	DL/2 Substitution Method						DL/2 Substitution Method					
1788	Mean					6.447	Mean (Log Scale)					1.226
1789	SD					11.49	SD (Log Scale)					1.005
1790	95% UTL 90% Coverage					24.65	95% UTL 90% Coverage					16.76
1791	95% UPL (t)					25.76	95% UPL (t)					18.46
1792	90% Percentile (z)					21.17	90% Percentile (z)					12.36
1793	95% Percentile (z)					25.35	95% Percentile (z)					17.8
1794	99% Percentile (z)					33.18	99% Percentile (z)					35.32
1795												
1796	Maximum Likelihood Estimate(MLE) Method						Log ROS Method					
1797	Mean					-24.48	Mean in Original Scale					6.049
1798	SD					33.36	SD in Original Scale					11.63
1799	95% UTL with 90% Coverage					28.37	95% UTL with 90% Coverage					17.76
1800							95% BCA UTL with 90% Coverage					15.24
1801							95% Bootstrap (%) UTL with 90% Coverage					15.3
1802	95% UPL (t)					31.58	95% UPL (t)					19.94
1803	90% Percentile (z)					18.27	90% Percentile (z)					12.32
1804	95% Percentile (z)					30.38	95% Percentile (z)					19.1
1805	99% Percentile (z)					53.12	99% Percentile (z)					43.43
1806												
1807	Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only					
1808	k star (bias corrected)					1.224	Data appear Lognormal at 5% Significance Level					
1809	Theta Star					10.07						
1810	nu star					70.97						
1811												
1812	A-D Test Statistic					1.371	Nonparametric Statistics					
1813	5% A-D Critical Value					0.766	Kaplan-Meier (KM) Method					
1814	K-S Test Statistic					0.189	Mean					6.547
1815	5% K-S Critical Value					0.166	SD					11.35

	A	B	C	D	E	F	G	H	I	J	K	L
1816	Data not Gamma Distributed at 5% Significance Level										SE of Mean	1.414
1817											95% KM UTL with 90% Coverage	24.54
1818	Assuming Gamma Distribution										95% KM Chebyshev UPL	56.4
1819				Gamma ROS Statistics with Extrapolated Data							95% KM UPL (t)	25.63
1820					Mean	5.334					90% Percentile (z)	21.09
1821					Median	0.000001					95% Percentile (z)	25.22
1822					SD	11.94					99% Percentile (z)	32.95
1823					k star	0.101						
1824					Theta star	52.97	Gamma ROS Limits with Extrapolated Data					
1825					Nu star	13.49					95% Wilson Hilferty (WH) Approx. Gamma UPL	22.11
1826					95% Percentile of Chisquare (2k)	1.168					95% Hawkins Wixley (HW) Approx. Gamma UPL	25.77
1827											95% WH Approx. Gamma UTL with 90% Coverage	19.65
1828					90% Percentile	14.24					95% HW Approx. Gamma UTL with 90% Coverage	22.09
1829					95% Percentile	30.95						
1830					99% Percentile	84.43						
1831												
1832	Note: DL/2 is not a recommended method.											
1833												
1834												
1835	Zinc Upper Sand											
1836												
1837					General Statistics							
1838					Number of Valid Data	30					Number of Detected Data	9
1839					Number of Distinct Detected Data	9					Number of Non-Detect Data	21
1840					Tolerance Factor	1.777					Percent Non-Detects	70.00%
1841												
1842				Raw Statistics						Log-transformed Statistics		
1843					Minimum Detected	2.5					Minimum Detected	0.916
1844					Maximum Detected	8.3					Maximum Detected	2.116
1845					Mean of Detected	4.31					Mean of Detected	1.393
1846					SD of Detected	1.811					SD of Detected	0.381
1847					Minimum Non-Detect	1.6					Minimum Non-Detect	0.47
1848					Maximum Non-Detect	3.55					Maximum Non-Detect	1.267
1849												
1850				Data with Multiple Detection Limits						Single Detection Limit Scenario		
1851				Note: Data have multiple DLs - Use of KM Method is recommended							Number treated as Non-Detect with Single DL	24
1852				For all methods (except KM, DL/2, and ROS Methods),							Number treated as Detected with Single DL	6
1853				Observations < Largest ND are treated as NDs							Single DL Non-Detect Percentage	80.00%
1854												
1855												
1856					Warning: There are only 9 Detected Values in this data							
1857					Note: It should be noted that even though bootstrap may be performed on this data set							
1858					the resulting calculations may not be reliable enough to draw conclusions							
1859												
1860					It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.							
1861												
1862					Background Statistics							
1863				Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only		
1864					Shapiro Wilk Test Statistic	0.862					Shapiro Wilk Test Statistic	0.943
1865					5% Shapiro Wilk Critical Value	0.829					5% Shapiro Wilk Critical Value	0.829
1866				Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
1867												
1868				Assuming Normal Distribution						Assuming Lognormal Distribution		
1869					DL/2 Substitution Method						DL/2 Substitution Method	
1870					Mean	2.298					Mean (Log Scale)	0.637

	A	B	C	D	E	F	G	H	I	J	K	L
1871					SD	1.679					SD (Log Scale)	0.607
1872					95% UTL 90% Coverage	5.282					95% UTL 90% Coverage	5.563
1873					95% UPL (t)	5.199					95% UPL (t)	5.397
1874					90% Percentile (z)	4.45					90% Percentile (z)	4.118
1875					95% Percentile (z)	5.06					95% Percentile (z)	5.134
1876					99% Percentile (z)	6.205					99% Percentile (z)	7.765
1877												
1878				Maximum Likelihood Estimate(MLE) Method							Log ROS Method	
1879					Mean	1.008					Mean in Original Scale	2.294
1880					SD	2.971					SD in Original Scale	1.72
1881					95% UTL with 90% Coverage	6.287					95% UTL with 90% Coverage	5.925
1882											95% BCA UTL with 90% Coverage	5.6
1883											95% Bootstrap (%) UTL with 90% Coverage	5.679
1884					95% UPL (t)	6.139					95% UPL (t)	5.734
1885					90% Percentile (z)	4.815					90% Percentile (z)	4.277
1886					95% Percentile (z)	5.895					95% Percentile (z)	5.432
1887					99% Percentile (z)	7.919					99% Percentile (z)	8.504
1888												
1889				**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**		
1890					k star (bias corrected)	5.072				Data appear Normal at 5% Significance Level		
1891					Theta Star	0.85						
1892					nu star	91.29						
1893												
1894					A-D Test Statistic	0.348				**Nonparametric Statistics**		
1895					5% A-D Critical Value	0.722					Kaplan-Meier (KM) Method	
1896					K-S Test Statistic	0.198					Mean	3.066
1897					5% K-S Critical Value	0.28					SD	1.243
1898				Data appear Gamma Distributed at 5% Significance Level							SE of Mean	0.242
1899											95% KM UTL with 90% Coverage	5.275
1900				**Assuming Gamma Distribution**							95% KM Chebyshev UPL	8.574
1901					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	5.213
1902					Mean	1.511					90% Percentile (z)	4.659
1903					Median	0.000001					95% Percentile (z)	5.111
1904					SD	2.2					99% Percentile (z)	5.958
1905					k star	0.115						
1906					Theta star	13.1				**Gamma ROS Limits with Extrapolated Data**		
1907					Nu star	6.918					95% Wilson Hilferty (WH) Approx. Gamma UPL	7.318
1908					95% Percentile of Chisquare (2k)	1.322					95% Hawkins Wixley (HW) Approx. Gamma UPL	9.012
1909											95% WH Approx. Gamma UTL with 90% Coverage	7.753
1910					90% Percentile	4.231					95% HW Approx. Gamma UTL with 90% Coverage	9.72
1911					95% Percentile	8.661						
1912					99% Percentile	22.32						
1913												
1914	Note: DL/2 is not a recommended method.											
1915												

APPENDIX A.3

SURFACE WATER STATISTICAL EVAULATION

APPENDIX A.3 STATISTICAL EVALUATION

Appendix A.3 presents the results of the statistical analyses for the surface water background data sets. Surface Water samples were collected once during the fall and once during the spring from Coffins Ice Pond and Mere Brook. Statistical analyses were conducted for two purposes. The first was to determine if any of the geochemical subgroups could be combined, the second was to determine background concentrations to be used to compare future site data. The statistical methods used to determine if the surface water subgroups could be combined are presented in Appendices A.3.1 through A.3.4. Appendix A.3.5 presents the background values that can be used for future site comparisons.

A.3.1 SURFACE WATER OUTLIER ASSESSMENT

APPENDIX A.3.1 OUTLIER ASSESSMENT

All background data subsets were evaluated for potential outliers before conducting any statistical comparisons between data groups.

To evaluate the data for potential outliers, Dixon's parametric outlier test or Tukey's nonparametric outlier test was used. Dixon's parametric outlier test was applied only when the data without the suspected outlier can be shown to follow a normal distribution, otherwise Tukey's nonparametric outlier test was applied. To determine if the data follow a normal distribution, the Shapiro Wilk Normality Test was used. The Shapiro Wilk Normality Test was used because it has more robust statistical properties than alternative normality tests and is therefore preferred.

Tables A.3.1.1 through A.3.1.4 present the results of the normality and outlier assessments for the wells from the following subgroups: Coffins Ice Pond Fall, Coffins Ice Pond Spring, Mere Brook Fall, and Mere Brook Spring. Formal outlier tests were only computed if there were at least four detected concentrations. First, the Shapiro Wilk Normality Test was computed on the data set without the suspected outlier. The Shapiro Wilk Normality Test tests the null hypothesis that the data follow a normal distribution against the alternative hypothesis that the data do not follow a normal distribution. The test has an associated p-value as a measure of the credibility of the null hypothesis, with lower probabilities providing lower credibility for the null hypothesis. If the p-value for the Shapiro Wilk Test is less than 0.05 it was concluded that the data do not follow a normal distribution. For cases where the analytical data for a substance fit a normal distribution, the suspected outlier was screened by successively deleting the largest, second largest, and third largest data points from the data set and performing Dixon's outlier test on the remaining data points versus the excluded data point. When the Dixon C statistic was greater than the Dixon D critical value, the data point was considered a candidate outlier. For cases where the analytical data for a substance did not fit a normal distribution, Tukey's nonparametric outlier test was conducted on the three largest data points. Tukey's outlier test compares each sample concentration to a critical value represented by the 75th percentile plus 3 times the IQR. The IQR is the difference between the 75th percentile (Q3) and the 25th percentile (Q1). When the data point exceeded the critical value the point was considered to be a candidate outlier.

Univarite box plots, probability (Q-Q) plots, and the Shapiro Wilk W-test were used to further evaluate the candidate outliers. All candidate outliers were labeled with sample ID and highlighted on univariate box plots (see Appendix A.3.3). A point of departure at the upper end of the probability plot may indicate that the candidate outlier does not belong to the same population as the rest of the data.

Candidate outliers were located on a site map to check for any pattern of localized, anthropogenic contamination that is not representative of the background area as a whole. Looking at all the chemicals that were detected at least four times, Coffins Ice Pond candidate outliers were identified for the fall sampling event for NASB-BG-SW01, NASB-BG-SW04, and NASB-BG-SW08, while in the spring candidate outliers were identified for NASB-BG-SW01, NASB-BG-SW03, NASB-BG-SW04, and NASB-BG-SW05. Looking at all the chemicals that were detected at least four times Mere Brook candidate outliers were identified for the fall sampling event for NASB-BG-SW09, NASB-BG-SW14, and NASB-BG-SW16, while in the spring sampling event candidate outliers were identified for NASB-BG-SW10, NASB-BG-SW12, NASB-BG-SW14, and NASB-BG-SW16. Based on the site uses for these areas, there is no indication that the outlier concentrations from these areas are related to site contamination. Additionally, the locations in which candidate outliers were found are not located in one geographic portion of the background area. Therefore, no candidate outliers were removed from the data sets.

Table A.3.1.1
Outlier Tests
Coffins Ice Pond Fall Surface Water Samples
Naval Air Station, Brunswick, Maine

Parameter	Dixon's Outlier Test Results									Tukey's Outlier Test						
	Largest Concentration			Second Largest Concentration			Third Largest Concentration									
	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	IQR (ug/L)	Q1 (ug/L)	Q3 (ug/L)	Tukey Critical Value	Largest Concentration (ug/L)	Second Largest Concentration (ug/L)	Third Largest Concentration (ug/L)
Inorganics																
ALUMINUM	Not Normal	Not Normal	0.04	Not Normal	Not Normal	0.035	Not Normal	Not Normal	0.008	177	19.0	196	728.2	2070	308	159
ARSENIC	0.189	0.554	0.362	0.419	0.507	0.056	Not Normal	Not Normal	0.028	0.78	1.4	2.2	4.6	Normal	Normal	2
BARIUM	0.681	0.554	0.104	0.435	0.507	0.201	0.637	0.56	0.181	7.9	35.1	43	66.8	Normal	Normal	Normal
CALCIUM	Not Normal	Not Normal	0.005	Not Normal	Not Normal	0.002	Not Normal	Not Normal	0.004	275	10875	11150	11975.0	11700	11300	11100
CHROMIUM	0.806	0.554	0.983	0.303	0.507	0.774	0.217	0.56	0.691	0.78	1.22	2	4.3	Normal	Normal	Normal
COBALT	Not Normal	Not Normal	0	0.845	0.507	0.192	0.333	0.56	0.146	0.20	0.40	0.59	1.2	1.7	Normal	Normal
IRON	0.876	0.554	0.936	0.366	0.507	0.948	0.459	0.56	0.555	193	603	795	1373.5	Normal	Normal	Normal
LEAD	Not Normal	Not Normal	0.046	Not Normal	Not Normal	0.03	Not Normal	Not Normal	0.005	1.7	0.4	2.1	7.3	11.4	3	1.8
MAGNESIUM	0.712	0.554	0.713	0.217	0.507	0.547	0.028	0.56	0.945	140	2333	2473	2892.5	Normal	Normal	Normal
POTASSIUM	0.475	0.554	0.583	0.065	0.507	0.766	0.517	0.56	0.23	288	2568	2855	3717.5	Normal	Normal	Normal
SODIUM	0.188	0.554	0.7	0.268	0.507	0.717	0.293	0.56	0.765	4100	34975	39075	51375.0	Normal	Normal	Normal
ZINC	0.776	0.554	0.661	0.331	0.507	0.462	Not Normal	Not Normal	0.019	4.2	5.9	10.2	22.8	Normal	Normal	9.6
Dissolved Inorganics																
BARIUM	0.625	0.554	0.179	0.333	0.507	0.196	0.433	0.56	0.27	3.1	33.5	36.6	45.9	Normal	Normal	Normal
CALCIUM	0	0.554	0.134	0	0.507	0.414	0.111	0.56	0.641	675	10325	11000	13025.0	Normal	Normal	Normal
CHROMIUM	0.312	0.554	0.231	0	0.507	0.551	0.114	0.56	0.758	0.41	0.79	1.2	2.4	Normal	Normal	Normal
COBALT	0	0.554	0.431	0.111	0.507	0.556	0.125	0.56	0.731	0.08	0.25	0.33	0.6	Normal	Normal	Normal
MAGNESIUM	0.27	0.554	0.145	0.043	0.507	0.265	0	0.56	0.505	178	2245	2422.5	2955.0	Normal	Normal	Normal
MANGANESE	0.118	0.554	0.106	0.134	0.507	0.076	0.086	0.56	0.106	28.8	112	141	227.7	Normal	Normal	Normal
NICKEL	Not Normal	Not Normal	0.049	Not Normal	Not Normal	0.024	Not Normal	Not Normal	0.003	0.33	1.4	1.7	2.7	2.6	1.8	1.7
POTASSIUM	0.186	0.554	0.707	0.543	0.507	0.087	0.062	0.56	0.242	148	2540	2688	3130.0	Normal	Normal	Normal
SODIUM	0.41	0.554	0.098	0	0.507	0.209	0.167	0.56	0.197	3450	33950	37400	47750.0	Normal	Normal	Normal
ZINC	0.309	0.554	0.294	0.064	0.507	0.373	0.274	0.56	0.132	2.0	2.8	4.8	10.7	Normal	Normal	Normal

Shaded cells indicate value is an outlier.

[1] In accordance with Dixon's Test, Shapiro Wilk test was computed on the data set without the suspected outlier.

IQR = Interquartile Range
Q1 = 1st Quartile, 25th Percentile
Q3 = 3rd Quartile, 75th Percentile
Normal = Normally Distributed; Tukey's Outlier Test was not appropriate.
Not Normal = Not Normally Distributed; Dixon's Test was not appropriate.

Table A.3.1.2
Outlier Tests
Coffins Ice Pond Spring Surface Water Samples
Naval Air Station, Brunswick, Maine

Parameter	Dixon's Outlier Test Results									Tukey's Outlier Test						
	Largest Concentration			Second Largest Concentration			Third Largest Concentration									
	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	IQR (ug/L)	Q1 (ug/L)	Q3 (ug/L)	Tukey Critical Value	Largest Concentration (ug/L)	Second Largest Concentration (ug/L)	Third Largest Concentration (ug/L)
Inorganics																
ALUMINUM	0.544	0.554	0.155	0.121	0.507	0.199	0.103	0.56	0.31	35.3	108	143	249.0	Normal	Normal	Normal
BARIUM	0.768	0.554	0.056	Not Normal	Not Normal	0.016	Not Normal	Not Normal	0.024	2.4	25.1	27.5	34.8	Normal	28.7	27.1
CALCIUM	0.219	0.554	0.223	0.152	0.507	0.119	Not Normal	Not Normal	0.035	568	9390	9958	11660.0	Normal	Normal	9910
IRON	0.149	0.554	0.314	0.65	0.507	0.317	0.143	0.56	0.378	57.3	199	256	427.8	Normal	Normal	Normal
LEAD	0.937	0.554	0.736	0.455	0.507	0.308	0.111	0.56	0.421	0.17	0.29	0.46	1.0	Normal	Normal	Normal
MAGNESIUM	Not Normal	Not Normal	0.011	Not Normal	Not Normal	0.012	Not Normal	Not Normal	0.042	67.5	1760	1828	2030.0	2670	1850	1820
MANGANESE	0.221	0.554	0.166	0.022	0.507	0.438	0.019	0.56	0.832	19.8	75.7	95.5	154.8	Normal	Normal	Normal
POTASSIUM	0.191	0.554	0.556	0.184	0.507	0.353	0.226	0.56	0.193	200	2198	2398	2997.5	Normal	Normal	Normal
SODIUM	0.155	0.554	0.921	0.317	0.507	0.644	0.024	0.56	0.991	3900	26875	30775	42475.0	Normal	Normal	Normal
ZINC	0.57	0.554	0.194	0.158	0.507	0.114	0.071	0.56	0.162	2.4	7.0	9.4	16.6	Normal	Normal	Normal
Dissolved Inorganics																
ALUMINUM	Not Normal	Not Normal	0.038	0.042	0.507	0.053	0.032	0.56	0.05	41.6	28.4	70.0	194.8	79.2	Normal	Normal
BARIUM	Not Normal	Not Normal	0.013	Not Normal	Not Normal	0.008	Not Normal	Not Normal	0.008	1.7	25.0	26.6	31.6	28.5	27.3	26.4
CALCIUM	0.182	0.554	0.138	Not Normal	Not Normal	0.028	0.049	0.56	0.073	275	9510	9785	10610.0	Normal	9950	Normal
IRON	0.36	0.554	0.432	0.281	0.507	0.232	0.201	0.56	0.231	17.5	74.1	91.7	144.3	Normal	Normal	Normal
LEAD	0.564	0.554	0.203	0.118	0.507	0.235	0.8	0.56	0.179	0.07	0.14	0.21	0.4	Normal	Normal	Normal
MAGNESIUM	Not Normal	Not Normal	0.006	Not Normal	Not Normal	0.003	Not Normal	Not Normal	0.002	62.5	1755	1818	2005.0	2505	1840	1810
MANGANESE	0.073	0.554	0.13	0.007	0.507	0.372	0.083	0.56	0.575	17.3	74.9	92.2	144.1	Normal	Normal	Normal
NICKEL	Not Normal	Not Normal	0.017	0	0.507	0.071	0	0.56	0.205	0.29	2.2	2.5	3.4	2.6	Normal	Normal
POTASSIUM	0.486	0.554	0.15	0.333	0.507	0.05	0.167	0.56	0.093	97.5	2238	2335	2627.5	Normal	Normal	Normal
SODIUM	0.304	0.554	0.797	0.25	0.507	0.522	0.083	0.56	0.805	2775	27525	30300	38625.0	Normal	Normal	Normal
ZINC	0.62	0.554	0.214	0.053	0.507	0.43	0.111	0.56	0.646	1.6	7.9	9.5	14.3	Normal	Normal	Normal

Shaded cells indicate value is an outlier.

[1] In accordance with Dixon's Test, Shapiro Wilk test was computed on the data set without the suspected outlier.

IQR = Interquartile Range
Q1 = 1st Quartile, 25th Percentile
Q3 = 3rd Quartile, 75th Percentile
Normal = Normally Distributed; Tukey's Outlier Test was not appropriate.
Not Normal = Not Normally Distributed; Dixon's Test was not appropriate.

Table A.3.1.3
Outlier Tests
Mere Brook Fall Surface Water Samples
Naval Air Station, Brunswick, Maine

Parameter	Dixon's Outlier Test Results									Tukey's Outlier Test						
	Largest Concentration			Second Largest Concentration			Third Largest Concentration									
	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	IQR (ug/L)	Q1 (ug/L)	Q3 (ug/L)	Tukey Critical Value	Largest Concentration (ug/L)	Second Largest Concentration (ug/L)	Third Largest Concentration (ug/L)
Inorganics																
ALUMINUM	0.275	0.554	0.177	0.339	0.507	0.241	0.713	0.56	0.603	41.8	60.1	102	227.4	Normal	Normal	Normal
ARSENIC	Not Normal	Not Normal	0.036	Not Normal	Not Normal	0.022	Not Normal	Not Normal	0.019	0.64	1.6	2.3	4.2	3.2	2.4	2.2
BARIUM	Not Normal	Not Normal	0.001	Not Normal	Not Normal	0.002	Not Normal	Not Normal	0.006	1.6	25.2	26.7	31.5	27.6	26.8	26.7
CALCIUM	0.222	0.554	0.793	0.171	0.507	0.896	0.621	0.56	0.388	275	9250	9525	10350.0	Normal	Normal	Normal
CHROMIUM	0.545	0.554	0.179	0	0.507	0.423	0.2	0.56	0.314	0.28	1.4	1.7	2.5	Normal	Normal	Normal
COBALT	0.312	0.554	0.301	0.091	0.507	0.352	0.4	0.56	0.086	0.04	0.12	0.16	0.3	Normal	Normal	Normal
IRON	0.669	0.554	0.072	0.169	0.507	0.055	Not Normal	Not Normal	0.042	50.8	478	529	680.8	Normal	Normal	526
MAGNESIUM	0.182	0.554	0.225	0.111	0.507	0.278	0.75	0.56	0.314	75.0	2008	2083	2307.5	Normal	Normal	Normal
MANGANESE	0.656	0.554	0.244	0.344	0.507	0.348	0.492	0.56	0.728	6.3	83.2	89.5	108.4	Normal	Normal	Normal
POTASSIUM	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0.001	40.0	2253	2293	2412.5	2490	2300	2290
SODIUM	0.438	0.554	0.567	0	0.507	0.95	0.444	0.56	0.823	788	26713	27500	29862.5	Normal	Normal	Normal
Dissolved Inorganics																
ALUMINUM	Not Normal	Not Normal	0.009	Not Normal	Not Normal	0.015	Not Normal	Not Normal	0.02	6.6	5.7	12.3	32.1	27.5	12.5	12.2
ARSENIC	0.359	0.554	0.067	Not Normal	Not Normal	0.036	Not Normal	Not Normal	0.026	1.1	0.75	1.9	5.2	Normal	2	1.8
BARIUM	0.12	0.554	0.384	0.455	0.507	0.204	0.167	0.56	0.15	1.2	24.2	25.5	29.1	Normal	Normal	Normal
CALCIUM	0.357	0.554	0.548	0.417	0.507	0.63	0.714	0.56	0.062	218	9290	9508	10160.0	Normal	Normal	Normal
CHROMIUM	Not Normal	Not Normal	0.025	0	0.507	0.111	0	0.56	0.377	0.11	1.3	1.4	1.7	1.5	Normal	Normal
COBALT	Not Normal	Not Normal	0.011	Not Normal	Not Normal	0.004	Not Normal	Not Normal	0	0.06	0.05	0.11	0.3	0.12	0.12	0.11
MAGNESIUM	0.364	0.554	0.317	0.357	0.507	0.4	0.778	0.56	0.146	51.3	2010	2061	2215.0	Normal	Normal	Normal
MANGANESE	0.294	0.554	0.527	0.056	0.507	0.794	0.206	0.56	0.819	2.6	72.9	75.6	83.4	Normal	Normal	Normal
POTASSIUM	0.333	0.554	0.518	0.5	0.507	0.212	Not Normal	Not Normal	0.042	22.5	2275	2298	2365.0	Normal	Normal	2290
SODIUM	0.286	0.554	0.421	0.4	0.507	0.421	0.333	0.56	0.111	475	27025	27500	28925.0	Normal	Normal	Normal

Shaded cells indicate value is an outlier.

[1] In accordance with Dixon's Test, Shapiro Wilk test was computed on the data set without the suspected outlier.

IQR = Interquartile Range
Q1 = 1st Quartile, 25th Percentile
Q3 = 3rd Quartile, 75th Percentile
Normal = Normally Distributed; Tukey's Outlier Test was not appropriate.
Not Normal = Not Normally Distributed; Dixon's Test was not appropriate.

Table A.3.1.4
Outlier Tests
Mere Brook Spring Surface Water Samples
Naval Air Station, Brunswick, Maine

Parameter	Dixon's Outlier Test Results									Tukey's Outlier Test						
	Largest Concentration			Second Largest Concentration			Third Largest Concentration									
	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	IQR (ug/L)	Q1 (ug/L)	Q3 (ug/L)	Tukey Critical Value	Largest Concentration (ug/L)	Second Largest Concentration (ug/L)	Third Largest Concentration (ug/L)
Inorganics																
ALUMINUM	0.586	0.554	0.77	0.109	0.507	0.946	0.512	0.56	0.653	6.8	99.5	106	126.7	Normal	Normal	Normal
BARIUM	Not Normal	Not Normal	0.048	0.077	0.507	0.087	0.167	0.56	0.126	0.31	23.1	23.4	24.4	24.1	Normal	Normal
CALCIUM	0.14	0.554	0.346	0.027	0.507	0.668	0.111	0.56	0.818	273	8570	8843	9660.0	Normal	Normal	Normal
IRON	0.333	0.554	0.614	0.222	0.507	0.509	0.071	0.56	0.74	14.3	201	215	257.8	Normal	Normal	Normal
LEAD	0.067	0.554	0.456	0.429	0.507	0.489	0.375	0.56	0.174	0.09	0.36	0.45	0.7	Normal	Normal	Normal
MAGNESIUM	0	0.554	0.331	0.071	0.507	0.534	0.077	0.56	0.731	51.3	1695	1746	1900.0	Normal	Normal	Normal
MANGANESE	0.34	0.554	0.457	0.113	0.507	0.565	0.745	0.56	0.145	2.8	42.3	45.1	53.7	Normal	Normal	Normal
NICKEL	0.6	0.554	0.099	Not Normal	Not Normal	0.001	0	0.56	0.006	0.05	1.7	1.7	1.9	Normal	1.8	1.7
POTASSIUM	0.2	0.554	0.326	Not Normal	Not Normal	0.023	0	0.56	0.081	37.5	2055	2093	2205.0	Normal	2130	Normal
SODIUM	0	0.554	0.788	0.25	0.507	0.588	0.111	0.56	0.777	825	24950	25775	28250.0	Normal	Normal	Normal
Dissolved Inorganics																
BARIUM	0.05	0.554	0.425	0.158	0.507	0.459	0	0.56	0.847	0.84	22.4	23.2	25.8	Normal	Normal	Normal
CALCIUM	0.059	0.554	0.22	0.075	0.507	0.228	Not Normal	Not Normal	0.004	340	8658	8998	10017.5	Normal	Normal	8990
IRON	0.099	0.554	0.391	0.123	0.507	0.488	0.022	0.56	0.859	13.5	69.1	82.6	123.2	Normal	Normal	Normal
MAGNESIUM	0.067	0.554	0.43	0	0.507	0.672	0.714	0.56	0.09	62.5	1698	1760	1947.5	Normal	Normal	Normal
MANGANESE	0.128	0.554	0.575	0.294	0.507	0.31	0.083	0.56	0.423	1.1	37.5	38.6	41.9	Normal	Normal	Normal
NICKEL	0.5	0.554	0.237	Not Normal	Not Normal	0.031	Not Normal	Not Normal	0	0.06	1.7	1.8	2.0	Normal	1.8	1.75
POTASSIUM	0.333	0.554	0.513	0.25	0.507	0.298	0.5	0.56	0.063	57.5	2078	2135	2307.5	Normal	Normal	Normal
SODIUM	0.077	0.554	0.512	0.083	0.507	0.647	0.727	0.56	0.103	1125	25000	26125	29500.0	Normal	Normal	Normal

Shaded cells indicate value is an outlier.

[1] In accordance with Dixon's Test, Shapiro Wilk test was computed on the data set without the suspected outli

IQR = Interquartile Range
Q1 = 1st Quartile, 25th Percentile
Q3 = 3rd Quartile, 75th Percentile
Normal = Normally Distributed; Tukey's Outlier Test was not appropriate.
Not Normal = Not Normally Distributed; Dixon's Test was not appropriate.

A.3.2 SURFACE WATER ASSESSMENT OF DISTRIBUTIONAL SHAPE

APPENDIX A.3.2 ASSESSMENT OF DISTRIBUTIONAL SHAPE

For each data subset, probability (Q-Q) plots and the Shapiro Wilk Normality Test were used to evaluate how well the data distribution matches either a normal or lognormal shape. Normally distributed data exhibit a characteristic "bell-shape" curve that is symmetrical, whereas lognormal data have a skewed shape with a longer tail at the high-concentration end.

A probability (Q-Q) plot graphs the quantiles of a data set against the quantiles of the hypothesized data distribution. A non-linear bend in the Q-Q probability plot, or a point of departure from linearity at one end of the probability plot, suggest that the data do not follow the hypothesized data distribution. Q-Q plots were constructed twice, first using the original data and then using the logarithms of the data. The Shapiro Wilk Normality test was performed twice – first using the original data, and then using the logarithms of the data. A 5 percent level of significance was used to determine whether or not the data deviate from either hypothesized distribution. The Shapiro Wilk Normality test was not computed if 50 percent or more of the data were non-detect.

Tables A.3.2.1 through A.3.2.4 present the Shapiro Wilk Normality test and the conclusion for the distribution shape assessment for Coffins Ice Pond fall, Coffins Ice Pond spring, Mere Brook fall, and Mere Brook spring. The Shapiro Wilk Normality Test tests the null hypothesis that the data follow a normal distribution against the alternative hypothesis that the data do not follow a normal distribution. If the W-Test statistic is below the W critical value then it can be concluded that the data do not follow a normal distribution. A 5 percent level of significance was used to determine whether or not the data deviate from the normal or lognormal distribution. The Q-Q probability plots for both the normal and lognormal distribution are displayed below.

Data sets that were shown to conform to a normal distribution were subsequently evaluated with parametric statistical tests whenever possible. As stated in the Background Study SAP, comparison tests will not be performed using the log-transformed data sets because of the potential for misinterpretation of the true underlying distribution that tends to occur with lognormal fitting (Tt, 2009). Data sets that were shown not to conform to a normal distribution were subsequently evaluated with non-parametric tests.

Table A.3.2.1
Distributional Shape Assessment
Coffins Ice Pond Surface Water Fall Samples
Naval Air Station, Brunswick, Maine

	W Statistic		W Critical Value	Data Distribution
Parameter	Normal	LogNormal		
Inorganics				
ALUMINUM	0.535	0.895	0.818	LogNormal
ARSENIC	0.917	0.89	0.818	Normal
BARIUM	0.686	0.755	0.818	Nonparametric
CALCIUM	0.825	0.802	0.818	Normal
CHROMIUM	0.637	0.902	0.818	LogNormal
COBALT	0.643	0.713	0.818	Nonparametric
IRON	0.56	0.74	0.818	Nonparametric
LEAD	0.618	0.879	0.818	LogNormal
MAGNESIUM	0.796	0.837	0.818	LogNormal
MANGANESE	0.895	0.911	0.818	LogNormal
NICKEL	0.733	0.889	0.818	LogNormal
POTASSIUM	0.975	0.978	0.818	LogNormal
SODIUM	0.943	0.946	0.818	LogNormal
ZINC	0.685	0.929	0.818	LogNormal
Dissolved Inorganics				
BARIUM	0.746	0.775	0.818	Nonparametric
CALCIUM	0.806	0.799	0.818	Nonparametric
CHROMIUM	0.941	0.932	0.818	Nonparametric
COBALT	0.879	0.878	0.818	Normal
MAGNESIUM	0.916	0.916	0.818	Normal
MANGANESE	0.873	0.824	0.818	Normal
NICKEL	0.901	0.843	0.818	Normal
POTASSIUM	0.961	0.957	0.818	Normal
SODIUM	0.91	0.912	0.818	LogNormal
ZINC	0.949	0.901	0.818	Normal

Lognormal: W statistic for the Log tranformed data is greater than W critical value and the W statistic for the raw data.

Nonparametric: W statistics for the Log transformed data and the raw data are less than the W critical value.

Normal: W statistic for raw data is greater than W critical value and greater than the W statistic for the log transformed data.

Chemicals only appear if detected once.

Table A.3.2.2
Distributional Shape Assessment
Coffins Ice Pond Surface Water Spring Samples
Naval Air Station, Brunswick, Maine

	W Statistic		W Critical Value	Data Distribution
Parameter	Normal	LogNormal		
Inorganics				
ALUMINUM	0.949	0.836	0.818	Normal
BARIUM	0.815	0.875	0.818	LogNormal
CALCIUM	0.932	0.924	0.818	Normal
IRON	0.892	0.939	0.818	LogNormal
LEAD	0.478	0.721	0.818	Nonparametric
MAGNESIUM	0.728	0.788	0.818	Nonparametric
MANGANESE	0.908	0.858	0.818	Normal
NICKEL	0.943	0.905	0.818	Normal
POTASSIUM	0.958	0.95	0.818	Normal
SODIUM	0.97	0.969	0.818	Normal
ZINC	0.855	0.918	0.818	LogNormal
Dissolved Inorganics				
ALUMINUM	0.828	0.848	0.818	LogNormal
BARIUM	0.813	0.758	0.818	Nonparametric
CALCIUM	0.91	0.904	0.818	Normal
IRON	0.971	0.902	0.818	Normal
LEAD	0.84	0.919	0.818	LogNormal
MAGNESIUM	0.729	0.777	0.818	Nonparametric
MANGANESE	0.839	0.799	0.818	Normal
NICKEL	0.781	0.722	0.818	Nonparametric
POTASSIUM	0.949	0.941	0.818	Normal
SODIUM	0.993	0.985	0.818	Normal
ZINC	0.914	0.948	0.818	LogNormal

Lognormal: W statistic for the Log tranformed data is greater than W critical value and the W statistic for the raw data.

Nonparametric: W statistics for the Log transformed data and the raw data are less than the W critical value.

Normal: W statistic for raw data is greater than W critical value and greater than the W statistic for the log transformed data.

Chemicals only appear if detected once.

Table A.3.2.3
Distributional Shape Assessment
Mere Brook Surface Water Fall Samples
Naval Air Station, Brunswick, Maine

	W Statistic		W Critical Value	Data Distribution
Parameter	Normal	LogNormal		
Inorganics				
ALUMINUM	0.874	0.916	0.818	LogNormal
ARSENIC	0.901	0.812	0.818	Normal
BARIUM	0.656	0.61	0.818	Nonparametric
CALCIUM	0.961	0.962	0.818	LogNormal
CHROMIUM	0.935	0.95	0.818	LogNormal
COBALT	0.93	0.933	0.818	LogNormal
IRON	0.735	0.764	0.818	Nonparametric
MAGNESIUM	0.897	0.899	0.818	LogNormal
MANGANESE	0.73	0.757	0.818	Nonparametric
POTASSIUM	0.624	0.581	0.818	Nonparametric
SODIUM	0.953	0.956	0.818	LogNormal
Dissolved Inorganics				
ALUMINUM	0.763	0.851	0.818	LogNormal
ARSENIC	0.894	0.853	0.818	Normal
BARIUM	0.903	0.906	0.818	LogNormal
CALCIUM	0.908	0.912	0.818	LogNormal
CHROMIUM	0.904	0.9	0.818	Normal
COBALT	0.749	0.728	0.818	Nonparametric
MAGNESIUM	0.888	0.892	0.818	LogNormal
MANGANESE	0.967	0.967	0.818	Normal
POTASSIUM	0.906	0.908	0.818	LogNormal
SODIUM	0.899	0.902	0.818	LogNormal

> 50% ND = More than 50 percent of the data values are non-detect.

Assumed Nonparametric: More than 50 percent of the data is non-detect, data are assumed to be nonparametric.

Lognormal: W statistic for the Log tranformed data is greater than W critical value and the W statistic for the raw data.

Nonparametric: W statistics for the Log transformed data and the raw data are less than the W critical value.

Normal: W statistic for raw data is greater than W critical value and greater than the W statistic for the log transformed data.

Chemicals only appear if detected once.

Table A.3.2.4
Distributional Shape Assessment
Mere Brook Surface Water Spring Samples
Naval Air Station, Brunswick, Maine

Parameter	W Statistic		W Critical Value	Data Distribution
	Normal	LogNormal		
Inorganics				
ALUMINUM	0.864	0.886	0.818	LogNormal
BARIUM	0.933	0.932	0.818	Normal
CALCIUM	0.908	0.905	0.818	Normal
IRON	0.966	0.968	0.818	LogNormal
LEAD	0.901	0.915	0.818	LogNormal
MAGNESIUM	0.86	0.857	0.818	Normal
MANGANESE	0.941	0.945	0.818	LogNormal
NICKEL	0.749	0.775	0.818	Nonparametric
POTASSIUM	0.93	0.93	0.818	Normal
SODIUM	0.921	0.917	0.818	Normal
Dissolved Inorganics				
BARIUM	0.894	0.893	0.818	Normal
CALCIUM	0.874	0.876	0.818	LogNormal
IRON	0.905	0.901	0.818	Normal
MAGNESIUM	0.901	0.902	0.818	LogNormal
MANGANESE	0.938	0.933	0.818	Normal
NICKEL	0.9	0.907	0.818	LogNormal
POTASSIUM	0.969	0.965	0.818	Normal
SODIUM	0.913	0.914	0.818	LogNormal

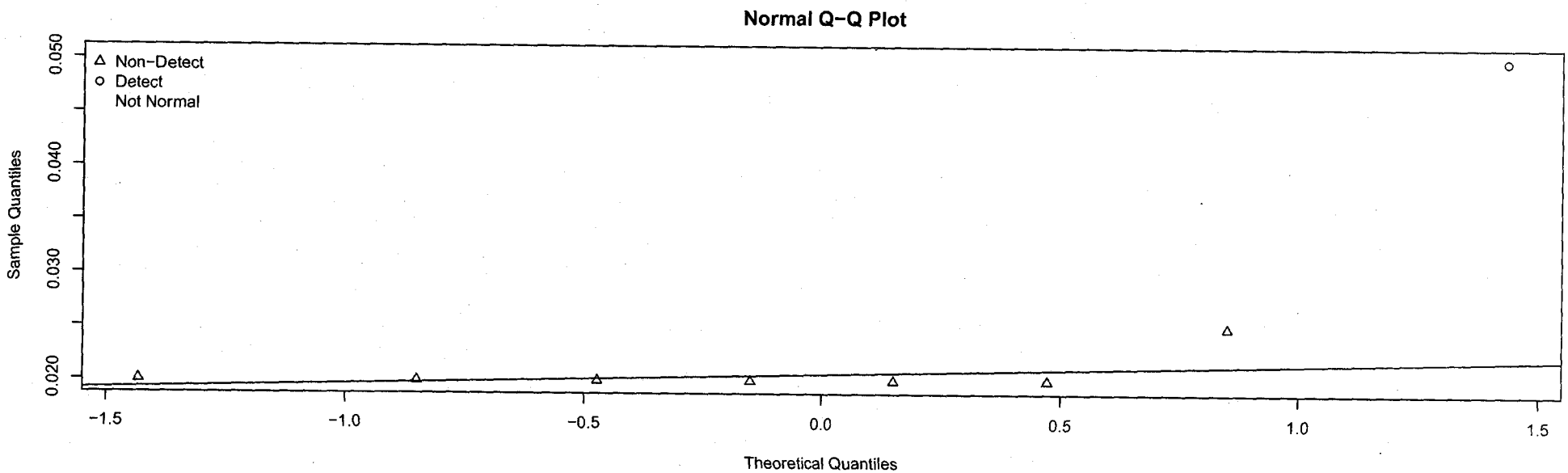
Lognormal: W statistic for the Log tranformed data is greater than W critical value and the W statistic for the raw data.

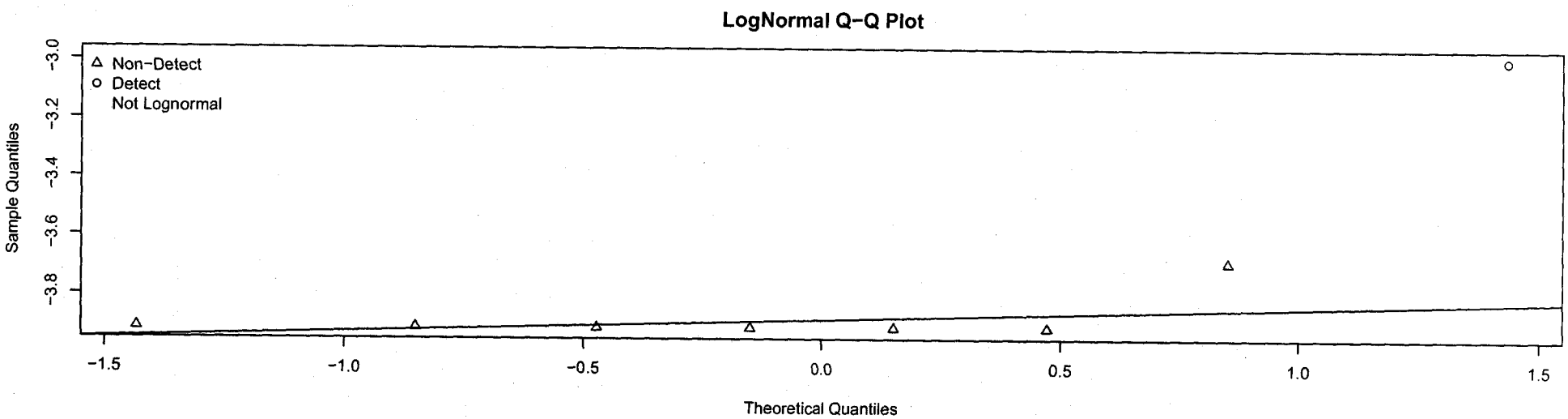
Nonparametric: W statistics for the Log transformed data and the raw data are less than the W critical value.

Normal: W statistic for raw data is greater than W critical value and greater than the W statistic for the log transformed data.

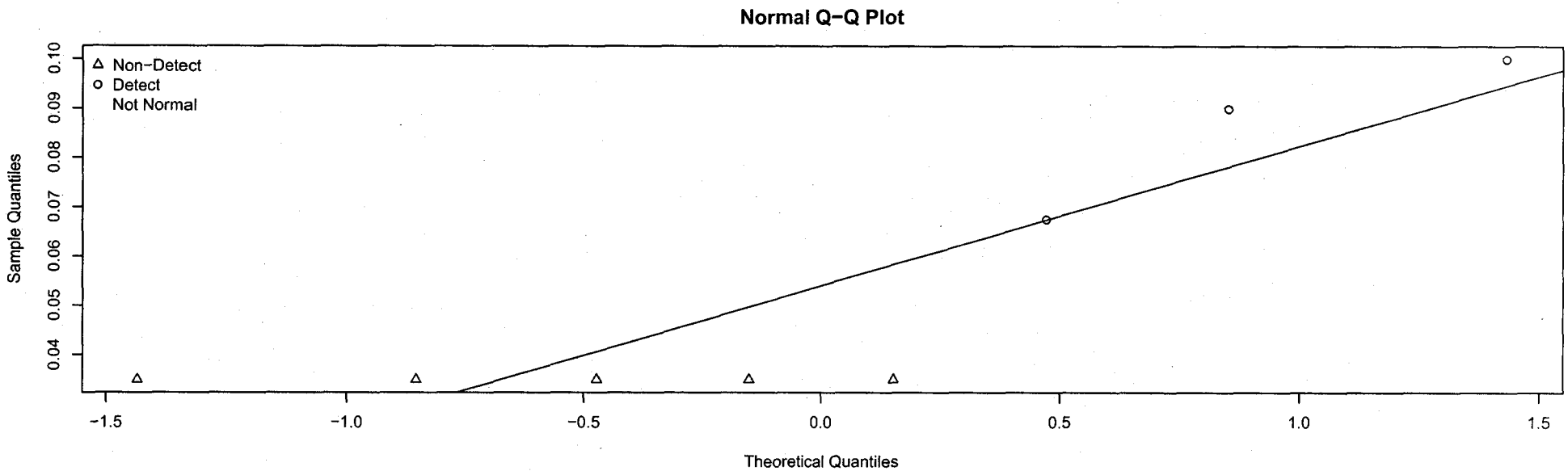
Chemicals only appear if detected once.

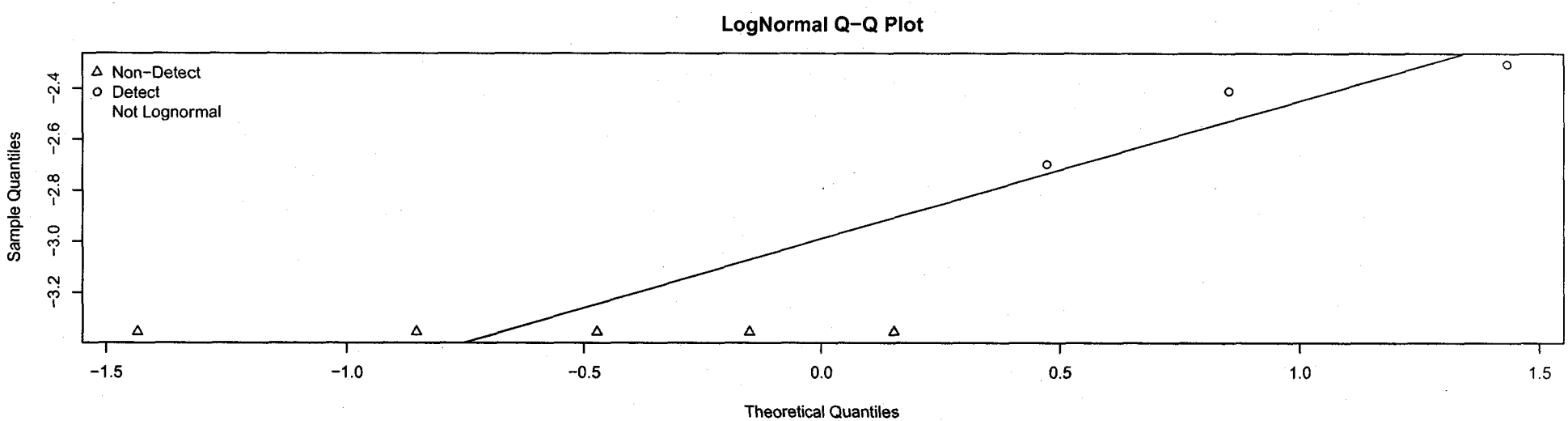
Coffins Ice Pond
Fall Surface Water
BENZO(A)ANTHRACENE





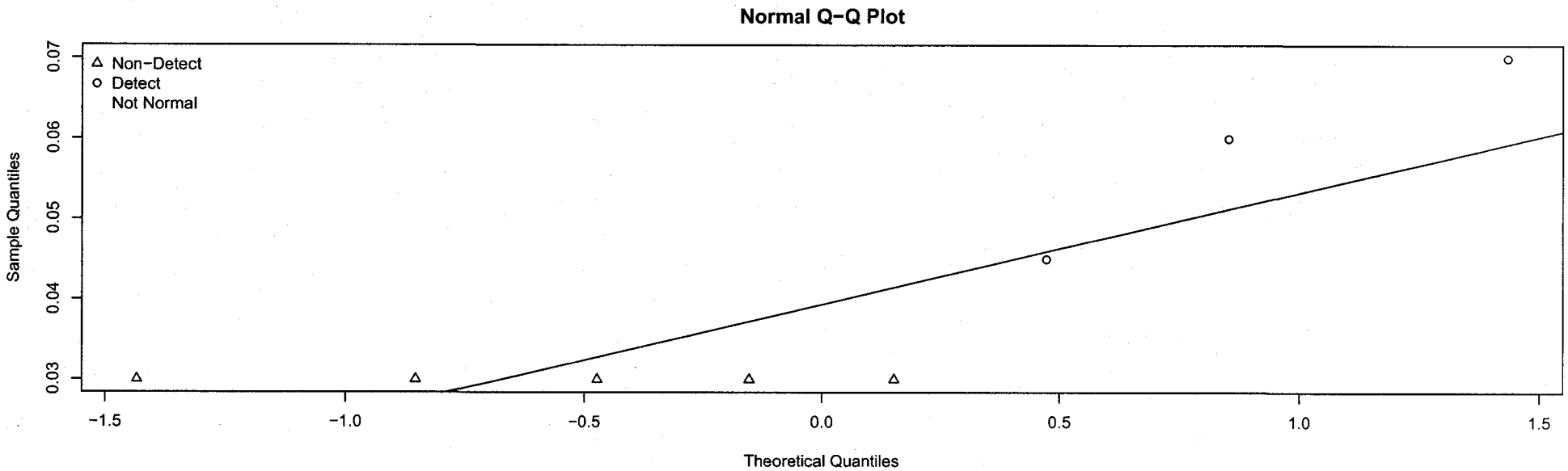
Coffins Ice Pond
Fall Surface Water
FLUORANTHENE

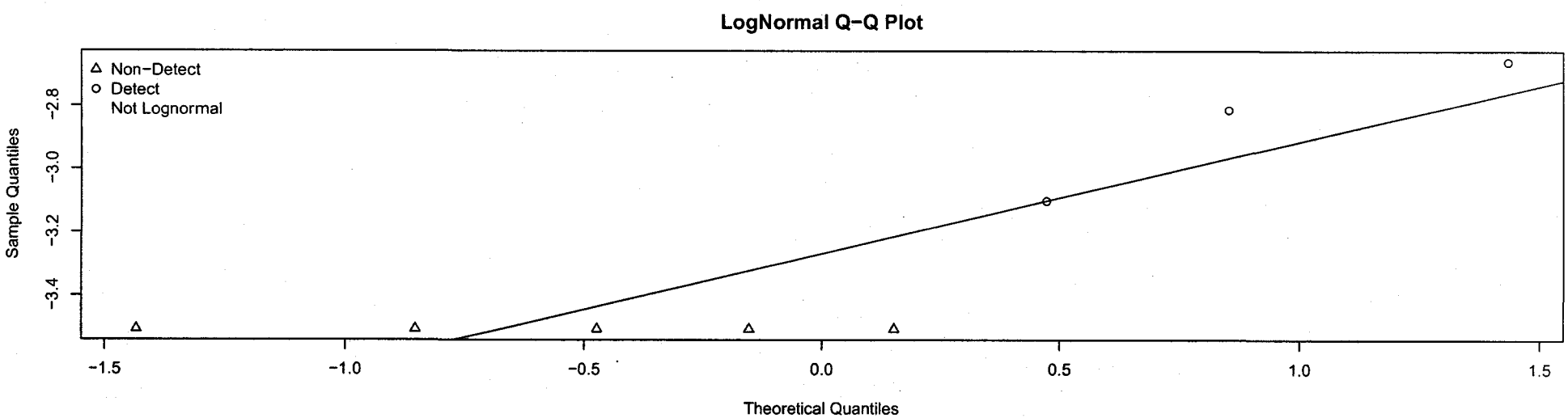




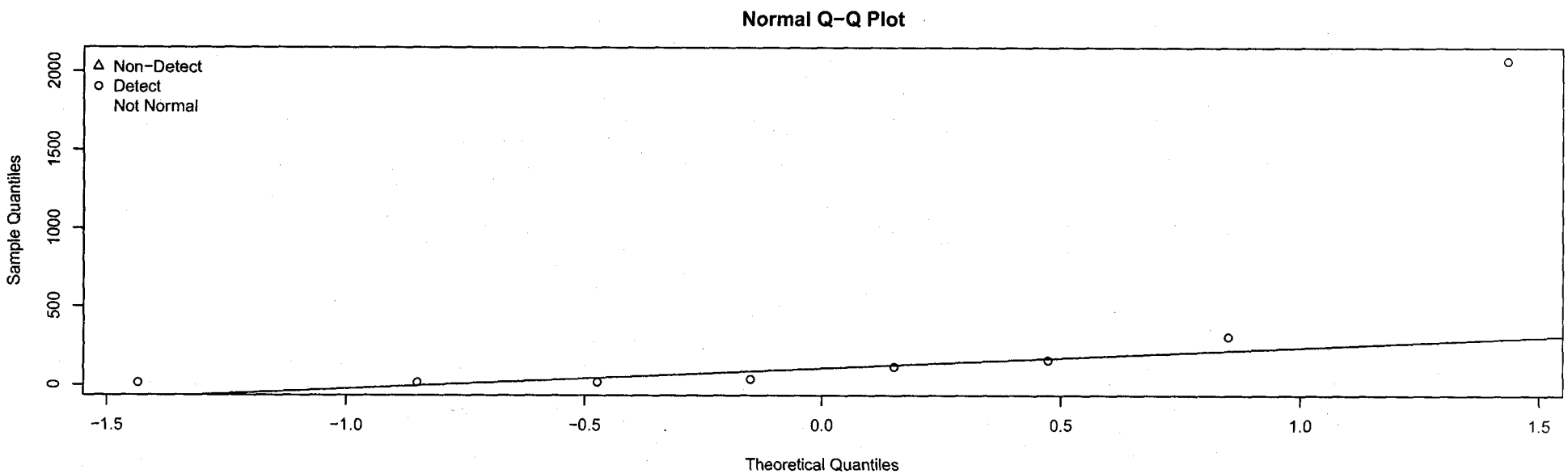
Coffins Ice Pond
Fall Surface Water

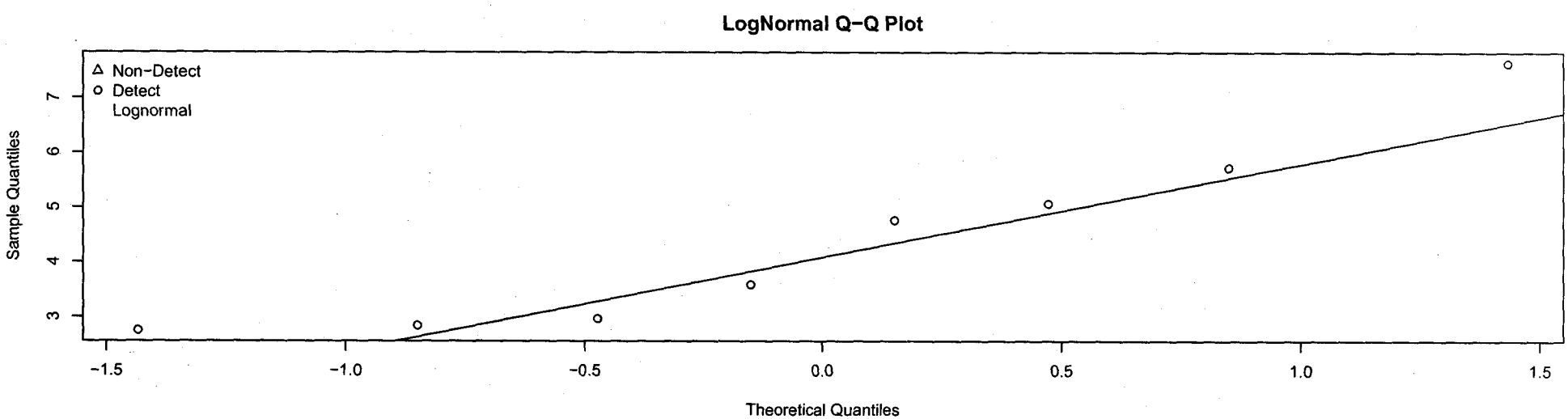
PYRENE





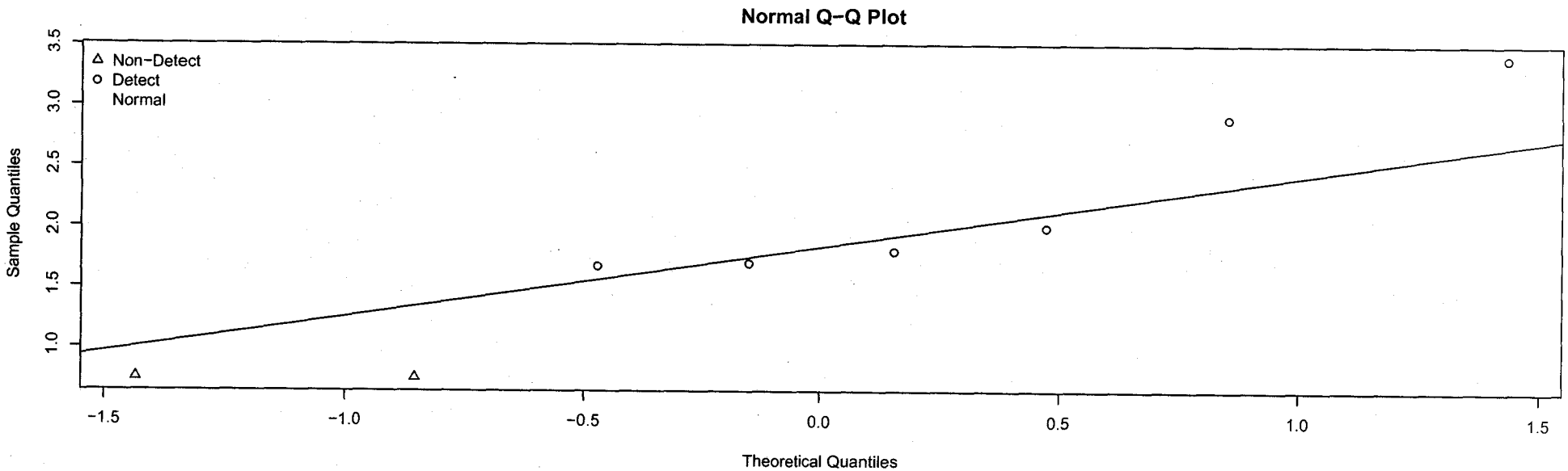
Coffins Ice Pond
Fall Surface Water
TOTAL ALUMINUM

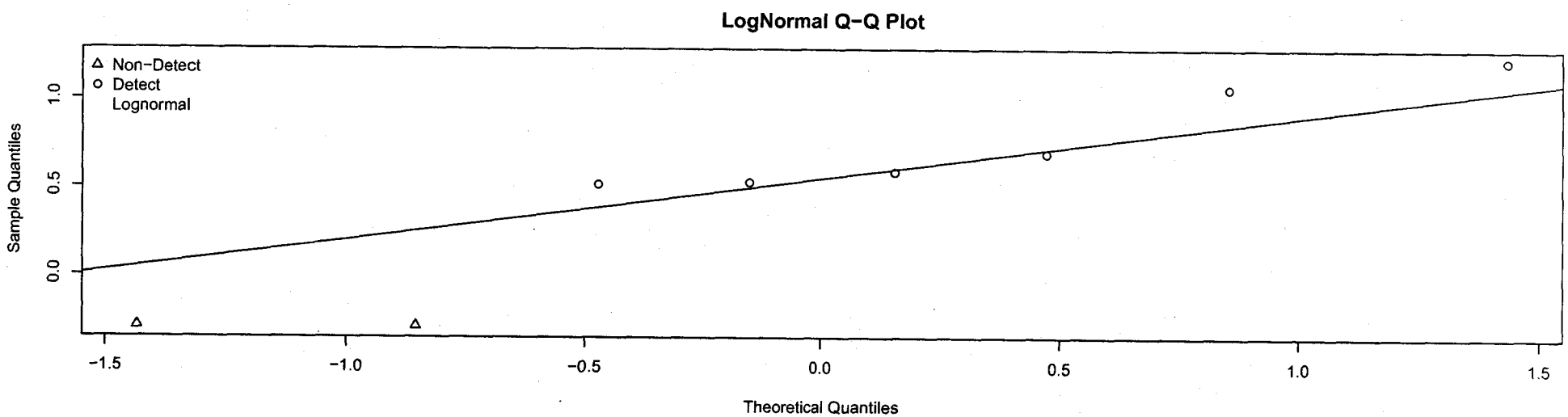




Coffins Ice Pond
Fall Surface Water

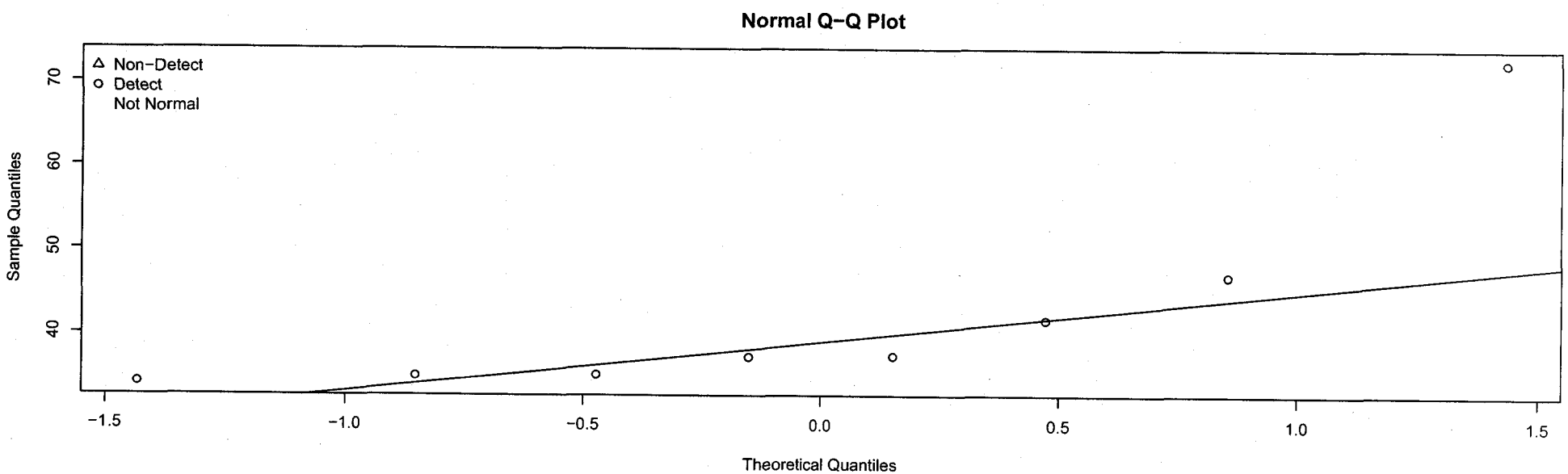
TOTAL ARSENIC

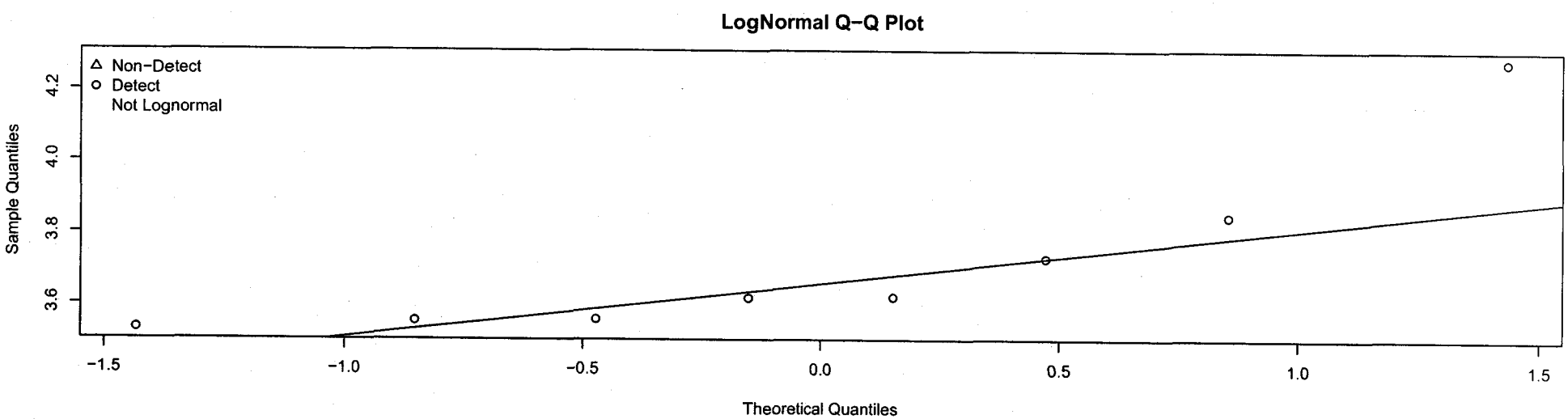




Coffins Ice Pond
Fall Surface Water

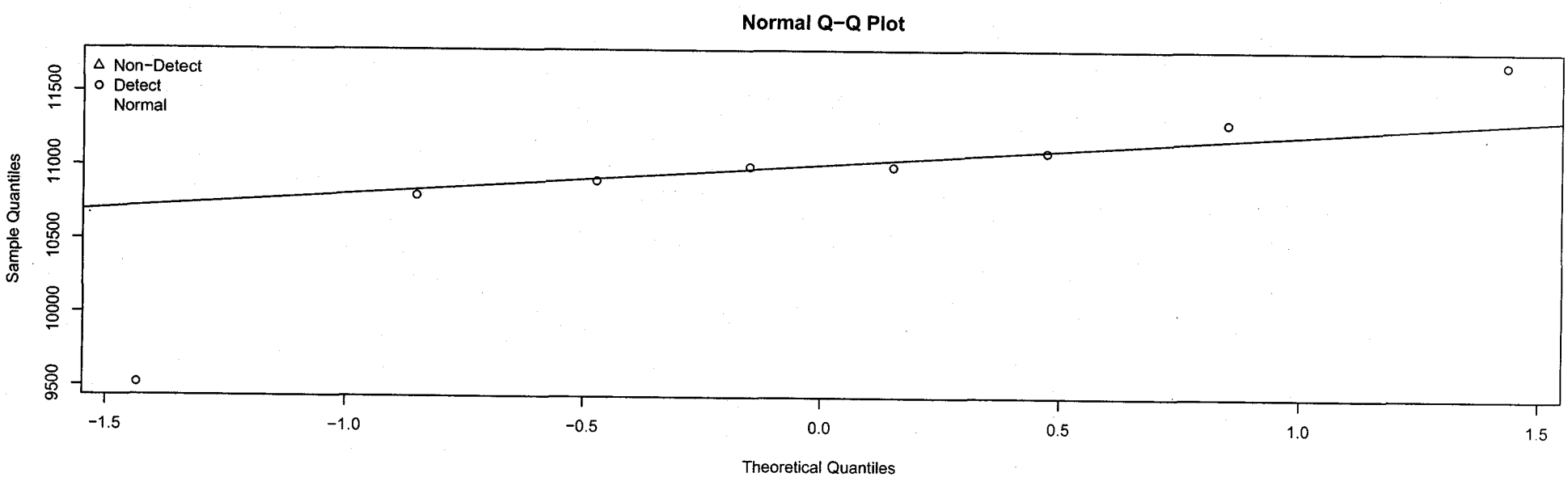
TOTAL BARIUM

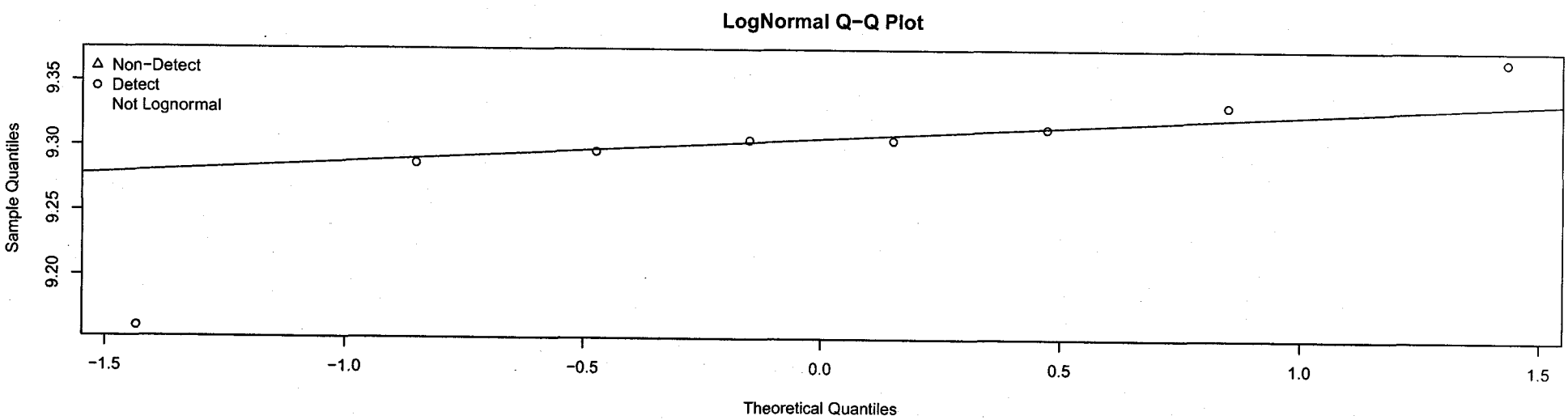




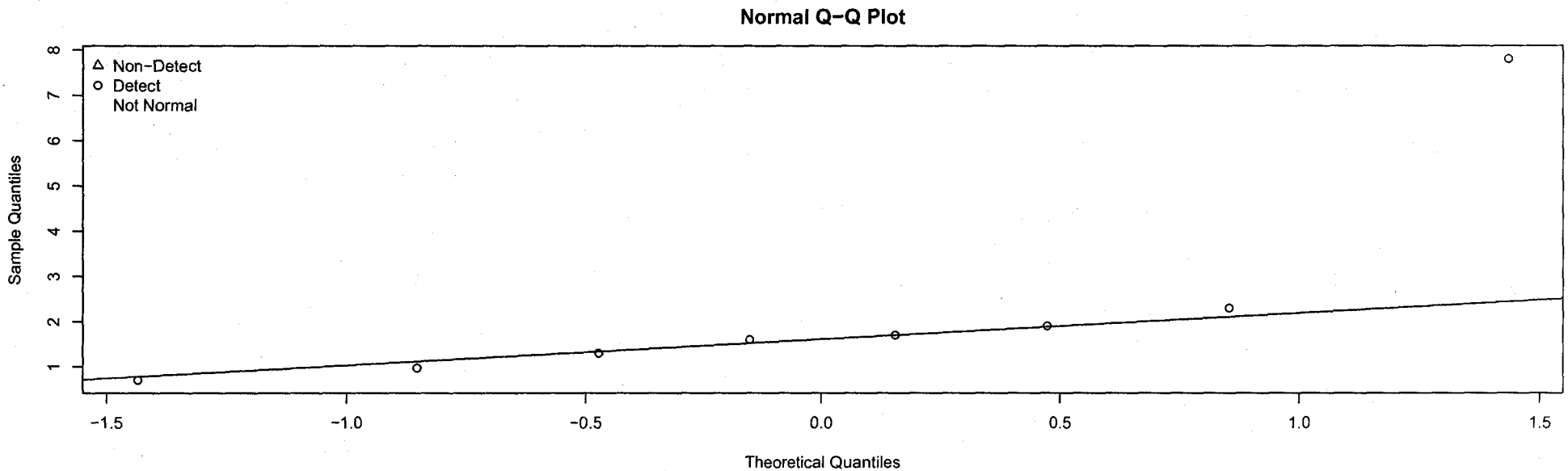
Coffins Ice Pond
Fall Surface Water

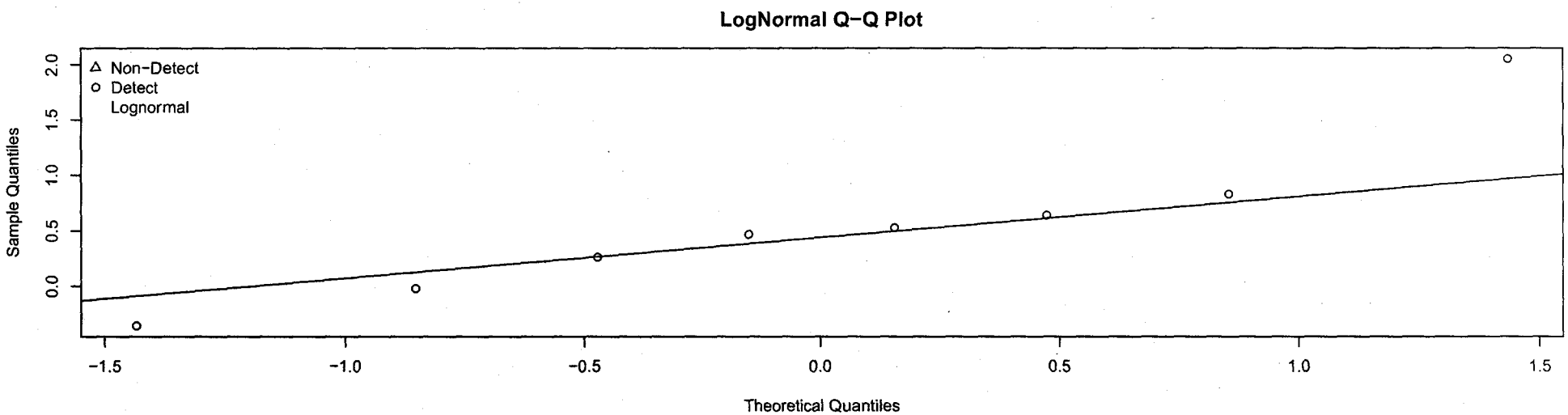
TOTAL CALCIUM



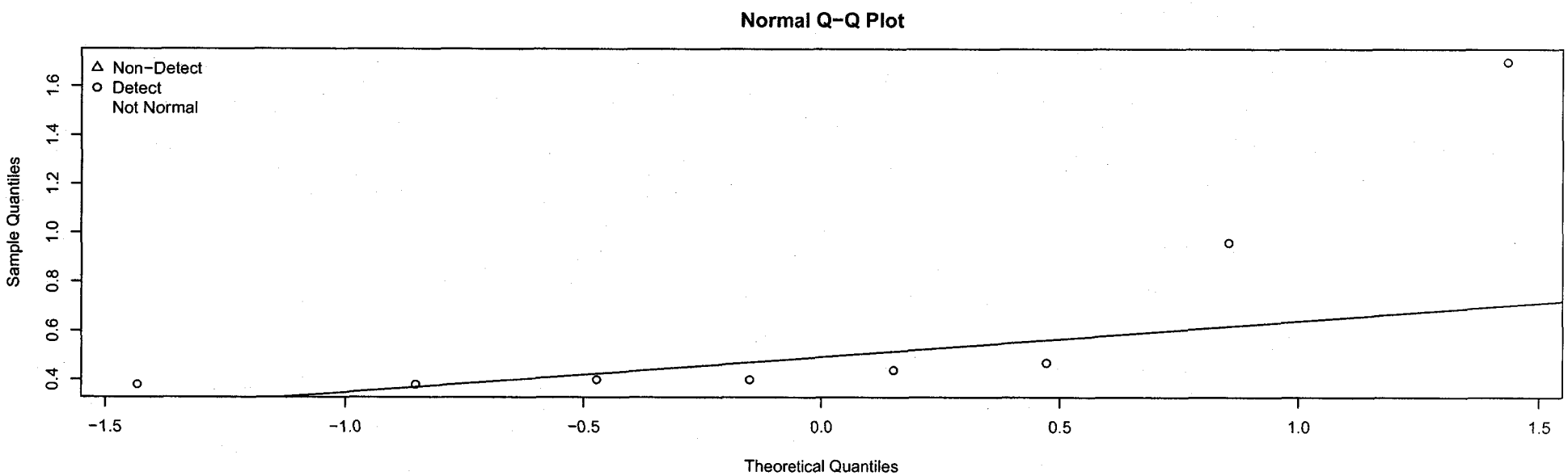


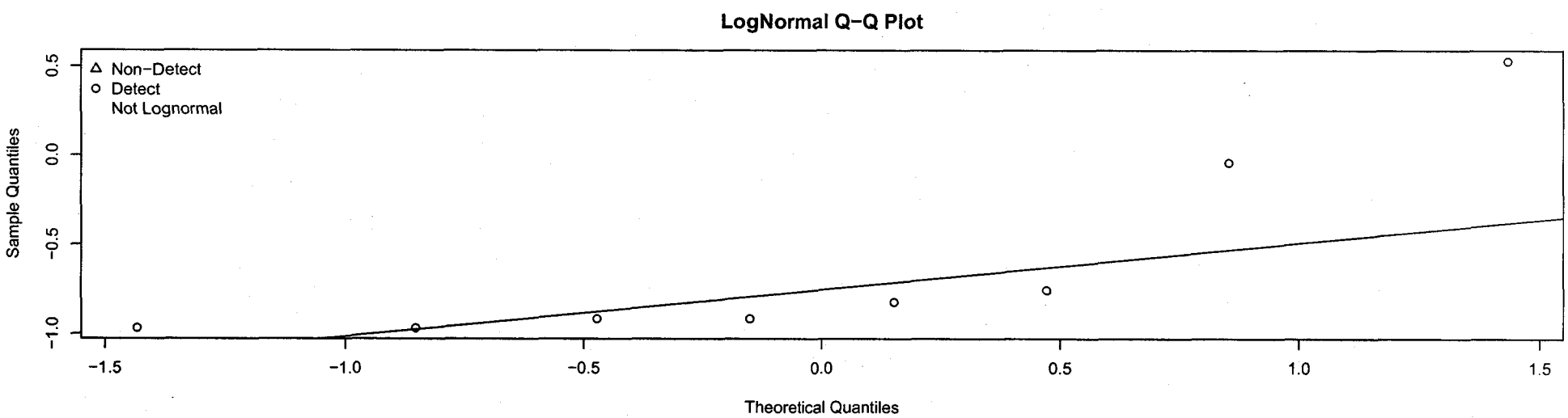
Coffins Ice Pond
Fall Surface Water
TOTAL CHROMIUM



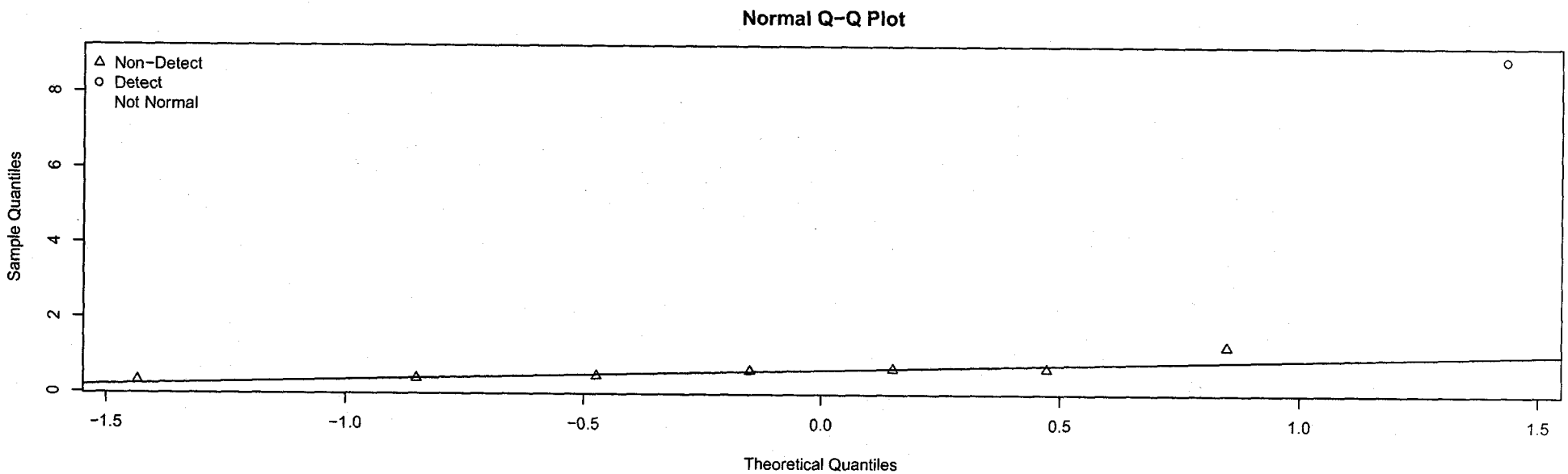


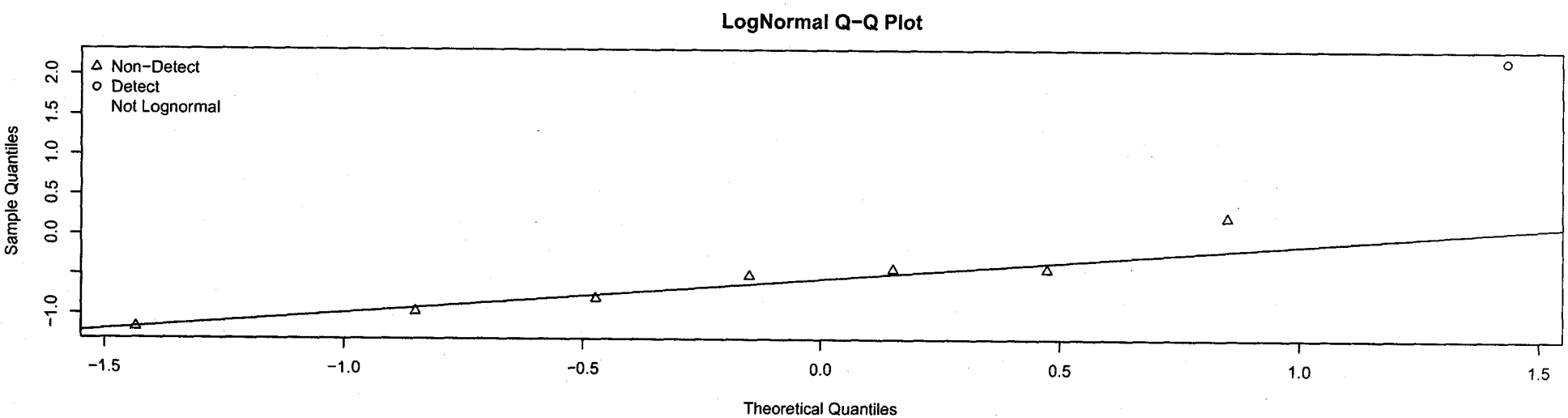
Coffins Ice Pond
Fall Surface Water
TOTAL COBALT





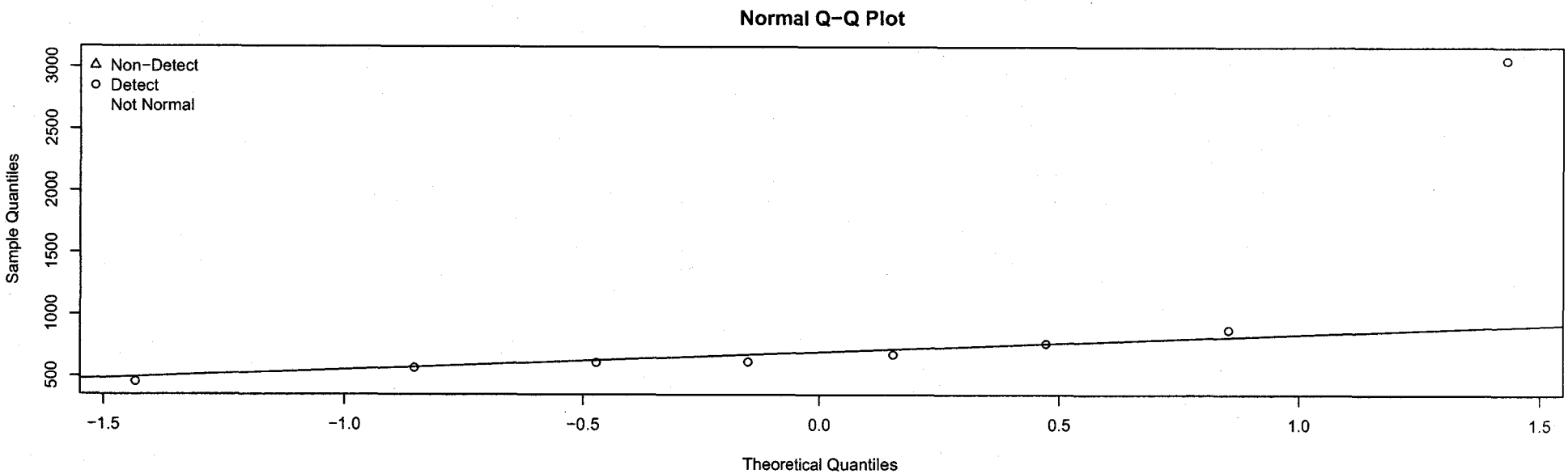
Coffins Ice Pond
Fall Surface Water
TOTAL COPPER

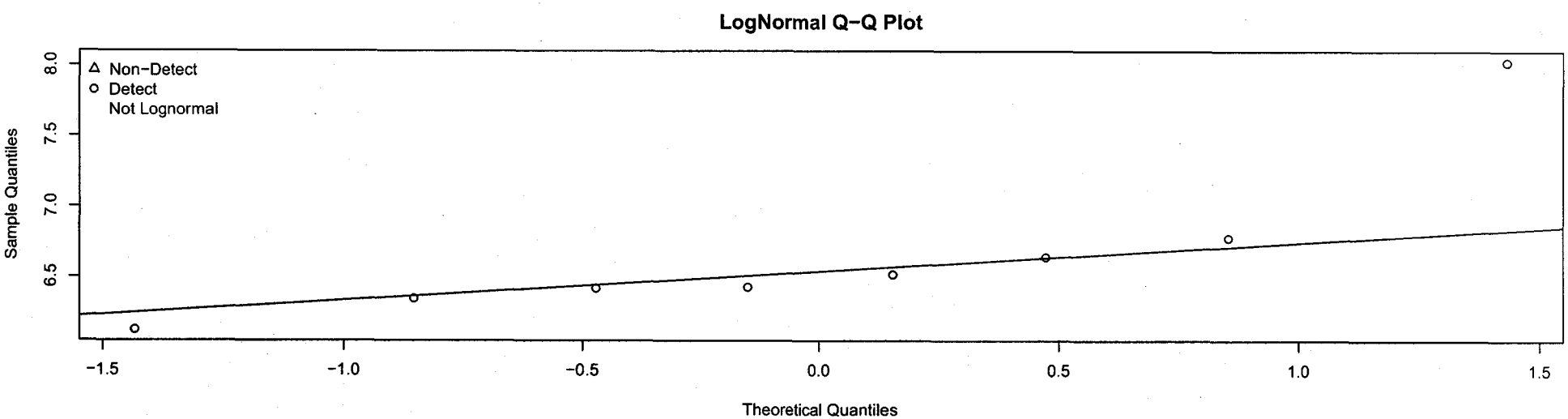




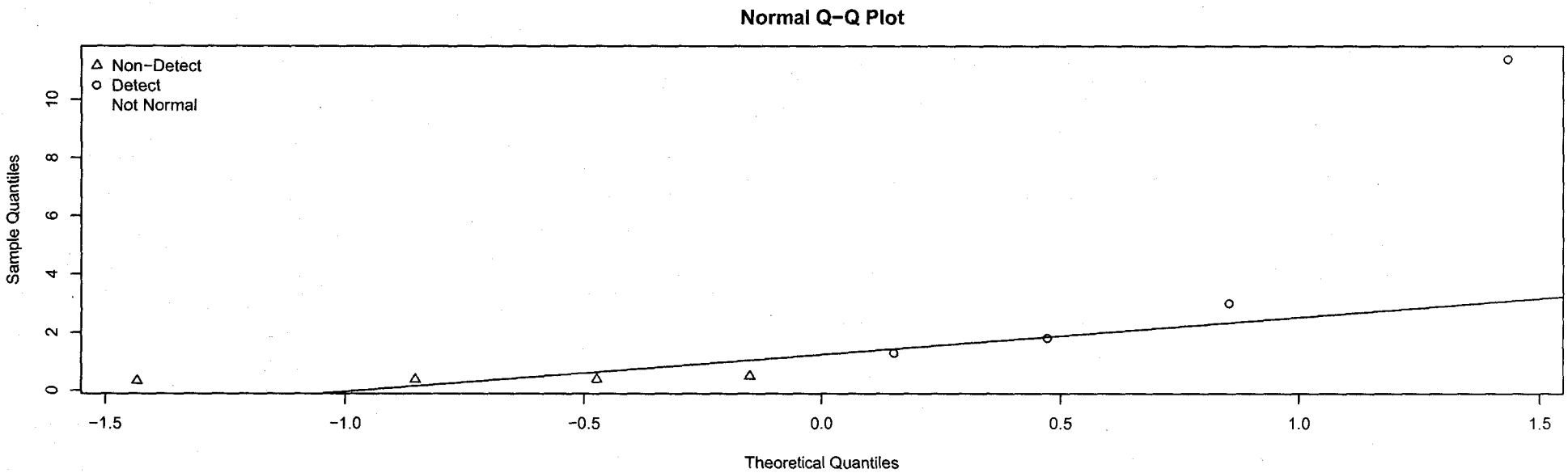
Coffins Ice Pond
Fall Surface Water

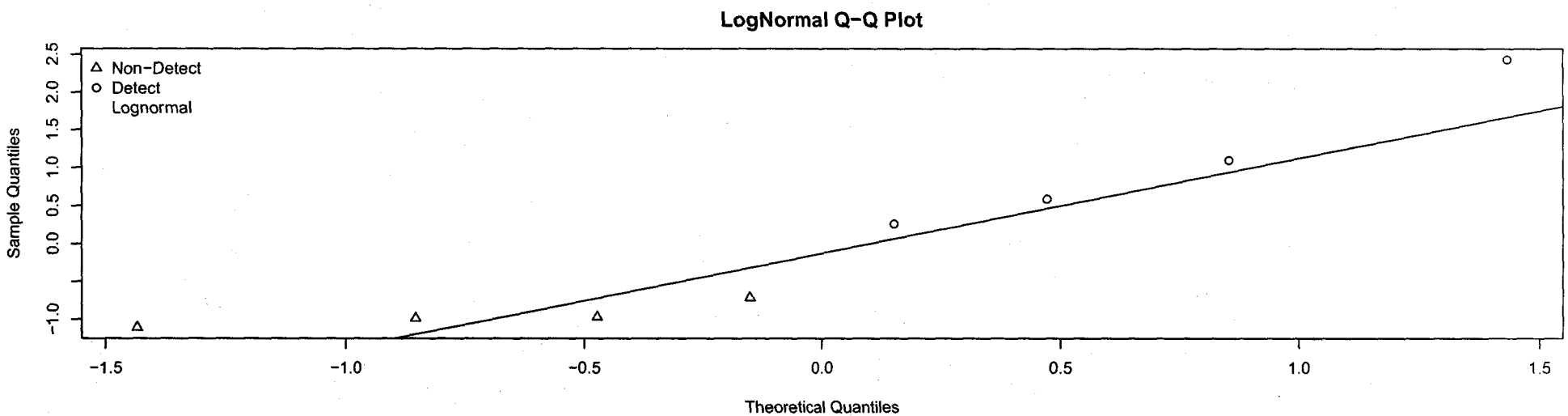
TOTAL IRON



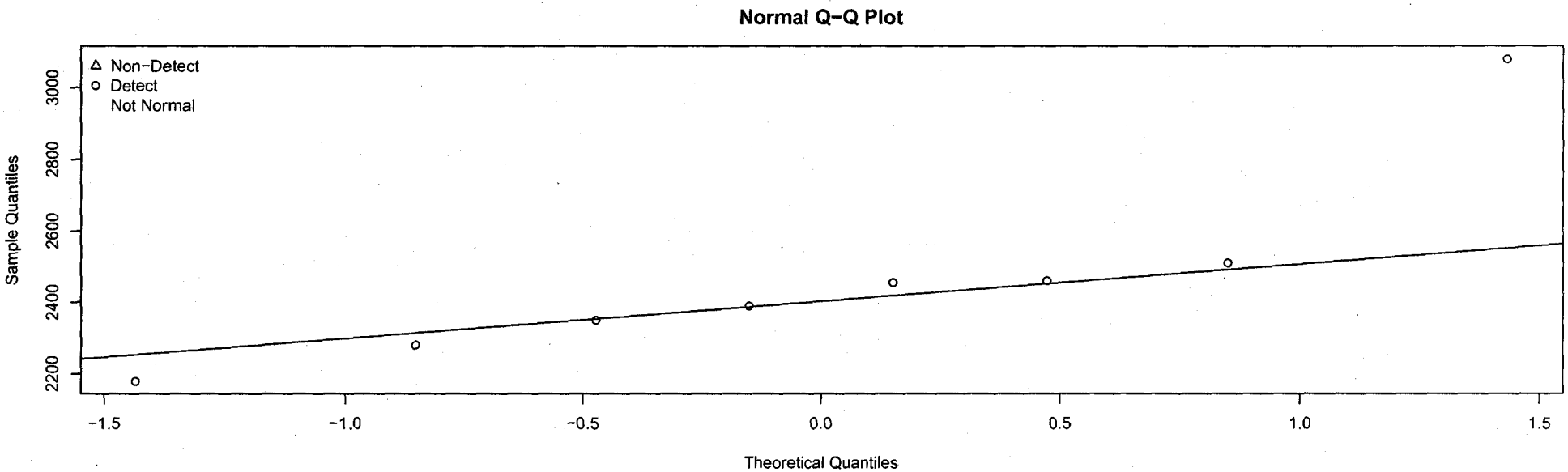


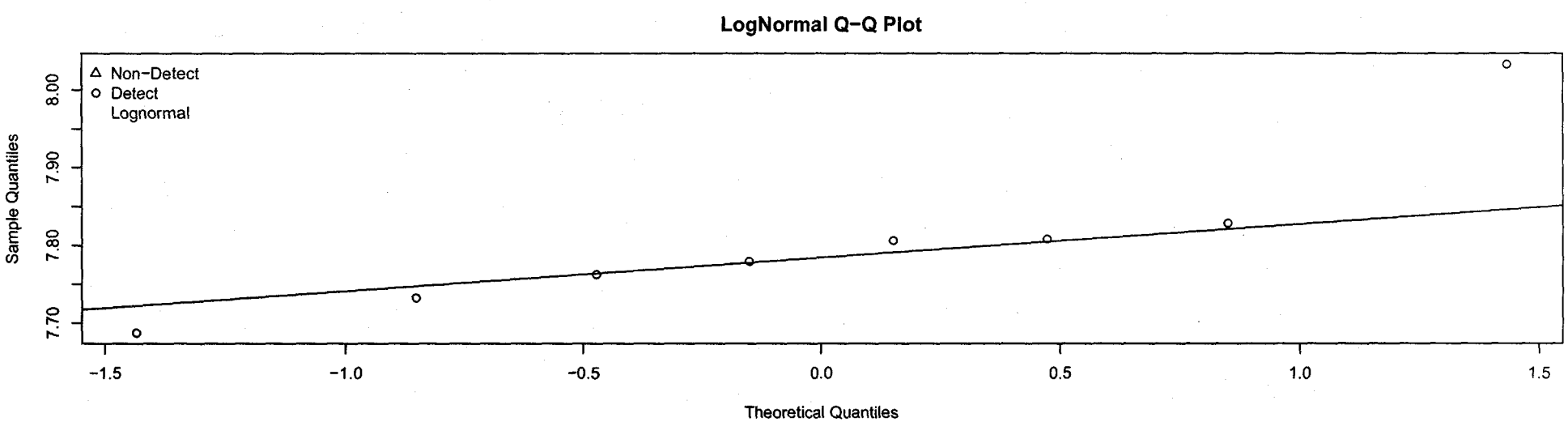
Coffins Ice Pond
Fall Surface Water
TOTAL LEAD



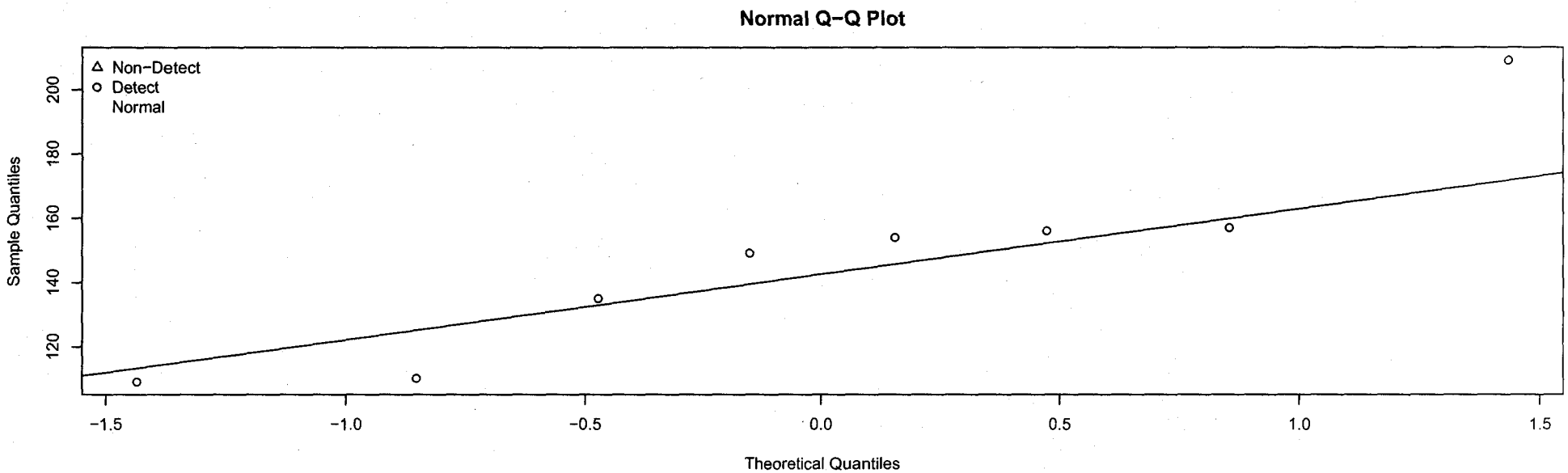


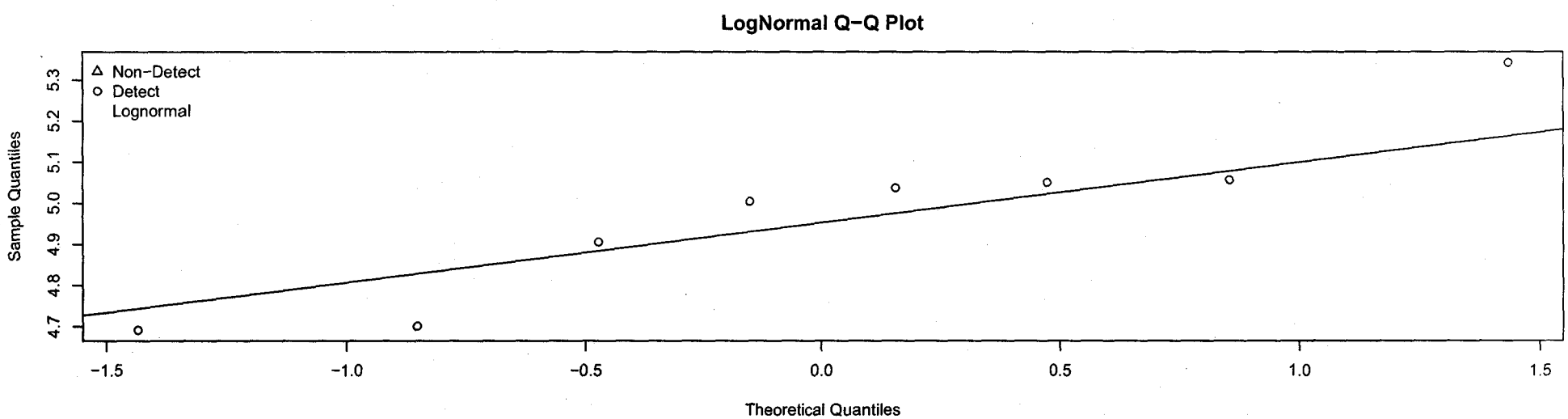
Coffins Ice Pond
Fall Surface Water
TOTAL MAGNESIUM



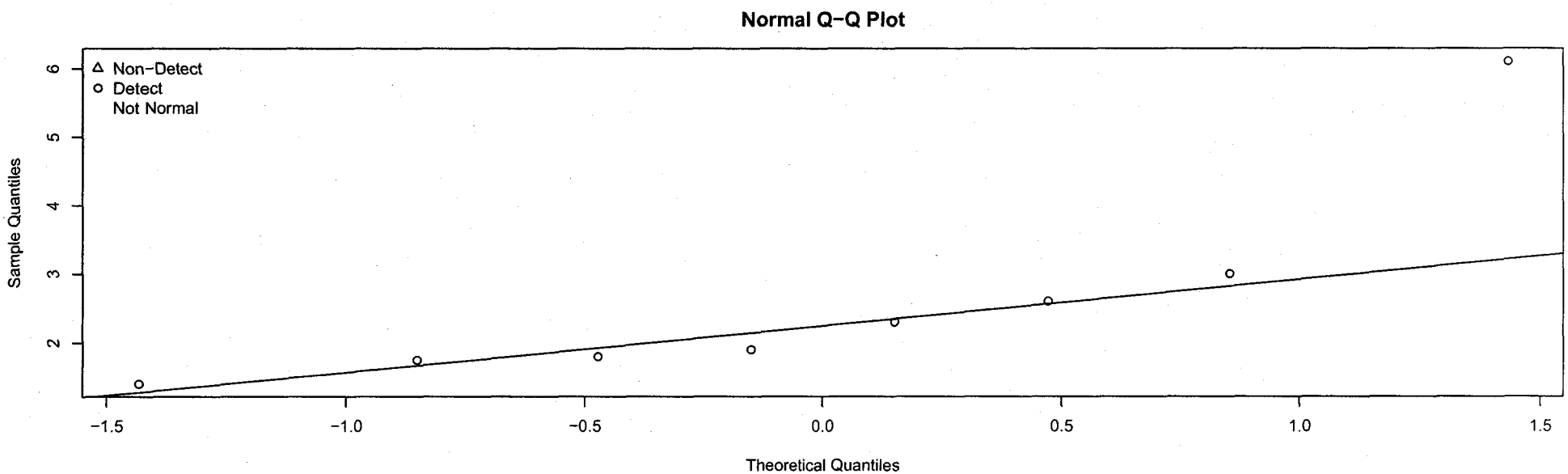


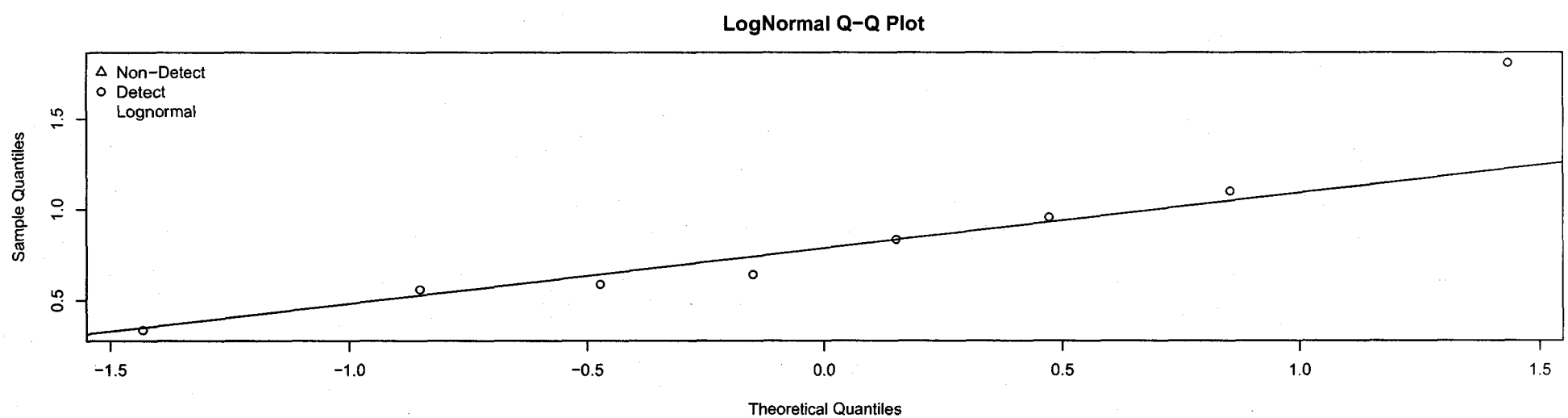
Coffins Ice Pond
Fall Surface Water
TOTAL MANGANESE





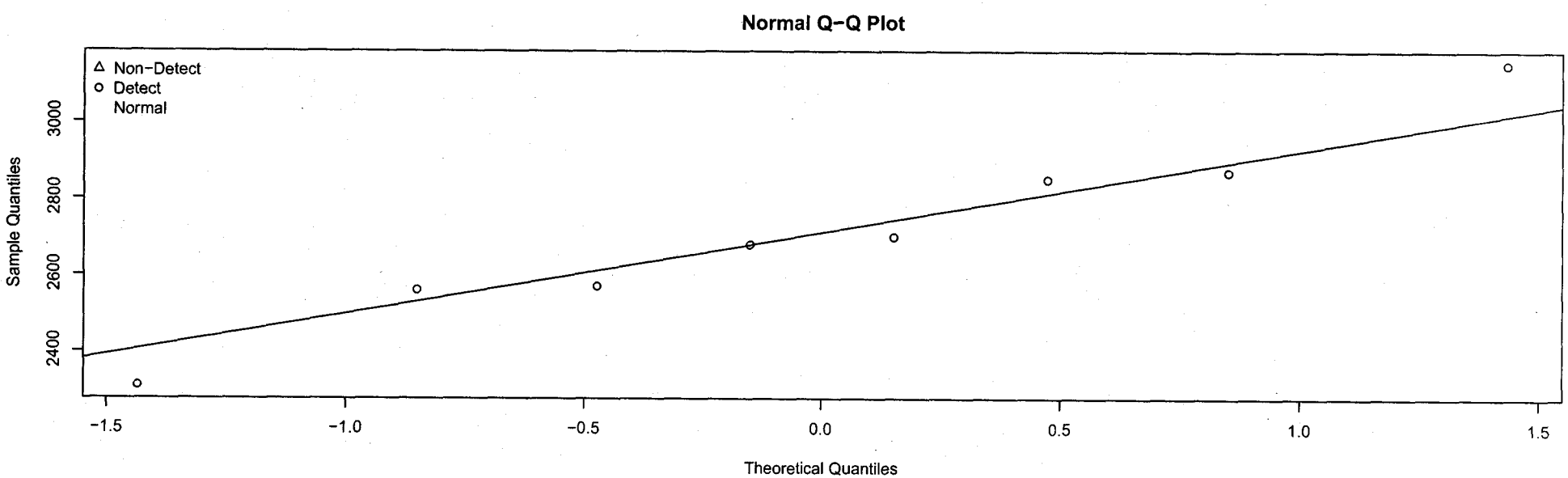
Coffins Ice Pond
Fall Surface Water
TOTAL NICKEL

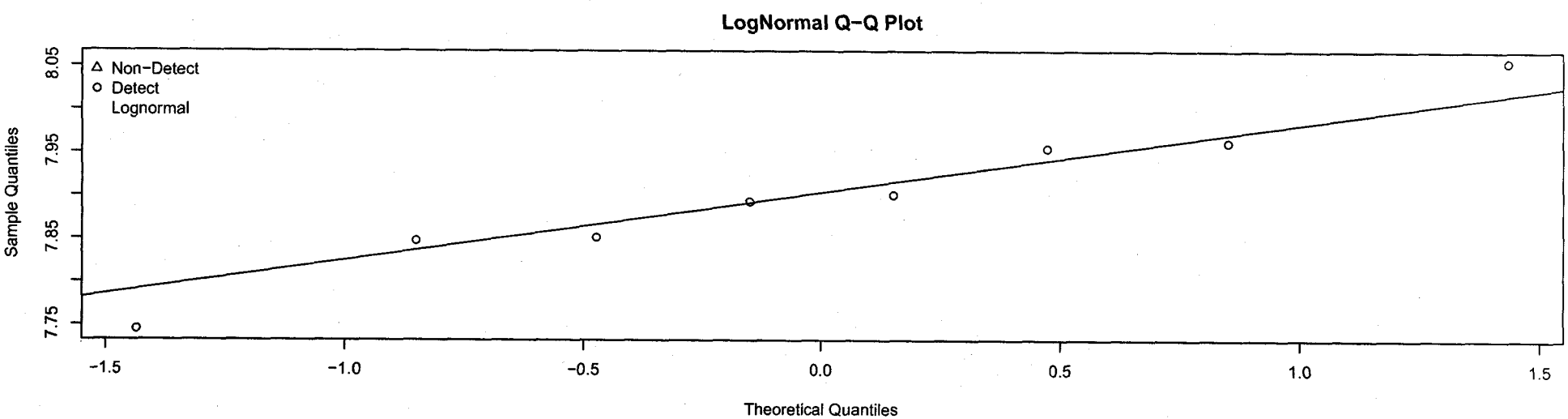




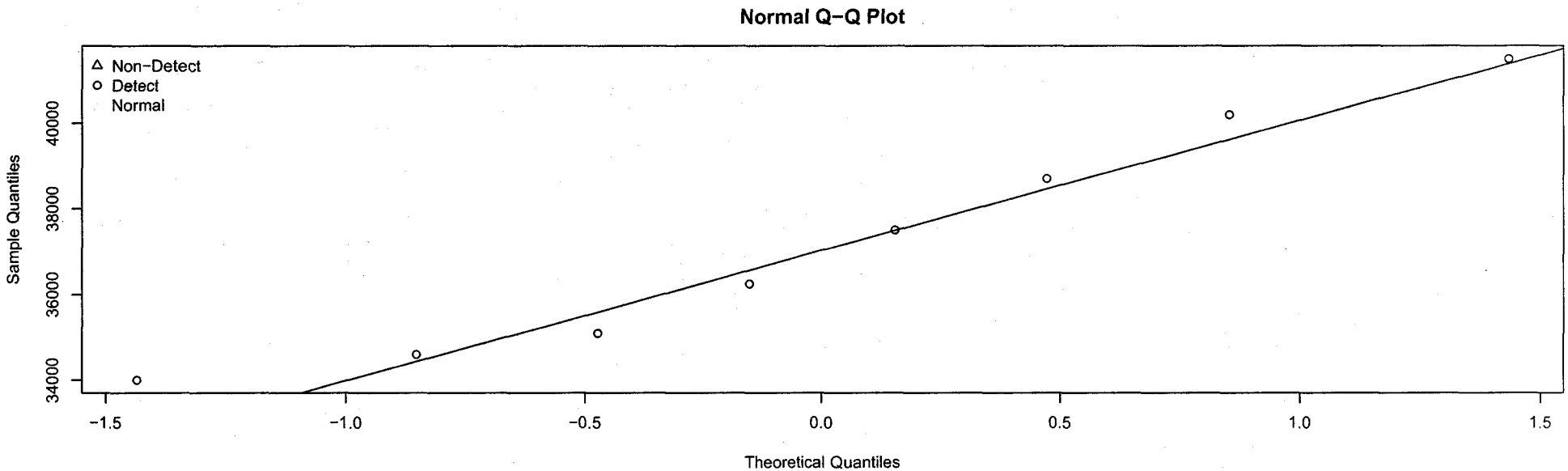
Coffins Ice Pond
Fall Surface Water

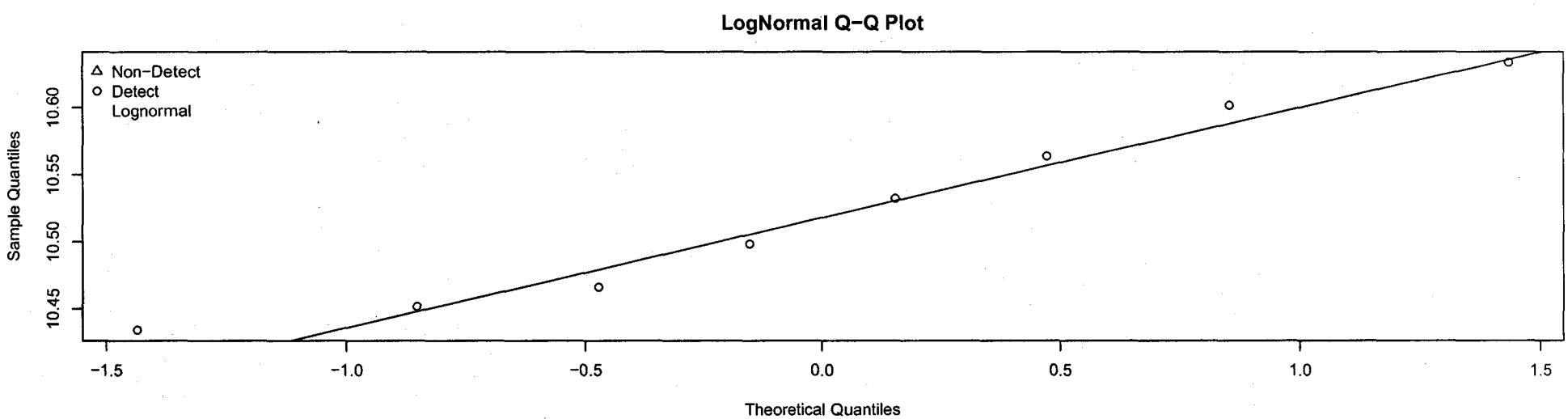
TOTAL POTASSIUM



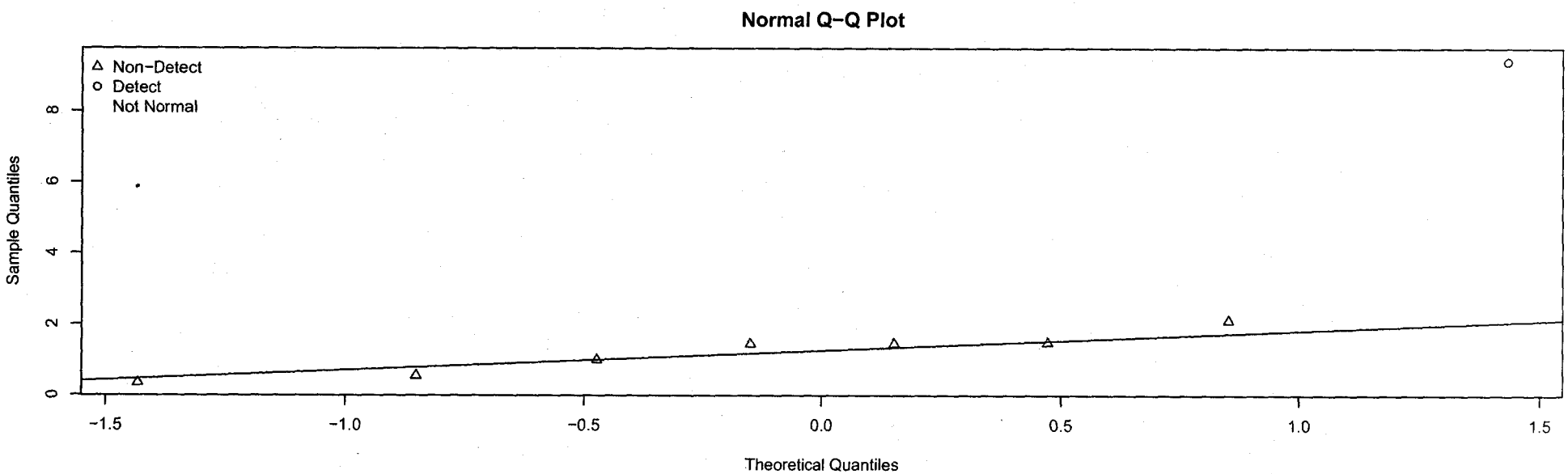


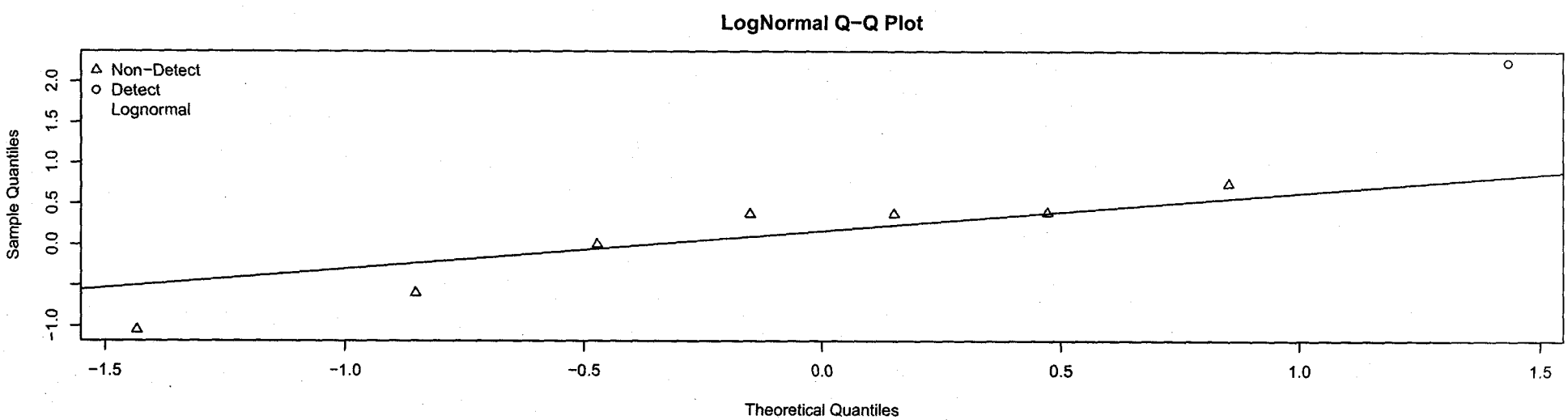
Coffins Ice Pond
Fall Surface Water
TOTAL SODIUM





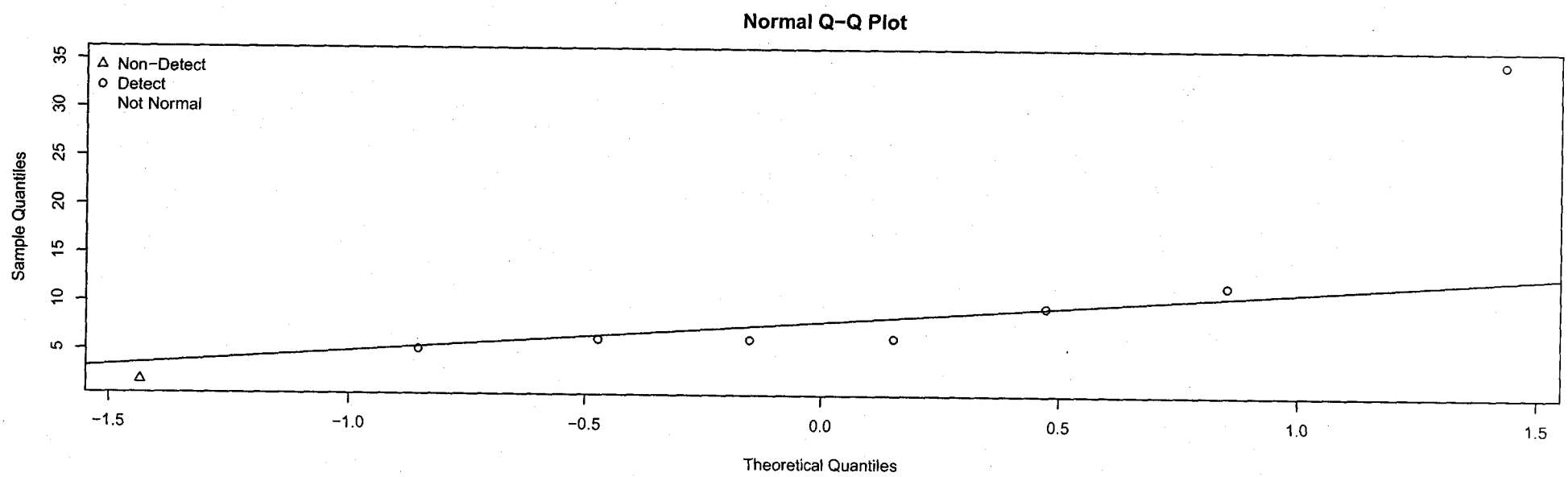
Coffins Ice Pond
Fall Surface Water
TOTAL VANADIUM

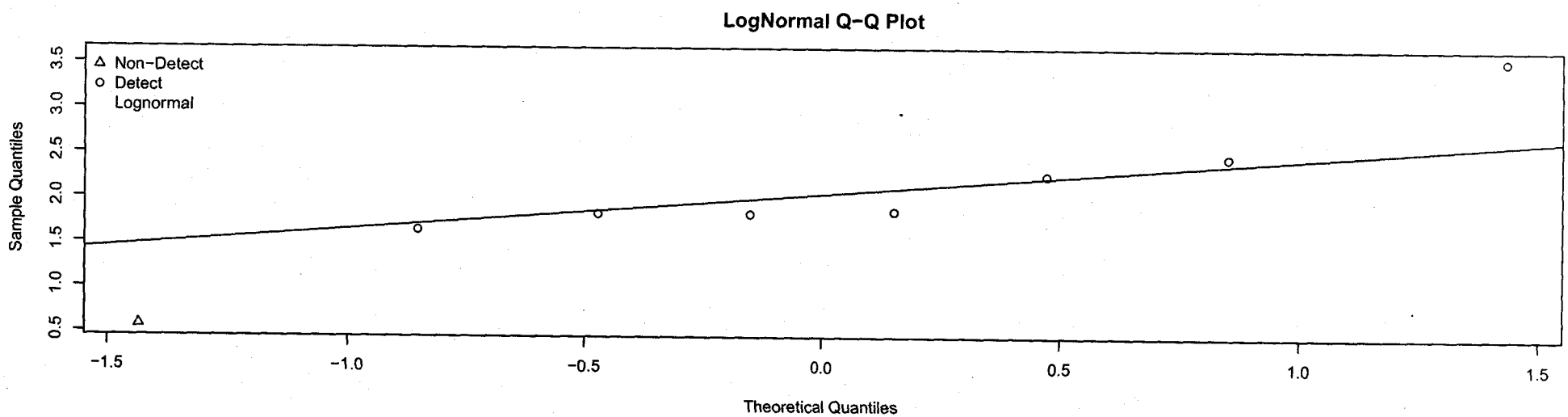




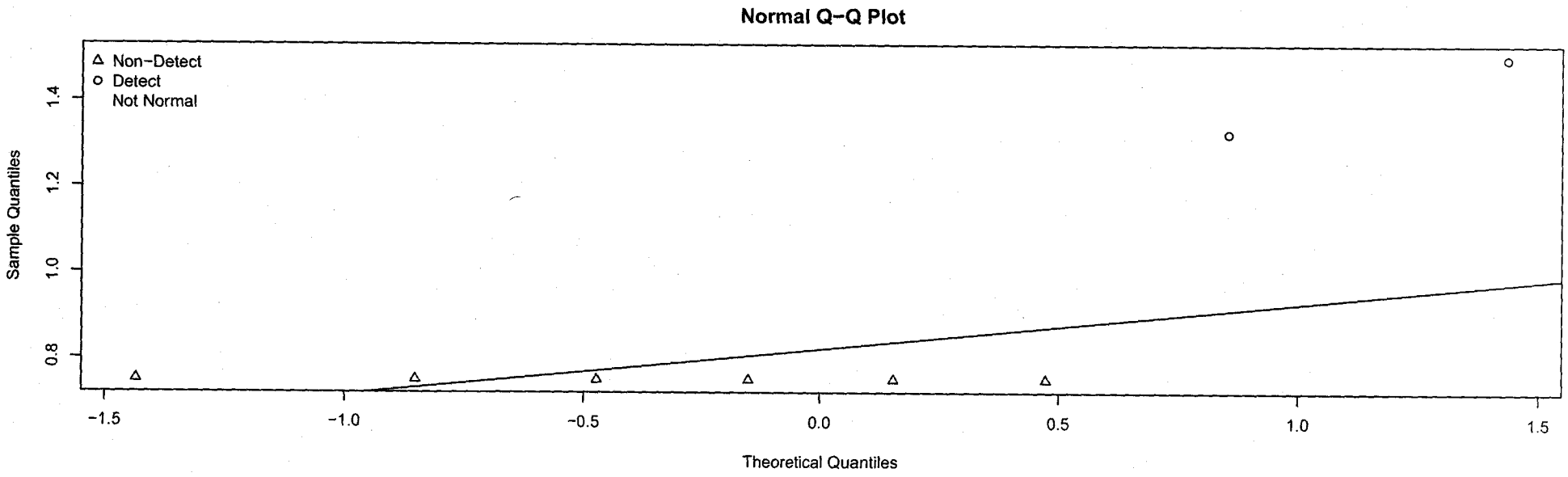
Coffins Ice Pond
Fall Surface Water

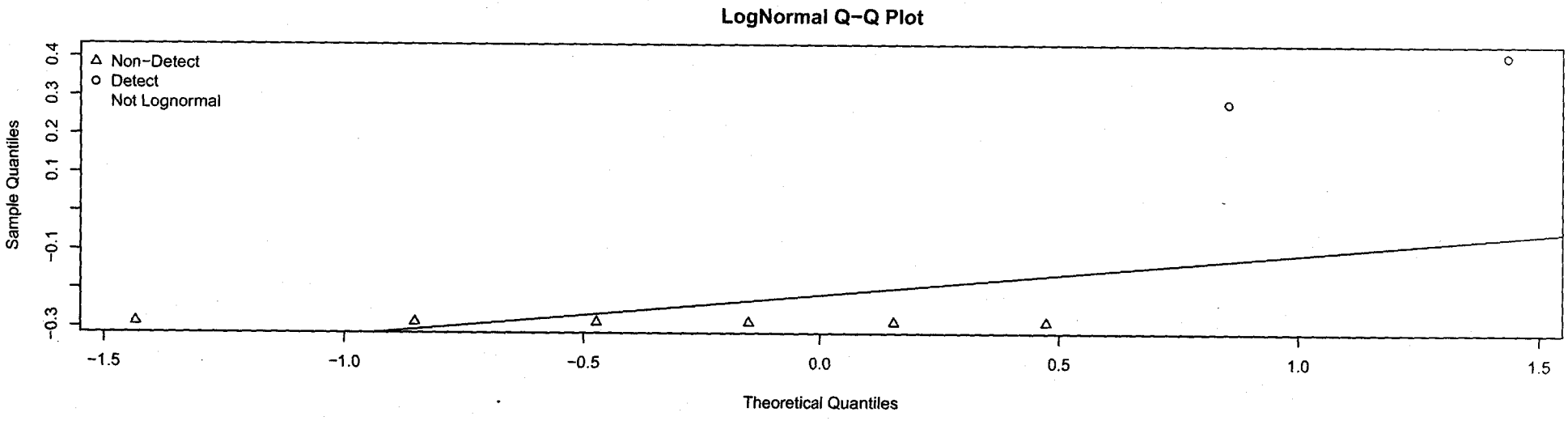
TOTAL ZINC



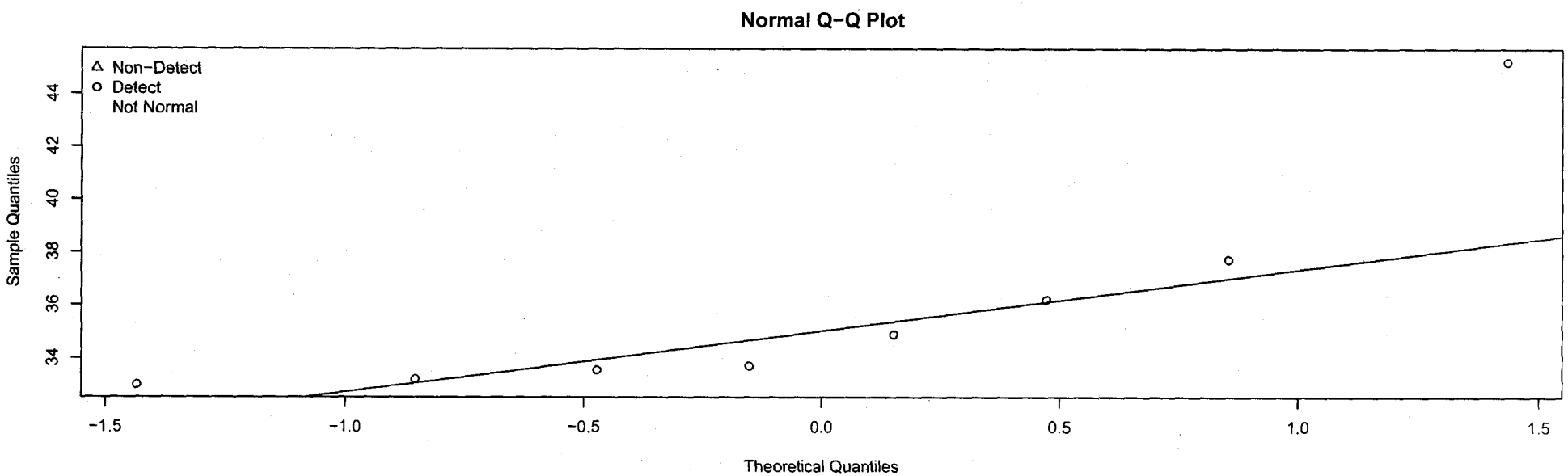


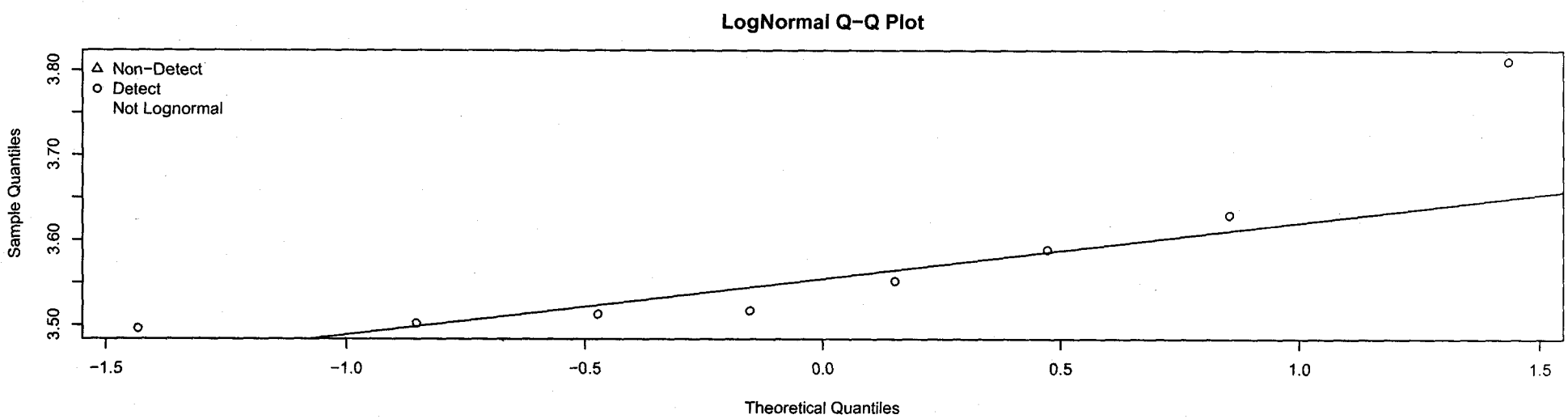
Coffins Ice Pond
Fall Surface Water
DISSOLVED ARSENIC



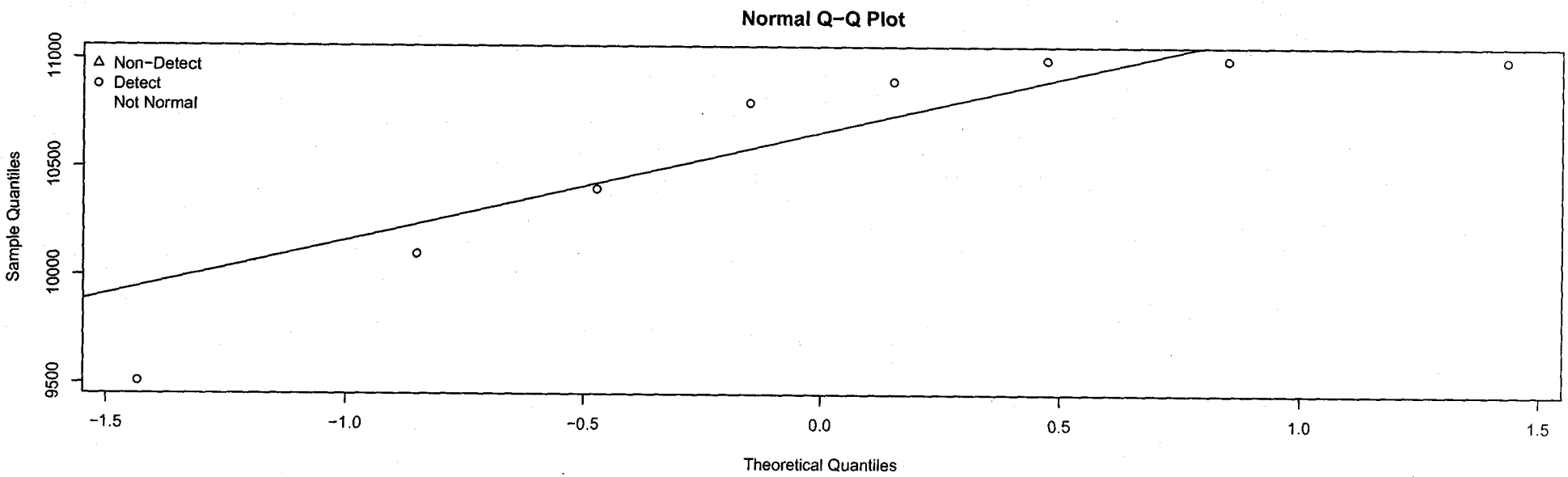


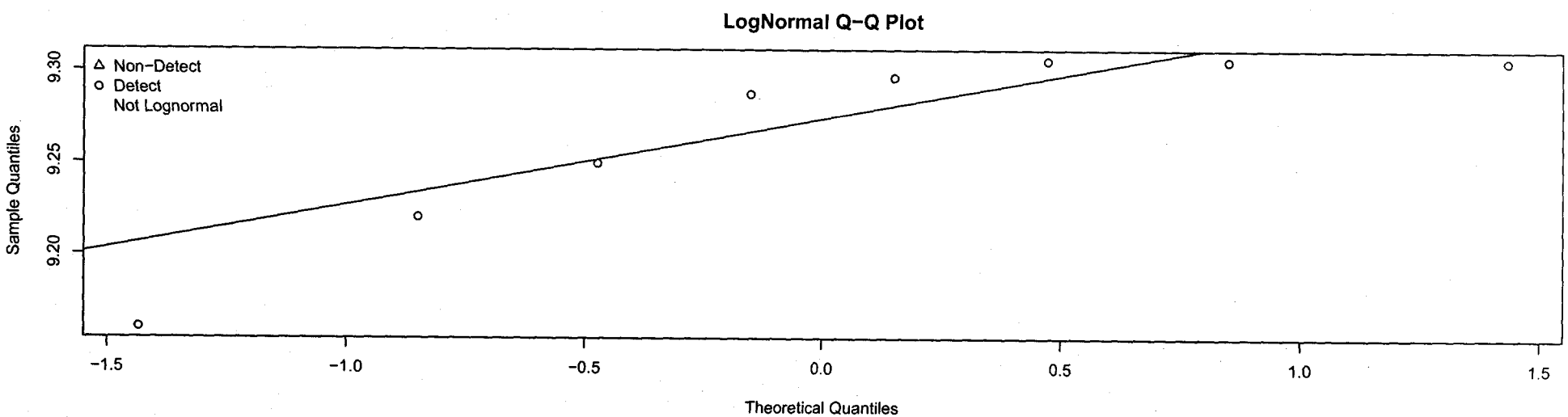
Coffins Ice Pond
Fall Surface Water
DISSOLVED BARIUM



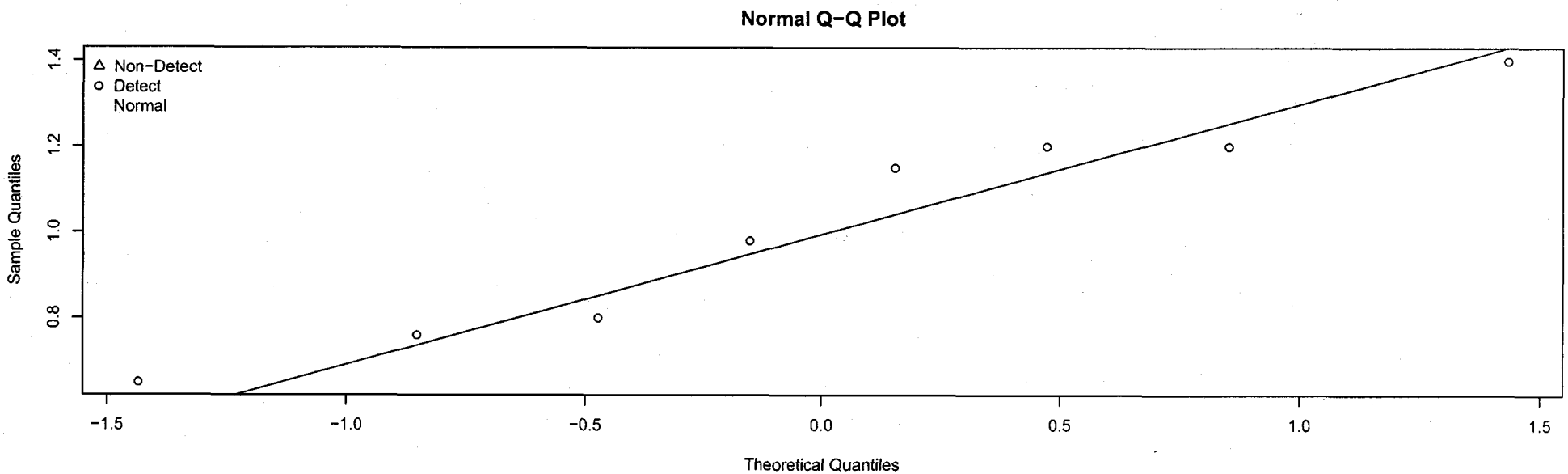


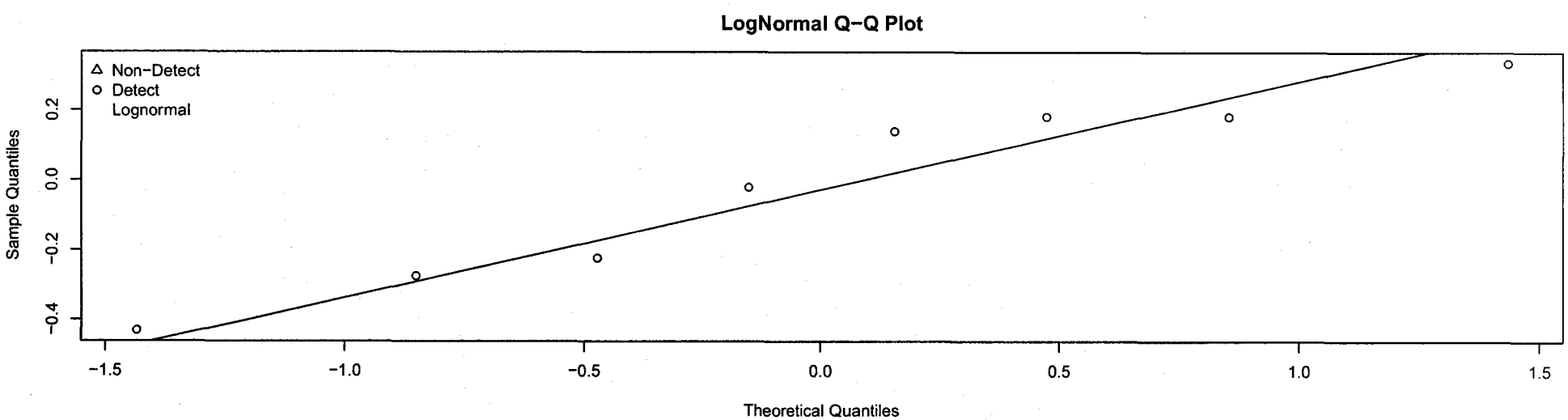
Coffins Ice Pond
Fall Surface Water
DISSOLVED CALCIUM



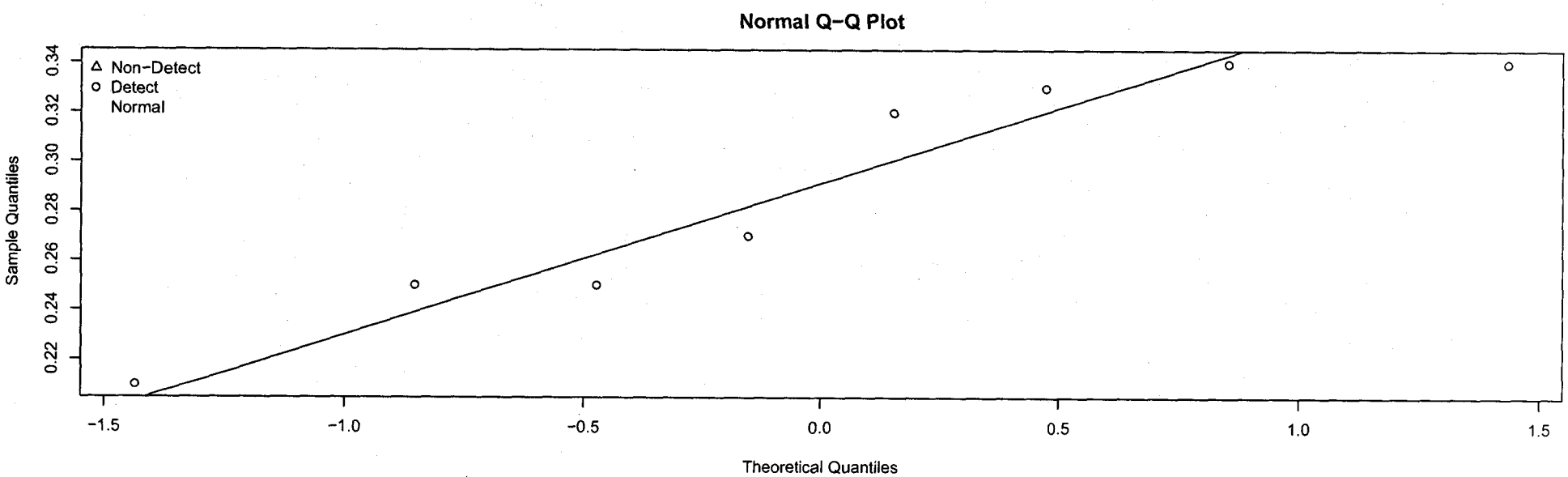


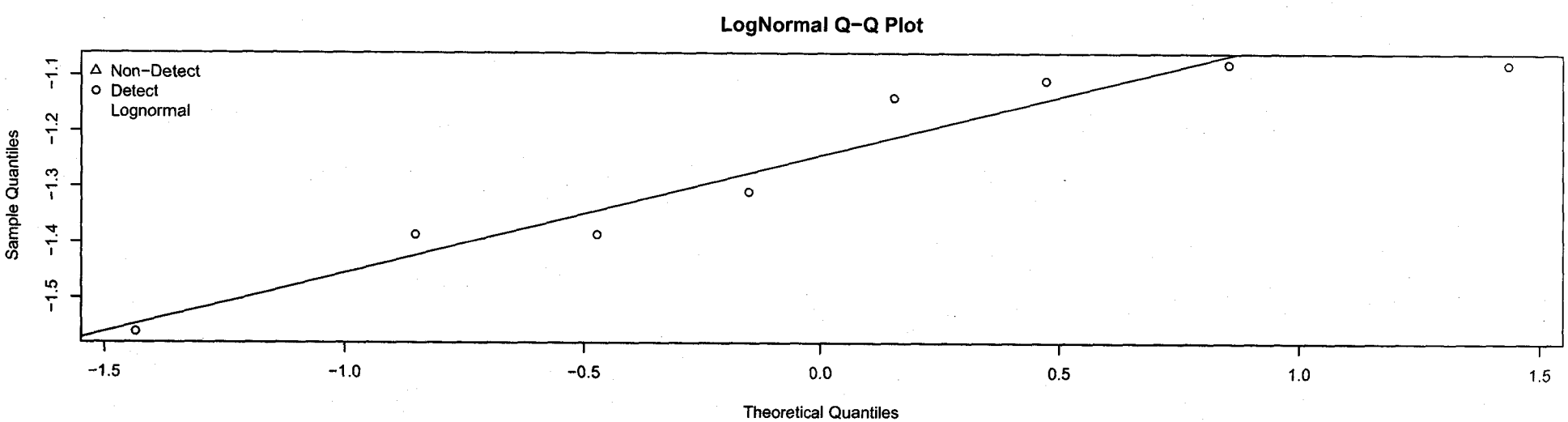
Coffins Ice Pond
Fall Surface Water
DISSOLVED CHROMIUM





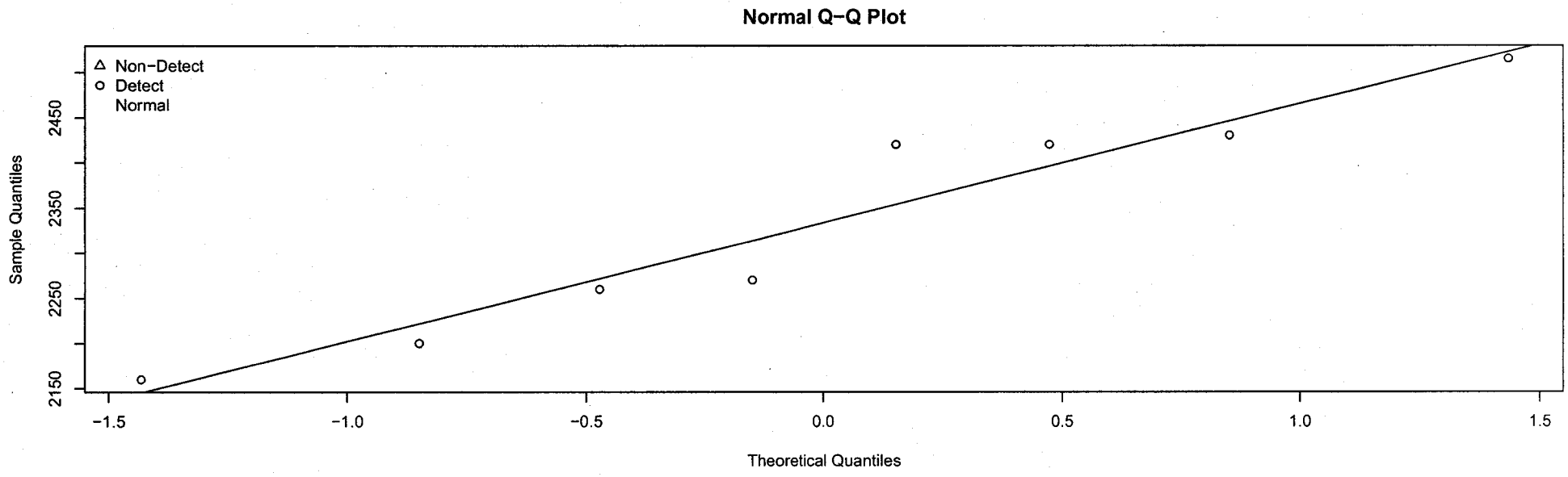
Coffins Ice Pond
Fall Surface Water
DISSOLVED COBALT

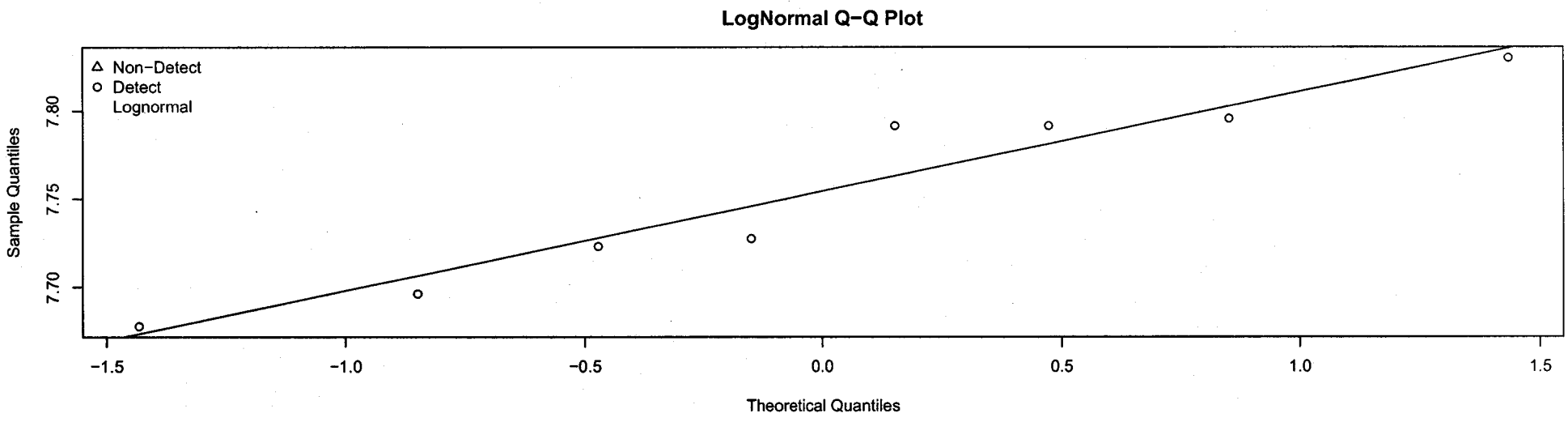




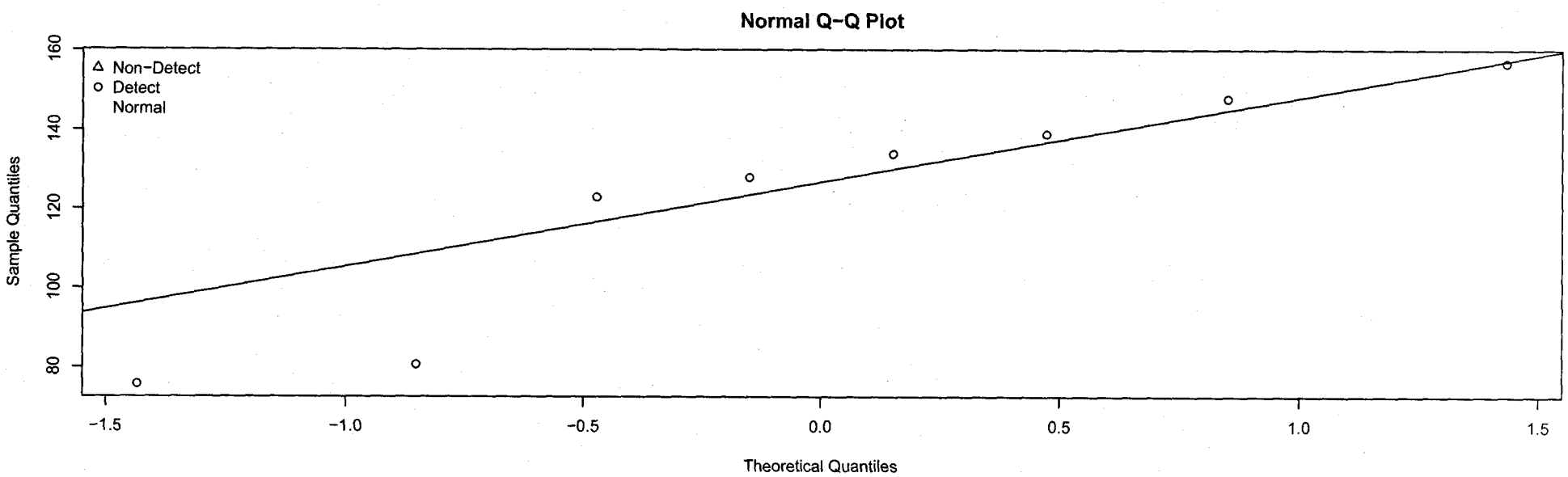
Coffins Ice Pond
Fall Surface Water

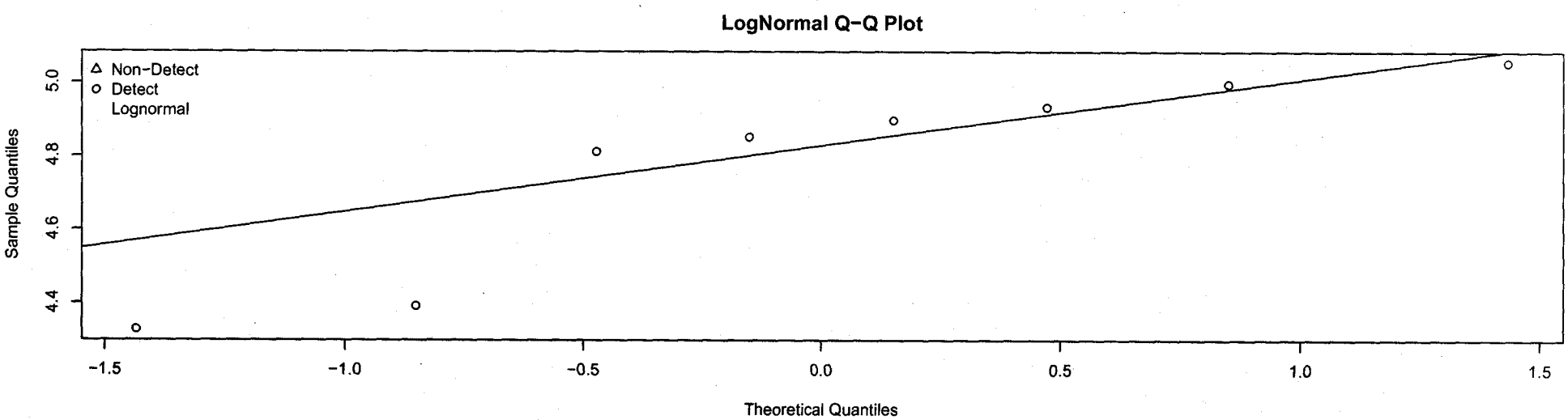
DISSOLVED MAGNESIUM



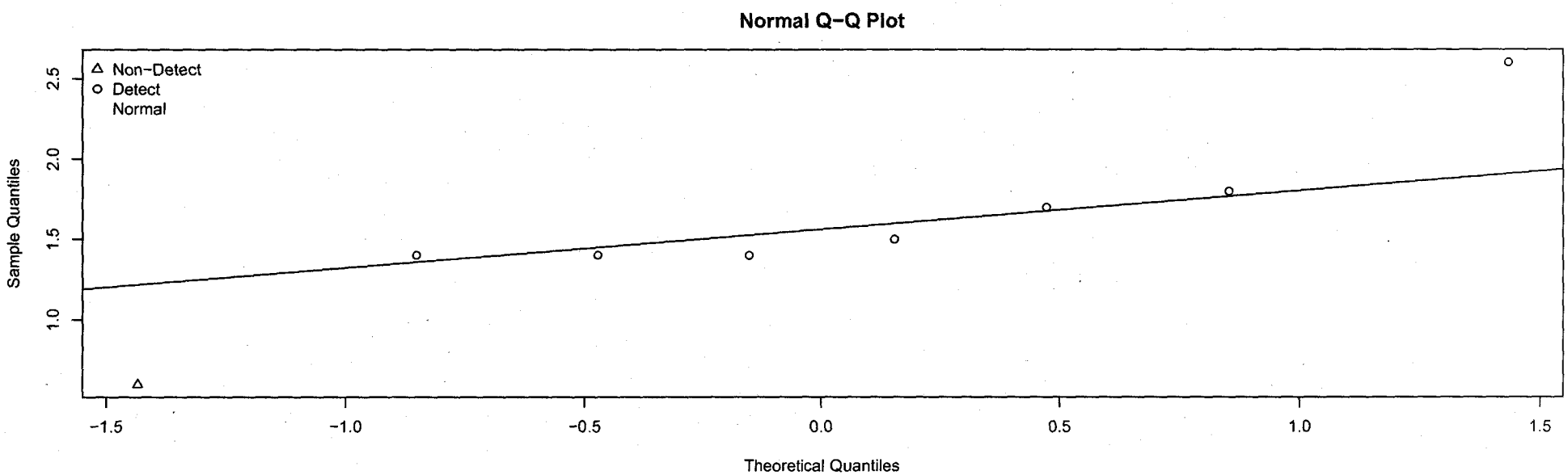


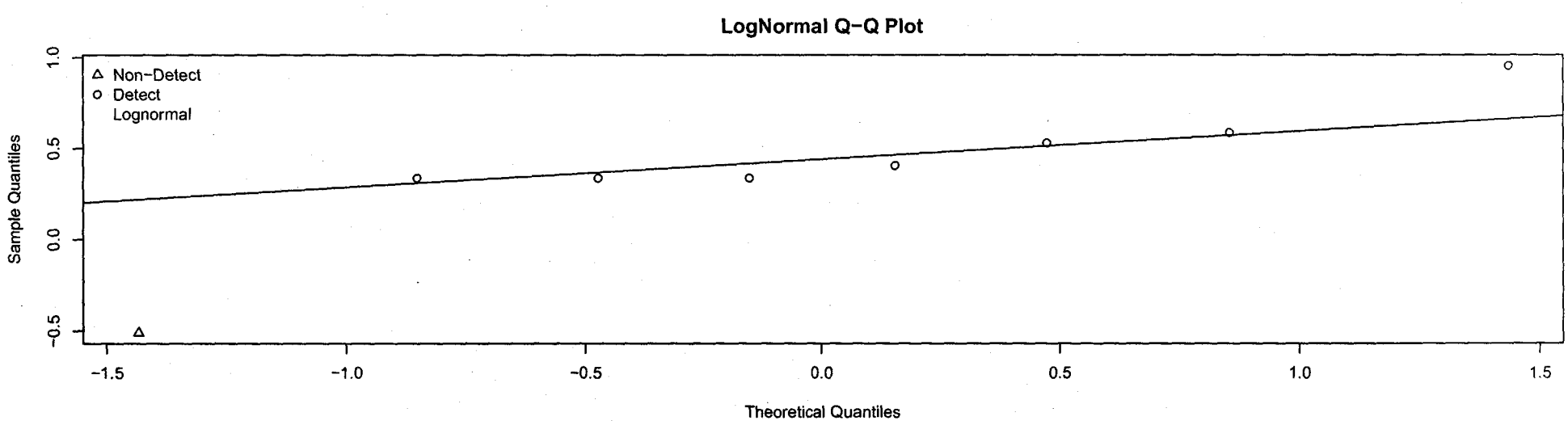
Coffins Ice Pond
Fall Surface Water
DISSOLVED MANGANESE



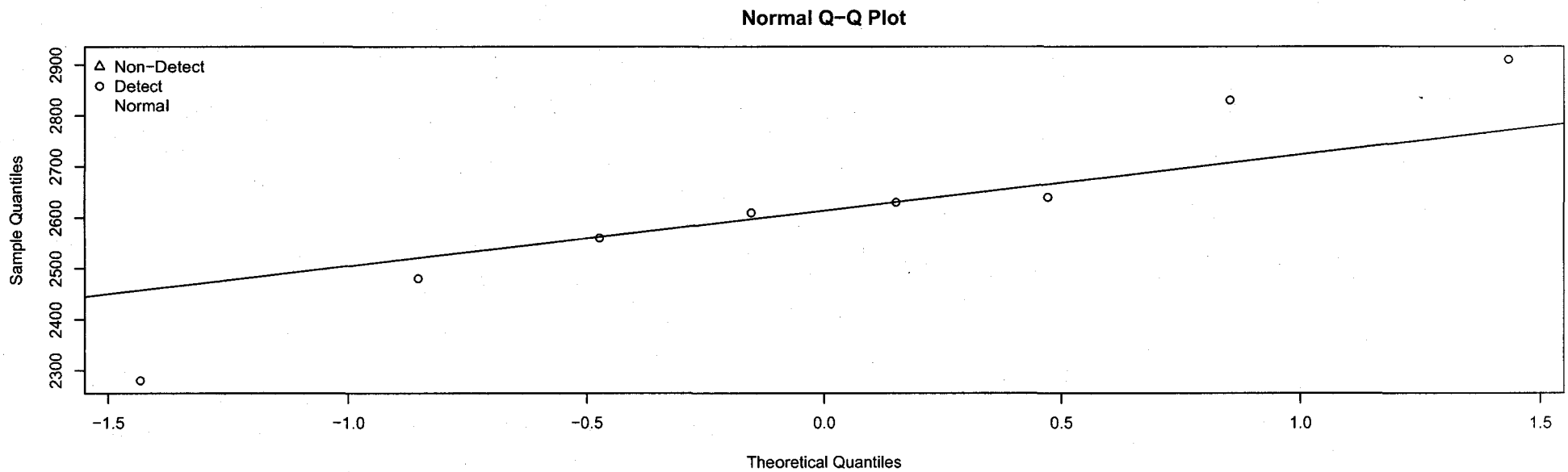


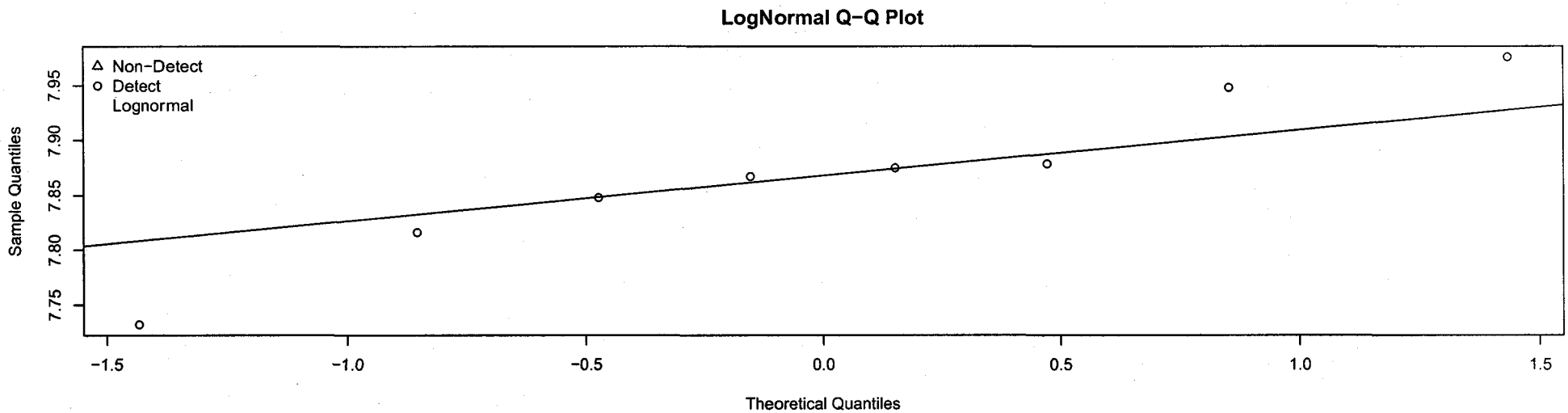
Coffins Ice Pond
Fall Surface Water
DISSOLVED NICKEL



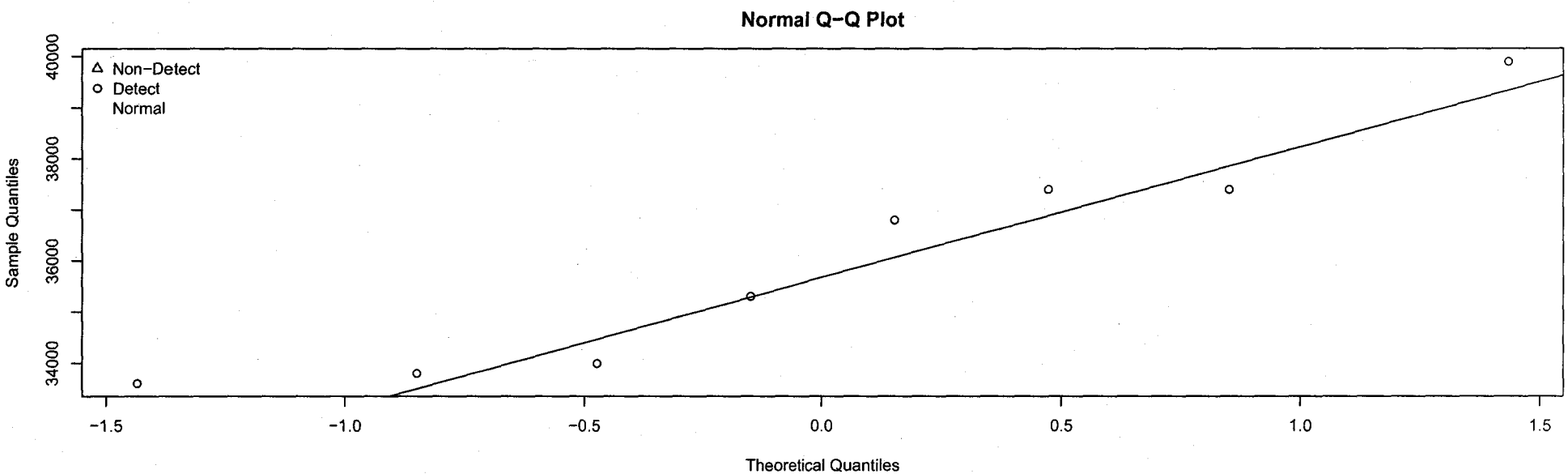


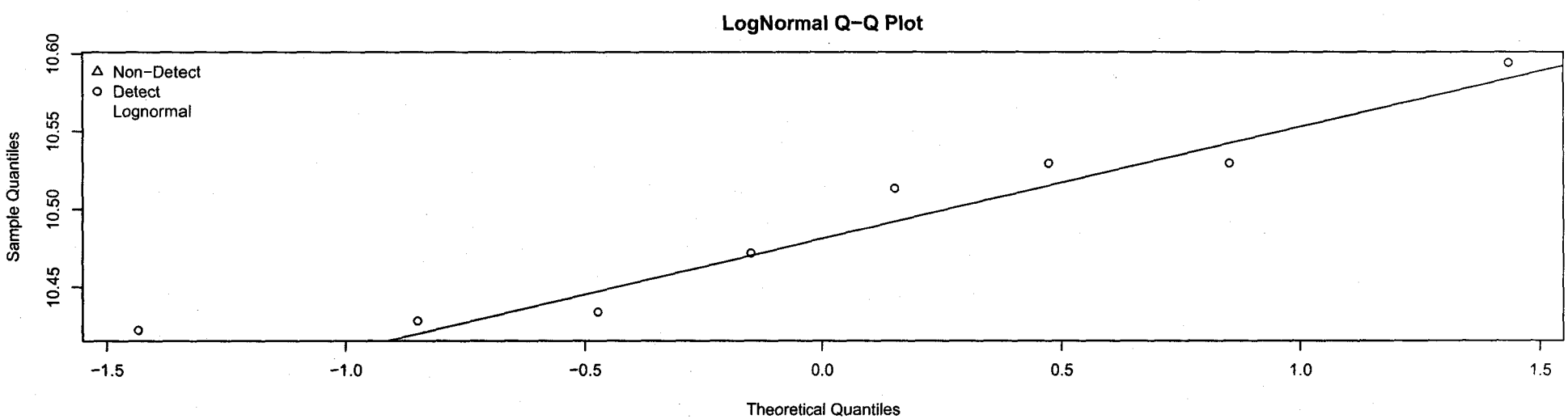
Coffins Ice Pond
Fall Surface Water
DISSOLVED POTASSIUM



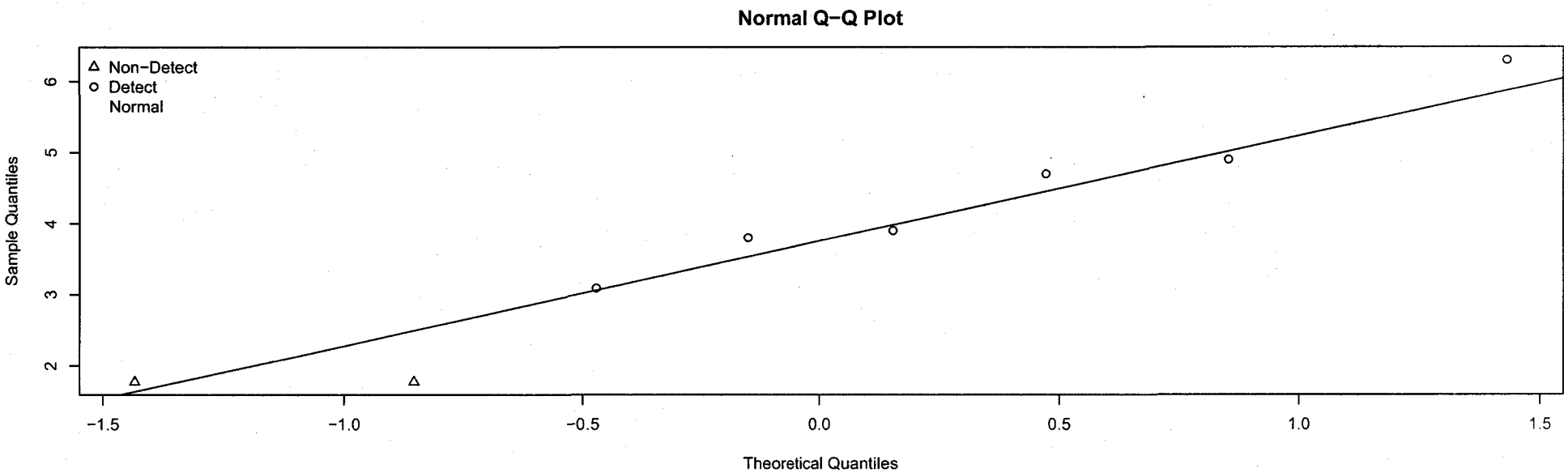


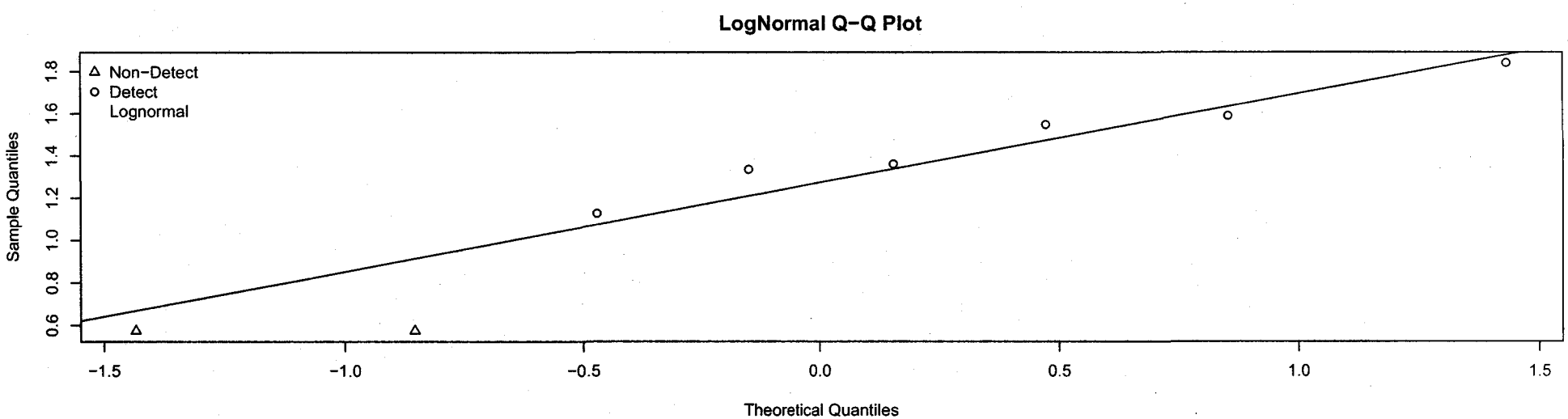
Coffins Ice Pond
Fall Surface Water
DISSOLVED SODIUM



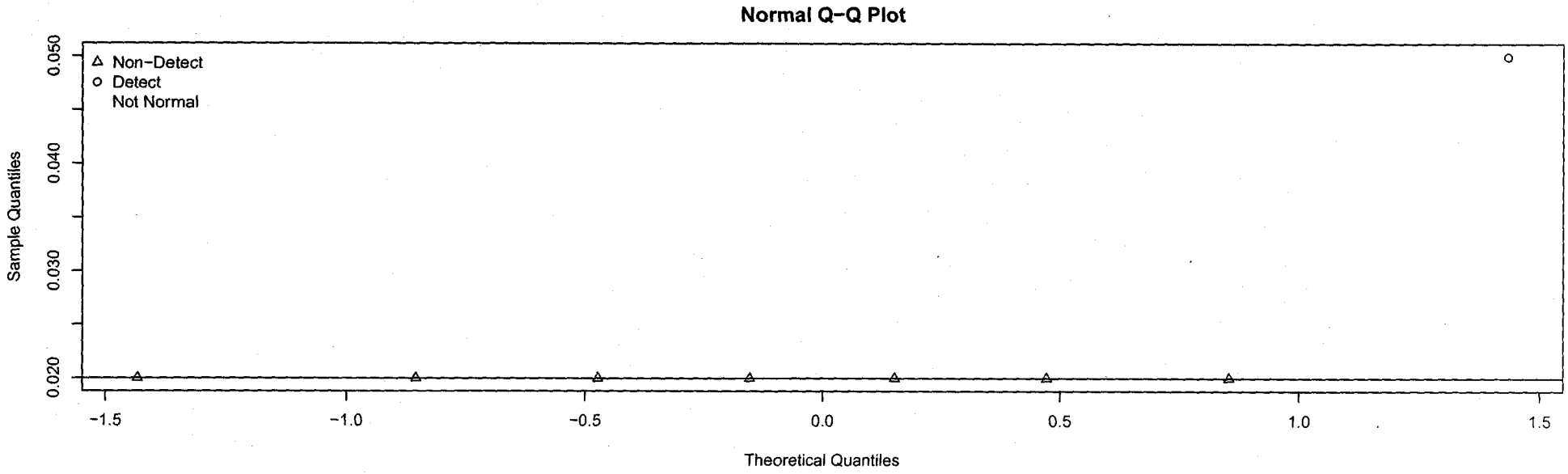


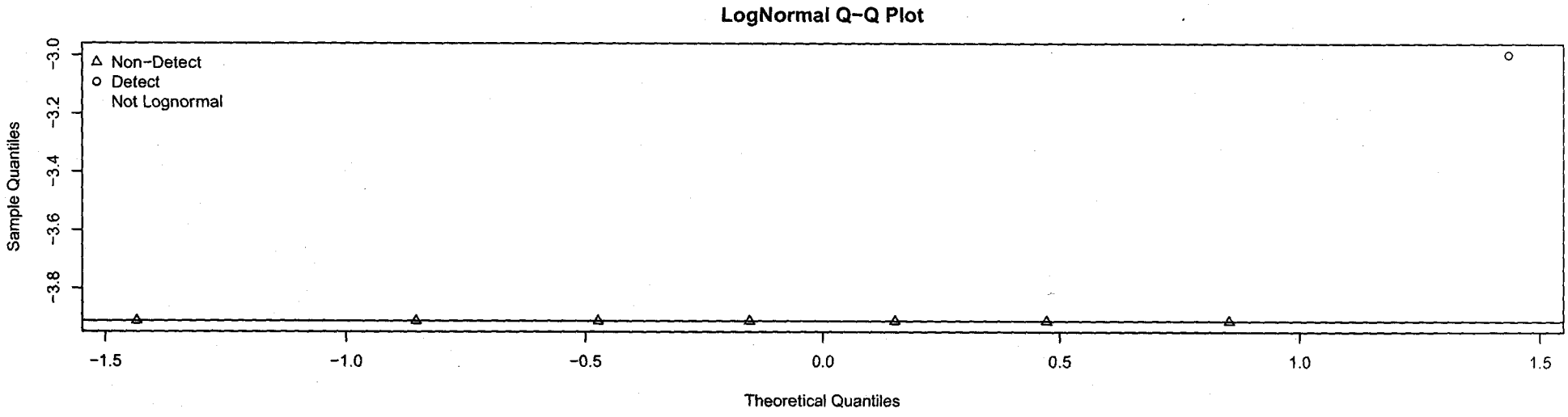
Coffins Ice Pond
Fall Surface Water
DISSOLVED ZINC



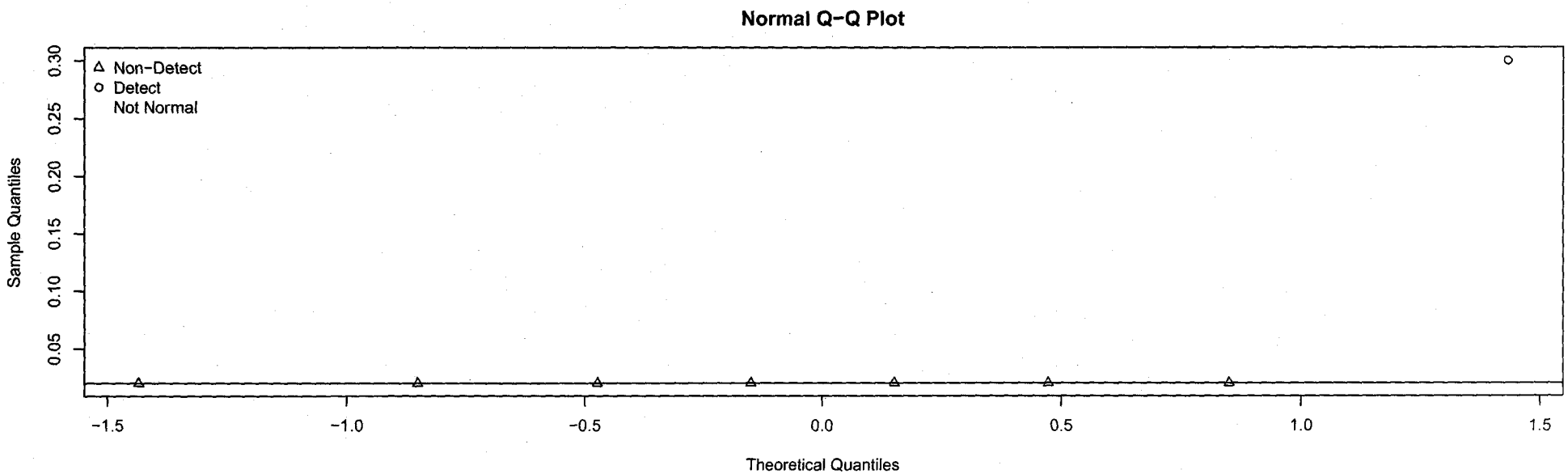


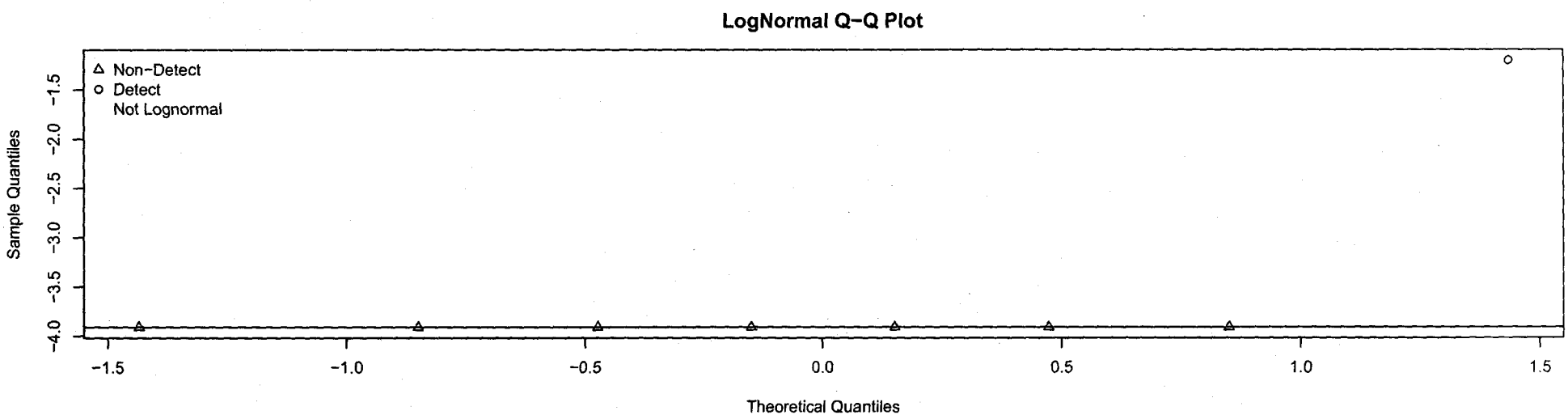
Coffins Ice Pond
Spring Surface Water
ANTHRACENE



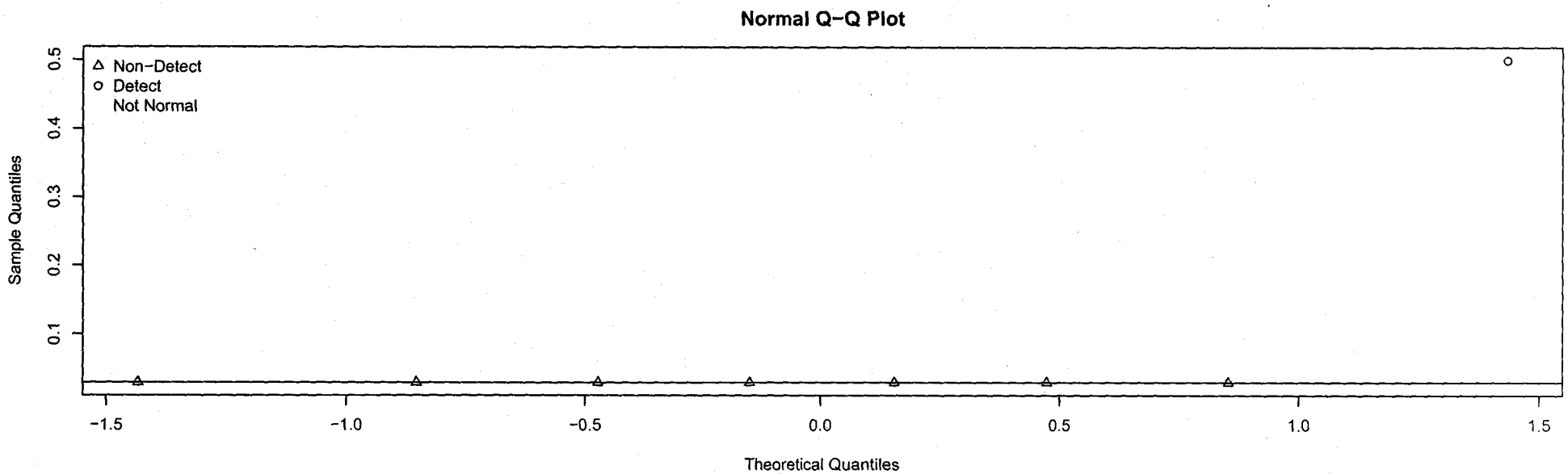


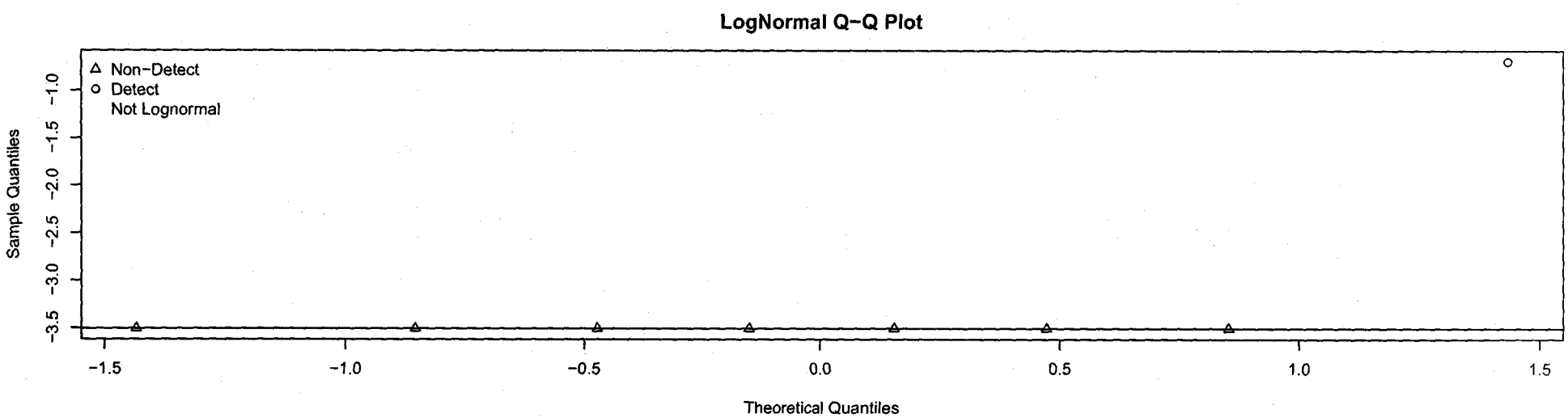
Coffins Ice Pond
Spring Surface Water
BENZO(A)ANTHRACENE



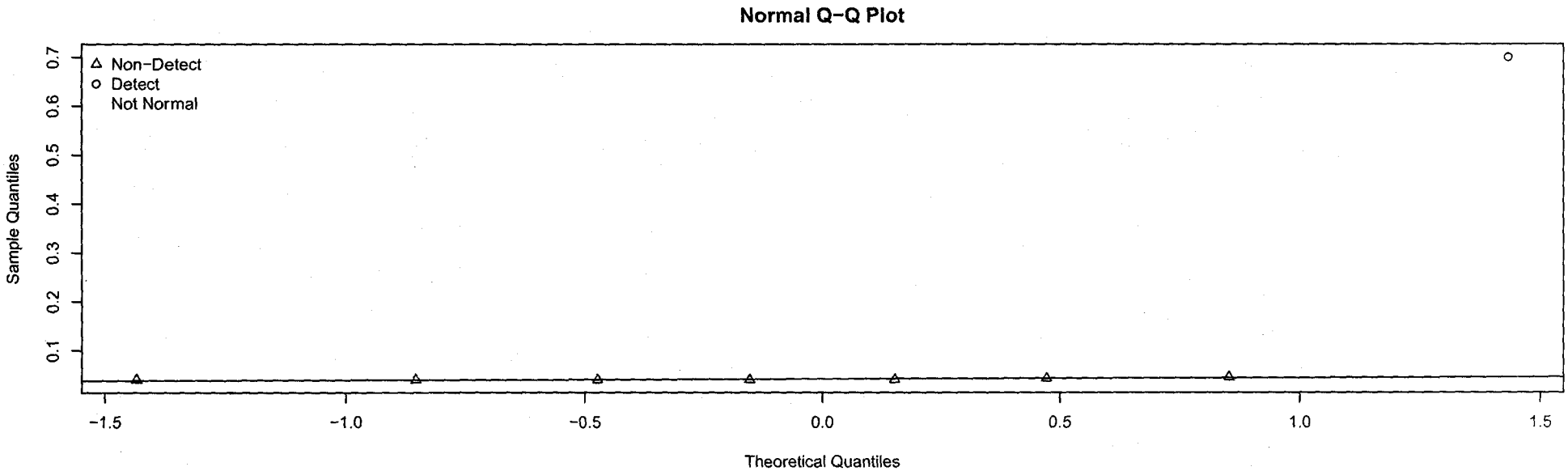


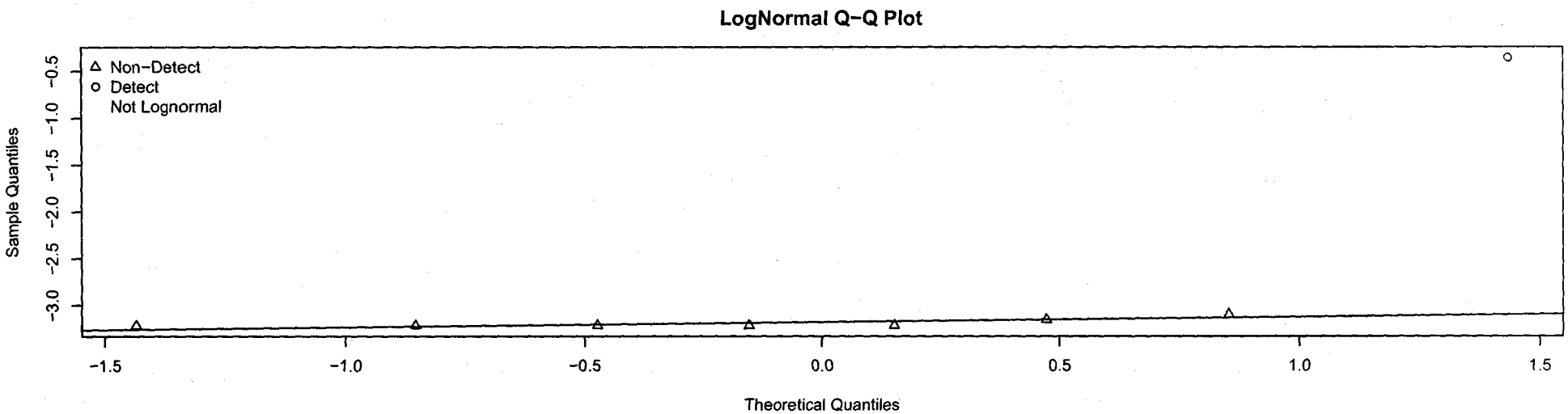
Coffins Ice Pond
Spring Surface Water
BENZO(A)PYRENE



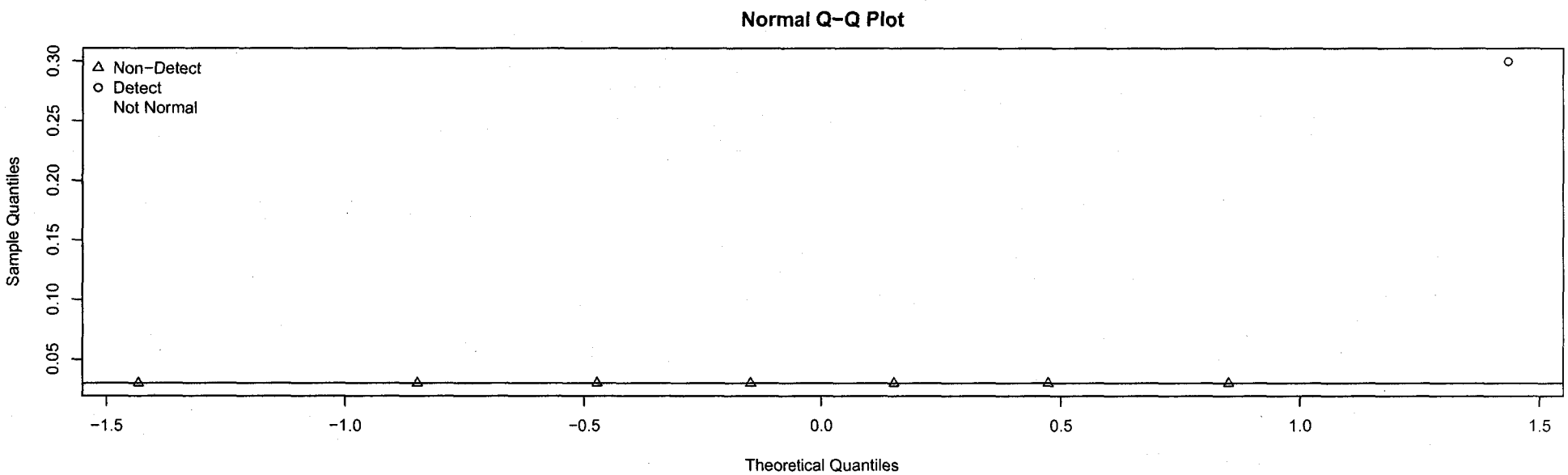


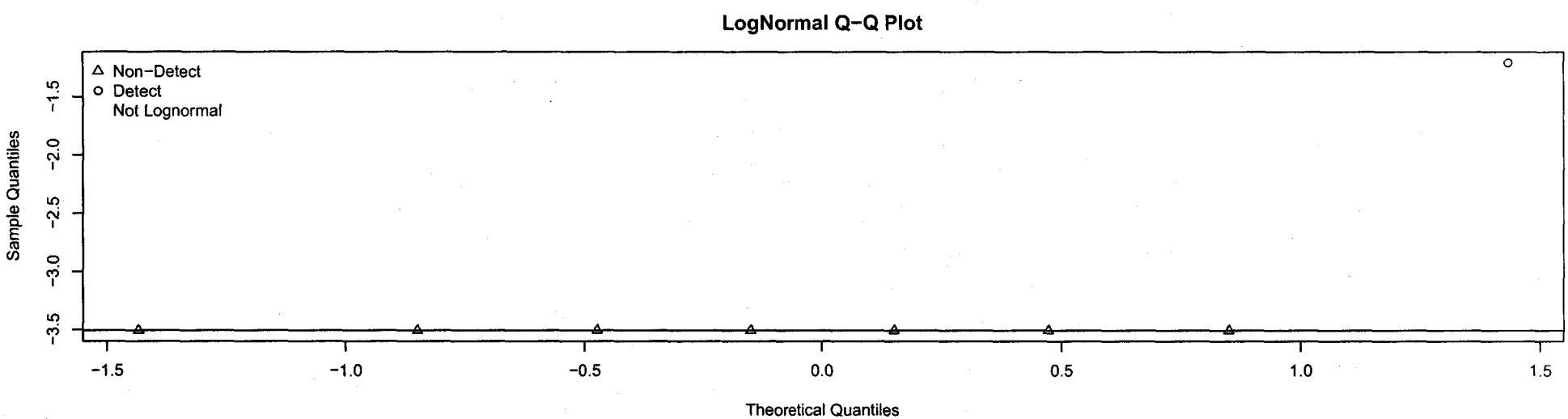
Coffins Ice Pond
Spring Surface Water
BENZO(B)FLUORANTHENE



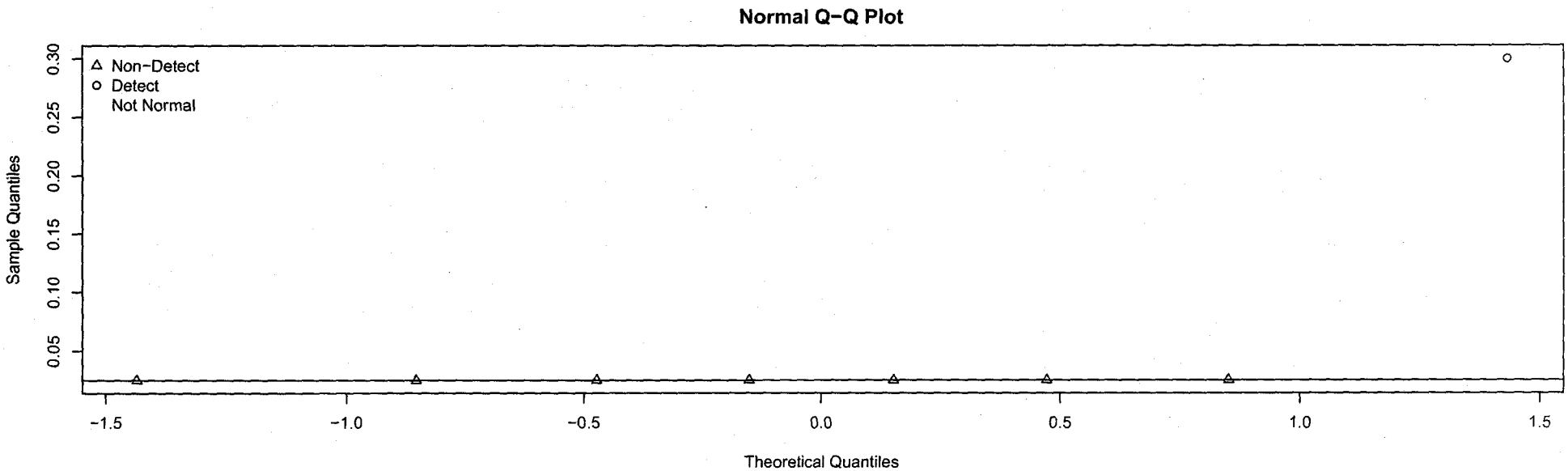


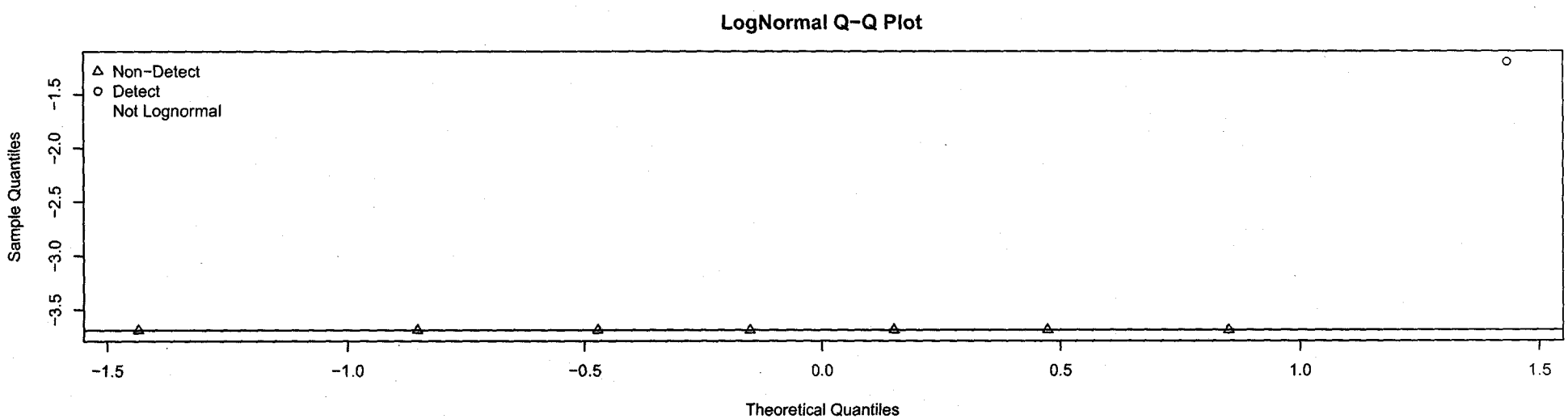
Coffins Ice Pond
Spring Surface Water
BENZO(G,H,I)PERYLENE



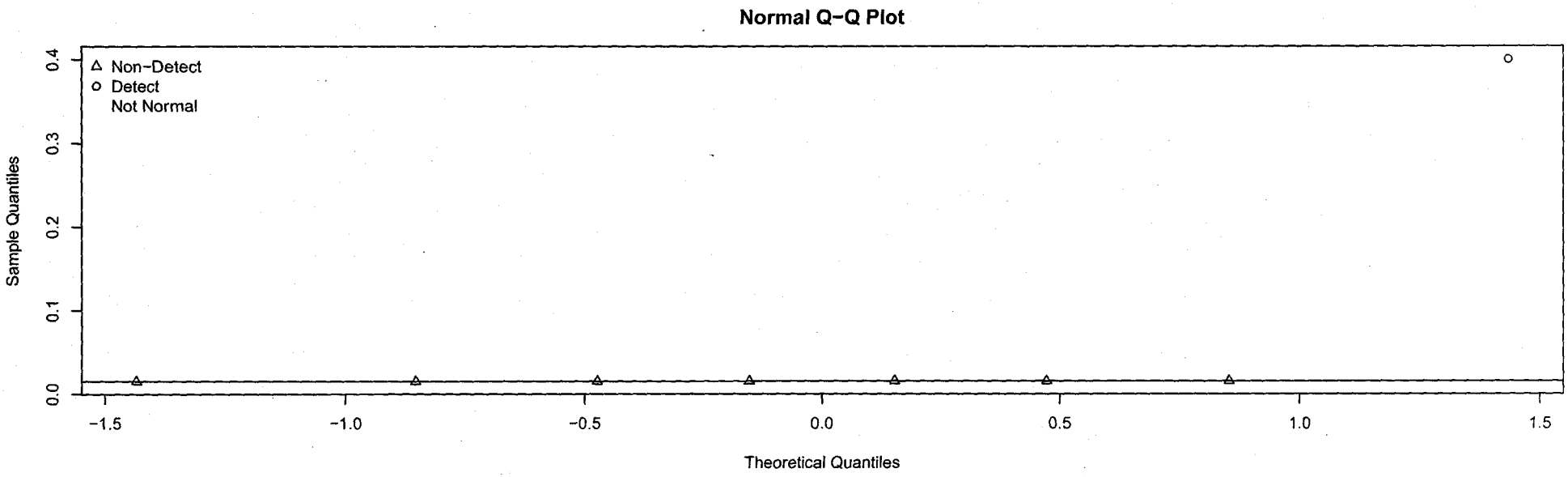


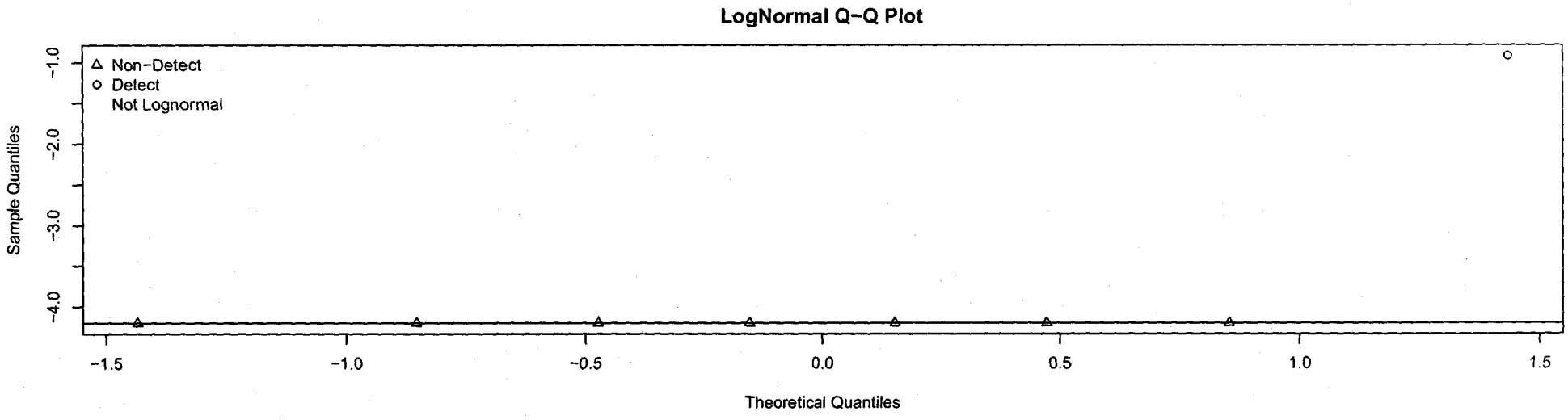
Coffins Ice Pond
Spring Surface Water
BENZO(K)FLUORANTHENE



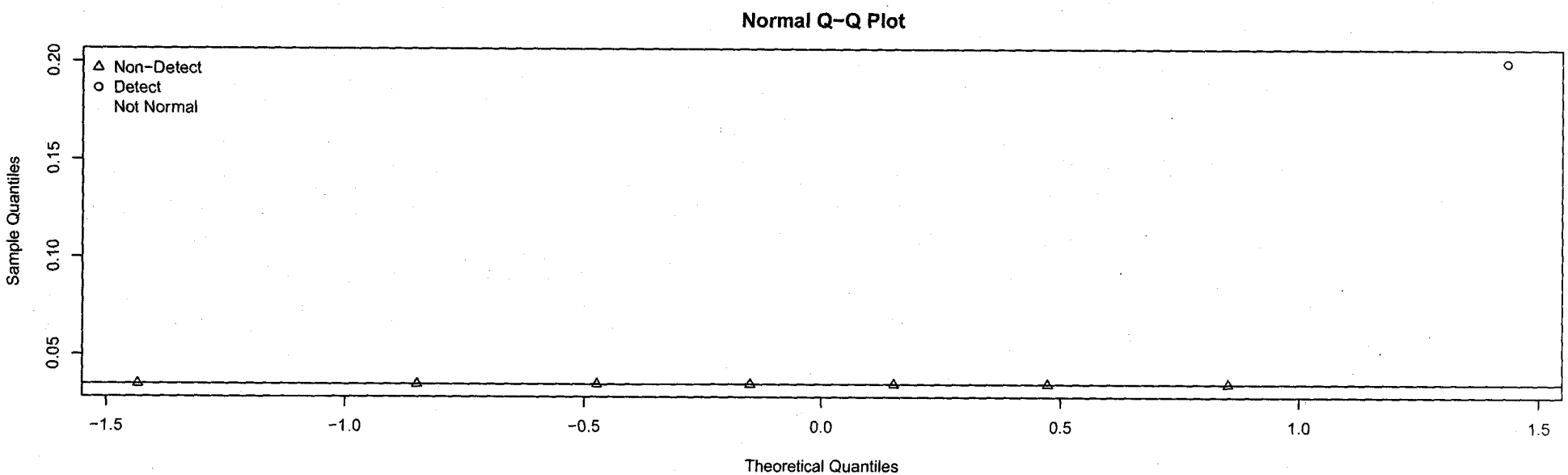


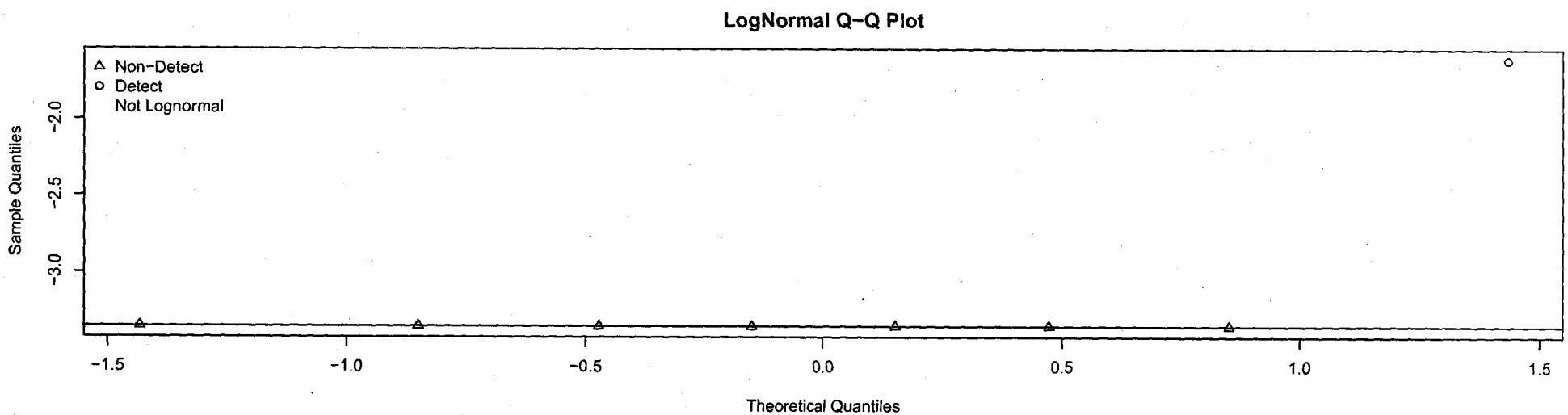
Coffins Ice Pond
Spring Surface Water
CHRYSENE



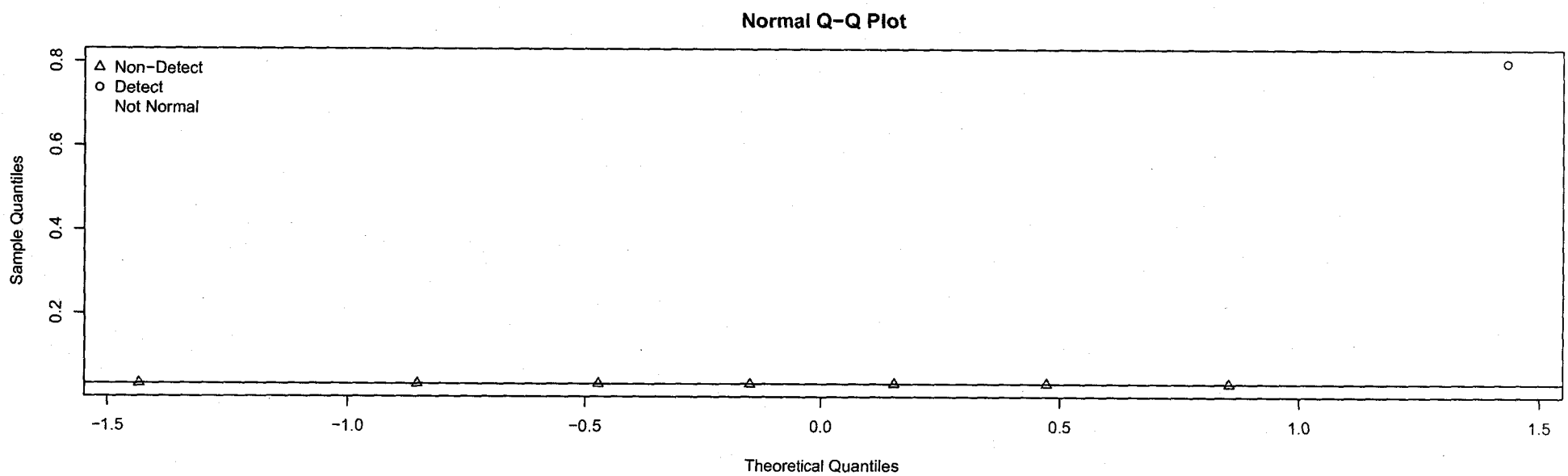


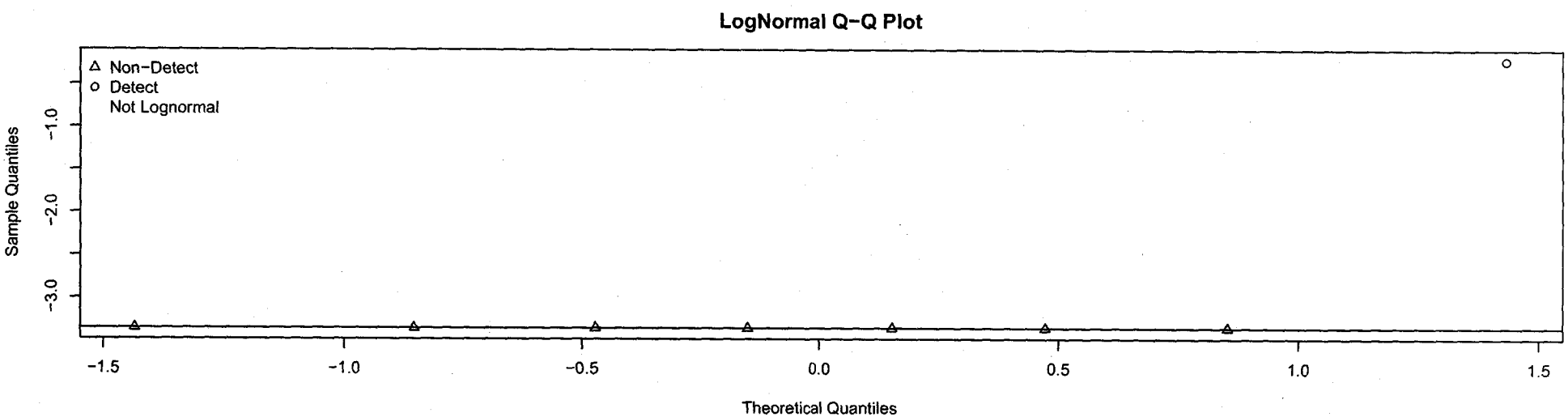
Coffins Ice Pond
Spring Surface Water
DIBENZO(A,H)ANTHRACENE



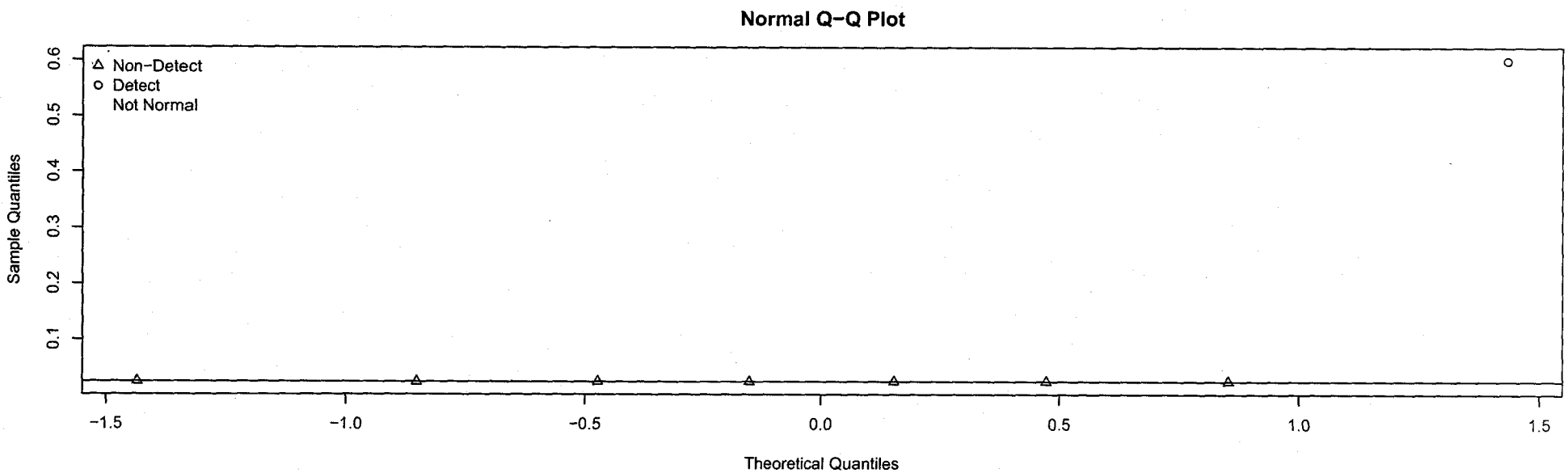


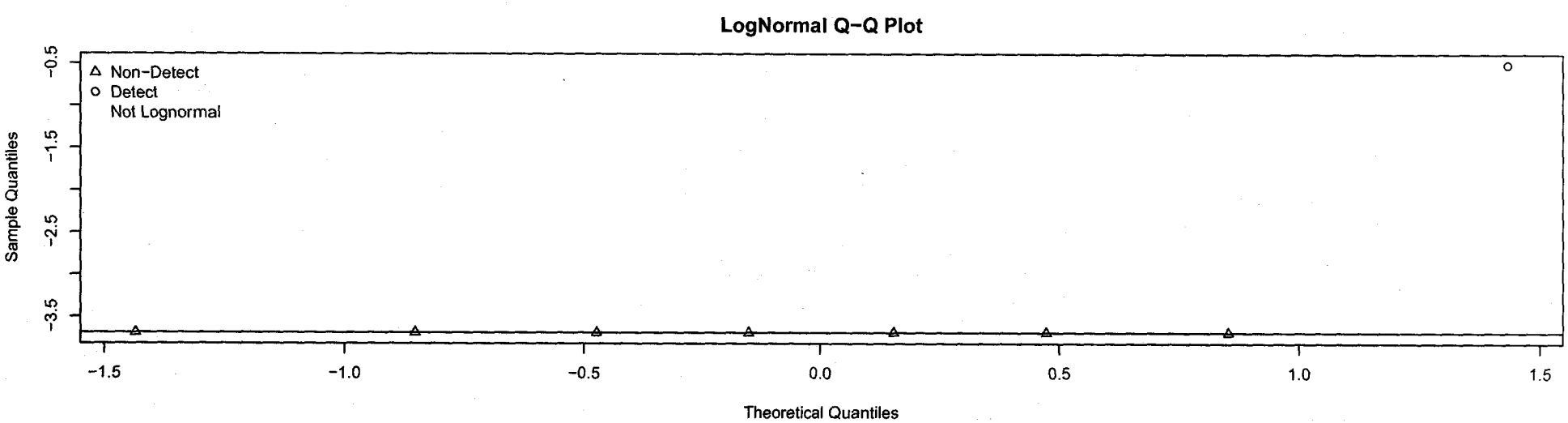
Coffins Ice Pond
Spring Surface Water
FLUORANTHENE



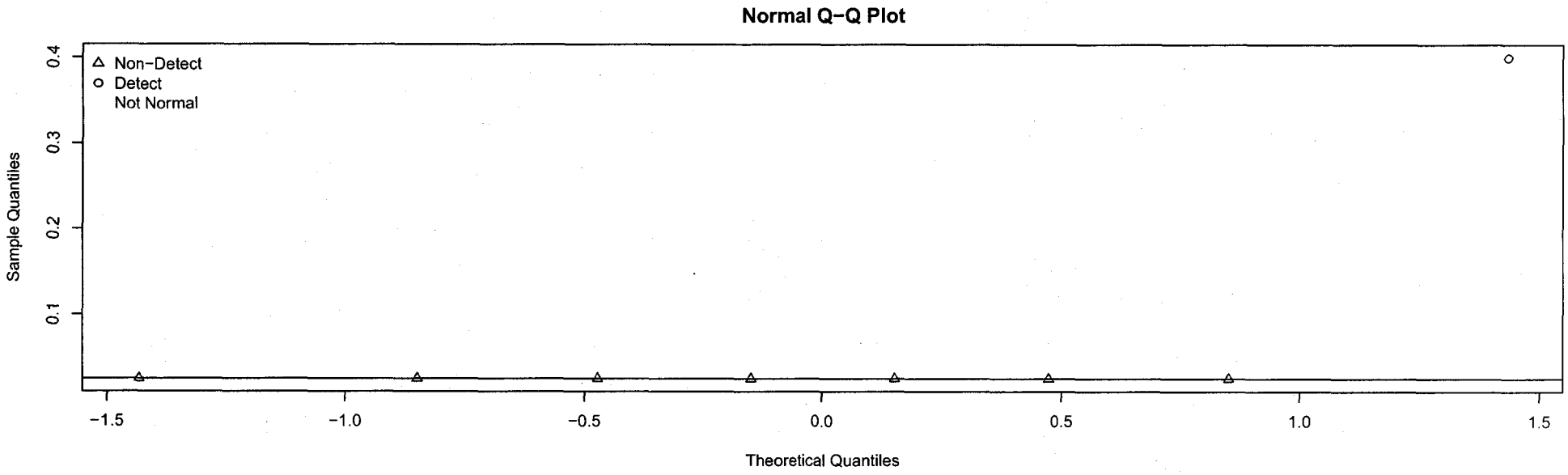


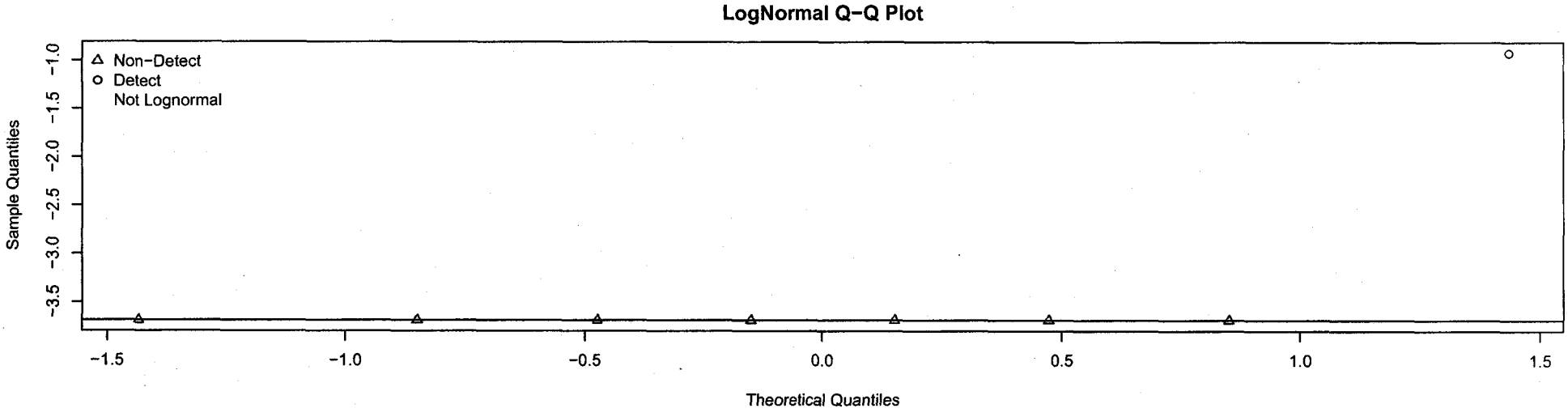
Coffins Ice Pond
Spring Surface Water
INDENO(1,2,3-CD)PYRENE



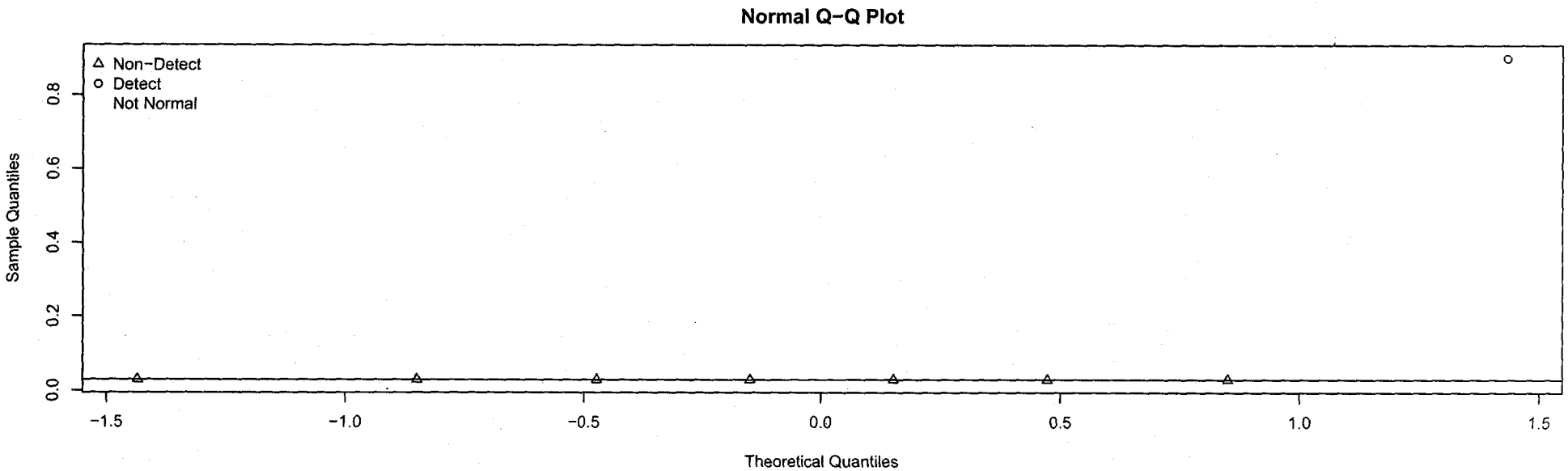


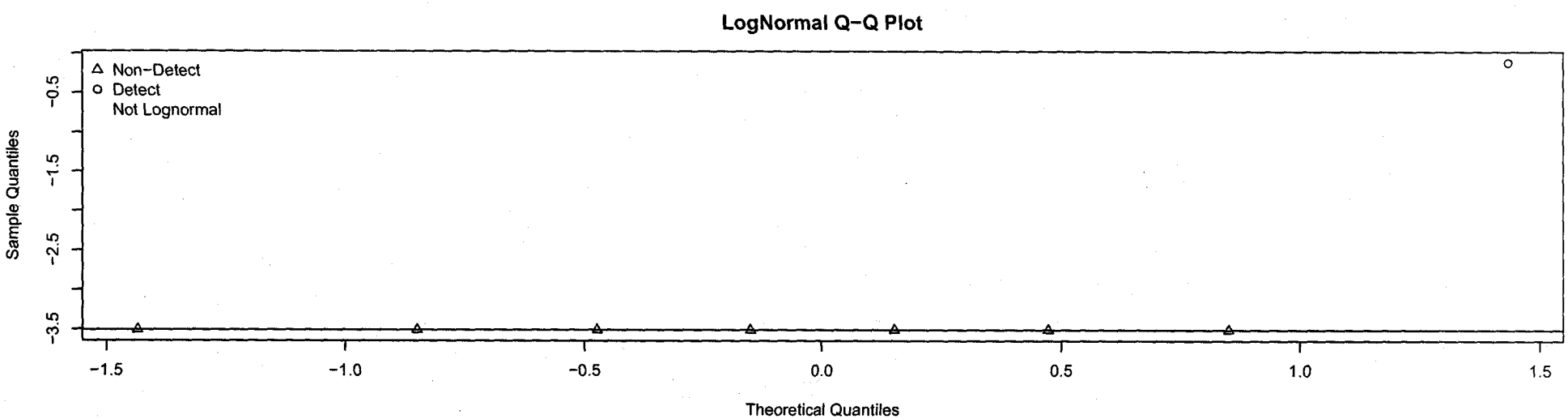
Coffins Ice Pond
Spring Surface Water
PHENANTHRENE



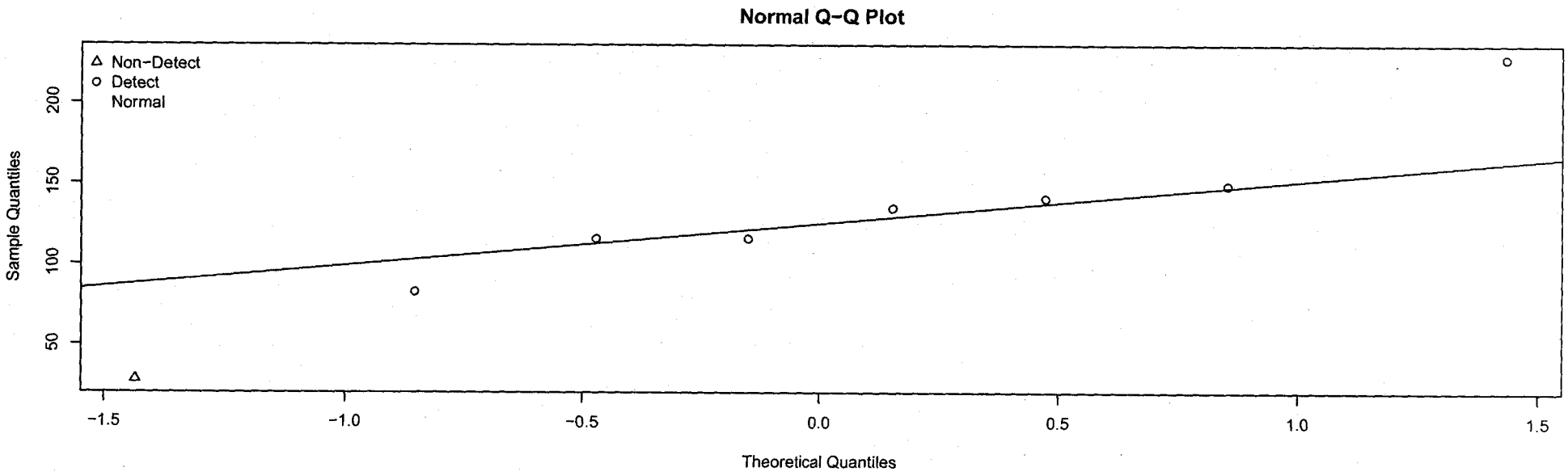


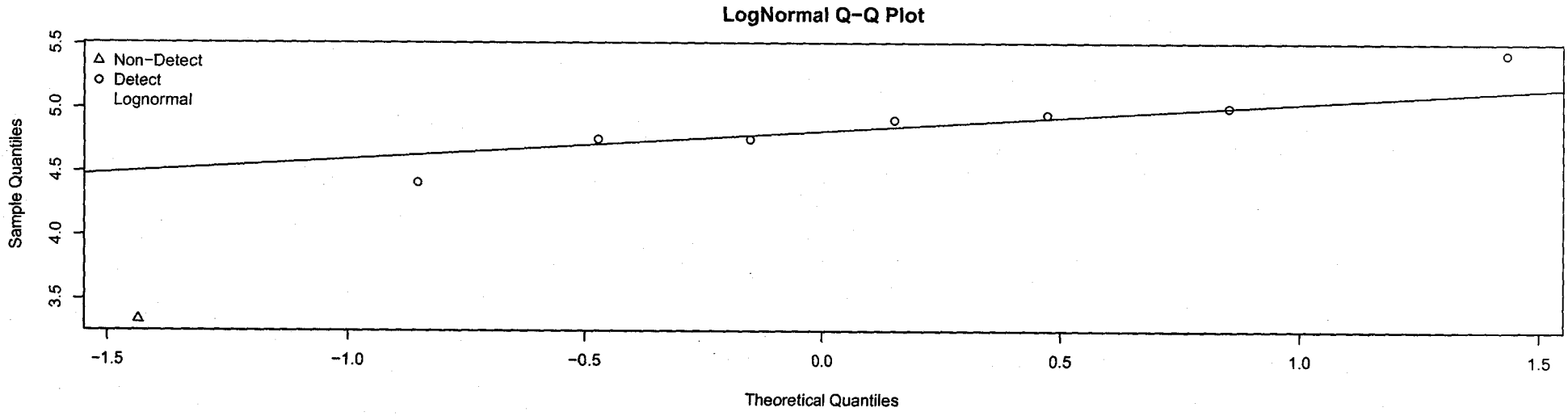
Coffins Ice Pond
Spring Surface Water
PYRENE



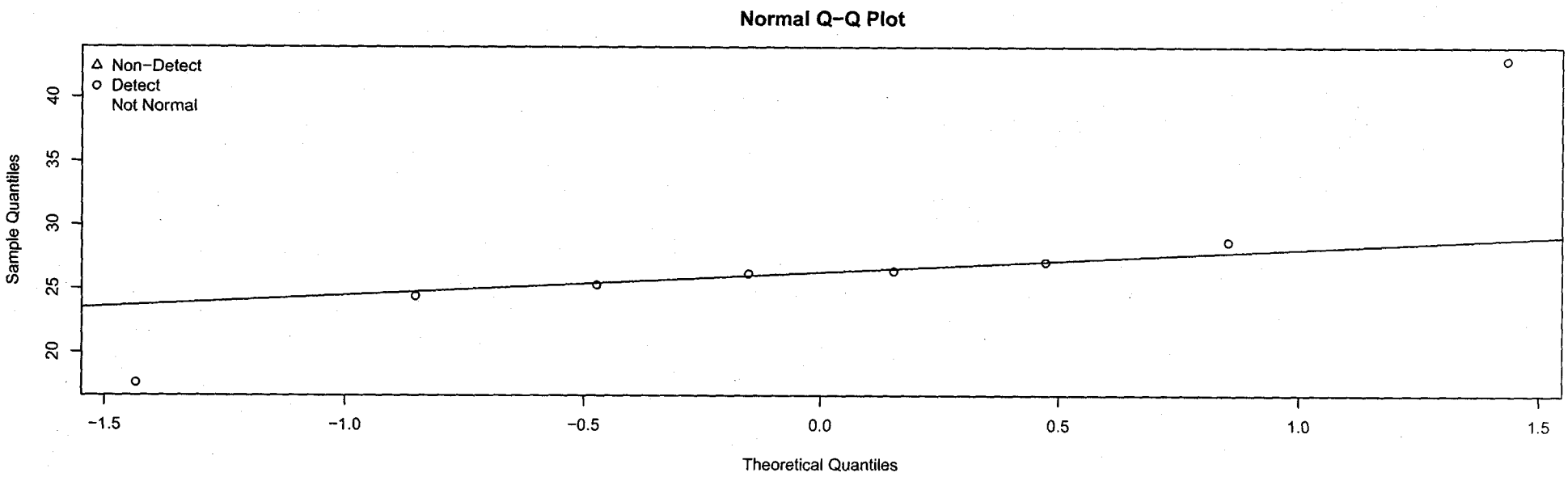


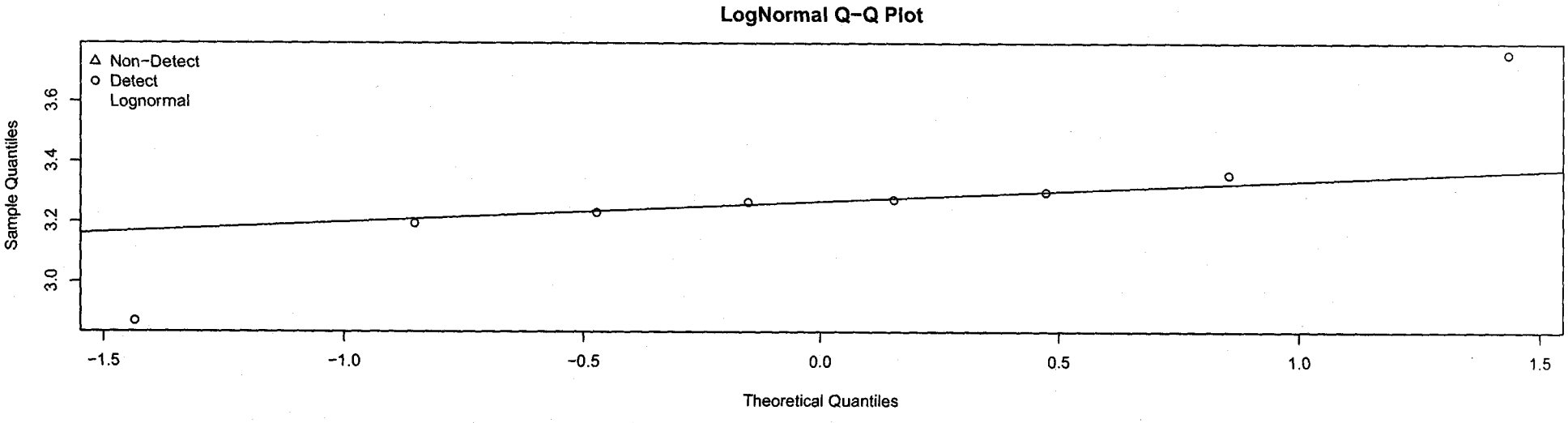
Coffins Ice Pond
Spring Surface Water
TOTAL ALUMINUM



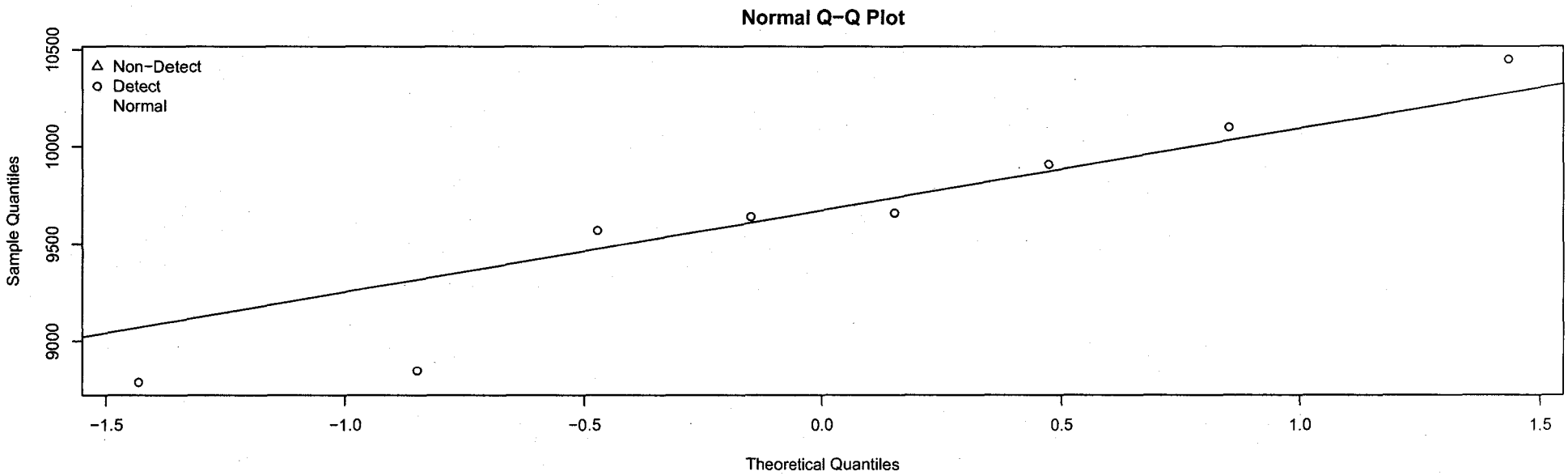


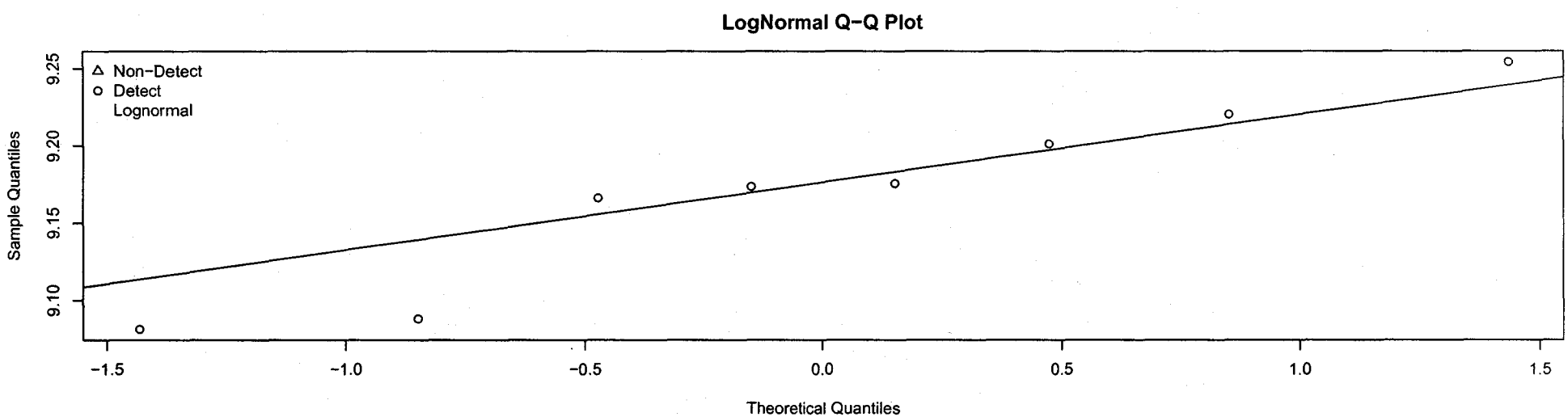
Coffins Ice Pond
Spring Surface Water
TOTAL BARIUM



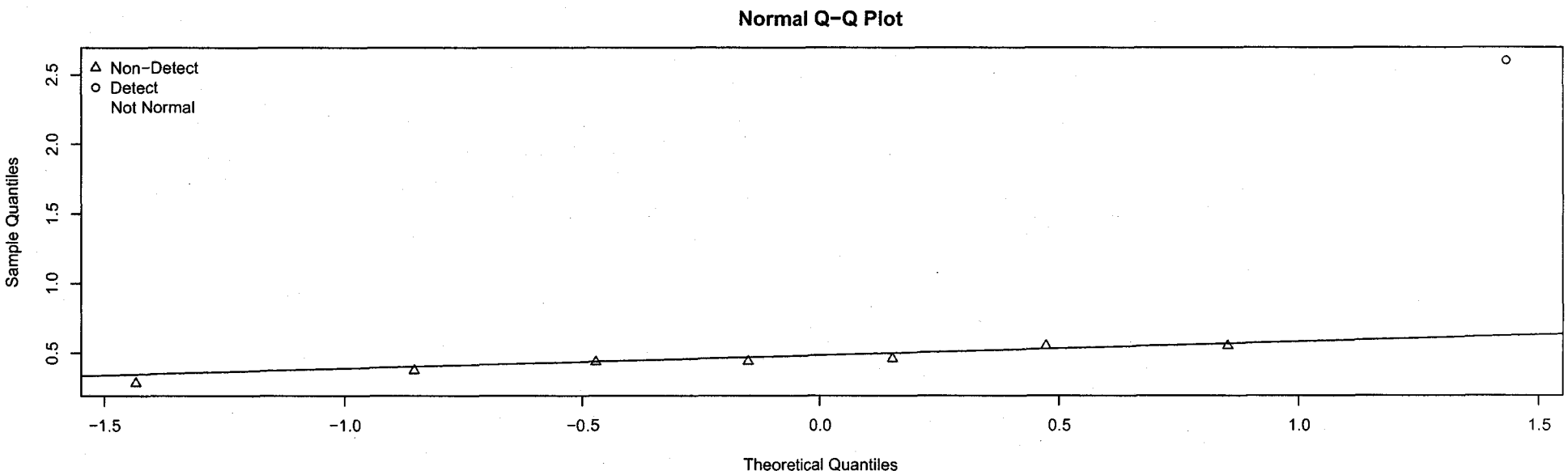


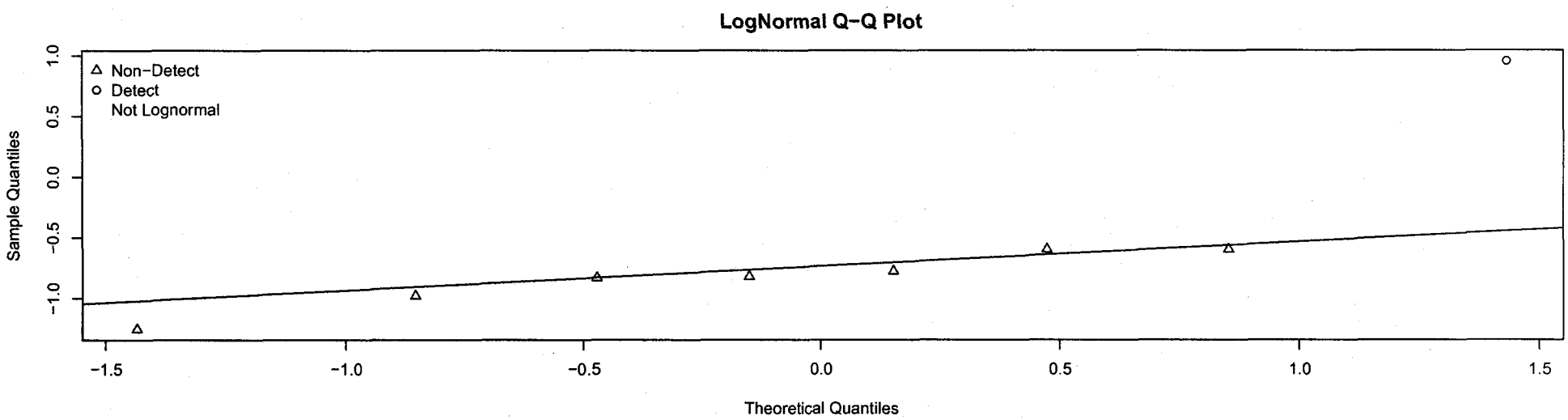
Coffins Ice Pond
Spring Surface Water
TOTAL CALCIUM



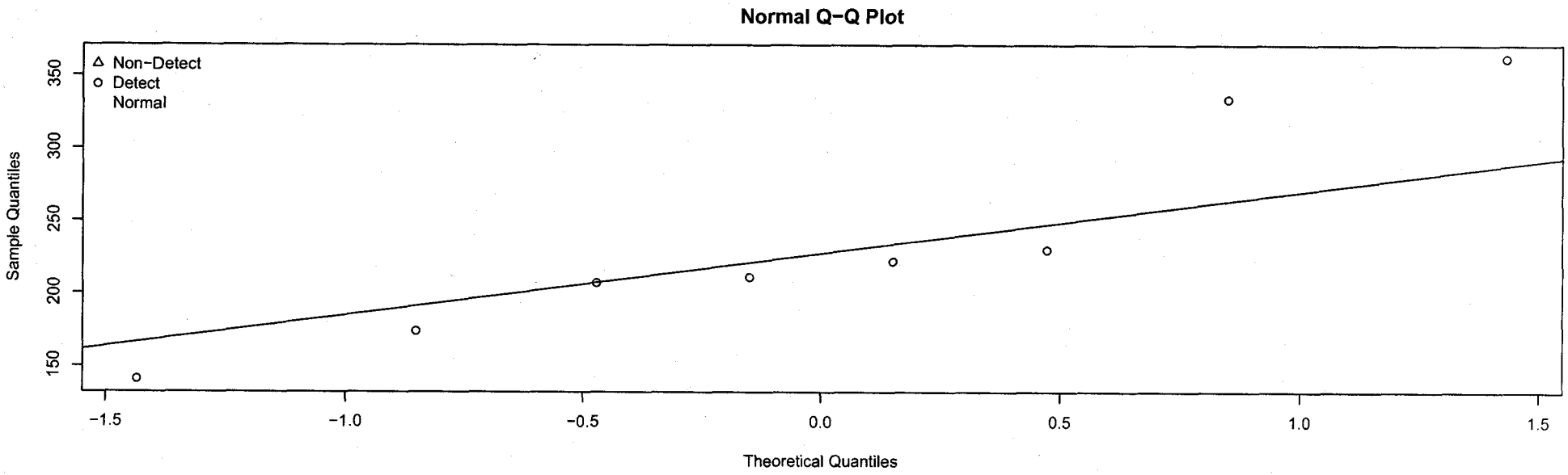


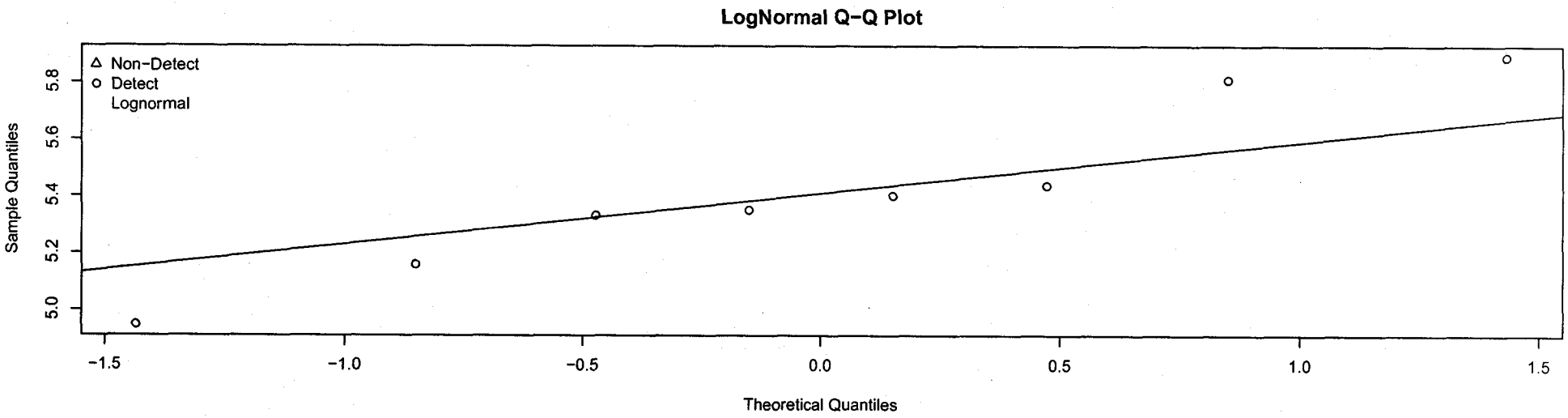
Coffins Ice Pond
Spring Surface Water
TOTAL COPPER



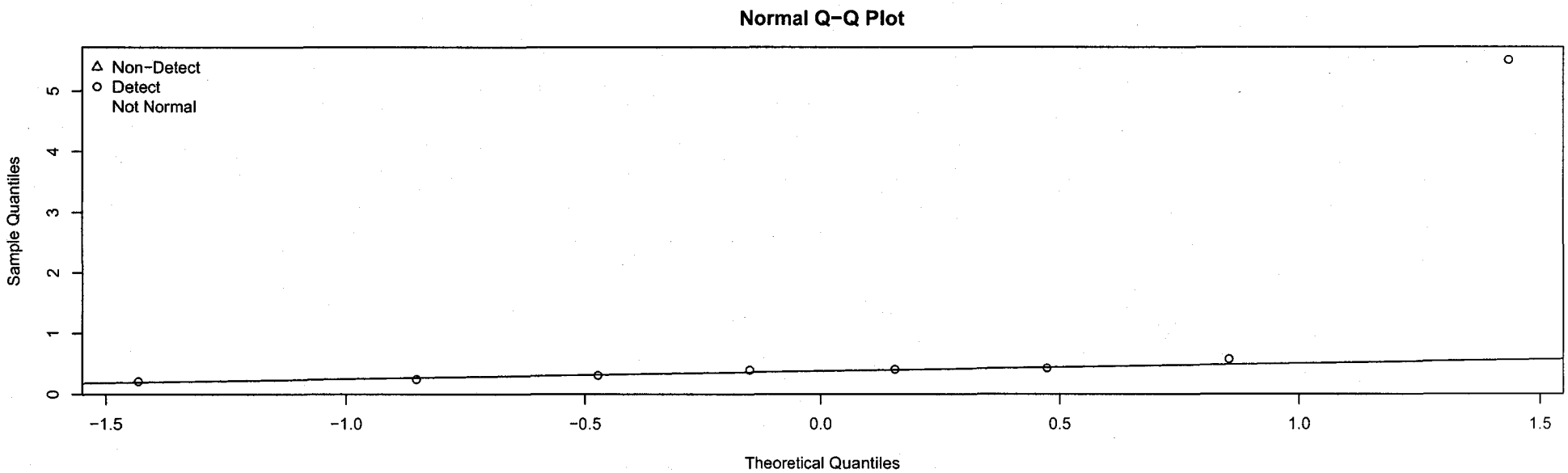


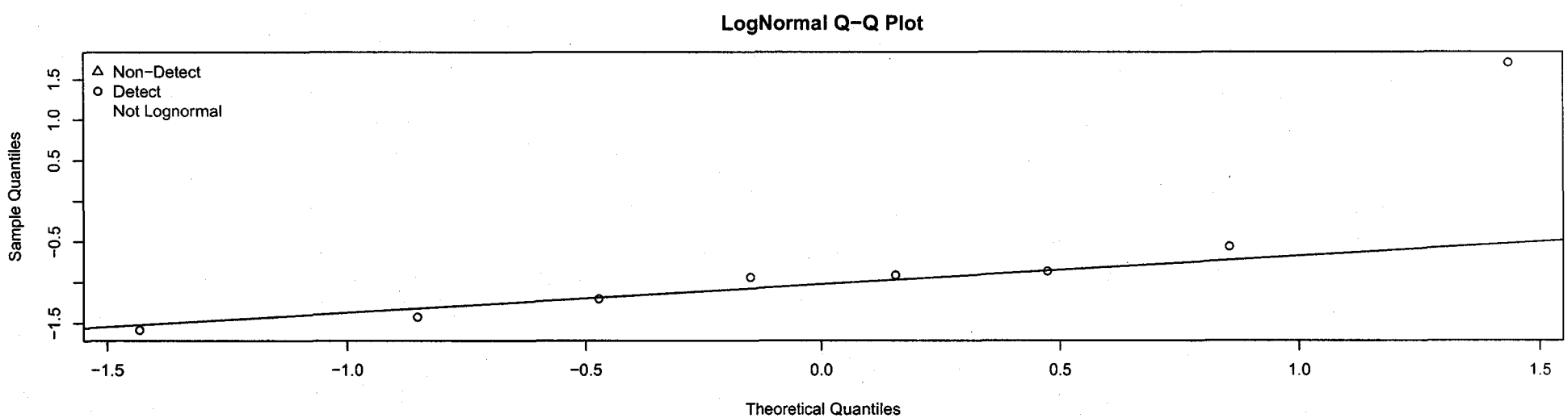
Coffins Ice Pond
Spring Surface Water
TOTAL IRON



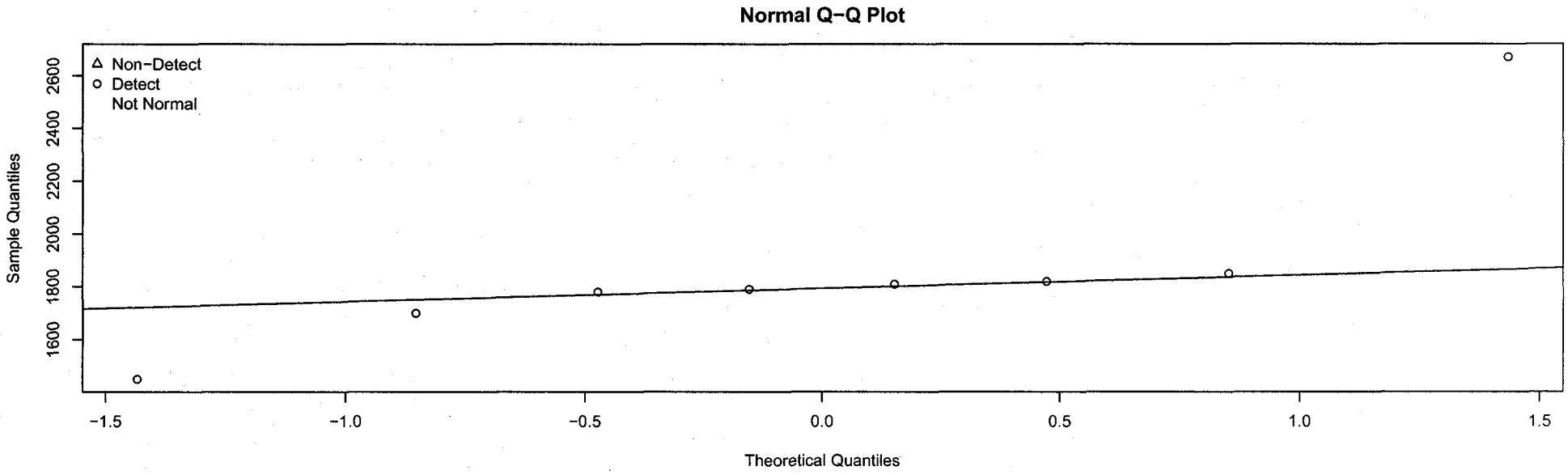


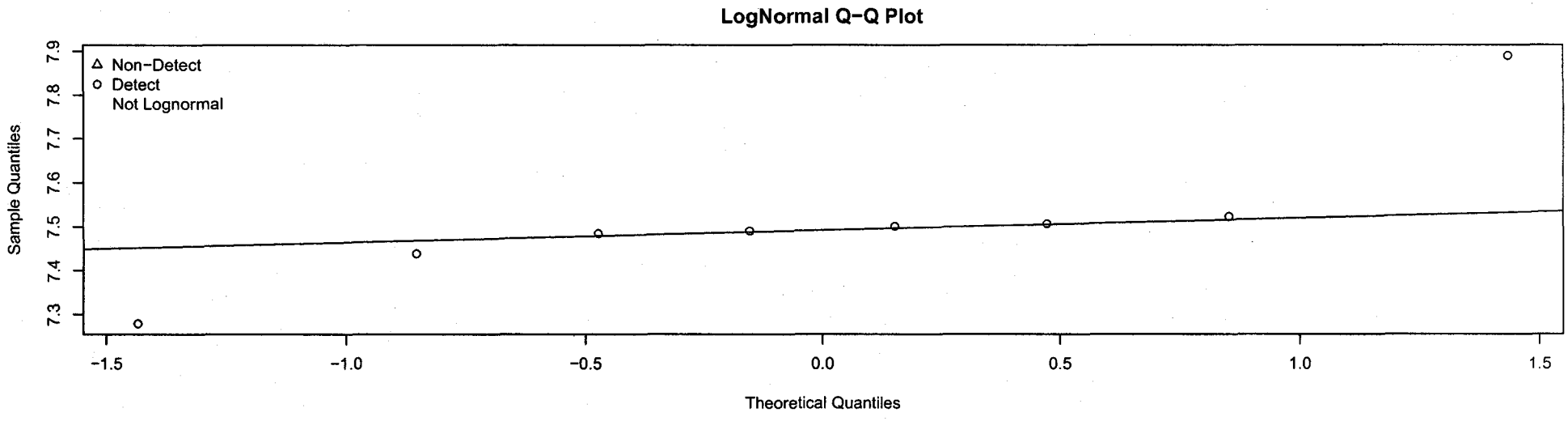
Coffins Ice Pond
Spring Surface Water
TOTAL LEAD



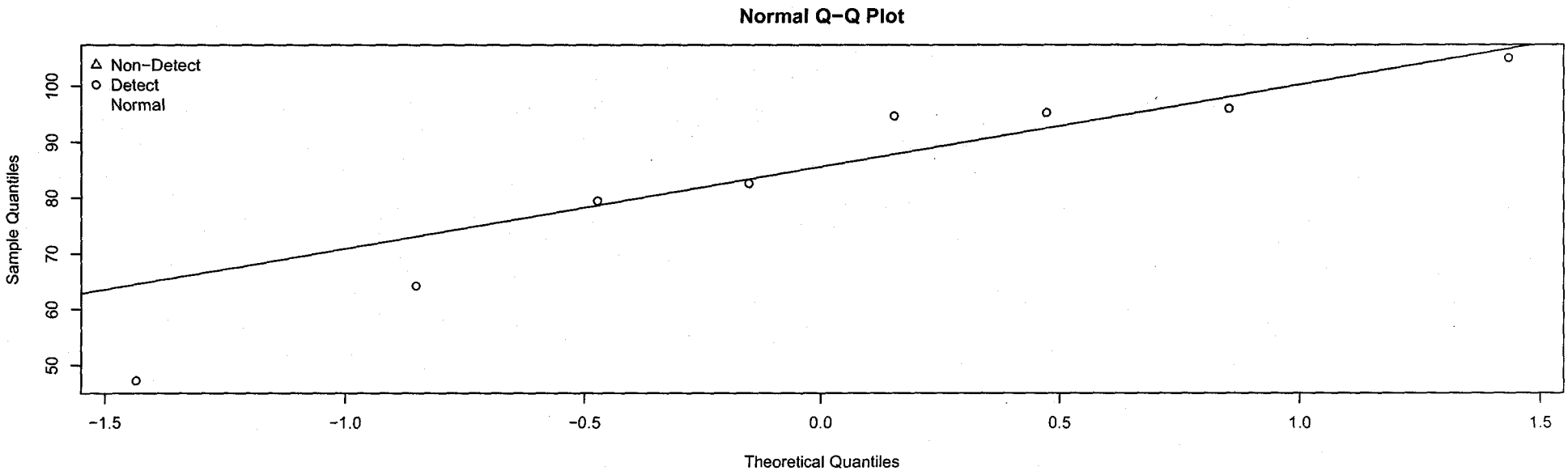


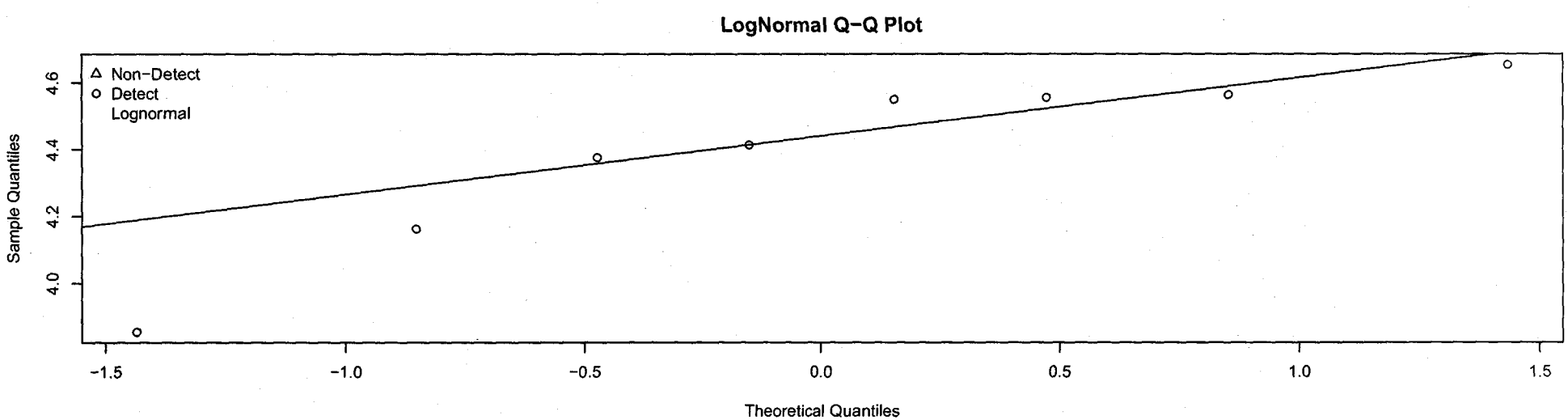
Coffins Ice Pond
Spring Surface Water
TOTAL MAGNESIUM



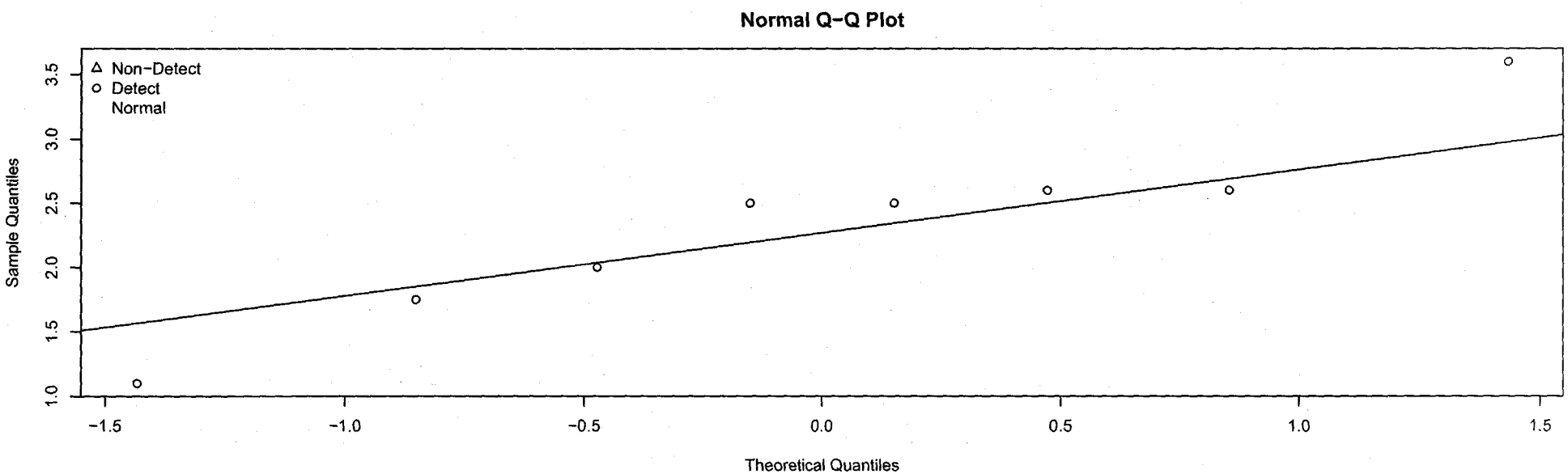


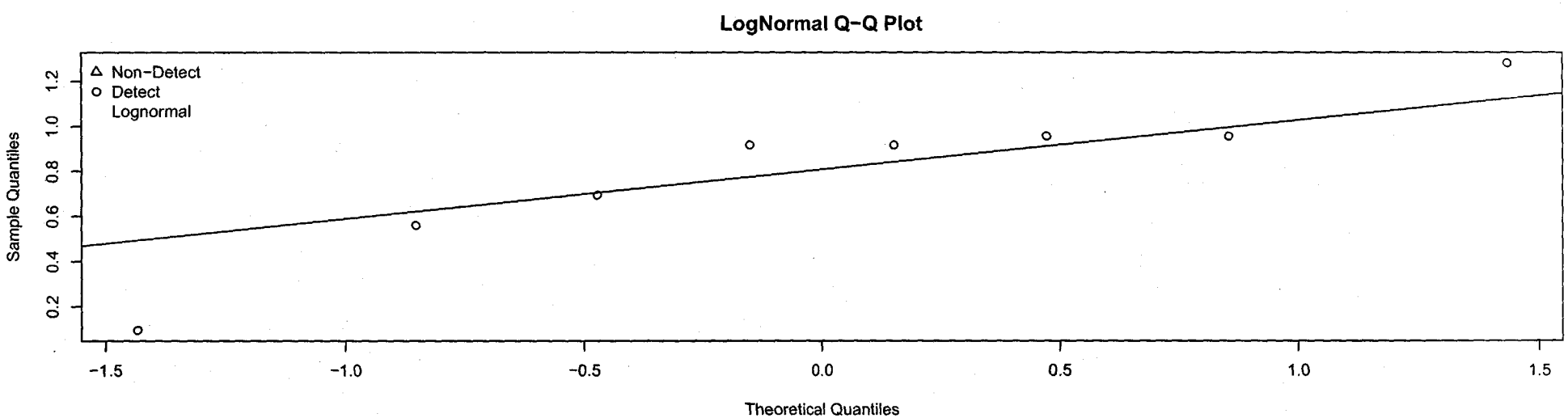
Coffins Ice Pond
Spring Surface Water
TOTAL MANGANESE



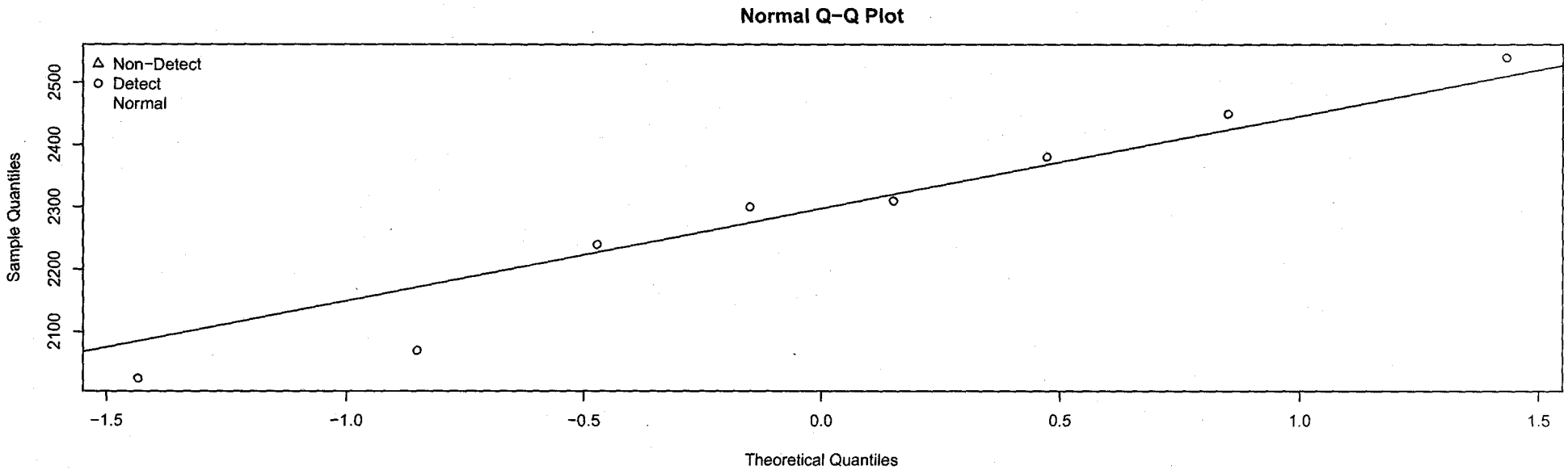


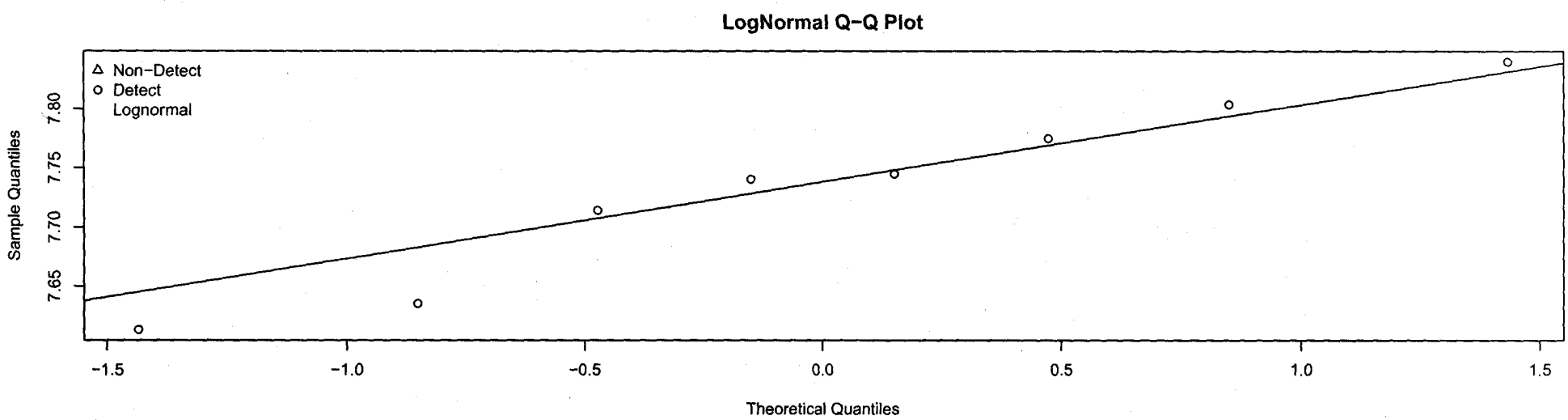
Coffins Ice Pond
Spring Surface Water
TOTAL NICKEL



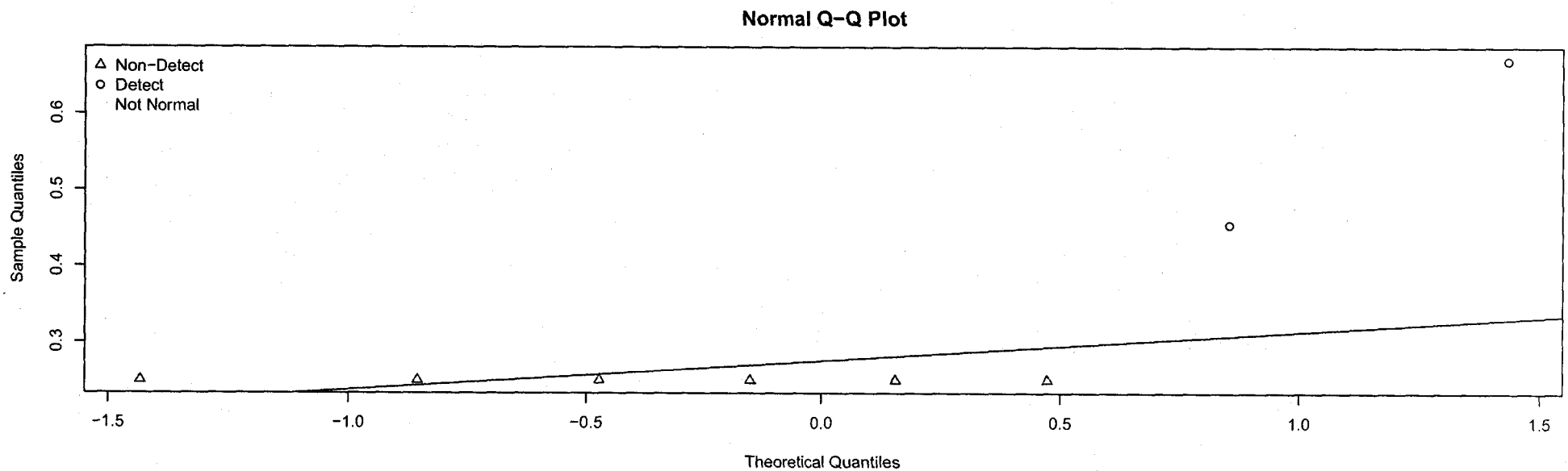


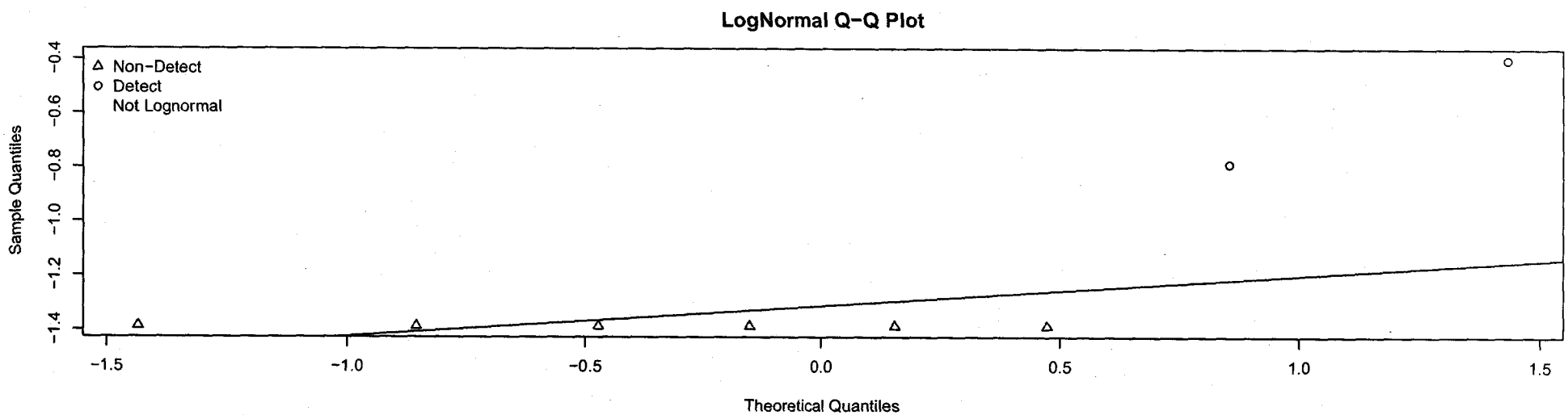
Coffins Ice Pond
Spring Surface Water
TOTAL POTASSIUM



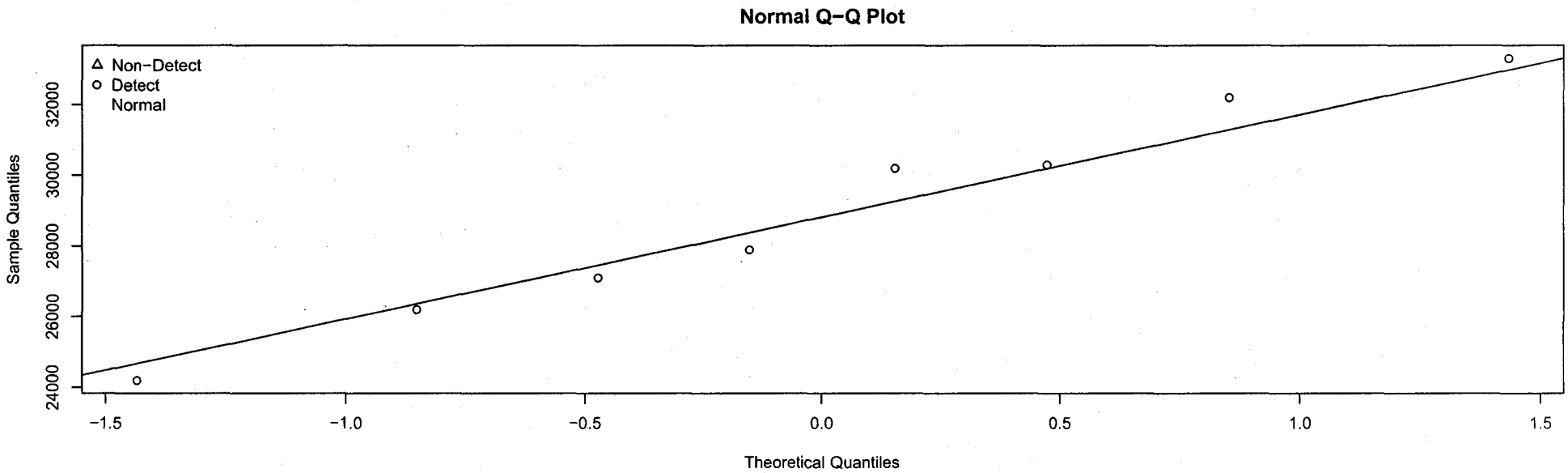


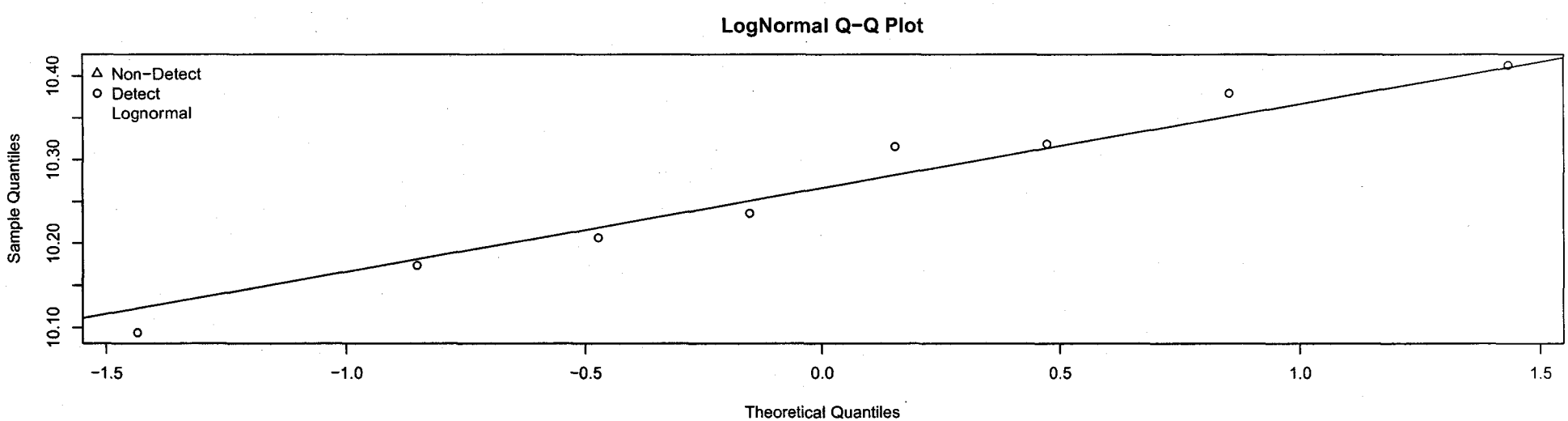
Coffins Ice Pond
Spring Surface Water
TOTAL SELENIUM



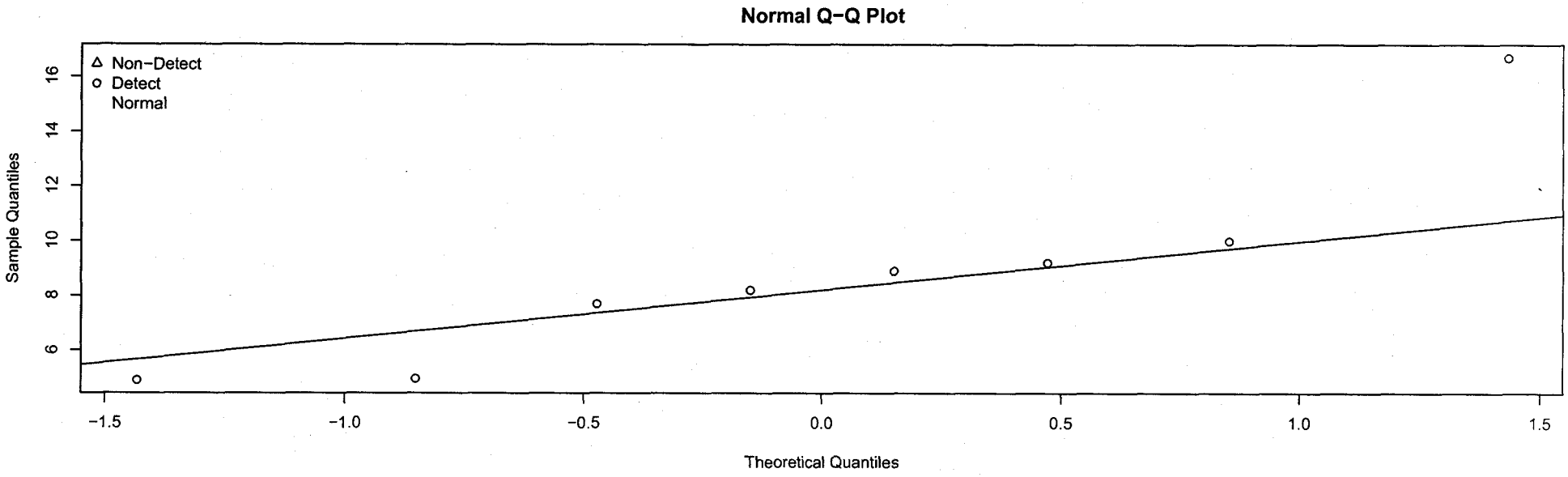


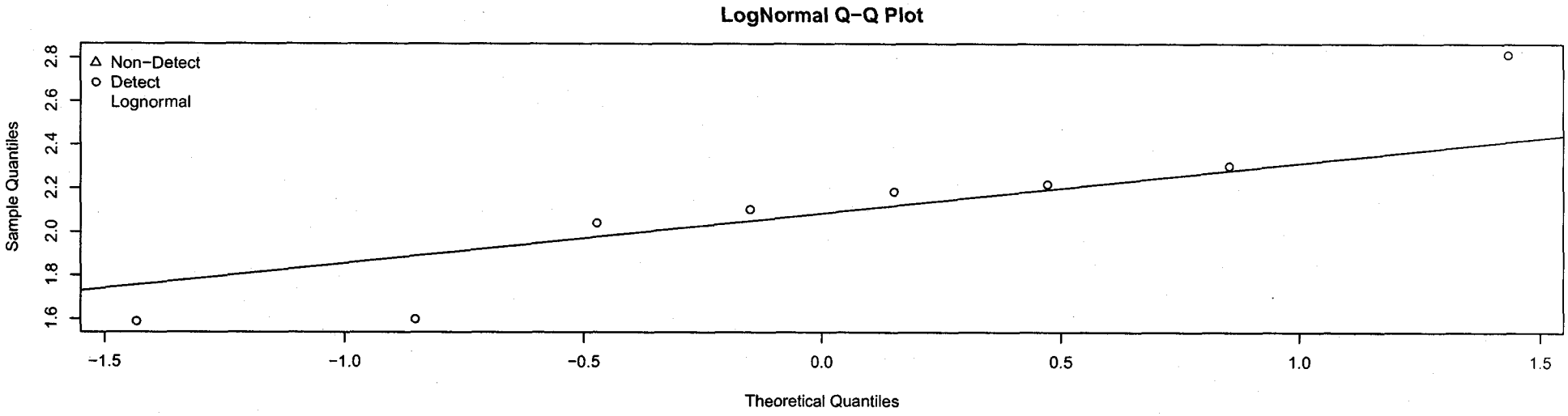
Coffins Ice Pond
Spring Surface Water
TOTAL SODIUM



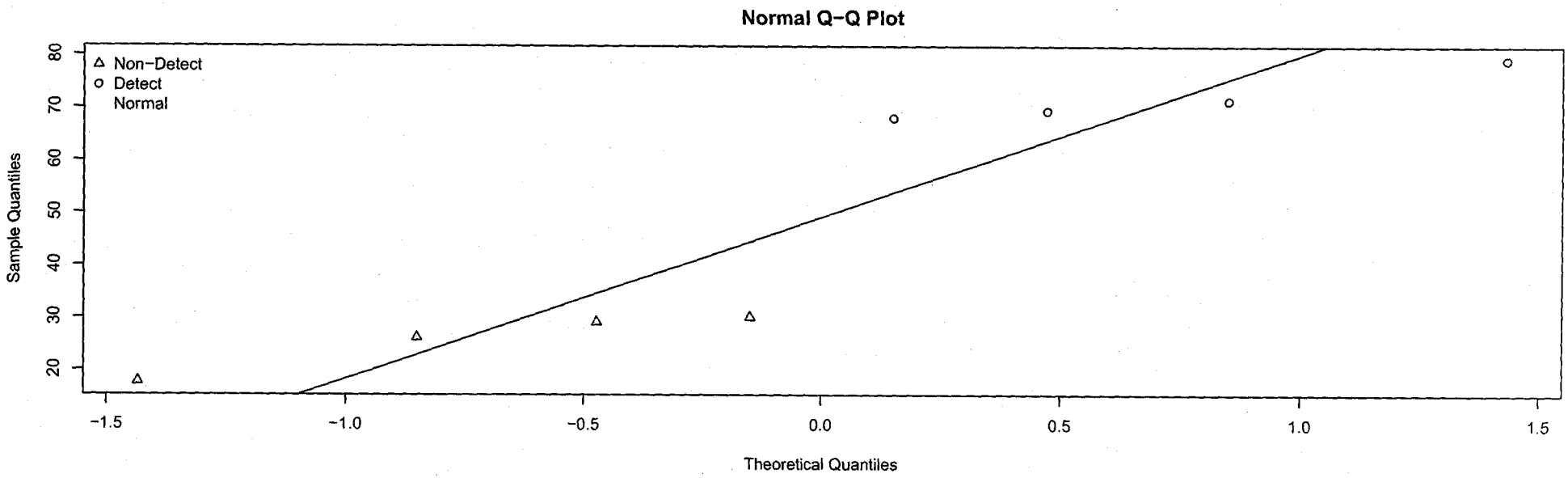


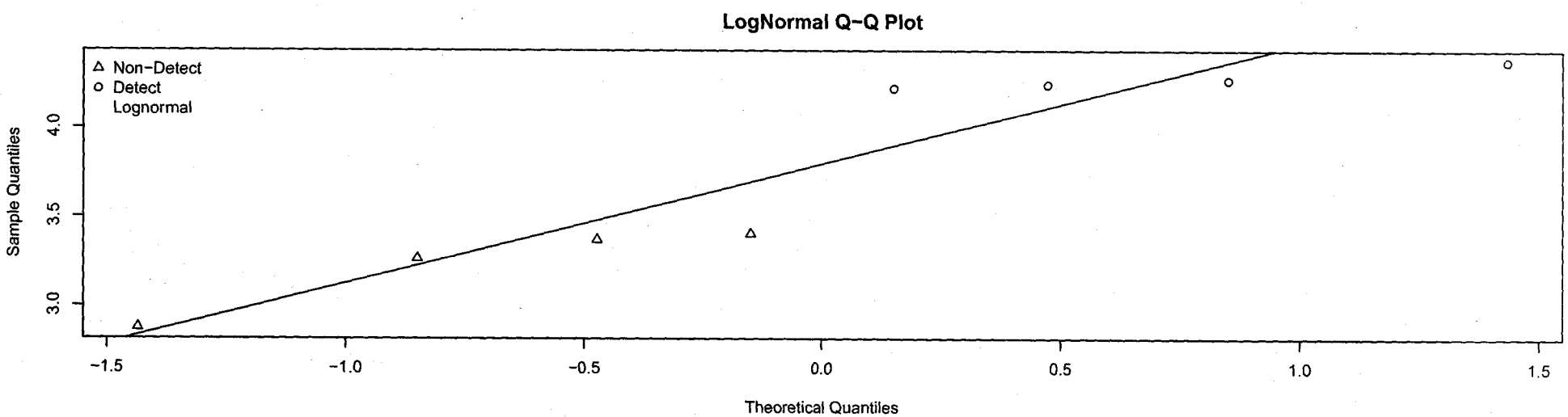
Coffins Ice Pond
Spring Surface Water
TOTAL ZINC



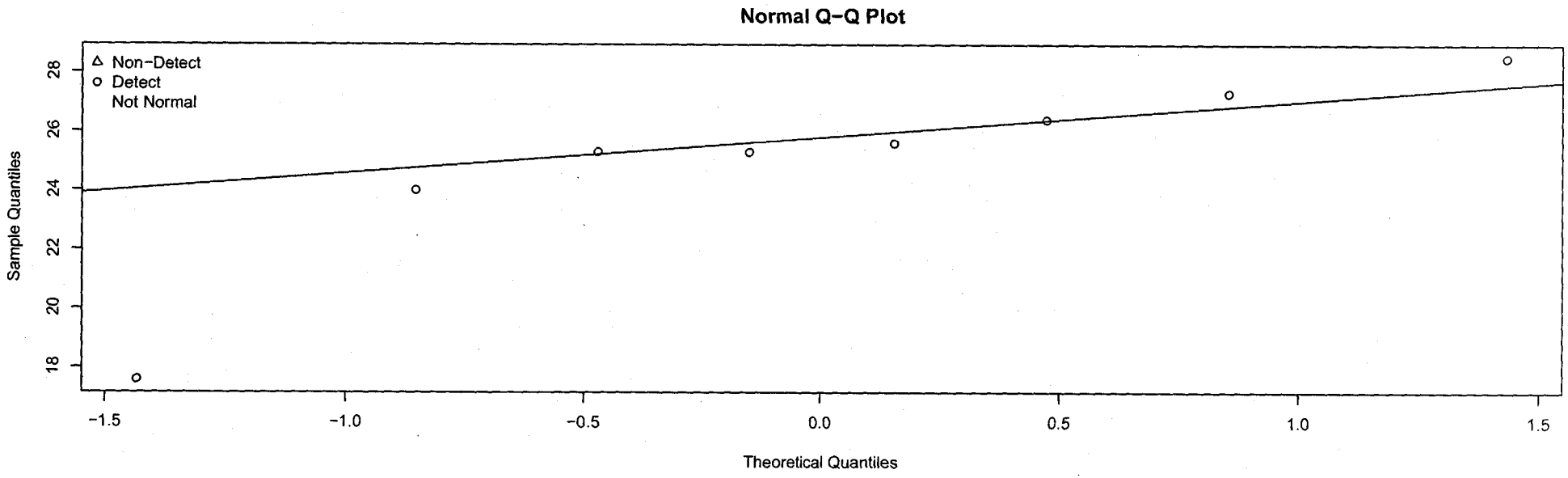


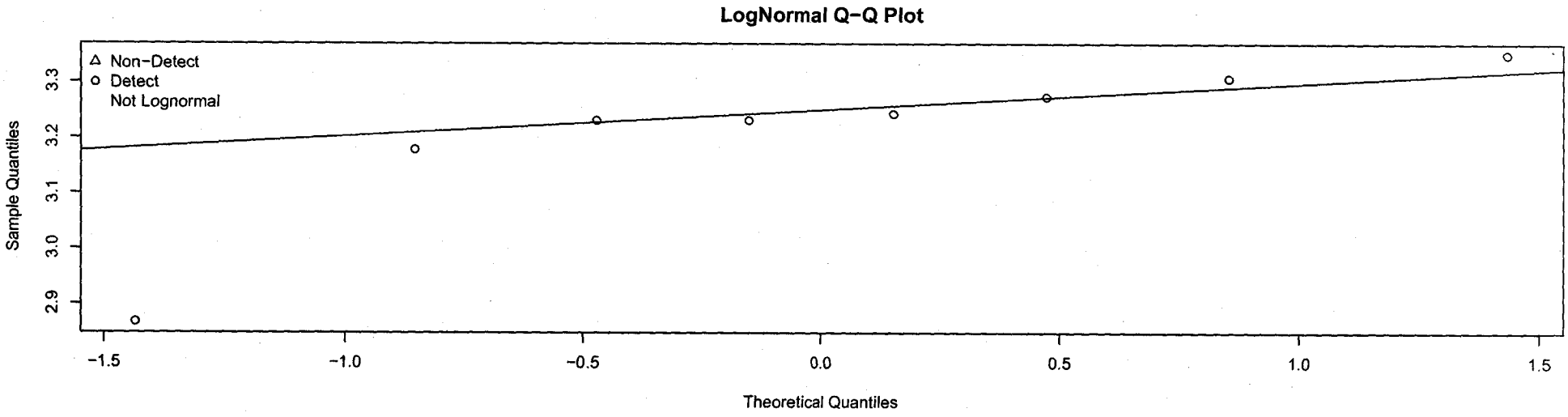
Coffins Ice Pond
Spring Surface Water
DISSOLVED ALUMINUM



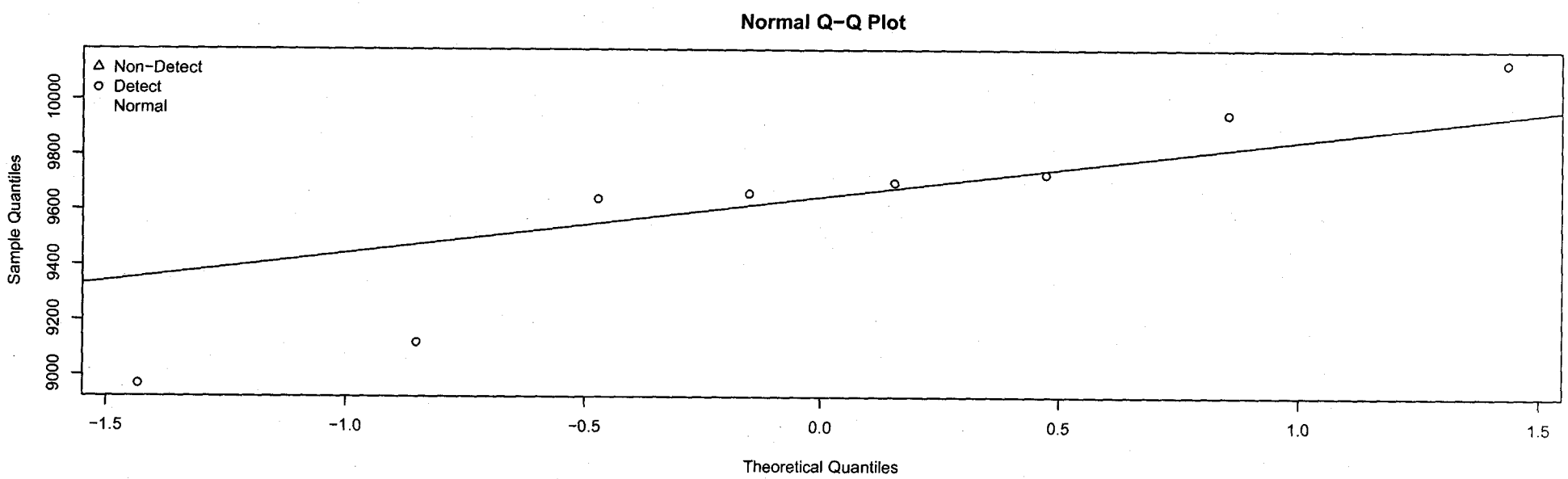


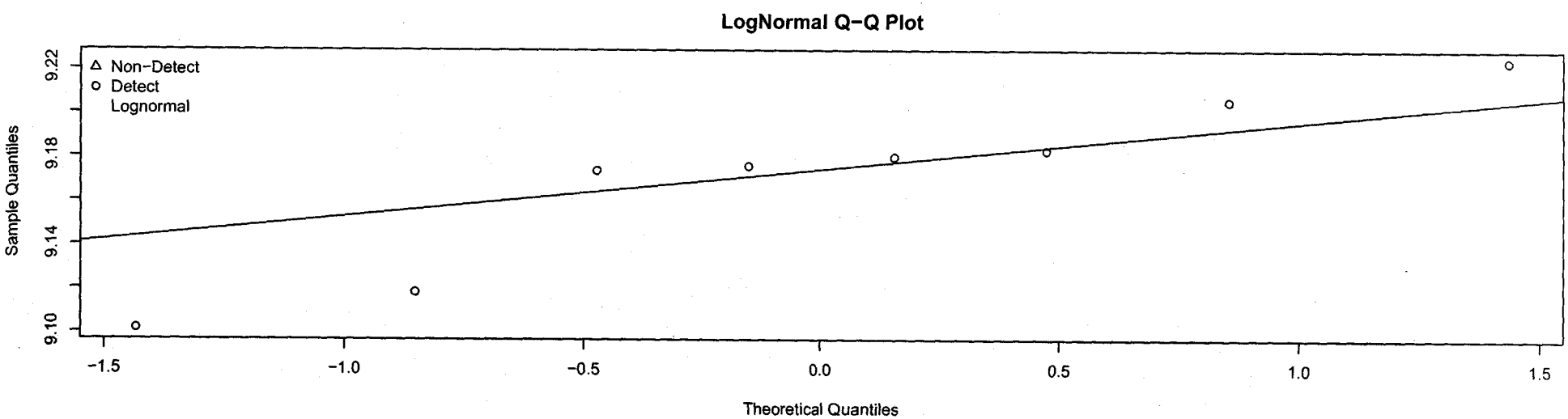
Coffins Ice Pond
Spring Surface Water
DISSOLVED BARIUM



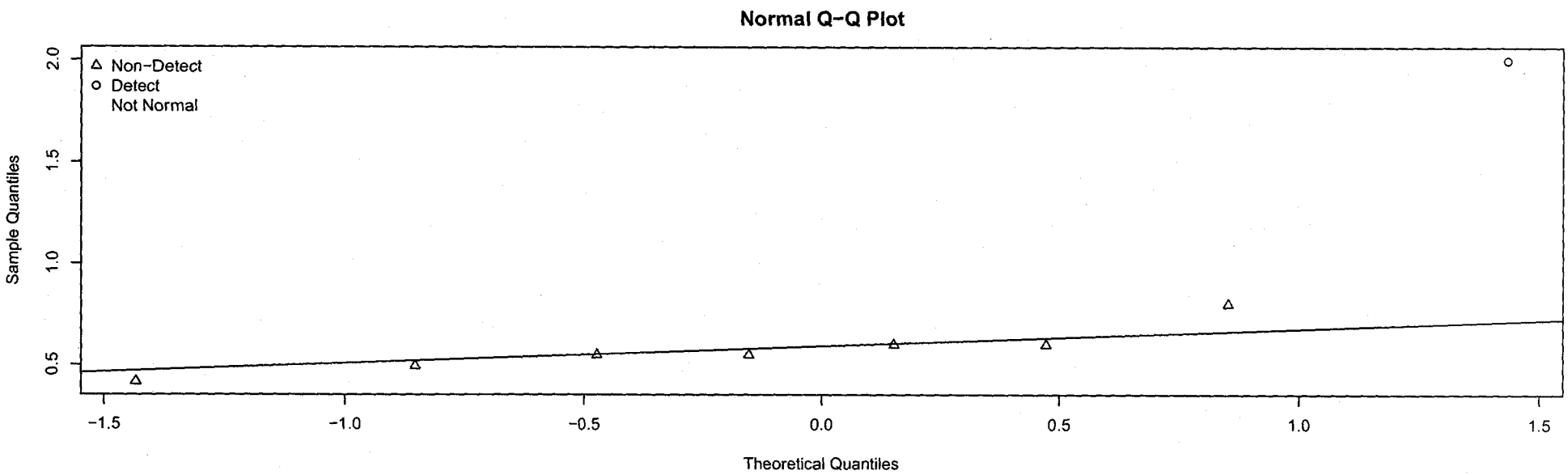


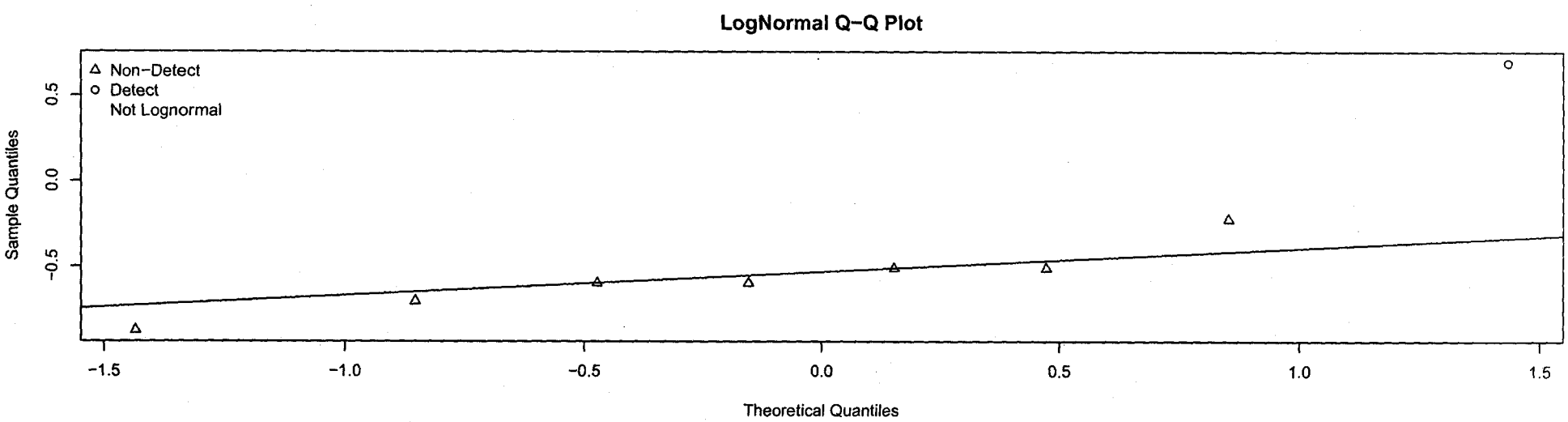
Coffins Ice Pond
Spring Surface Water
DISSOLVED CALCIUM



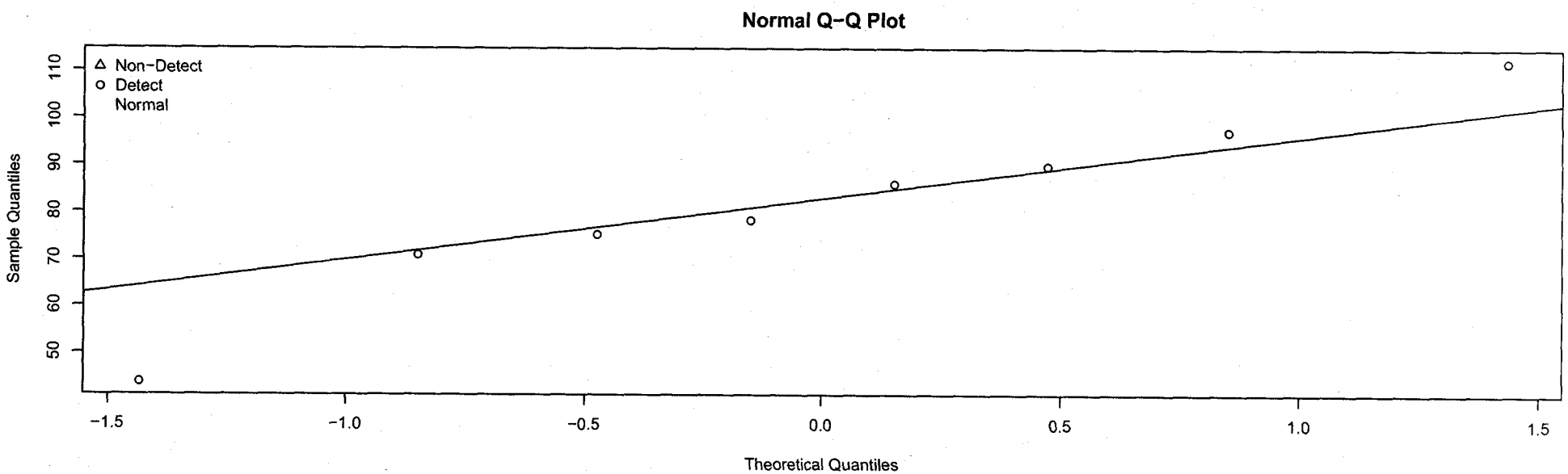


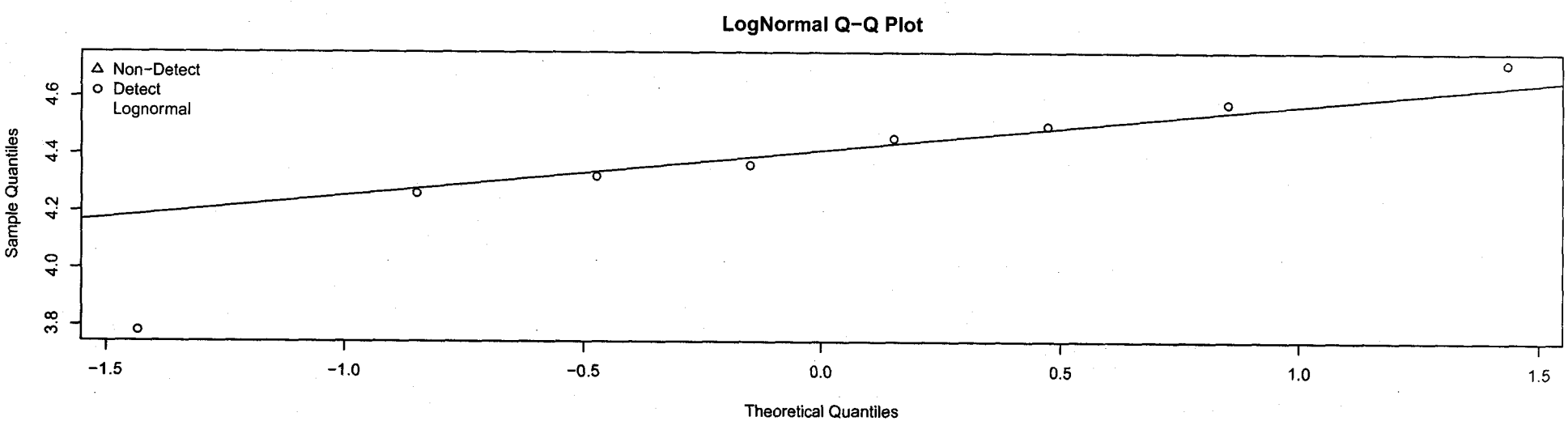
Coffins Ice Pond
Spring Surface Water
DISSOLVED COPPER



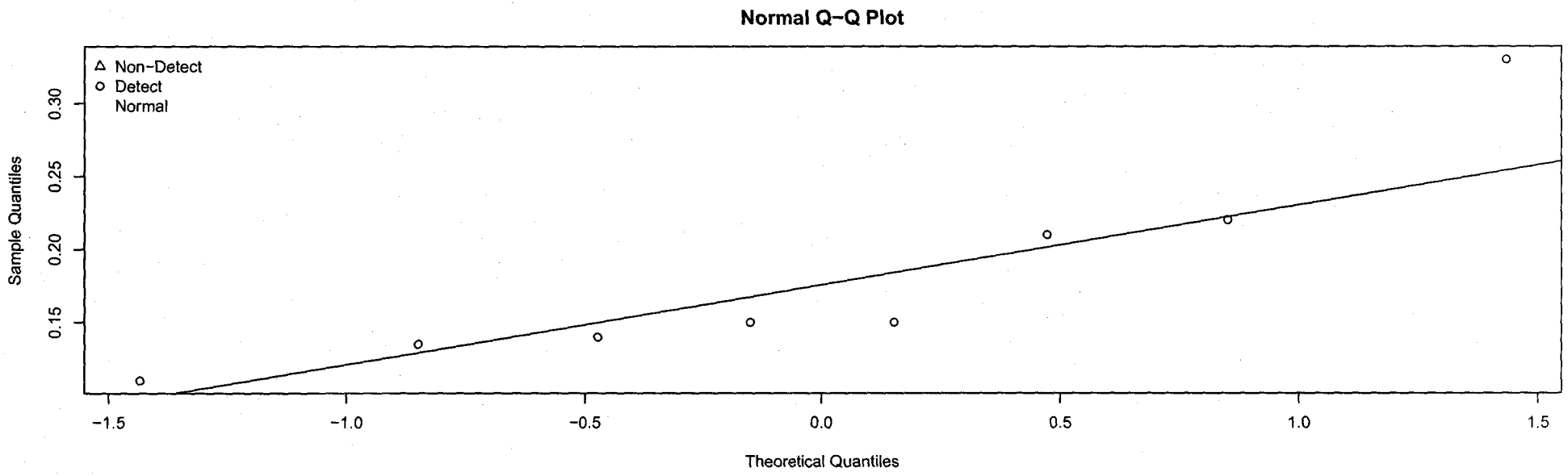


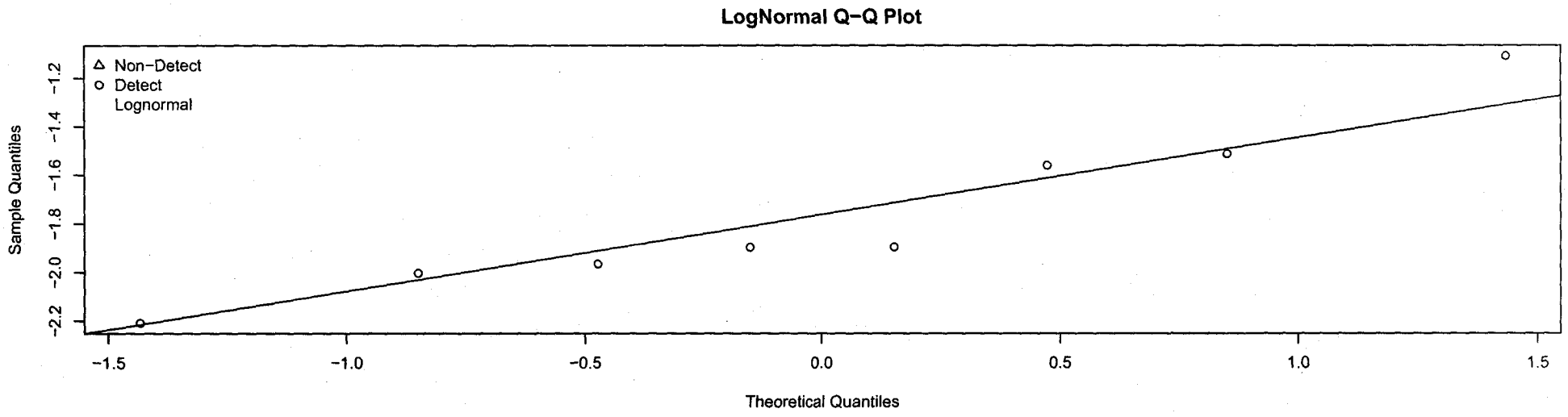
Coffins Ice Pond
Spring Surface Water
DISSOLVED IRON



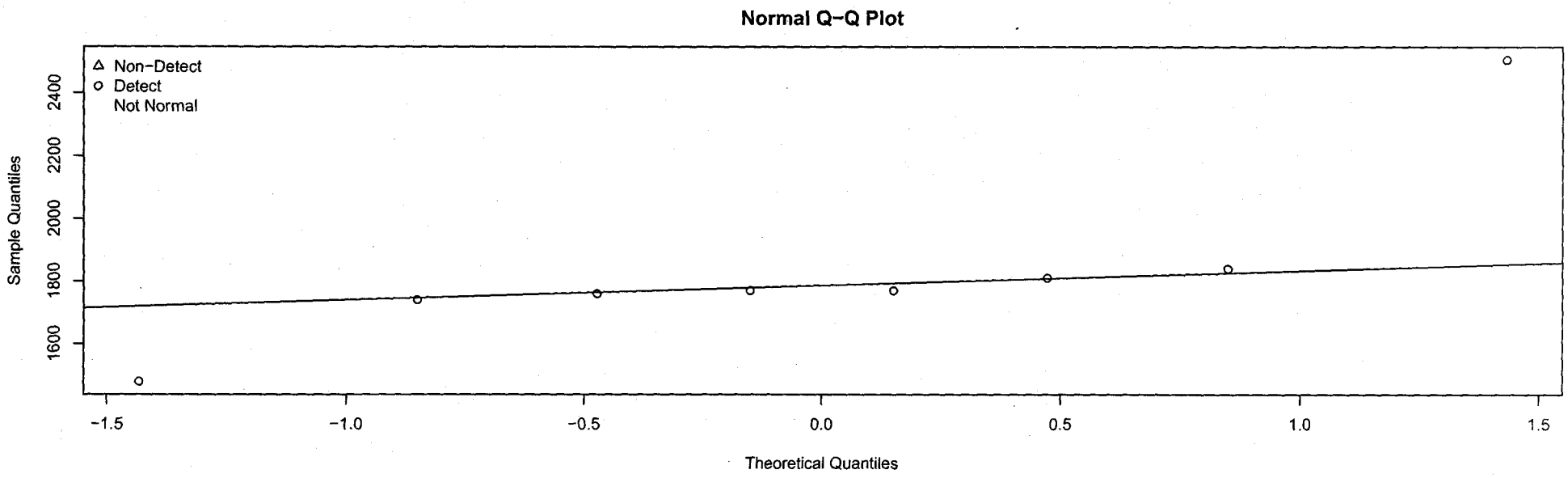


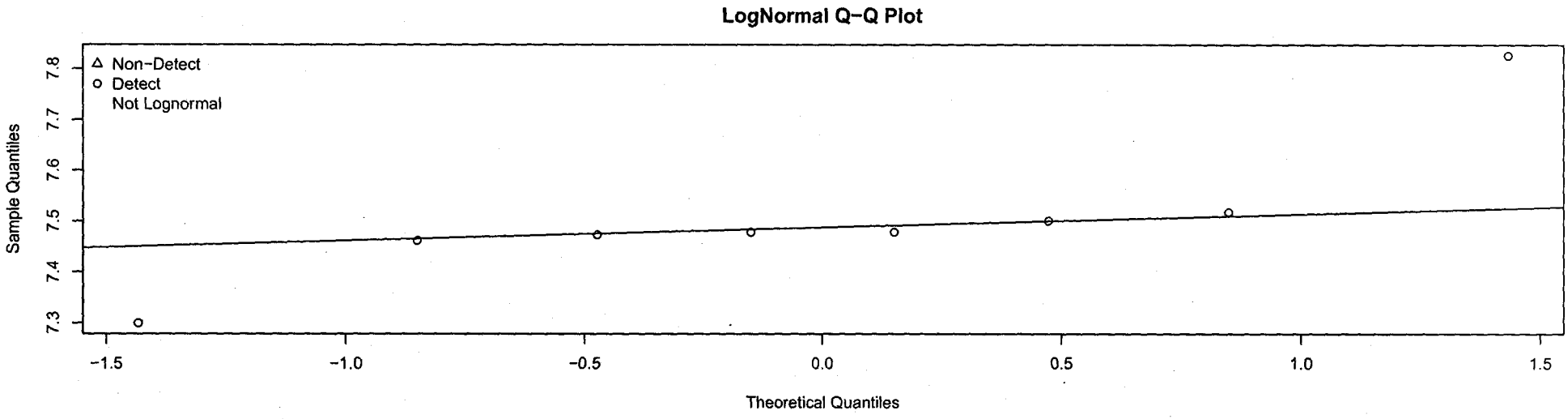
Coffins Ice Pond
Spring Surface Water
DISSOLVED LEAD



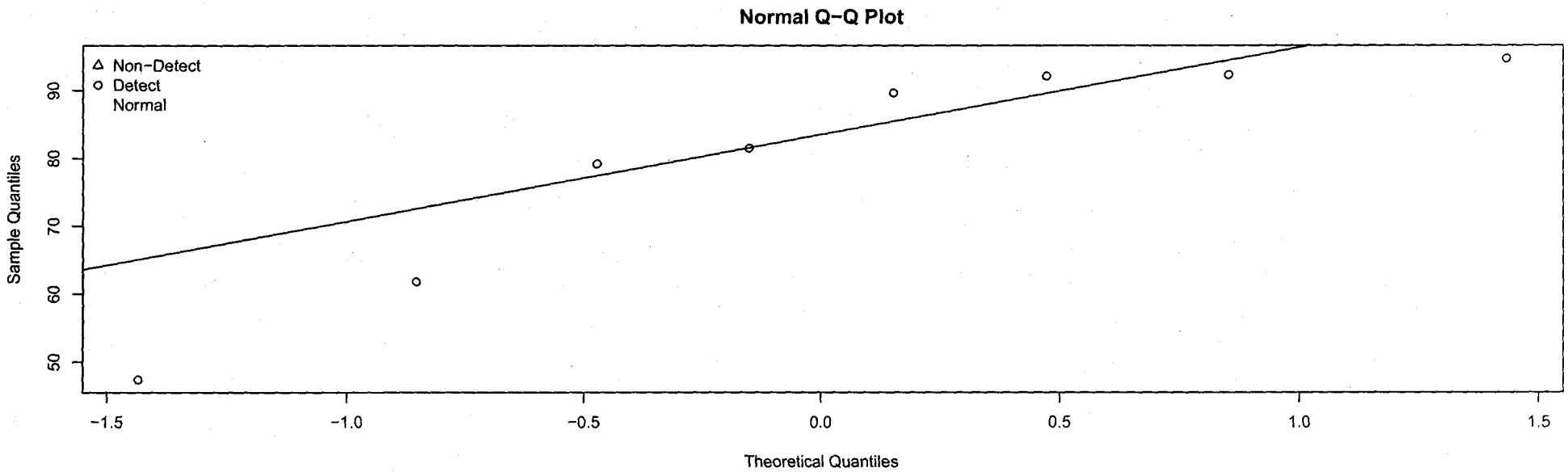


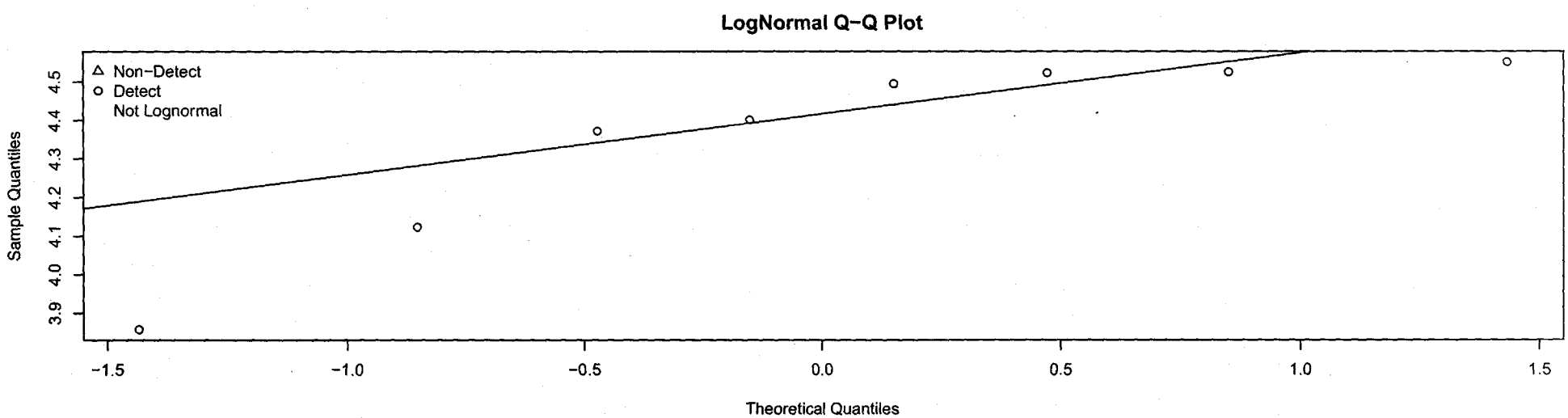
Coffins Ice Pond
Spring Surface Water
DISSOLVED MAGNESIUM



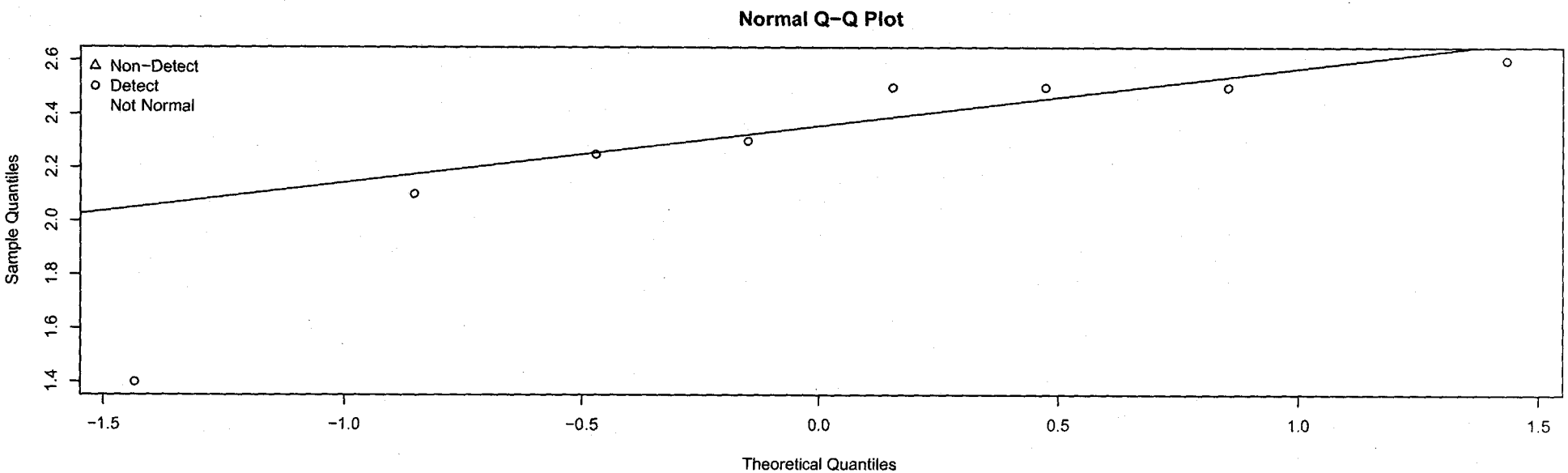


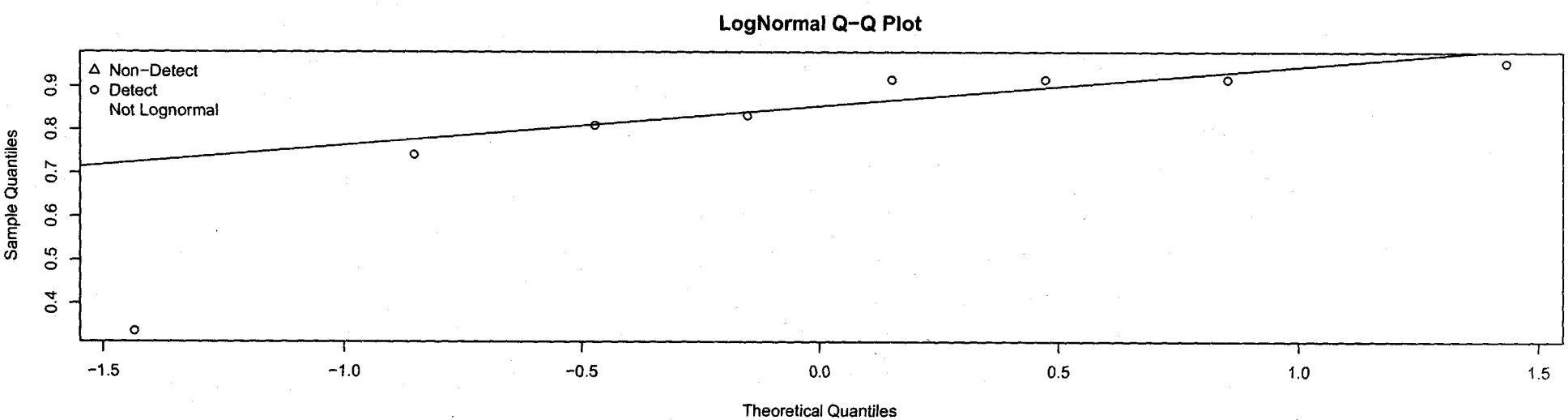
Coffins Ice Pond
Spring Surface Water
DISSOLVED MANGANESE



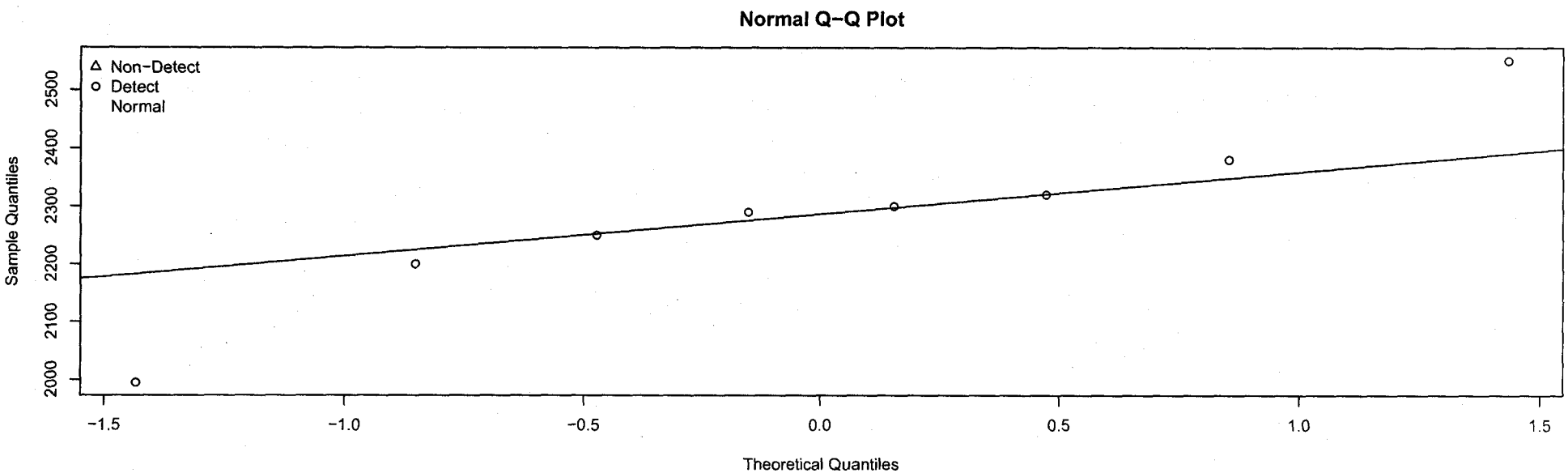


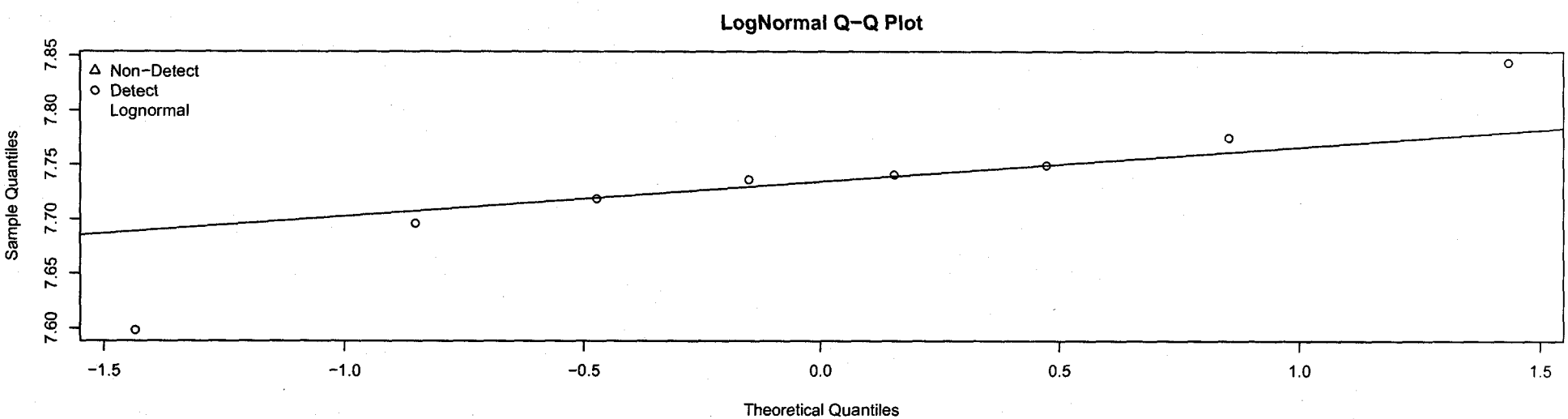
Coffins Ice Pond
Spring Surface Water
DISSOLVED NICKEL



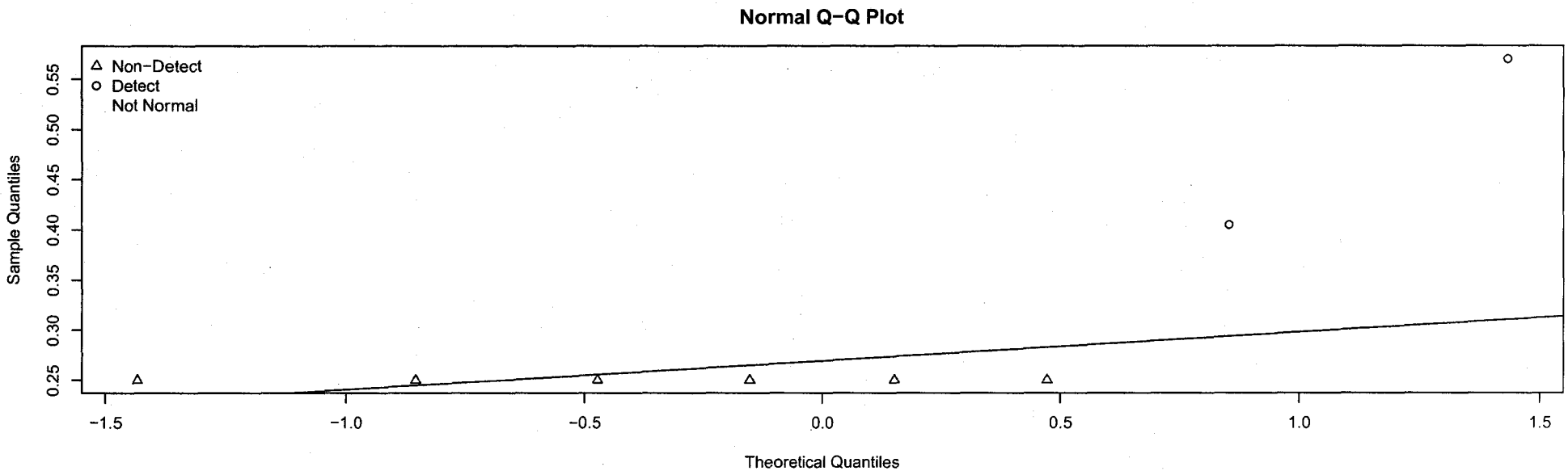


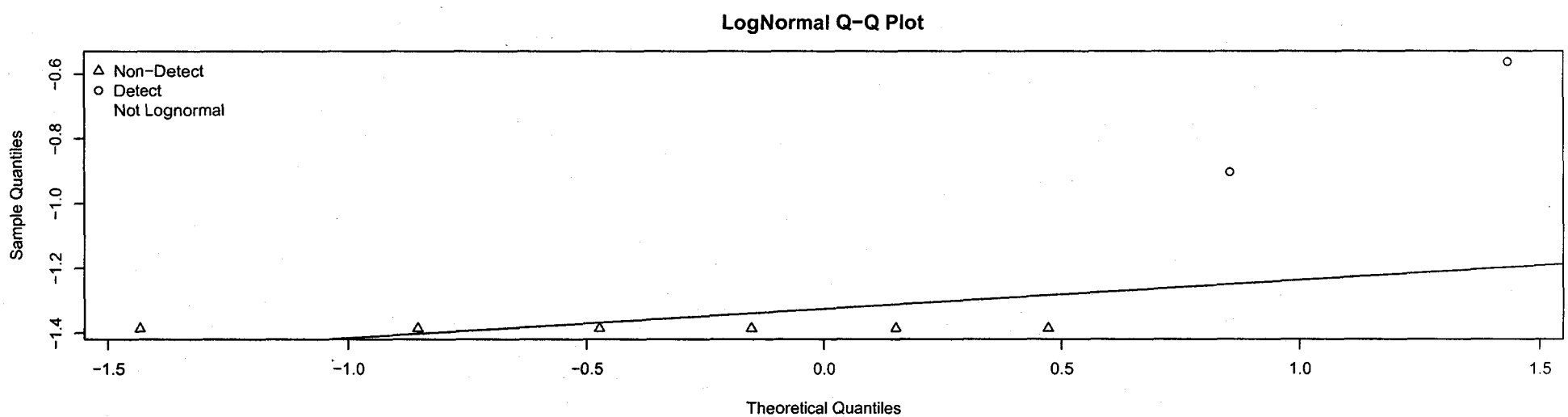
Coffins Ice Pond
Spring Surface Water
DISSOLVED POTASSIUM



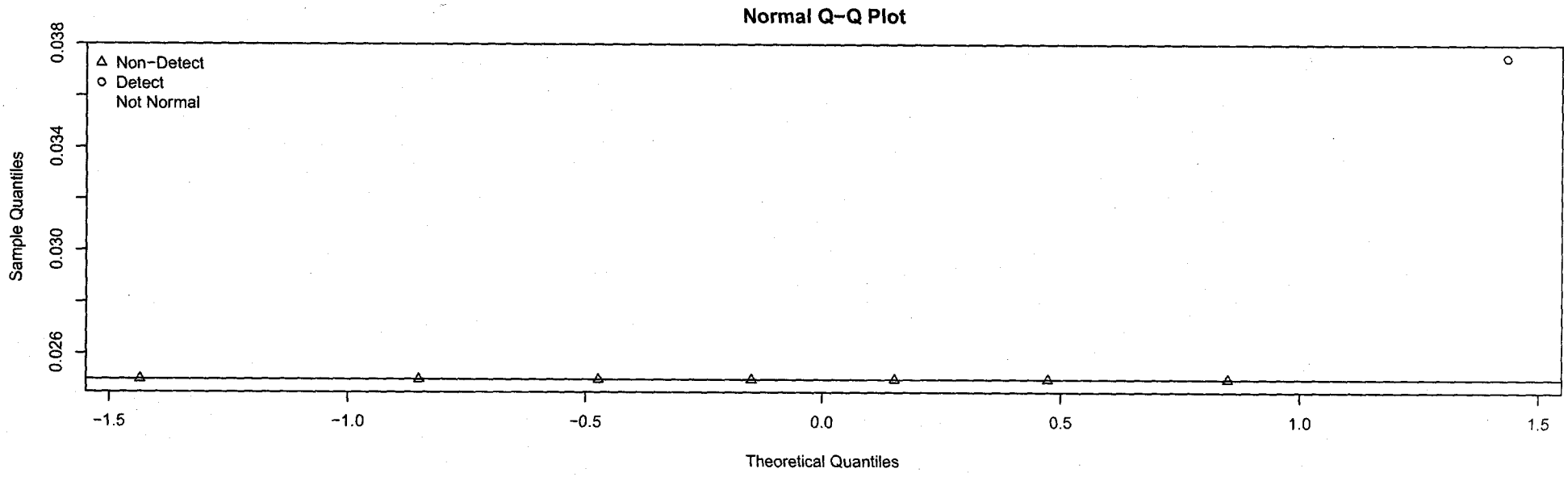


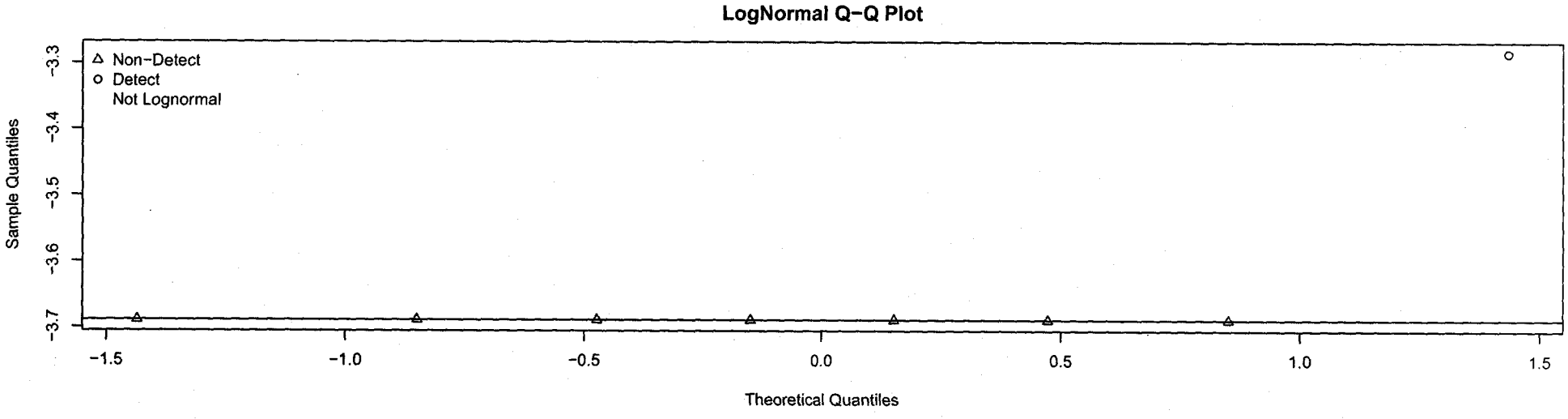
Coffins Ice Pond
Spring Surface Water
DISSOLVED SELENIUM



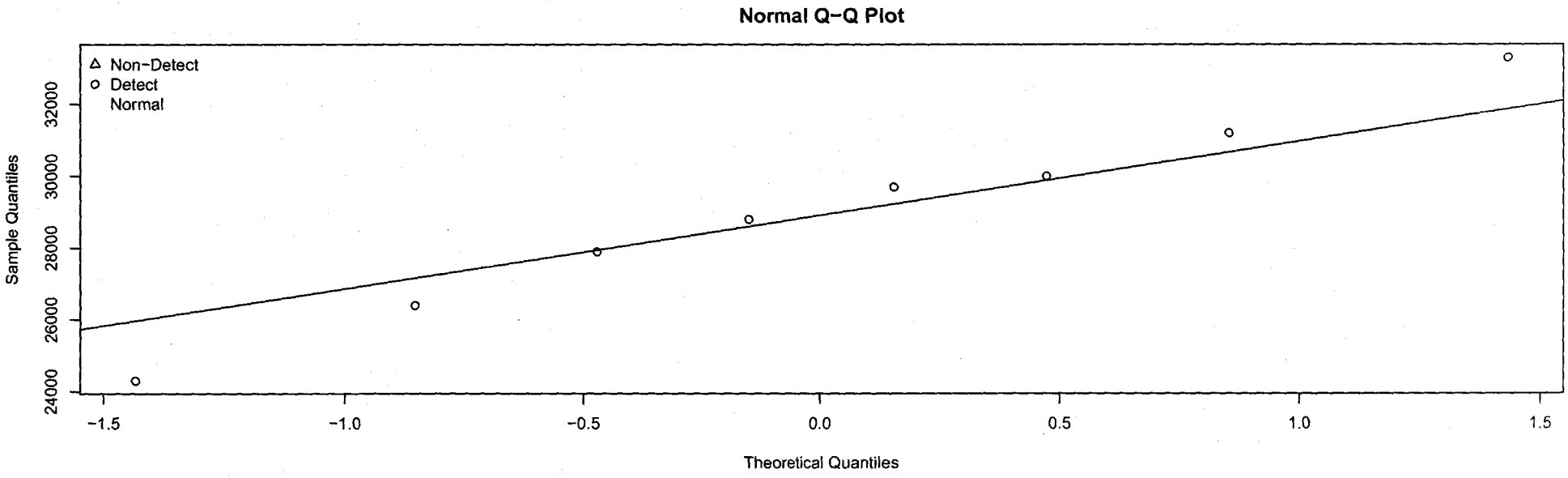


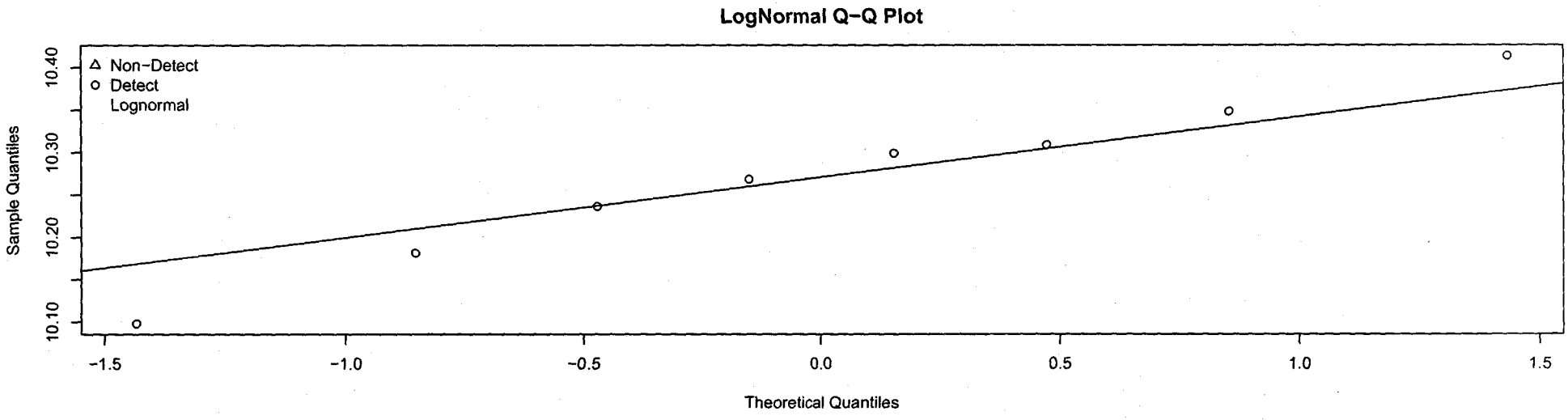
Coffins Ice Pond
Spring Surface Water
DISSOLVED SILVER



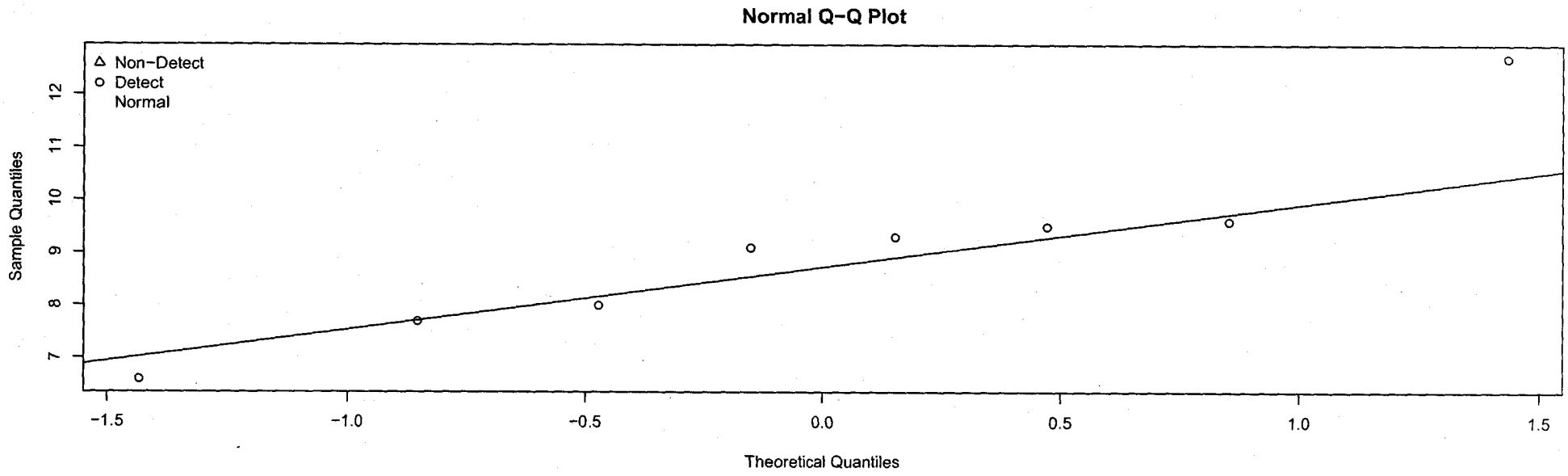


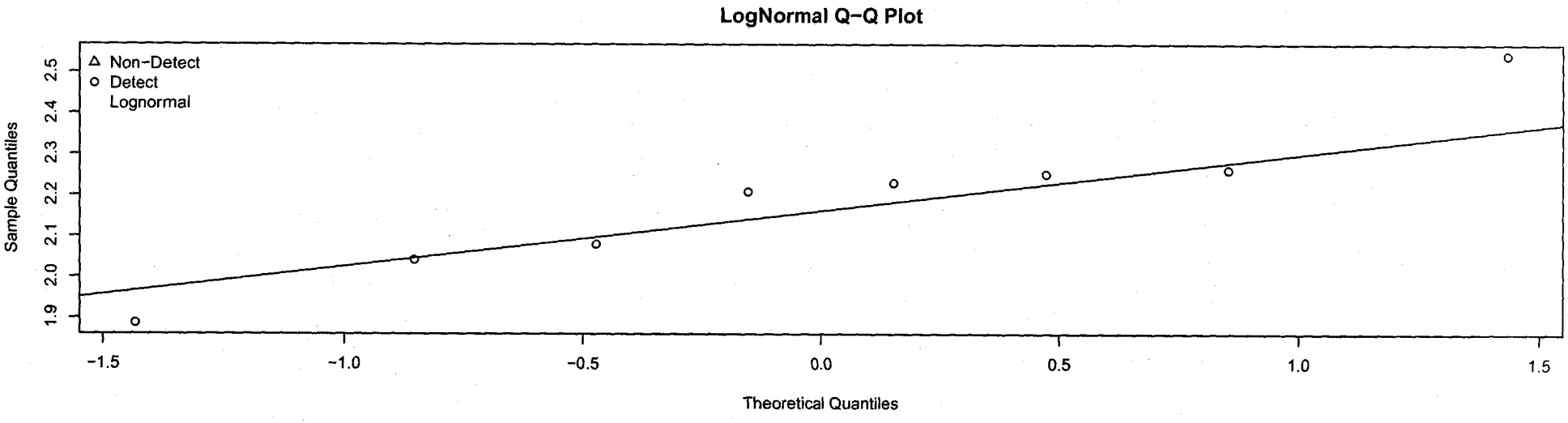
Coffins Ice Pond
Spring Surface Water
DISSOLVED SODIUM



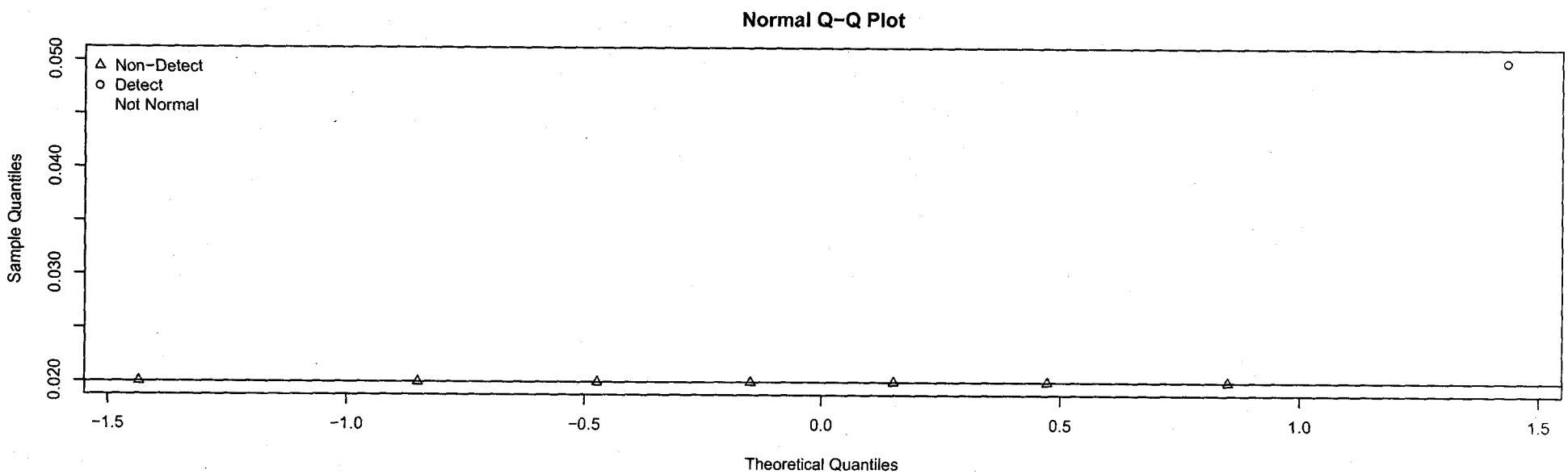


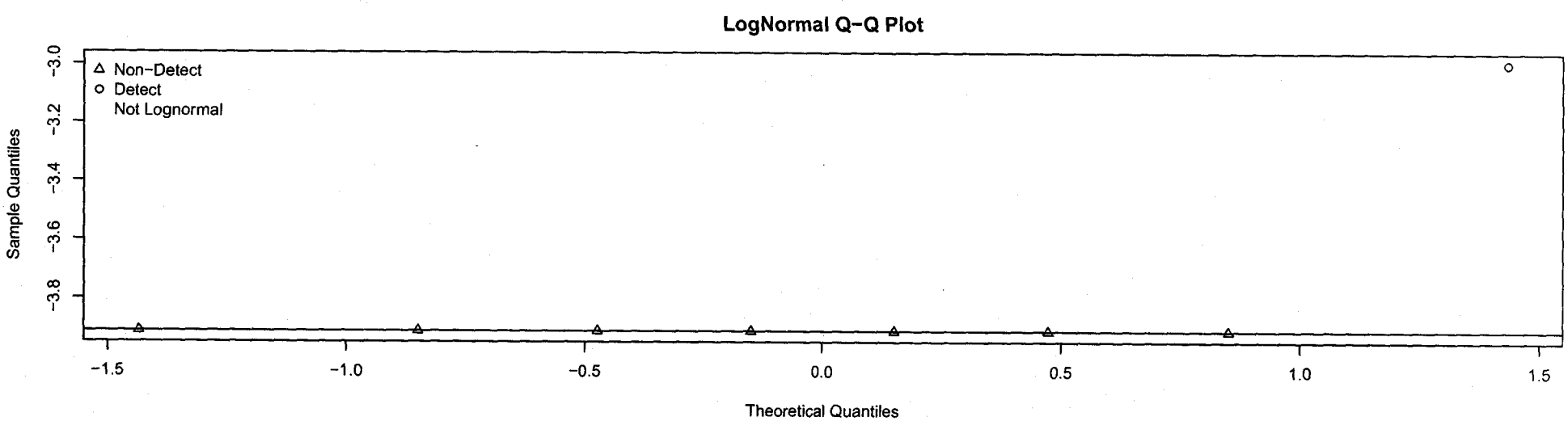
Coffins Ice Pond
Spring Surface Water
DISSOLVED ZINC



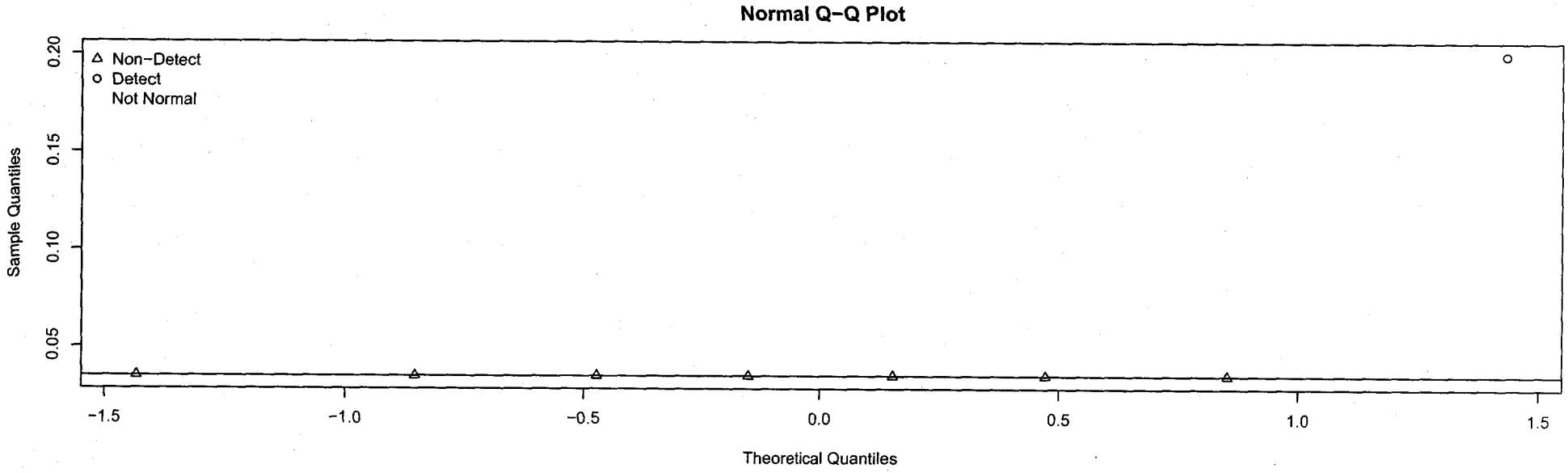


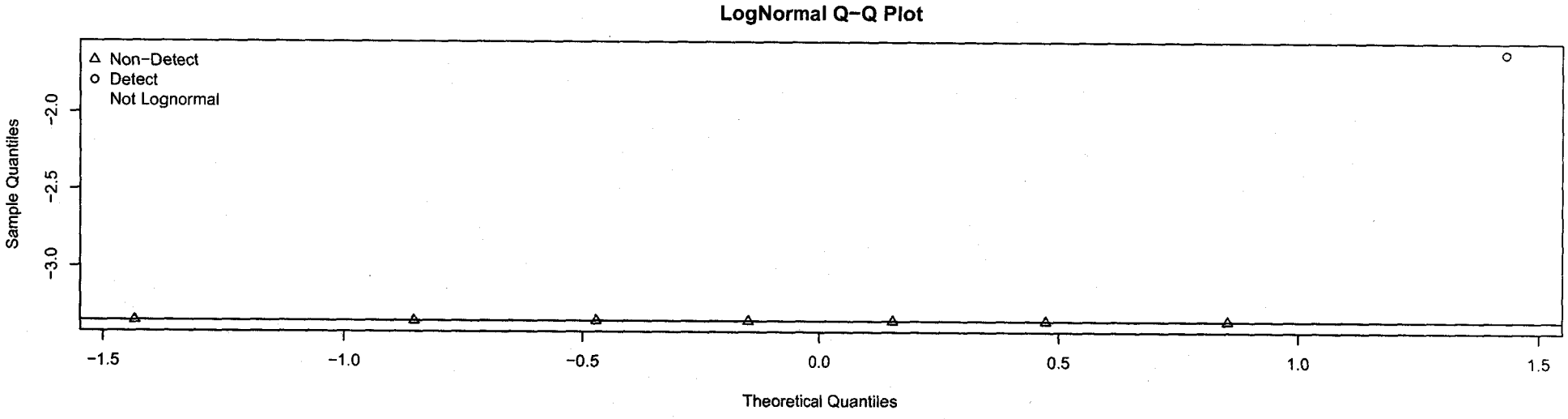
Mere Brook
Fall Surface Water
BENZO(A)ANTHRACENE





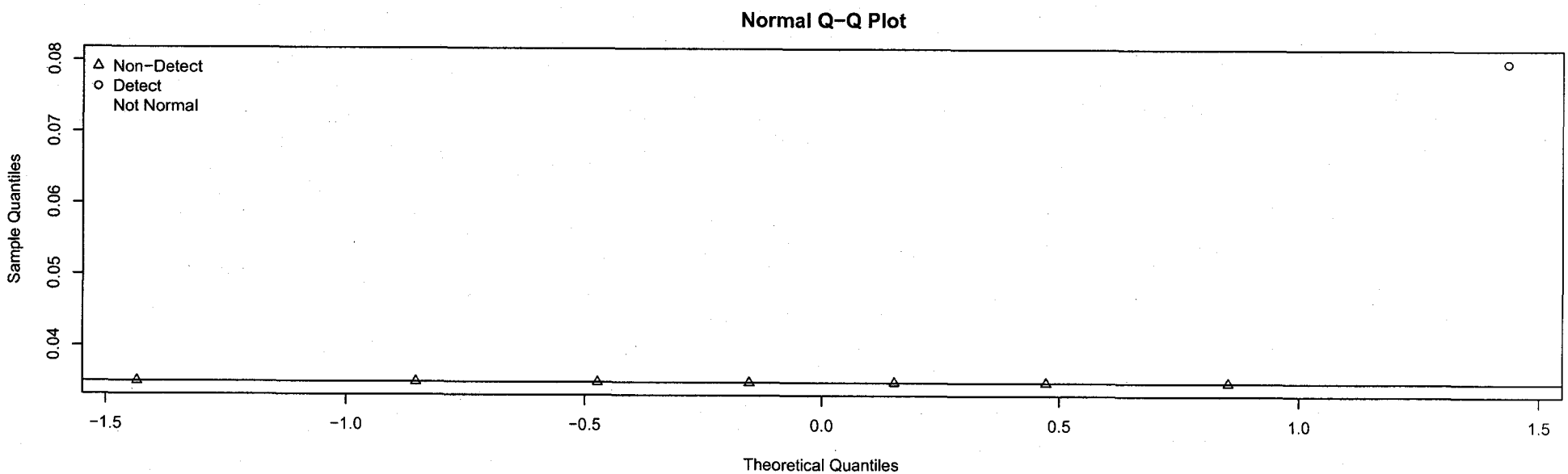
Mere Brook
Fall Surface Water
DIBENZO(A,H)ANTHRACENE

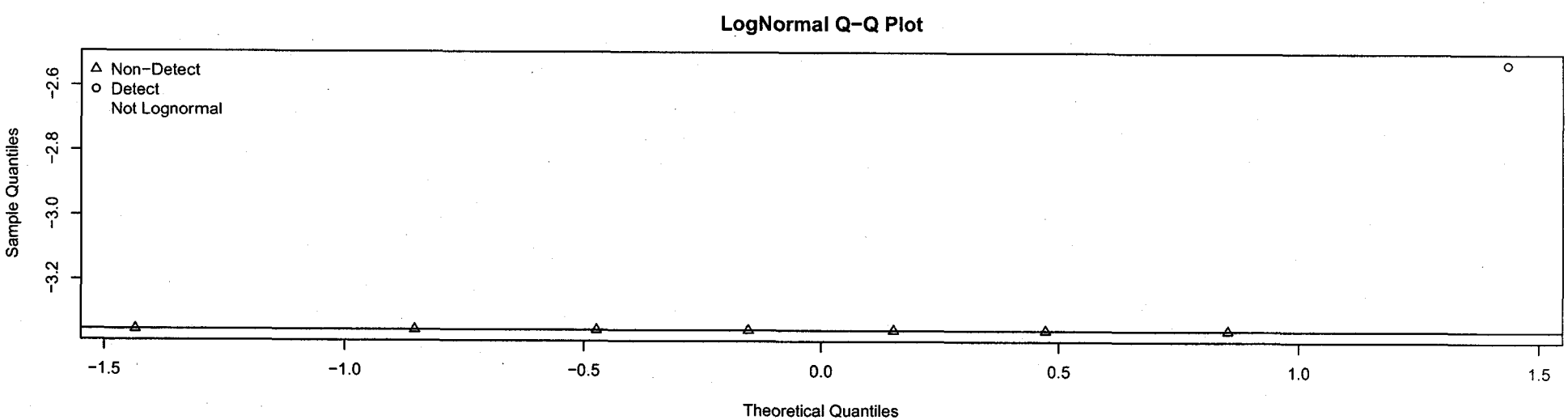




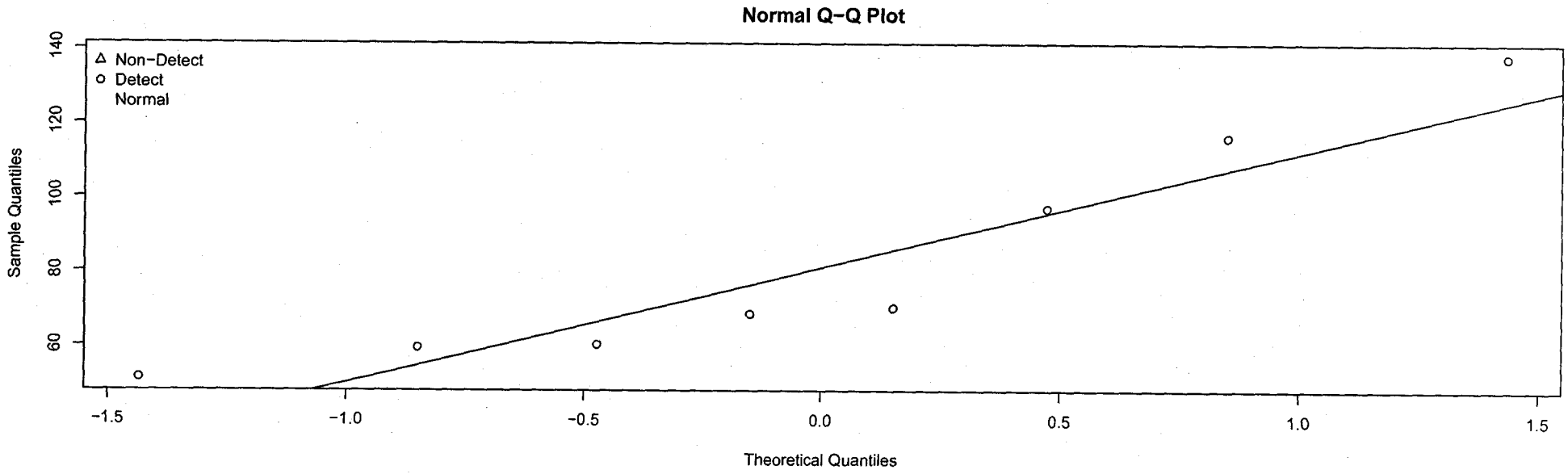
Mere Brook
Fall Surface Water

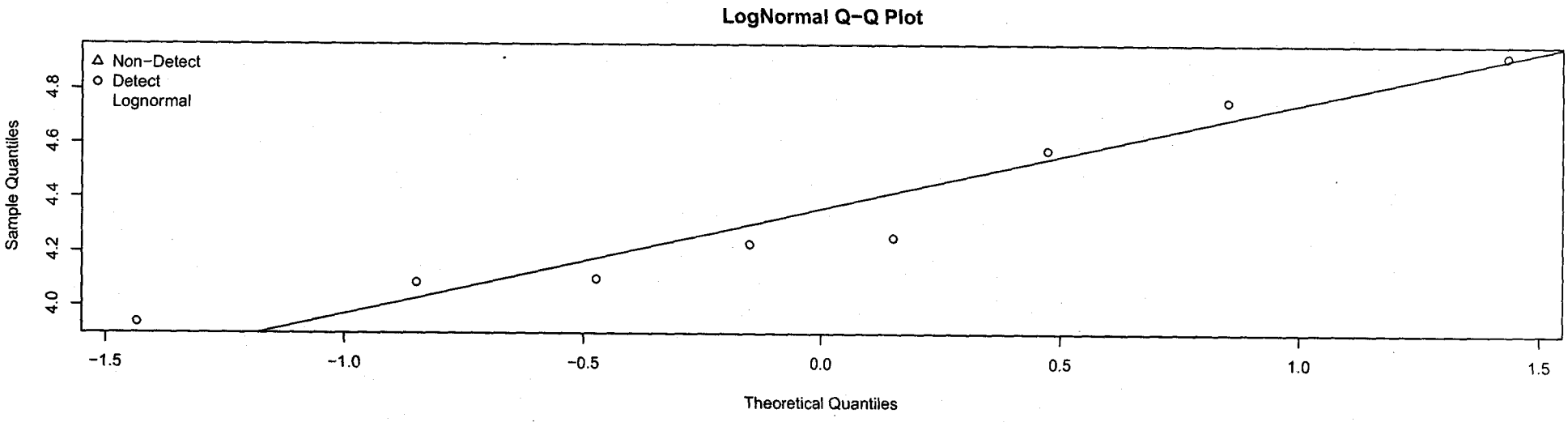
FLUORANTHENE



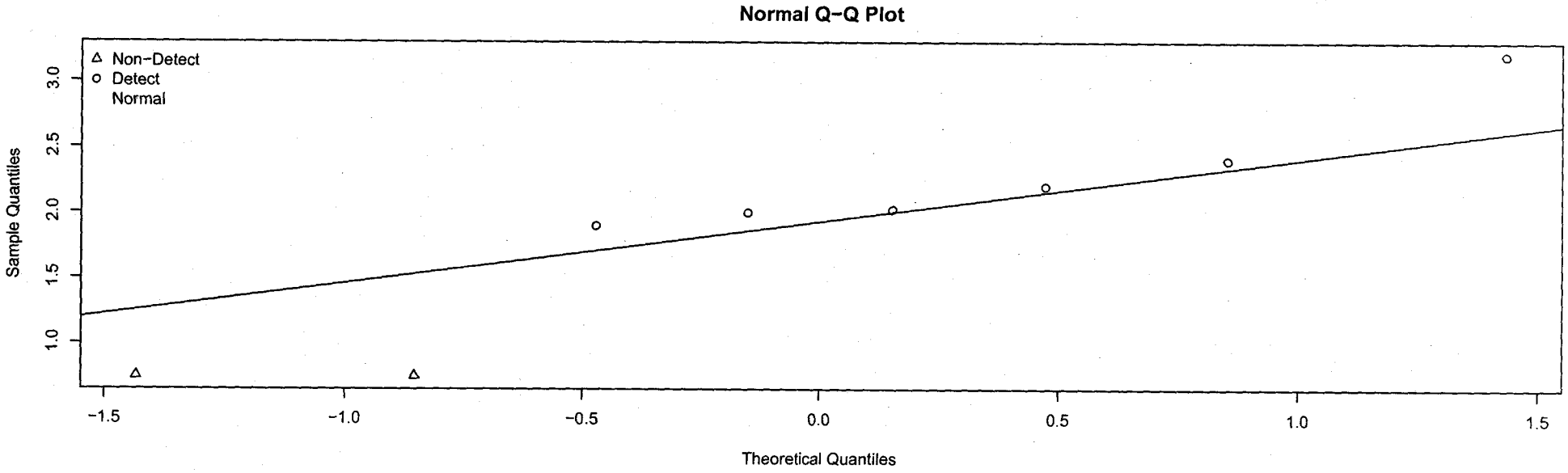


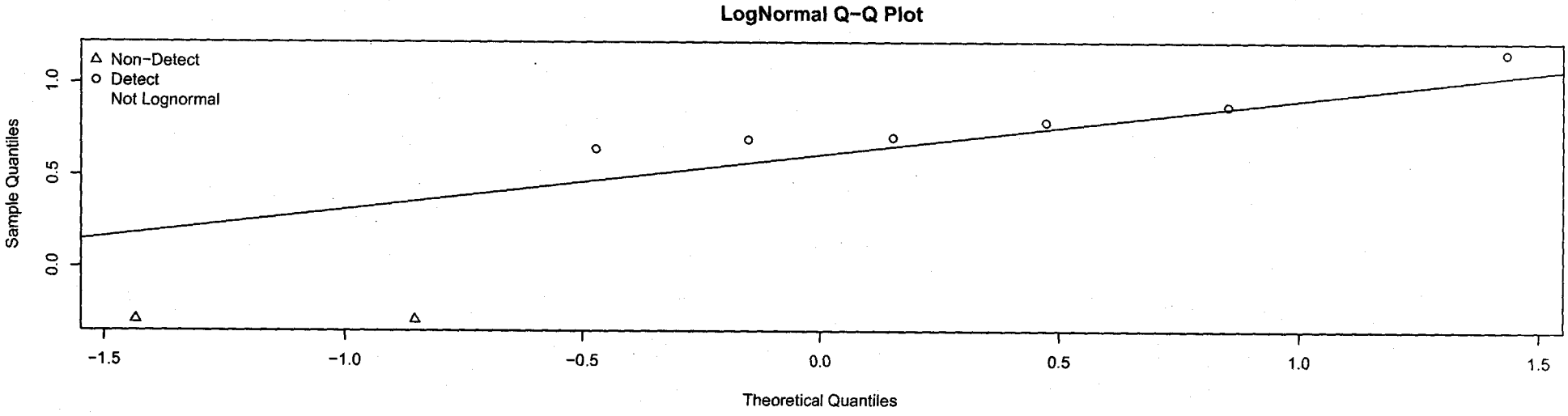
Mere Brook
Fall Surface Water
TOTAL ALUMINUM



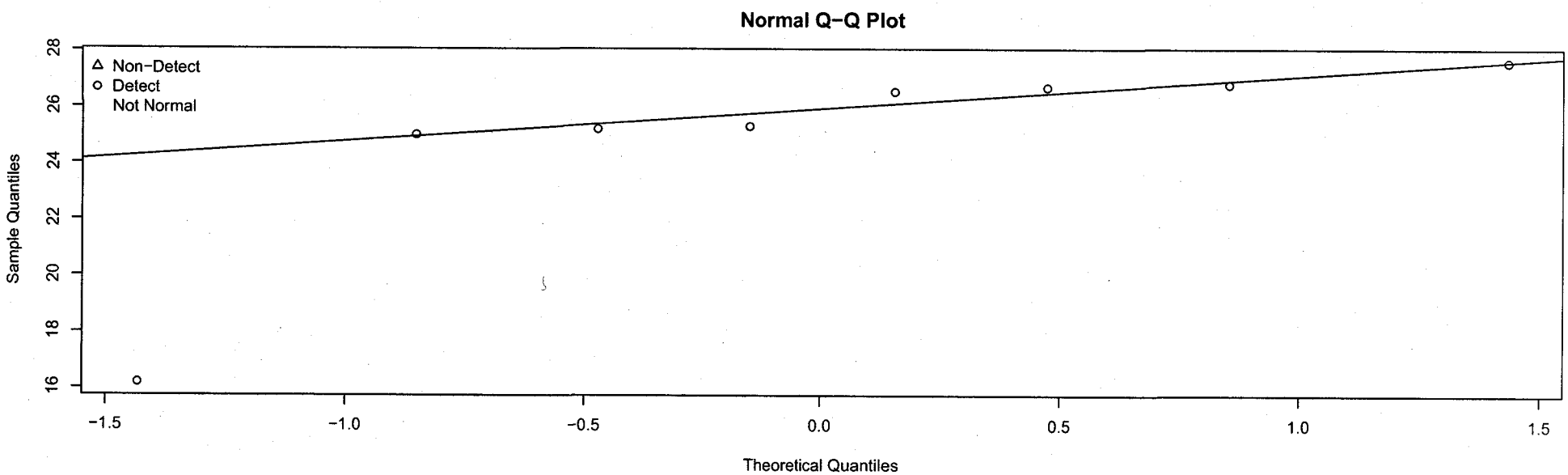


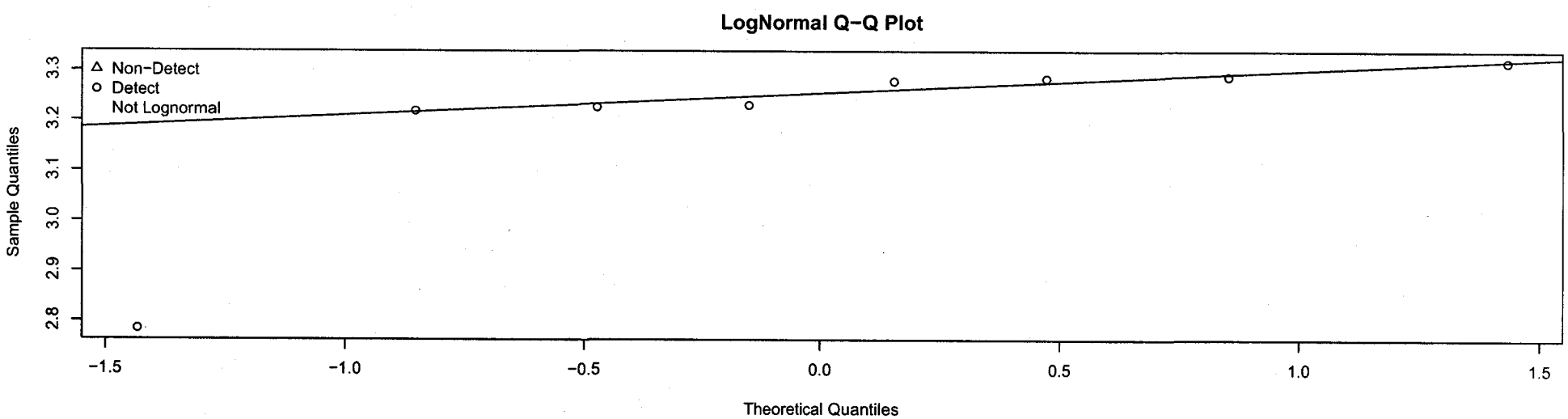
Mere Brook
Fall Surface Water
TOTAL ARSENIC



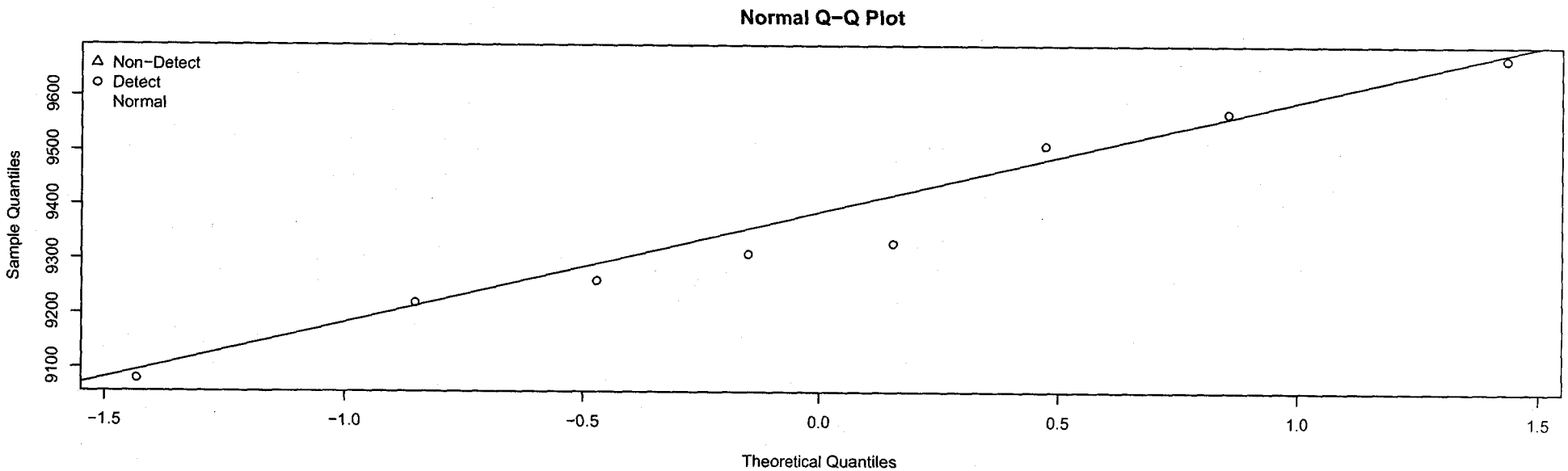


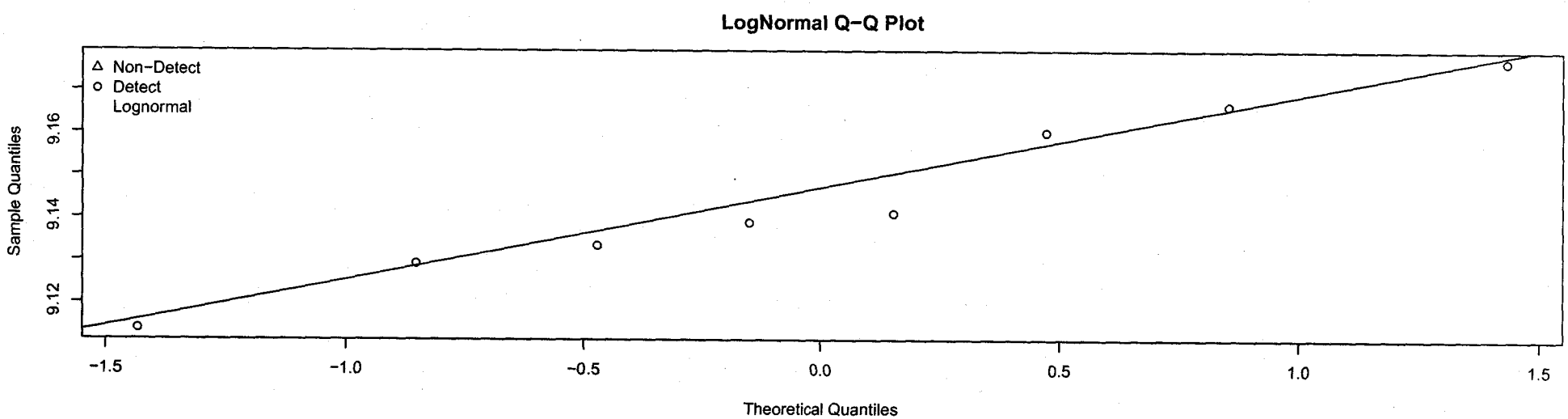
Mere Brook
Fall Surface Water
TOTAL BARIUM



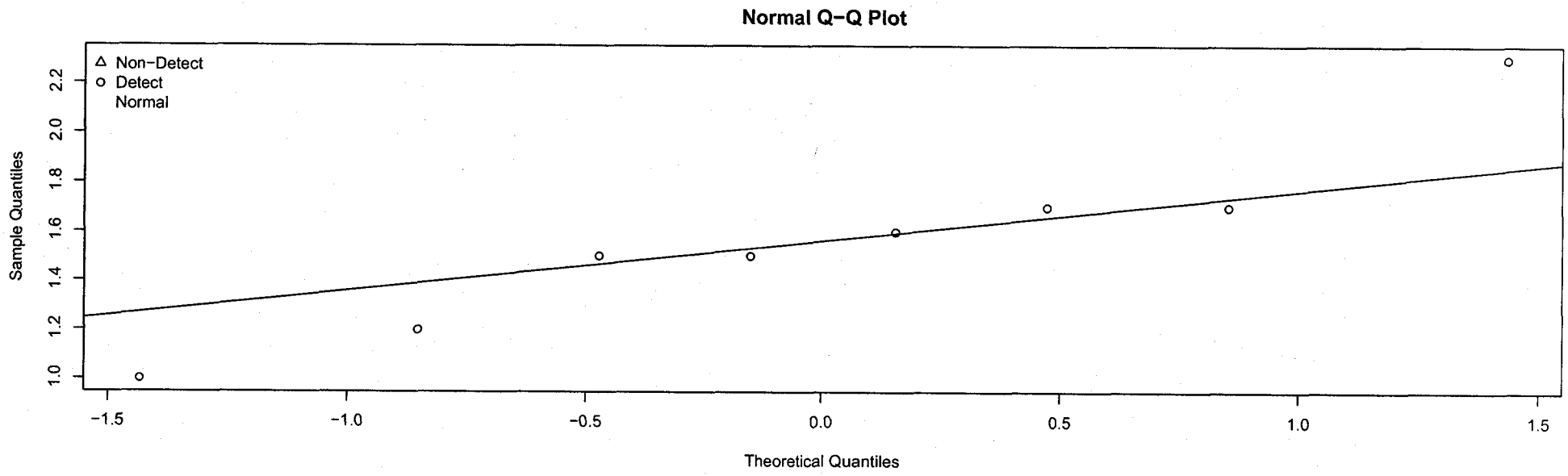


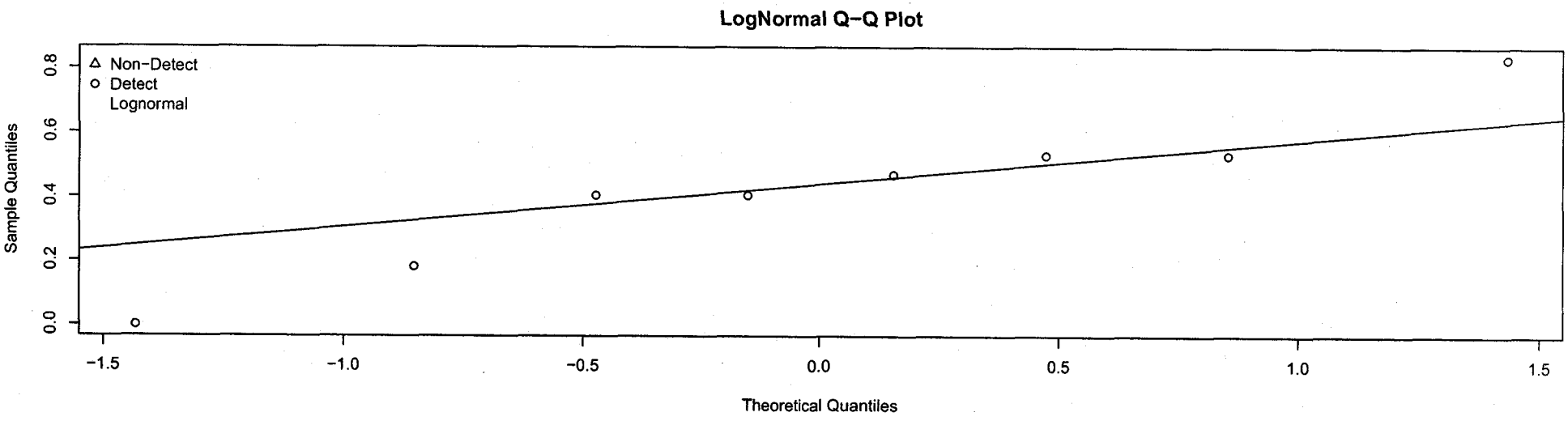
Mere Brook
Fall Surface Water
TOTAL CALCIUM



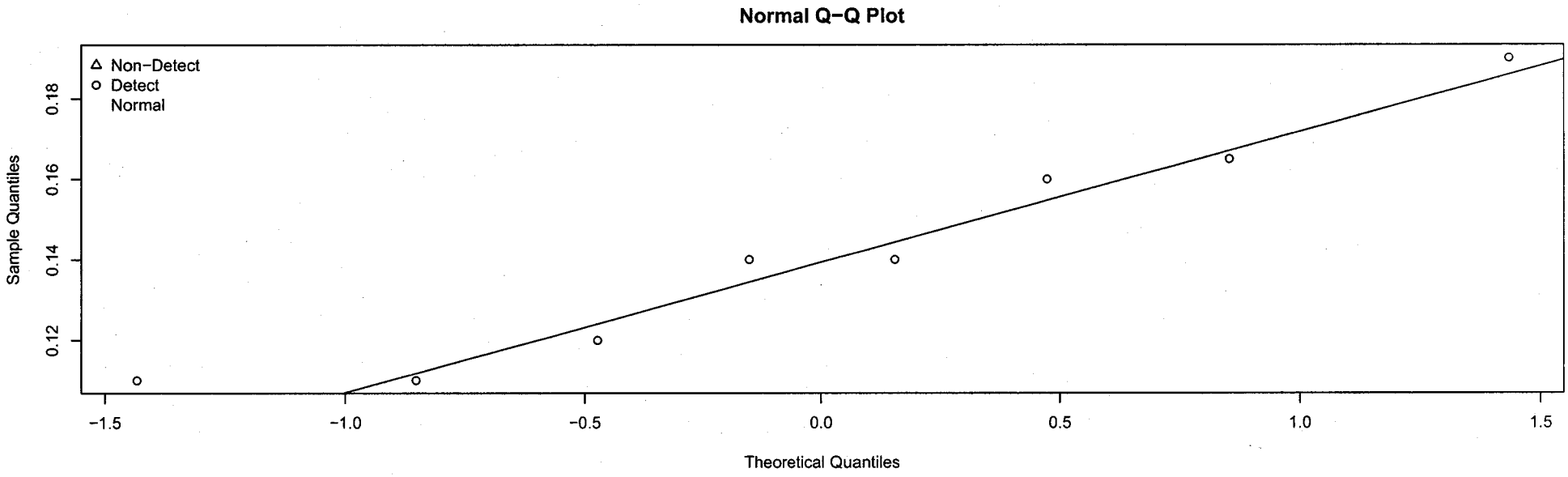


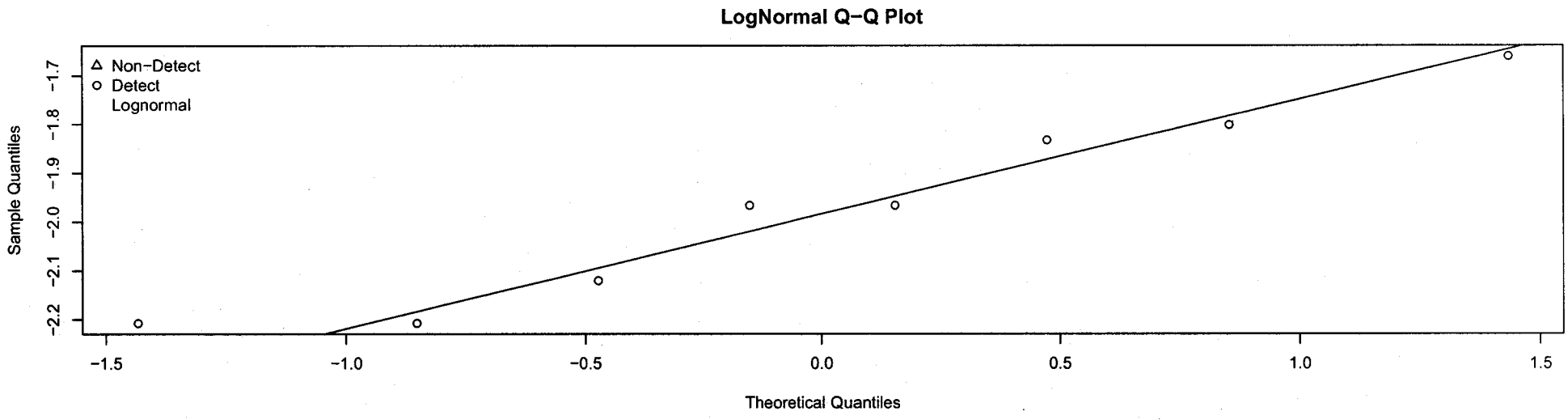
Mere Brook
Fall Surface Water
TOTAL CHROMIUM



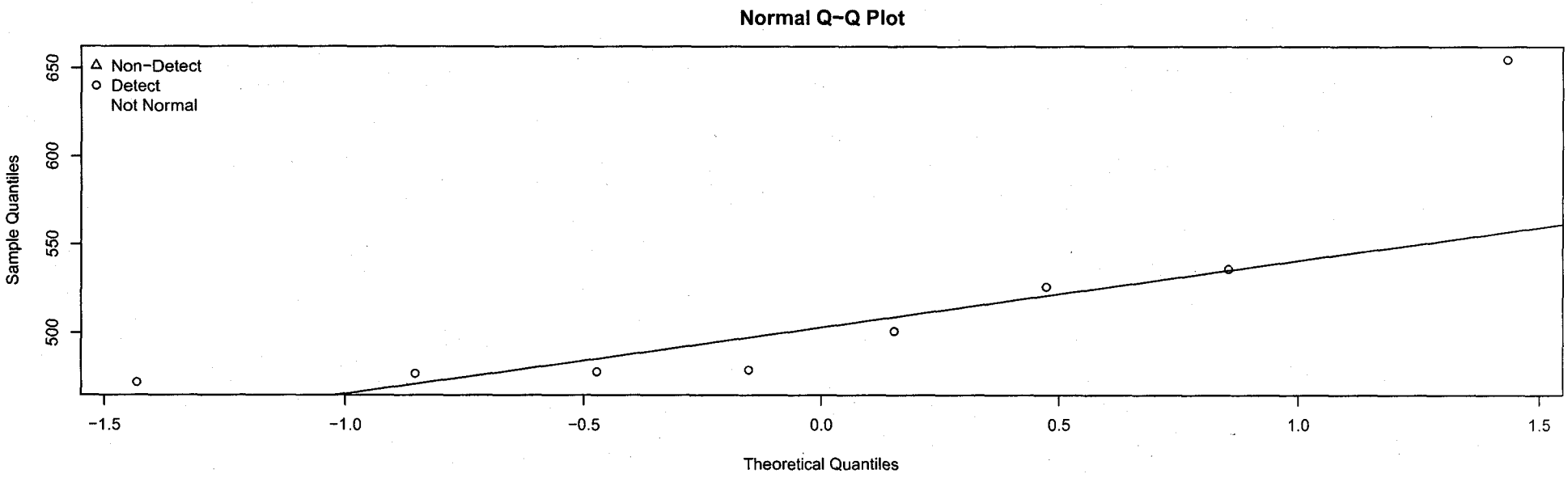


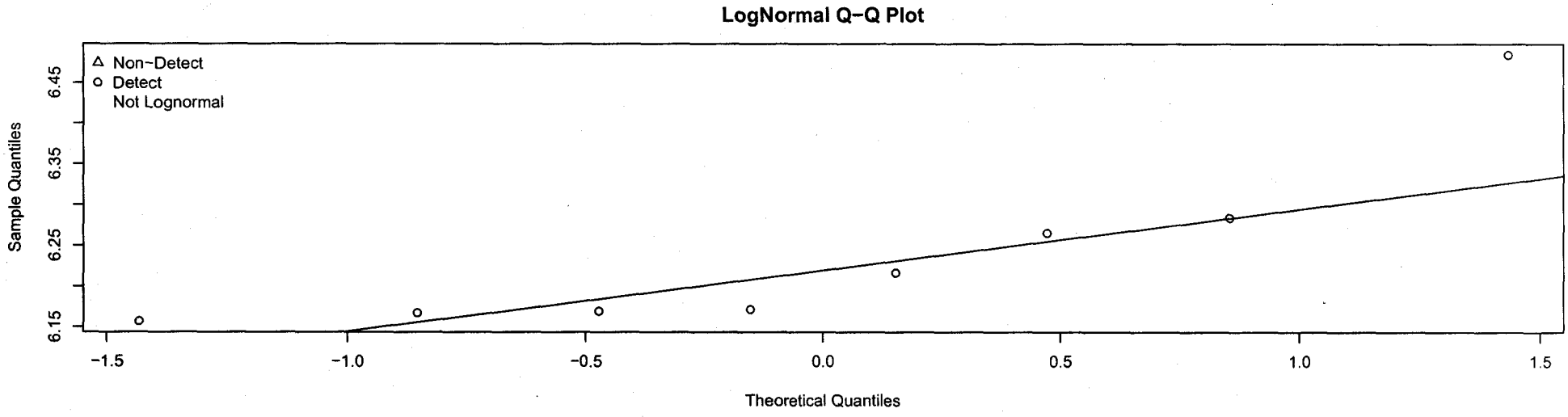
Mere Brook
Fall Surface Water
TOTAL COBALT



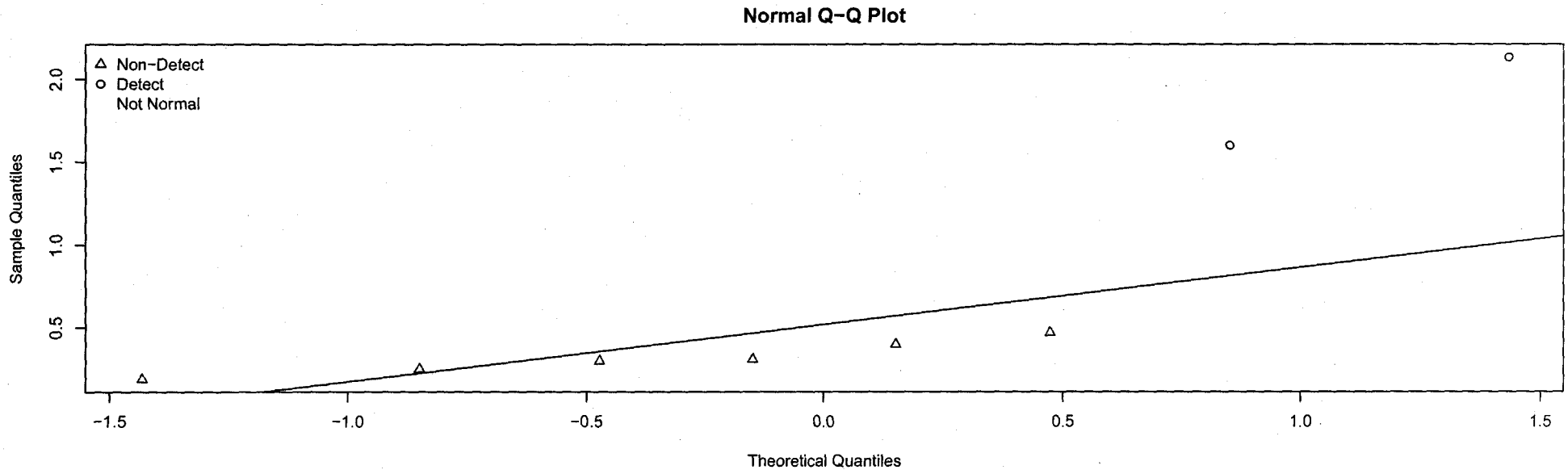


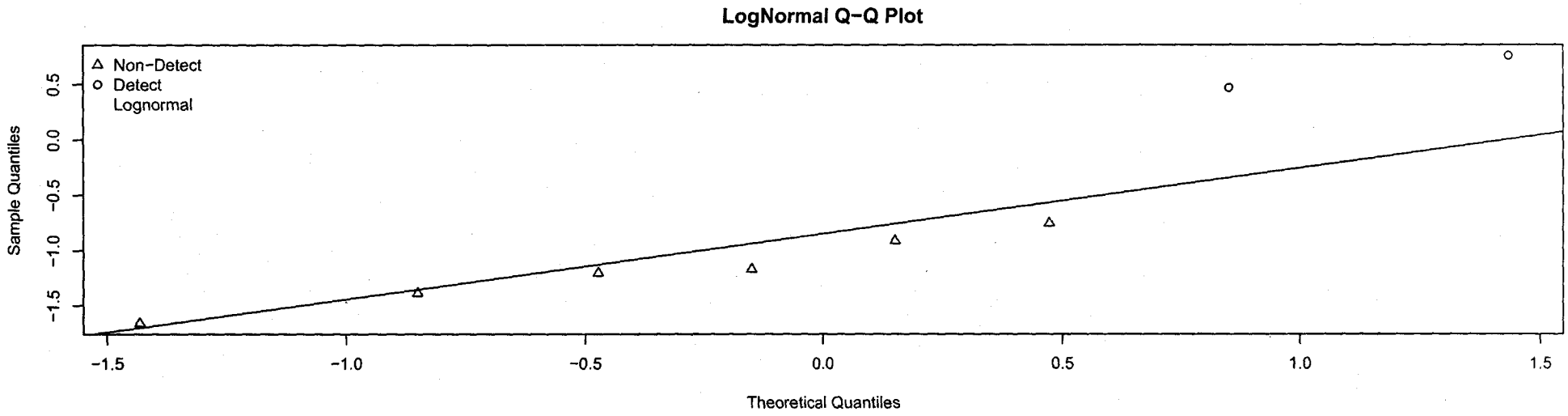
Mere Brook
Fall Surface Water
TOTAL IRON



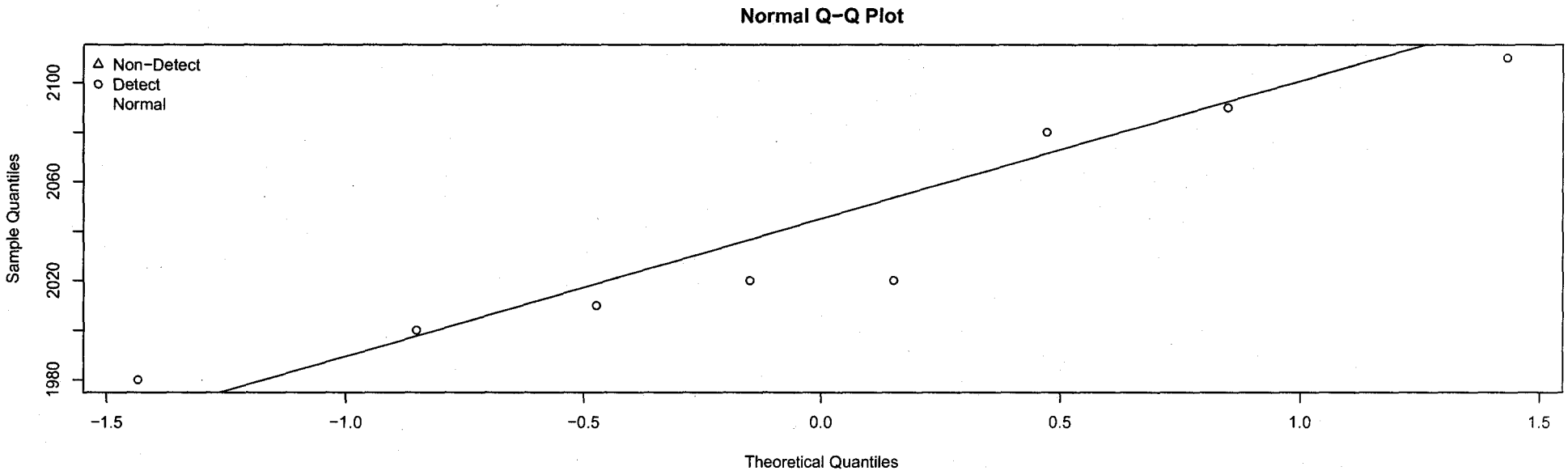


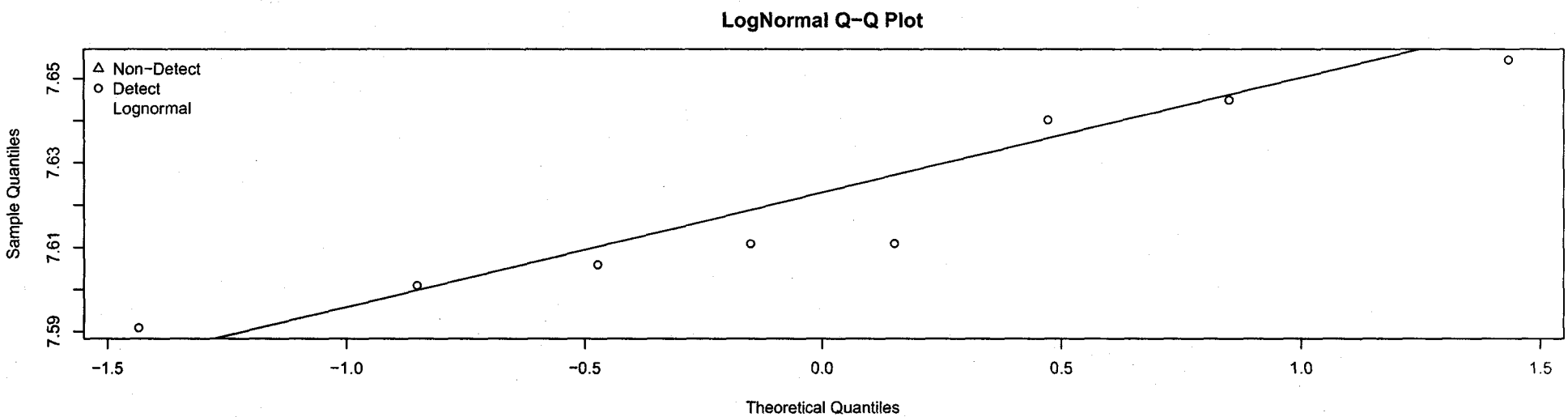
Mere Brook
Fall Surface Water
TOTAL LEAD



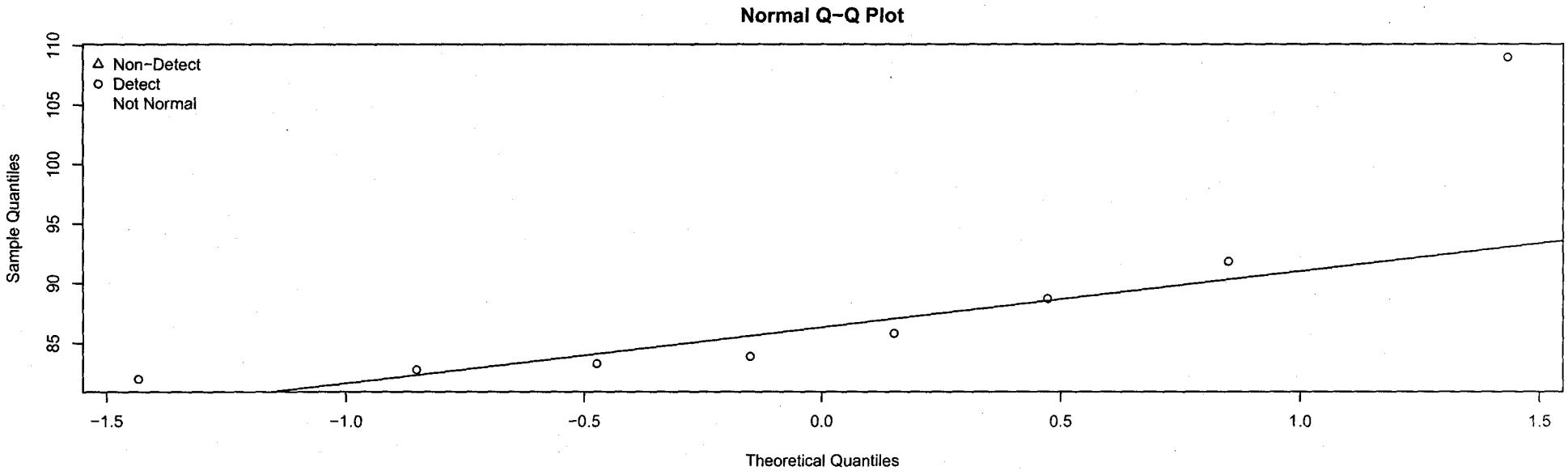


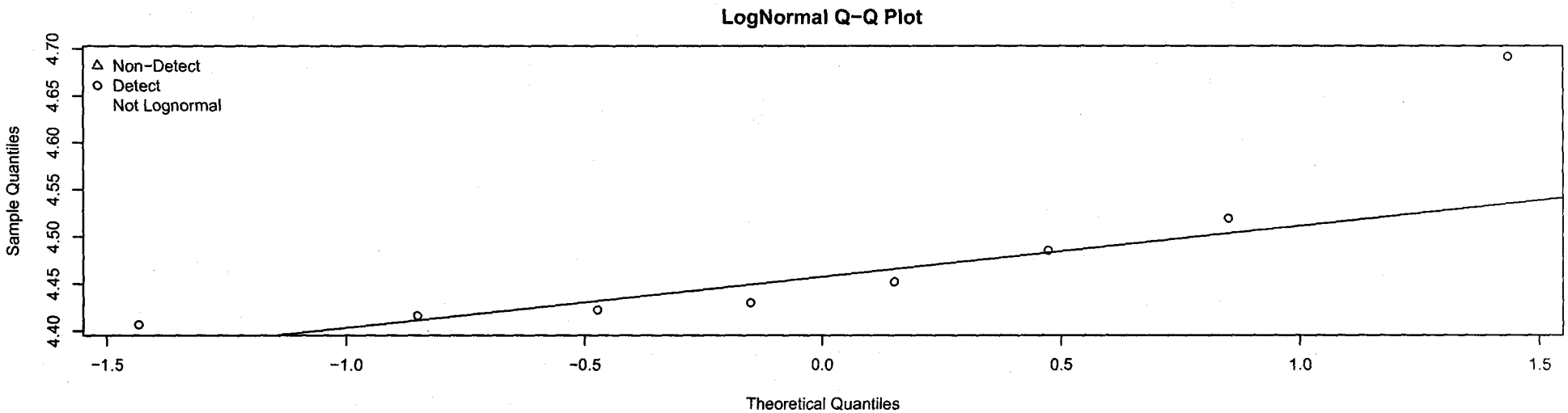
Mere Brook
Fall Surface Water
TOTAL MAGNESIUM



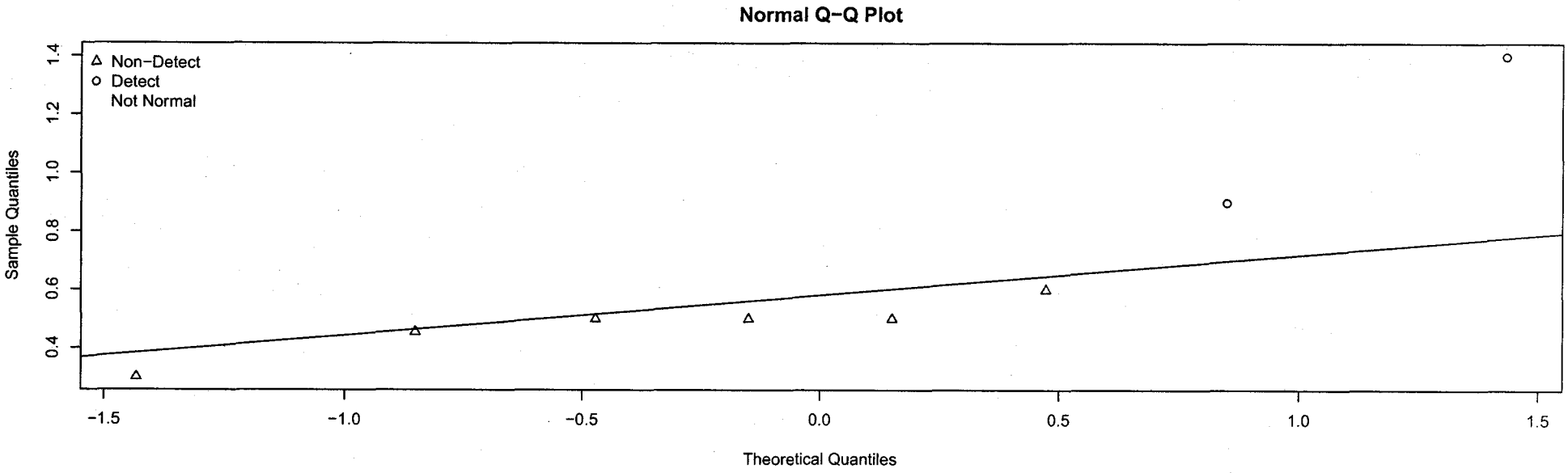


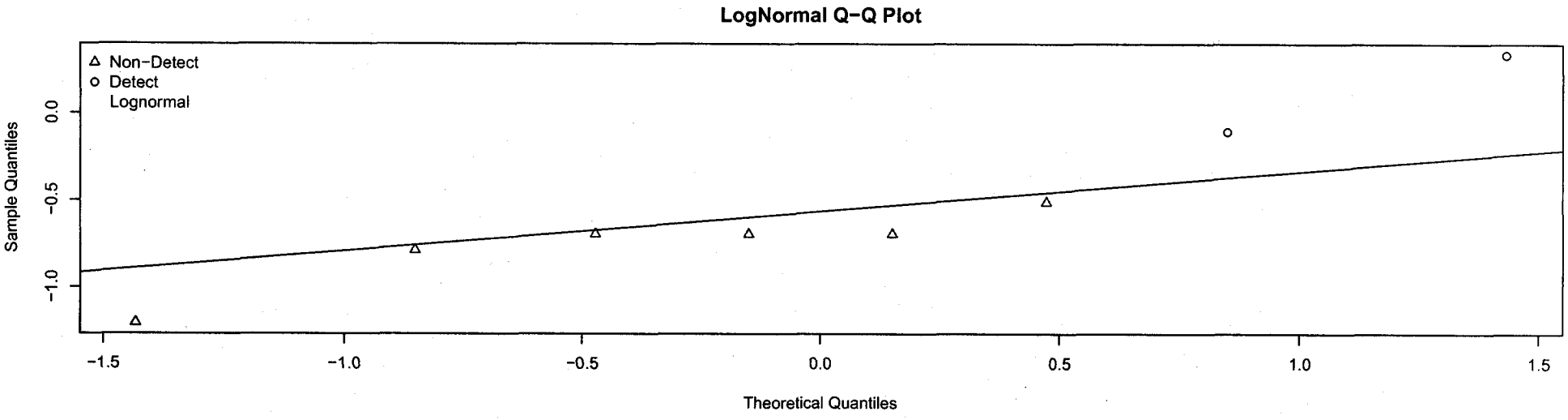
Mere Brook
Fall Surface Water
TOTAL MANGANESE



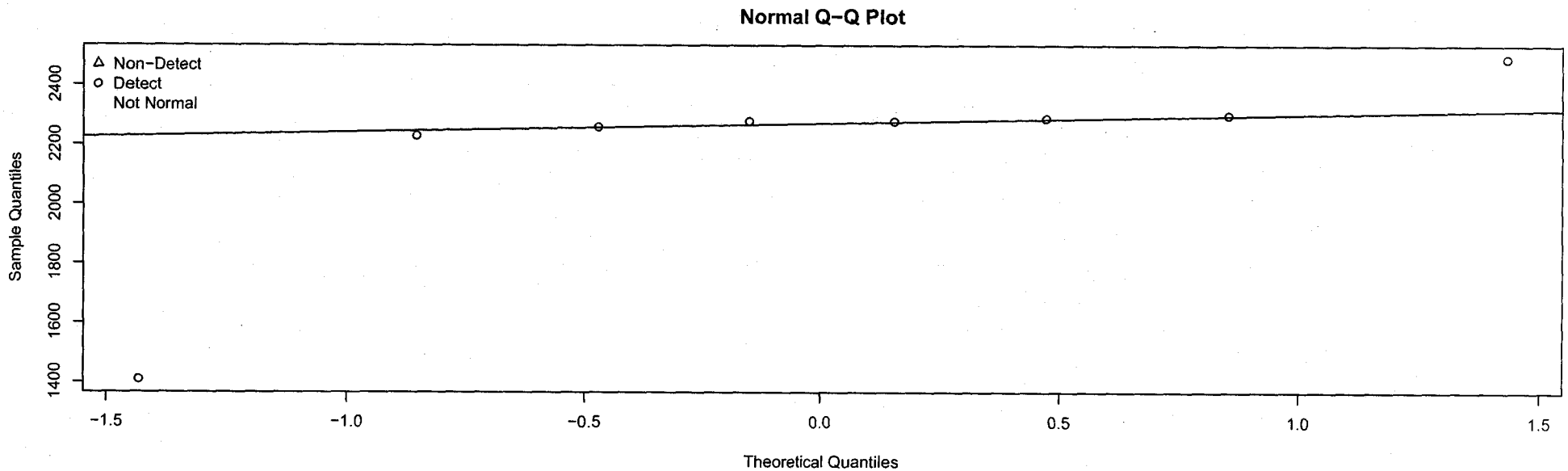


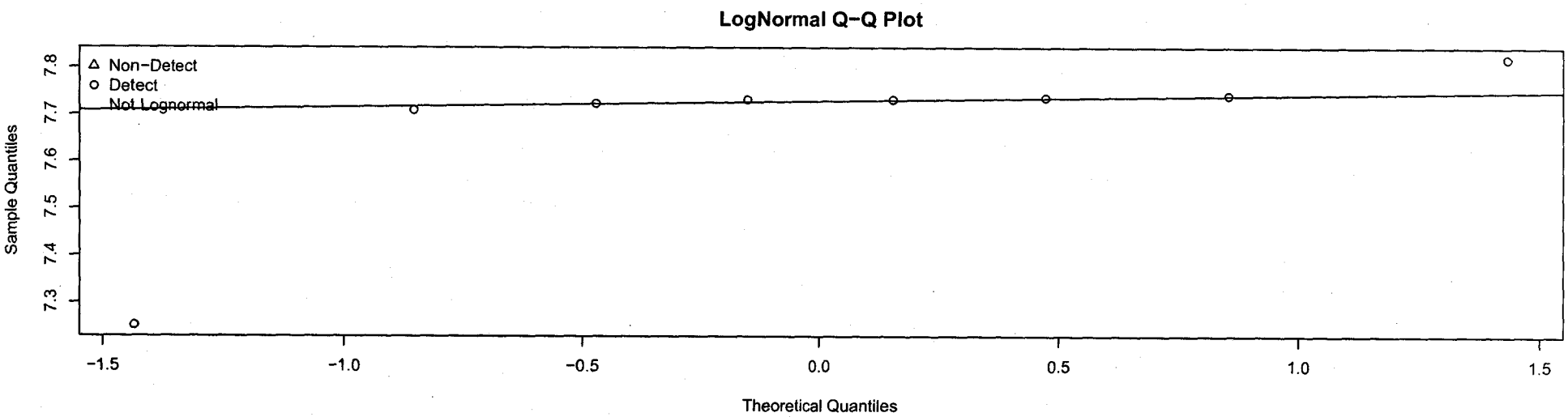
Mere Brook
Fall Surface Water
TOTAL NICKEL



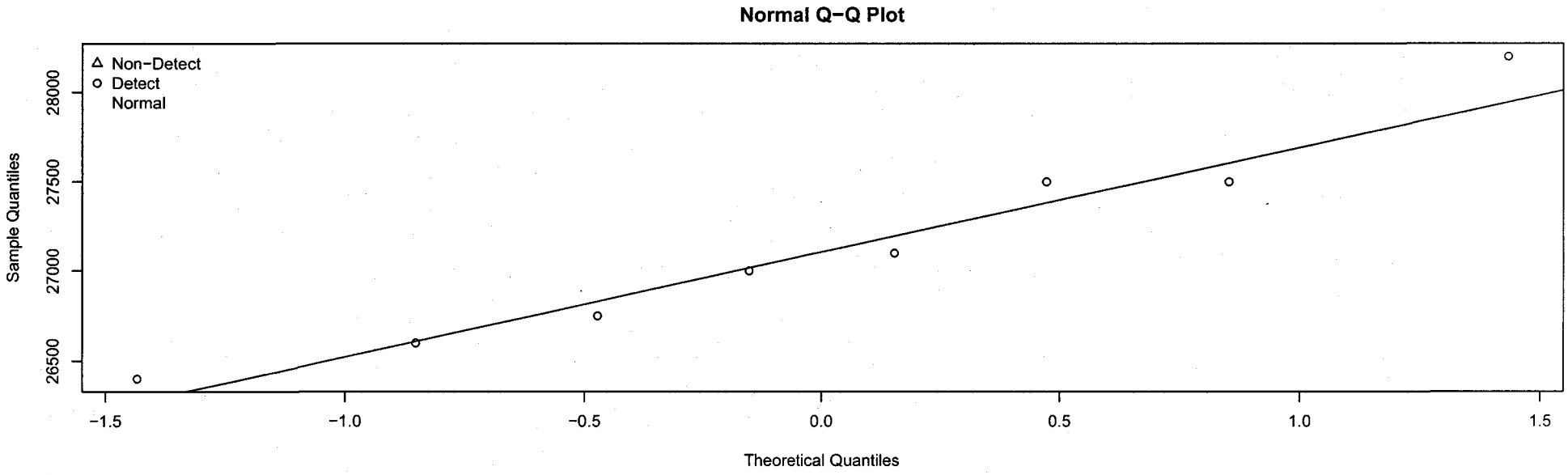


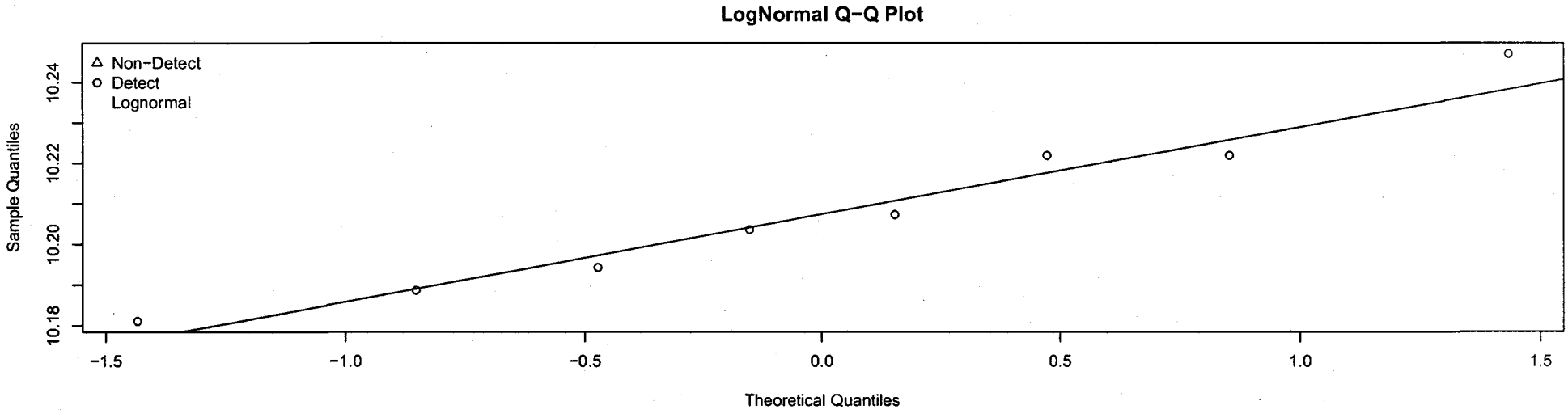
Mere Brook
Fall Surface Water
TOTAL POTASSIUM



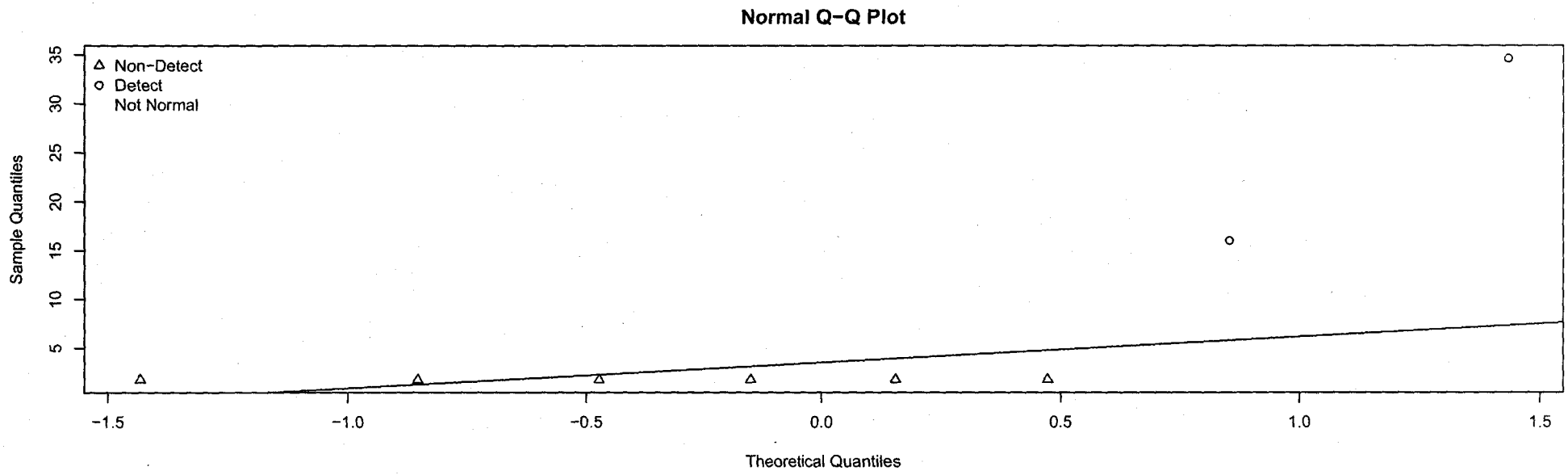


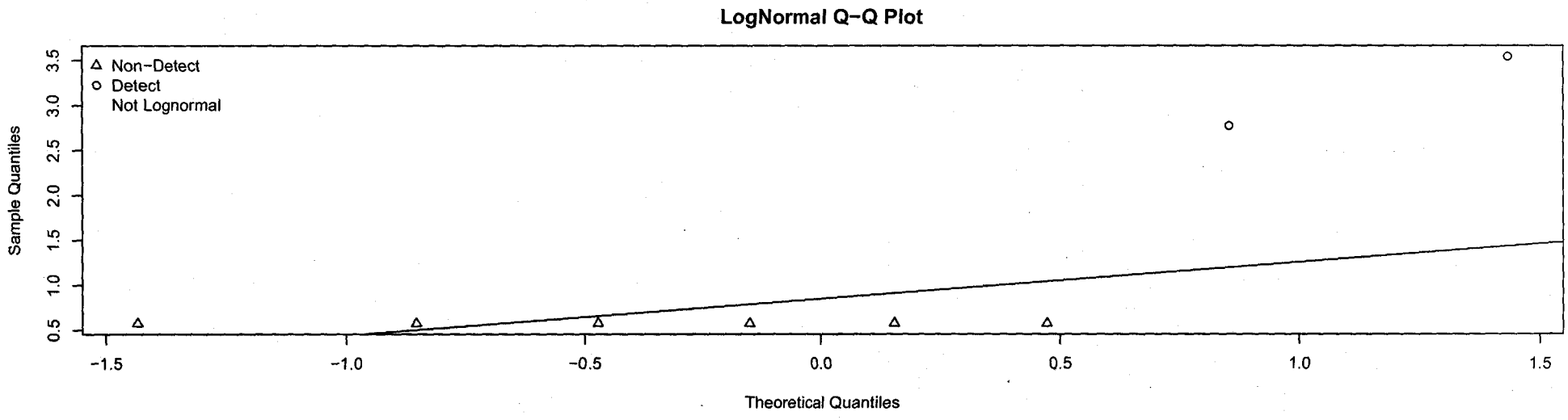
Mere Brook
Fall Surface Water
TOTAL SODIUM



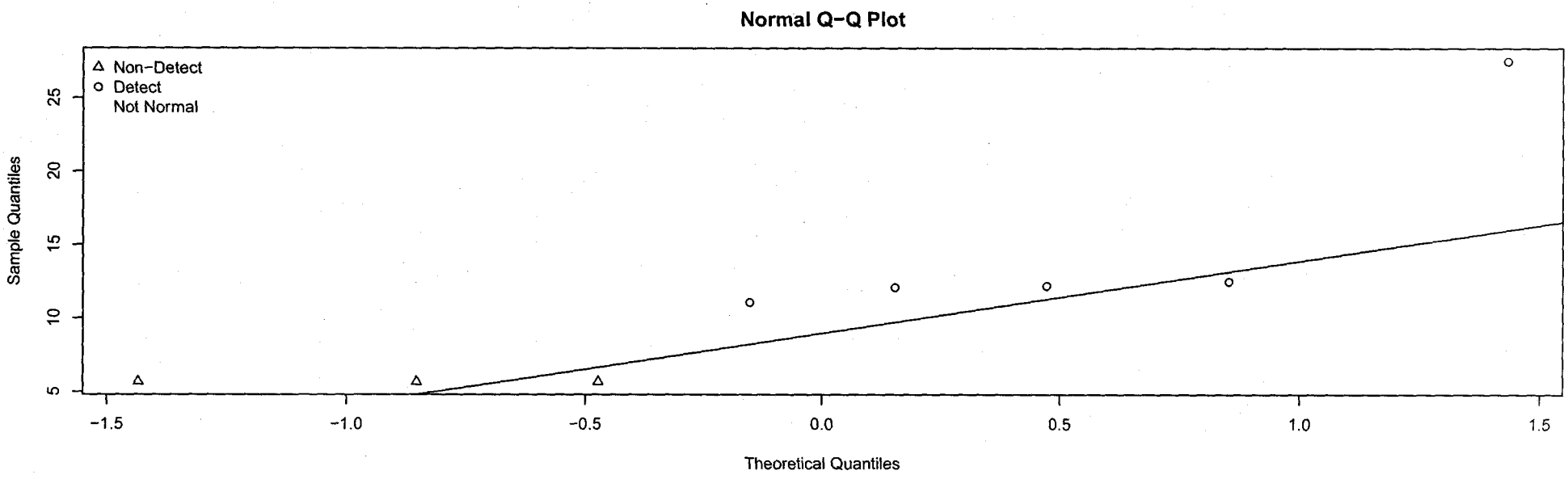


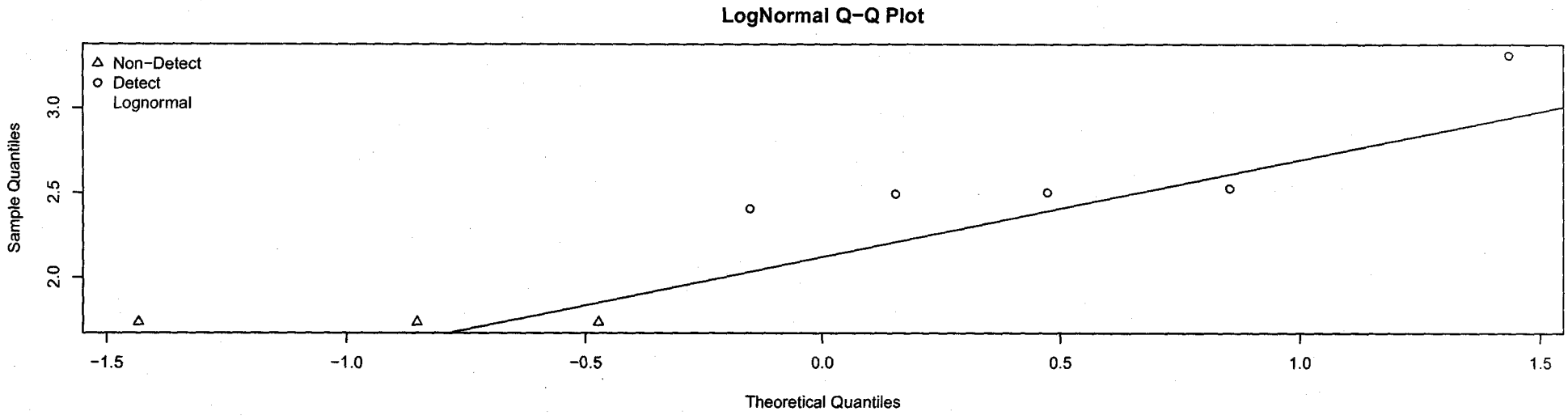
Mere Brook
Fall Surface Water
TOTAL ZINC



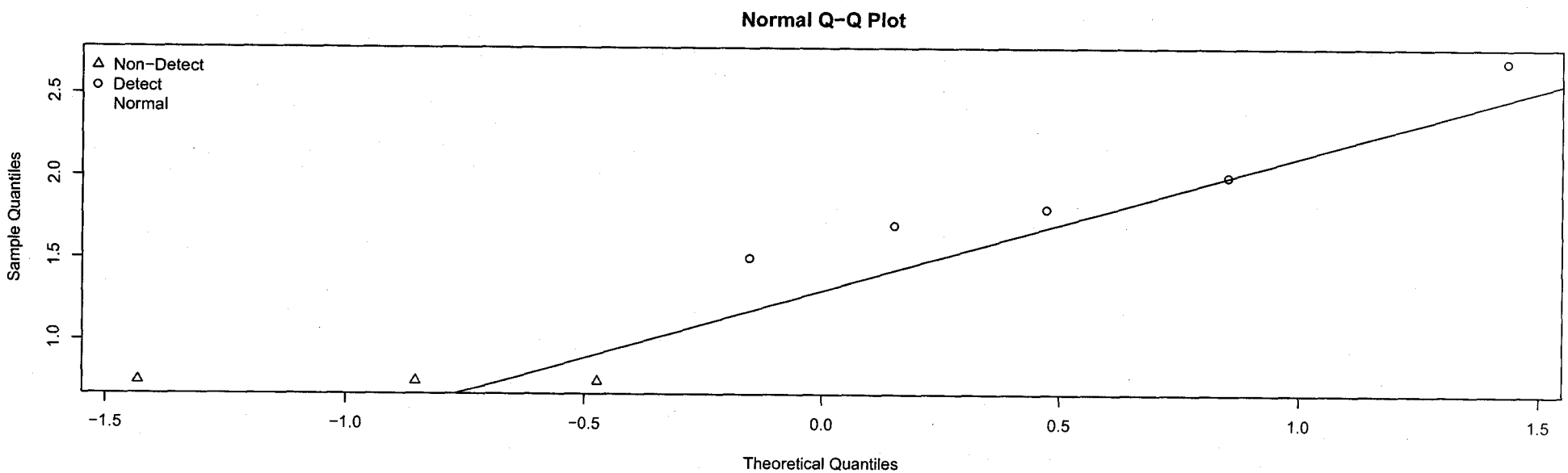


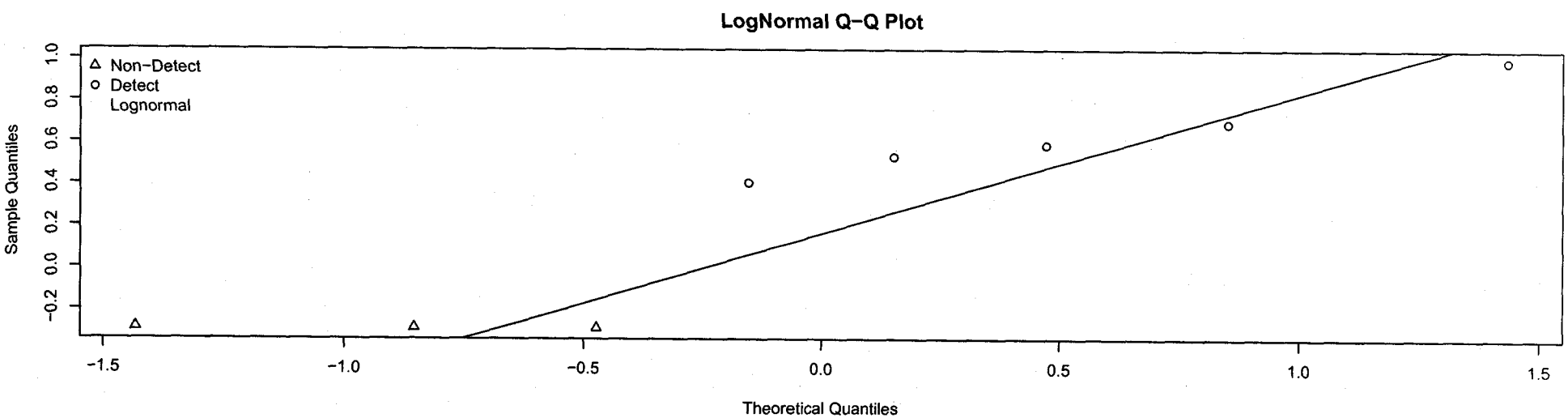
Mere Brook
Fall Surface Water
DISSOLVED ALUMINUM



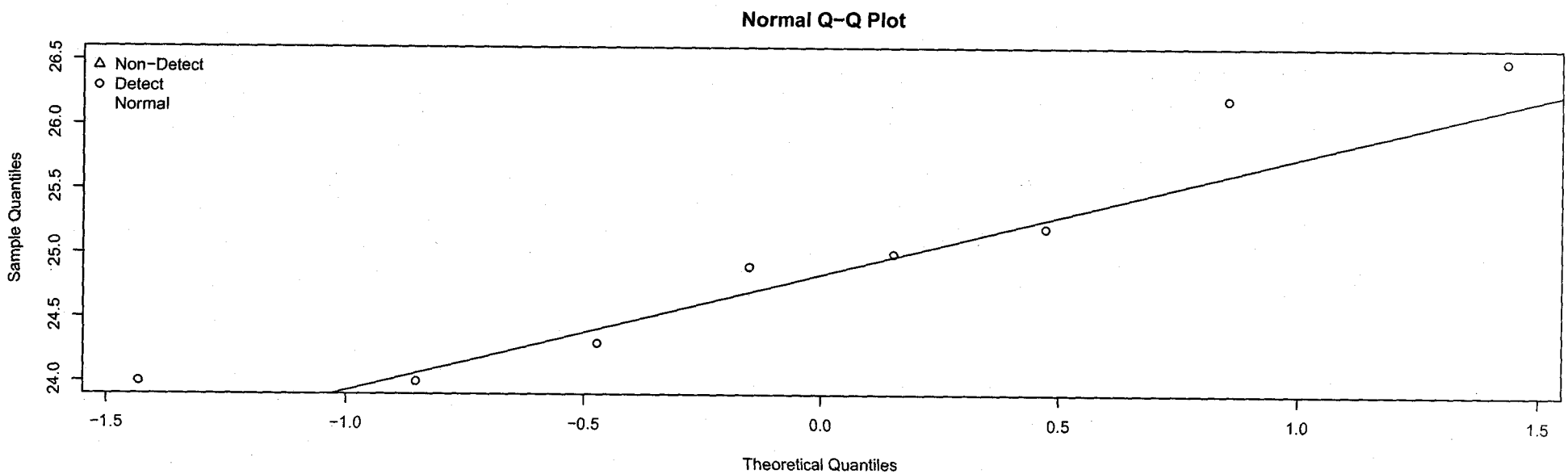


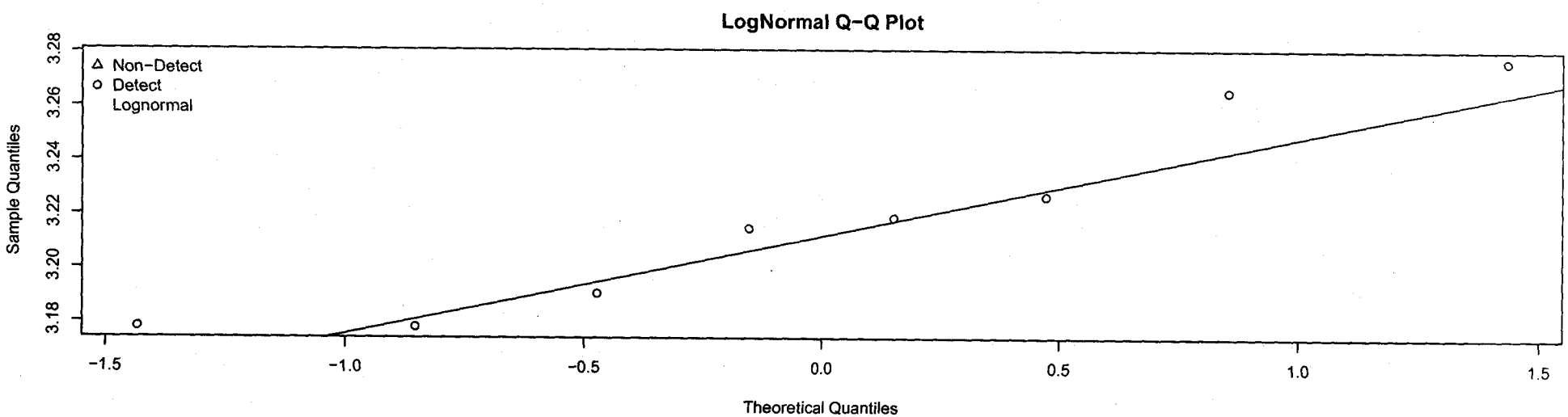
Mere Brook
Fall Surface Water
DISSOLVED ARSENIC



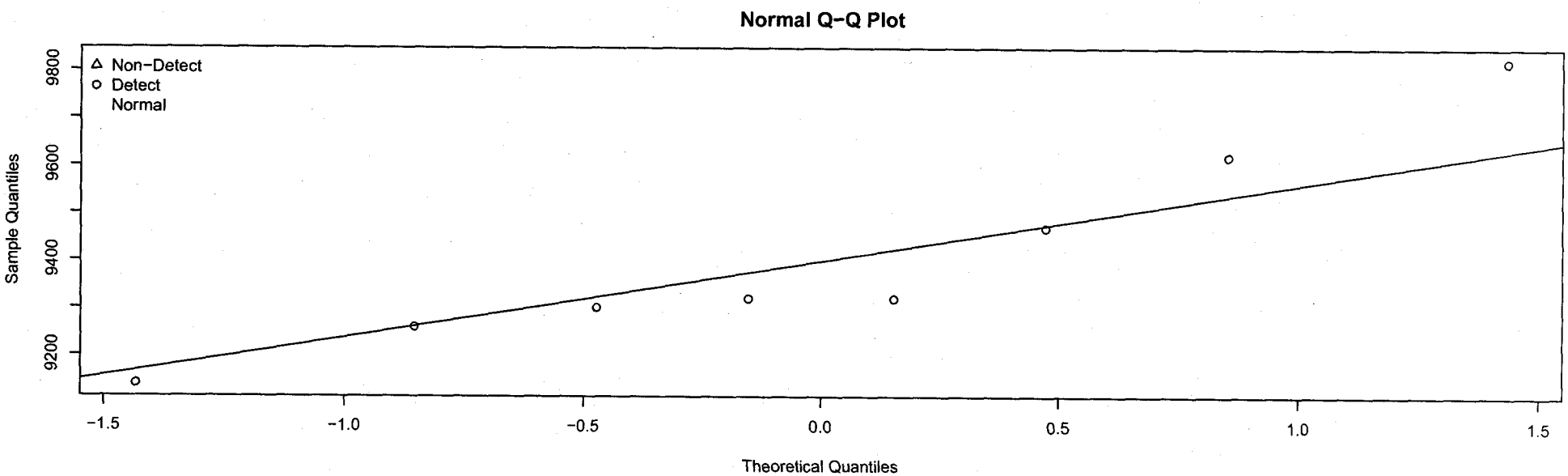


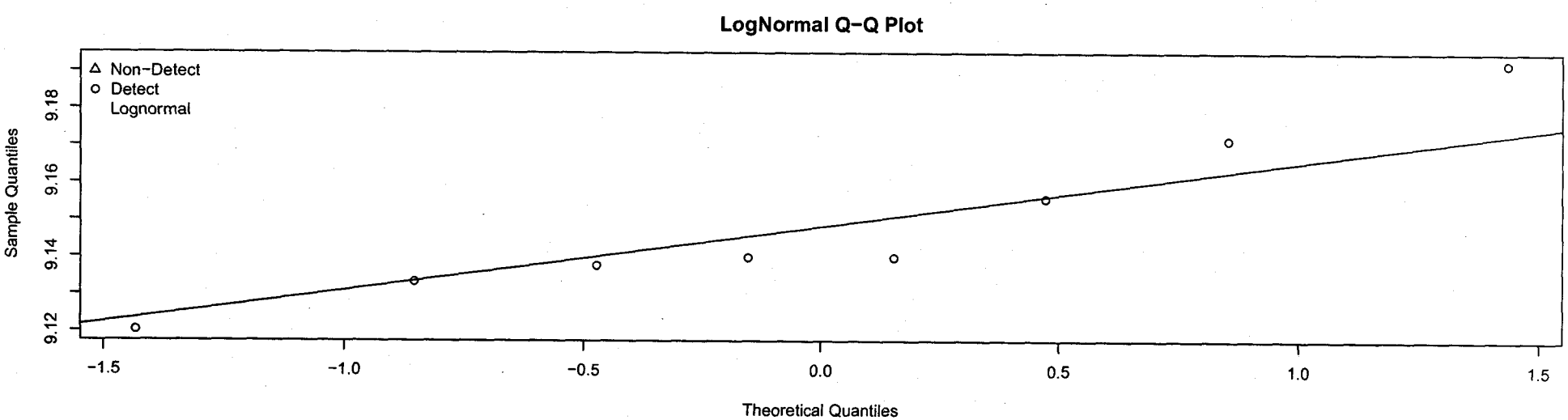
Mere Brook
Fall Surface Water
DISSOLVED BARIUM



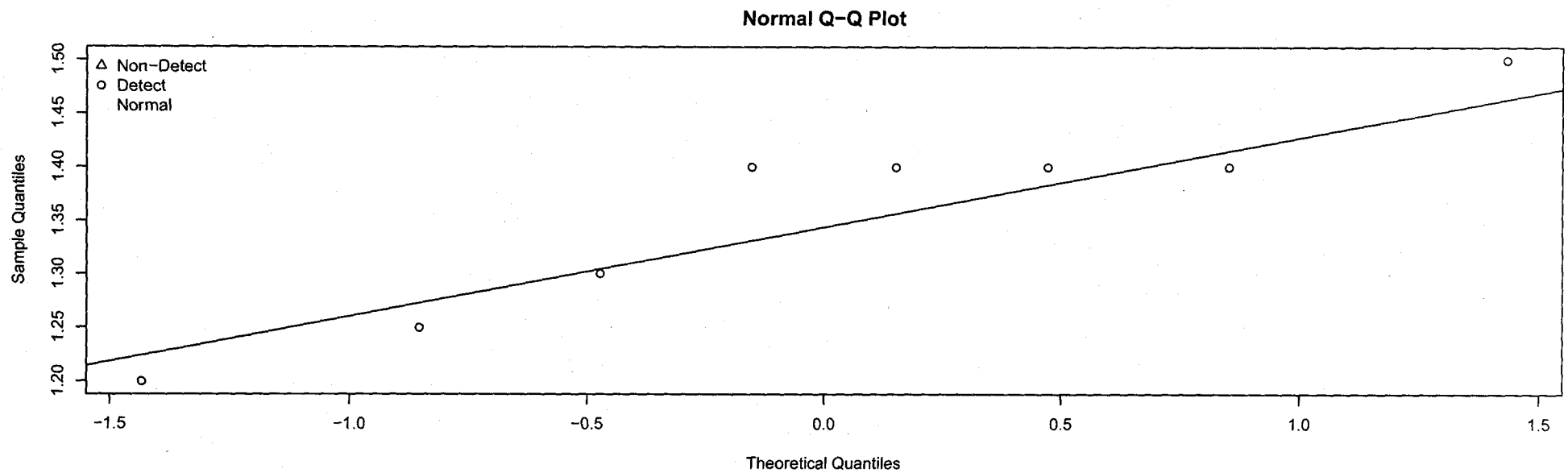


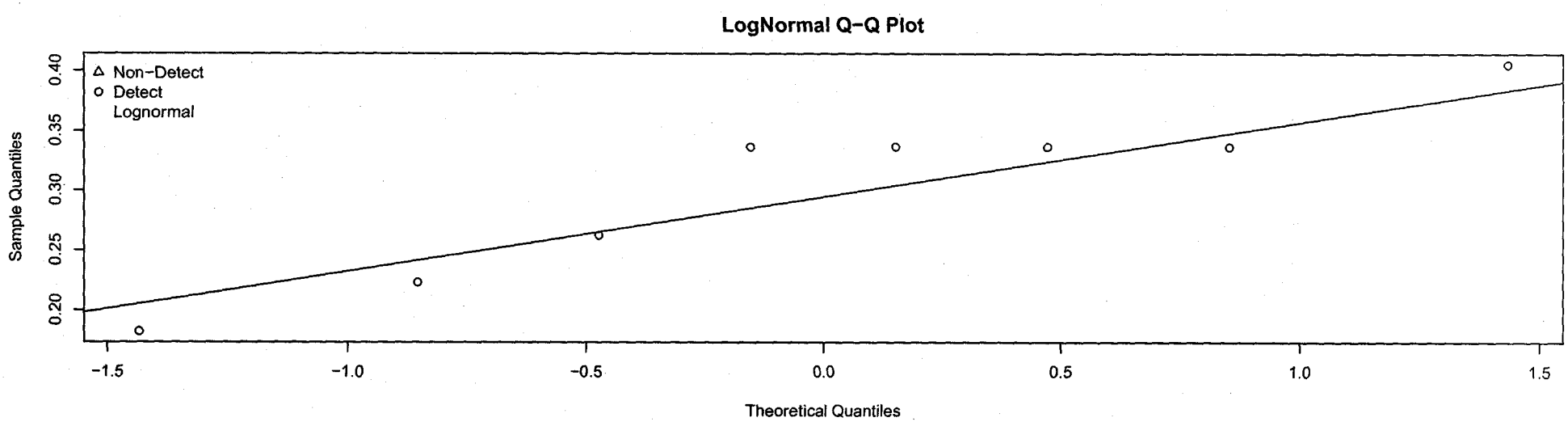
Mere Brook
Fall Surface Water
DISSOLVED CALCIUM



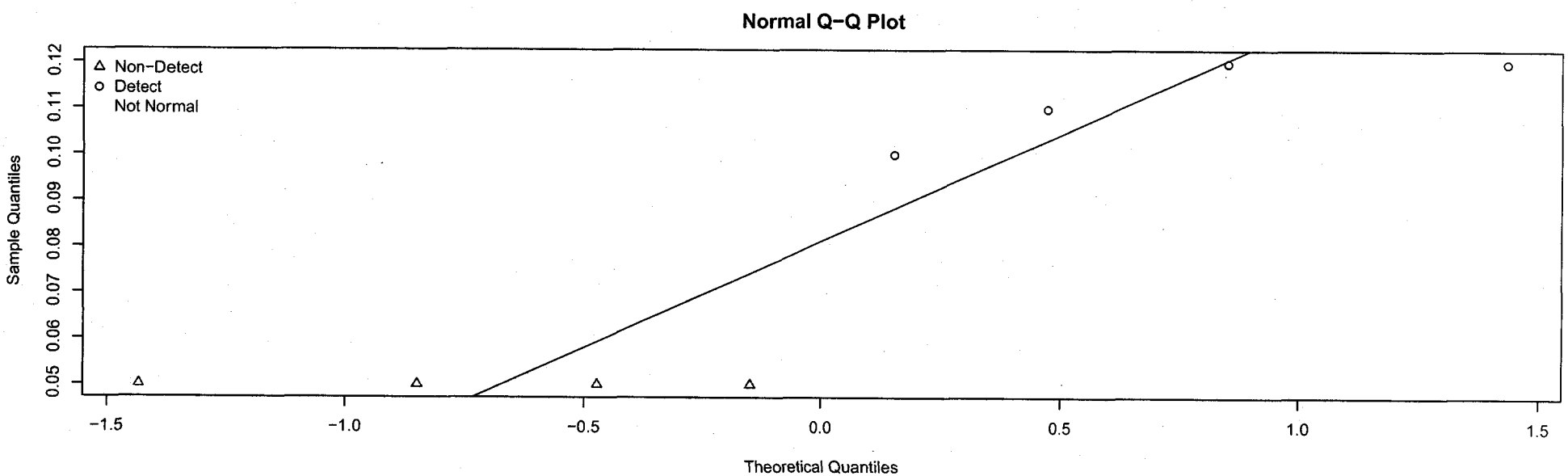


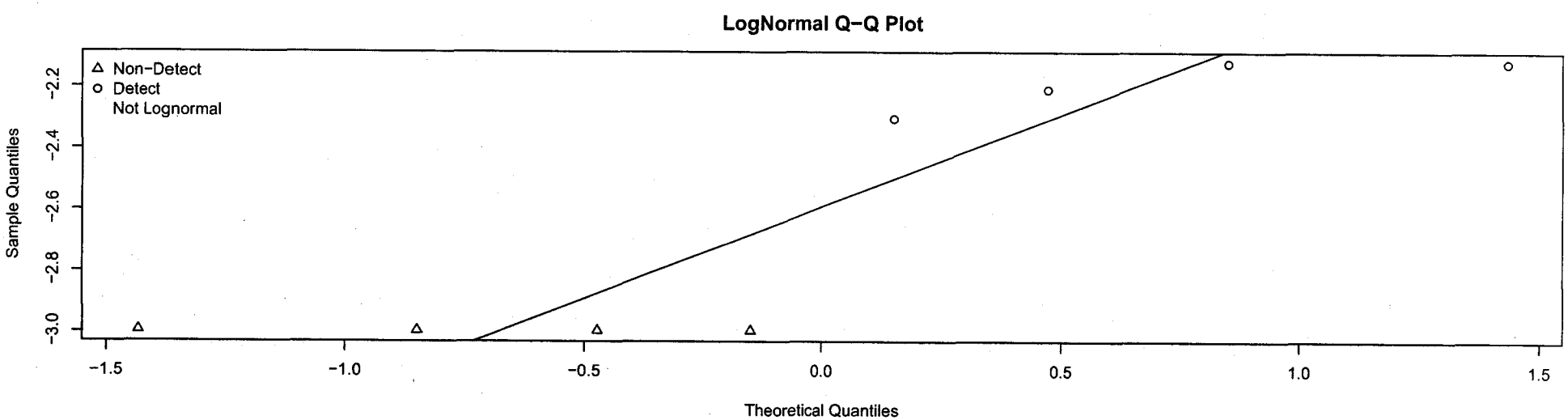
Mere Brook
Fall Surface Water
DISSOLVED CHROMIUM



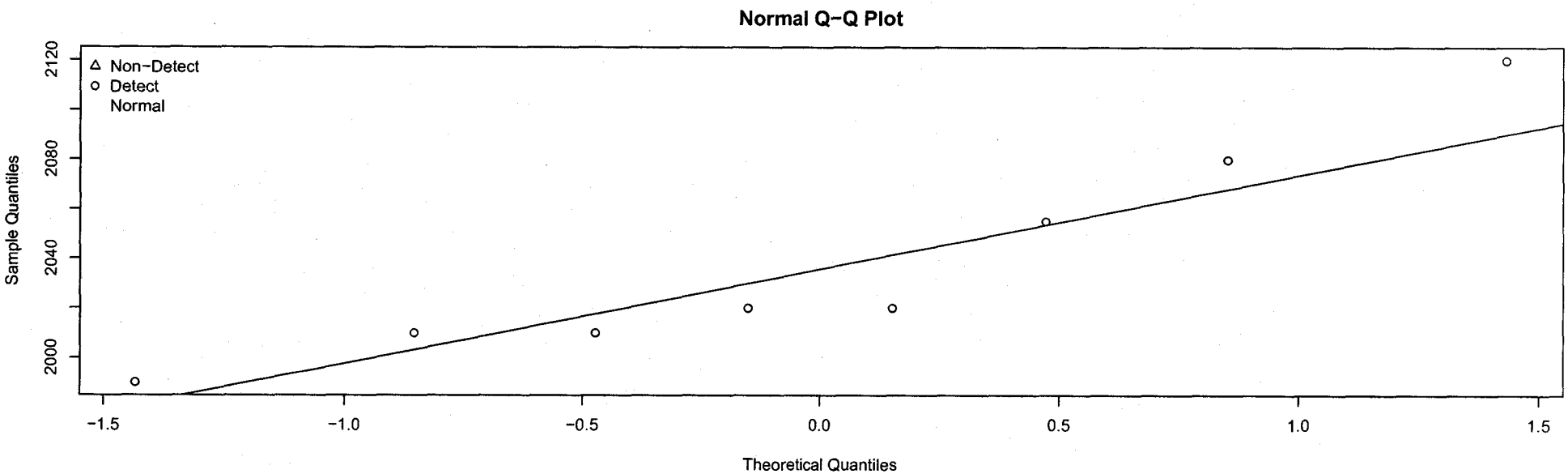


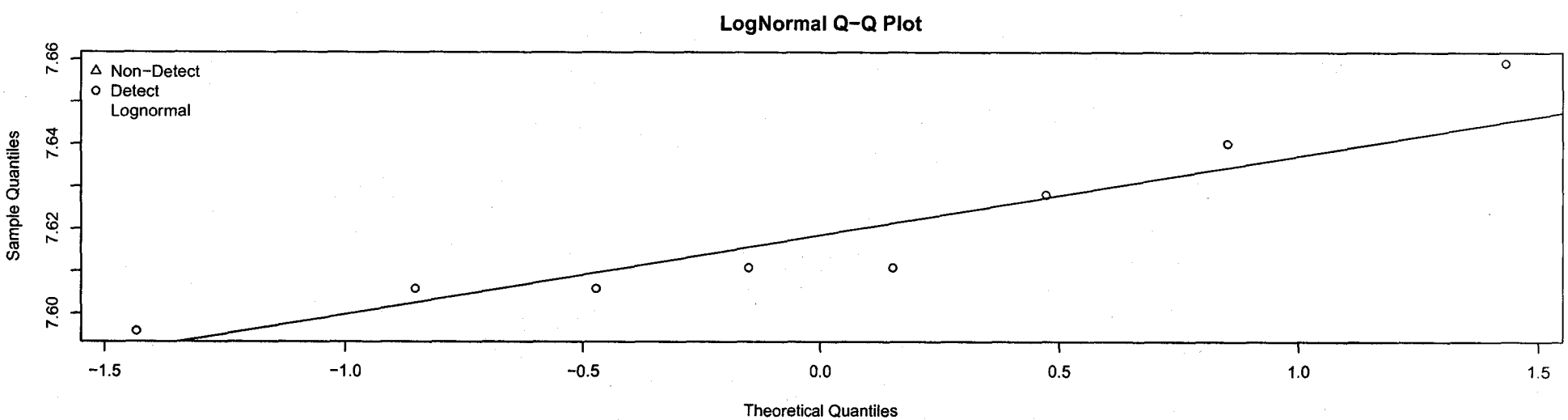
Mere Brook
Fall Surface Water
DISSOLVED COBALT



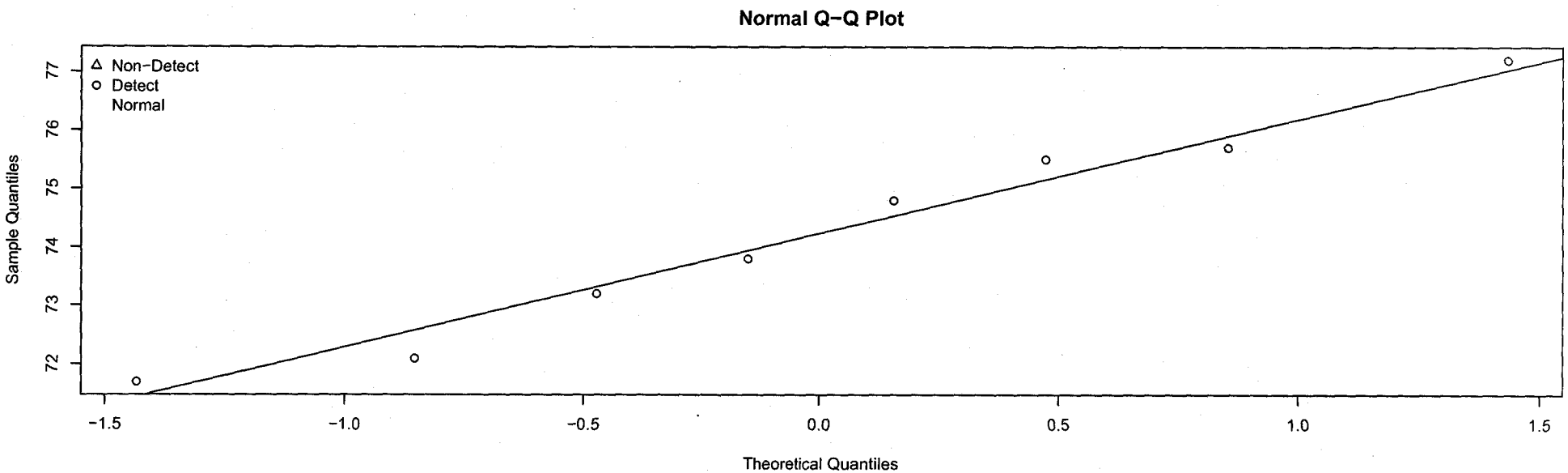


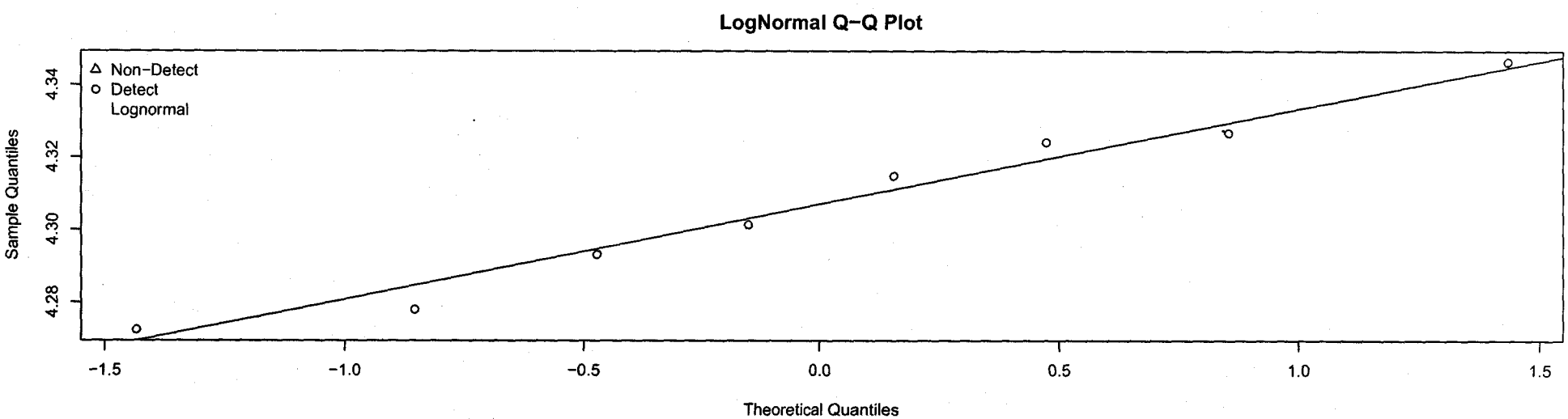
Mere Brook
Fall Surface Water
DISSOLVED MAGNESIUM



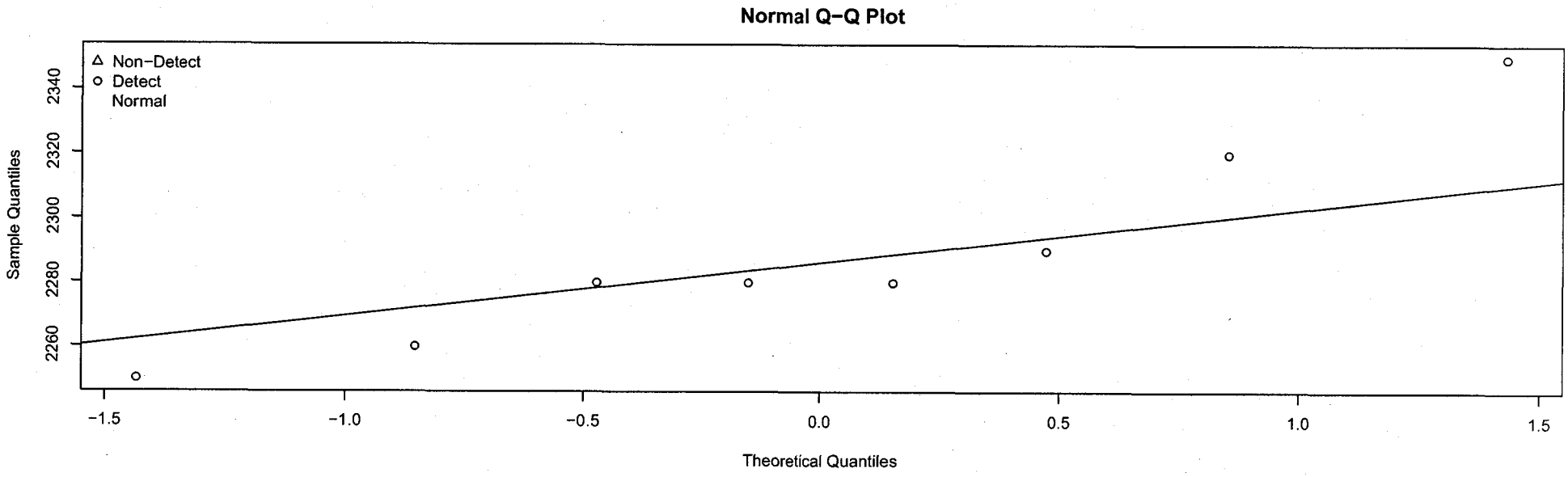


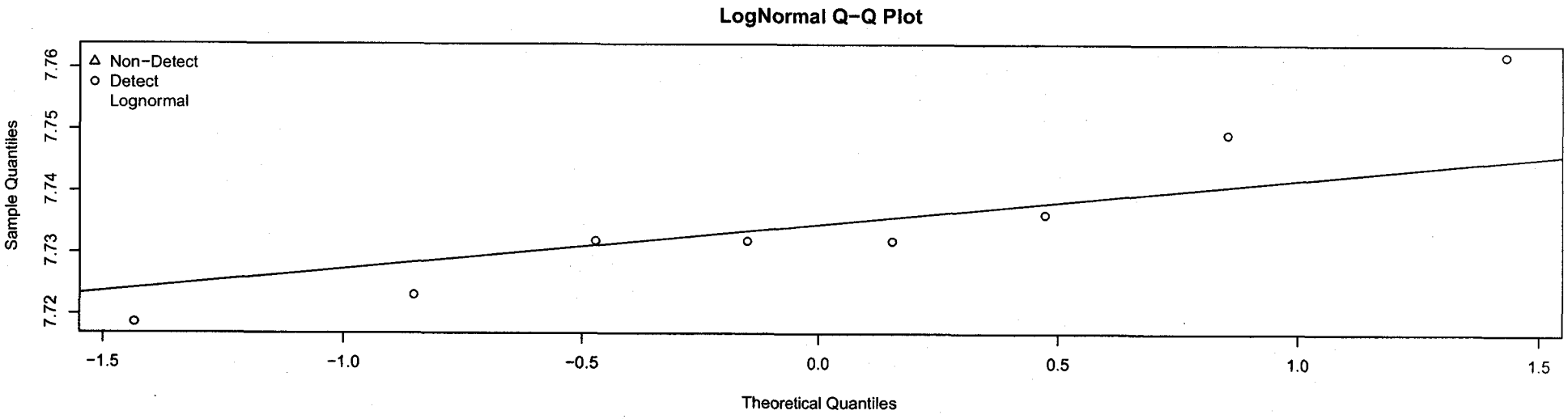
Mere Brook
Fall Surface Water
DISSOLVED MANGANESE



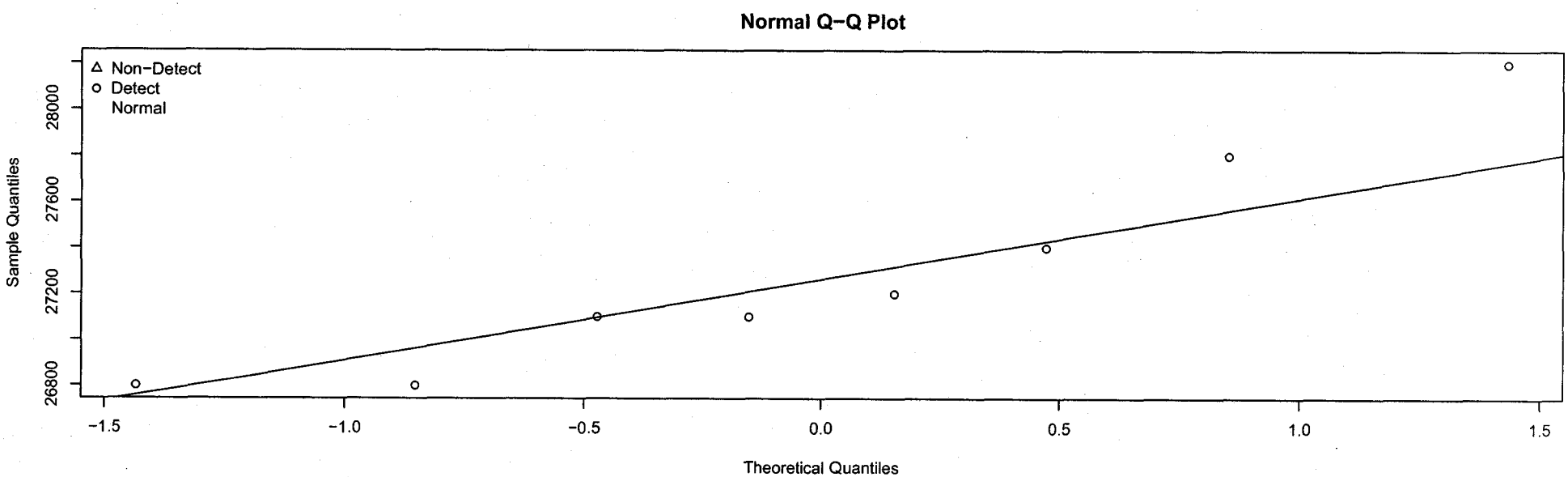


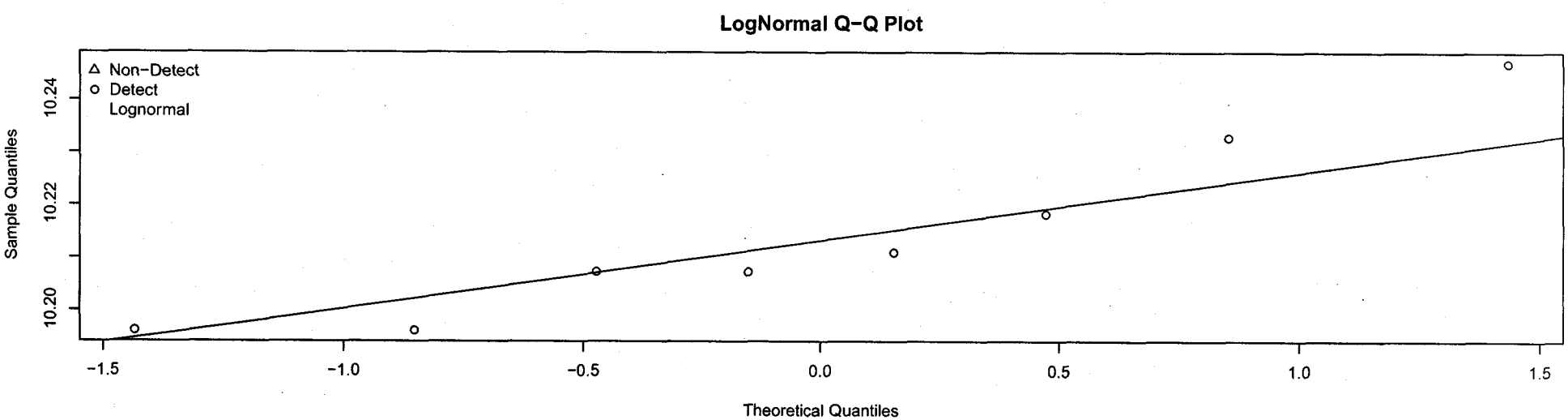
Mere Brook
Fall Surface Water
DISSOLVED POTASSIUM



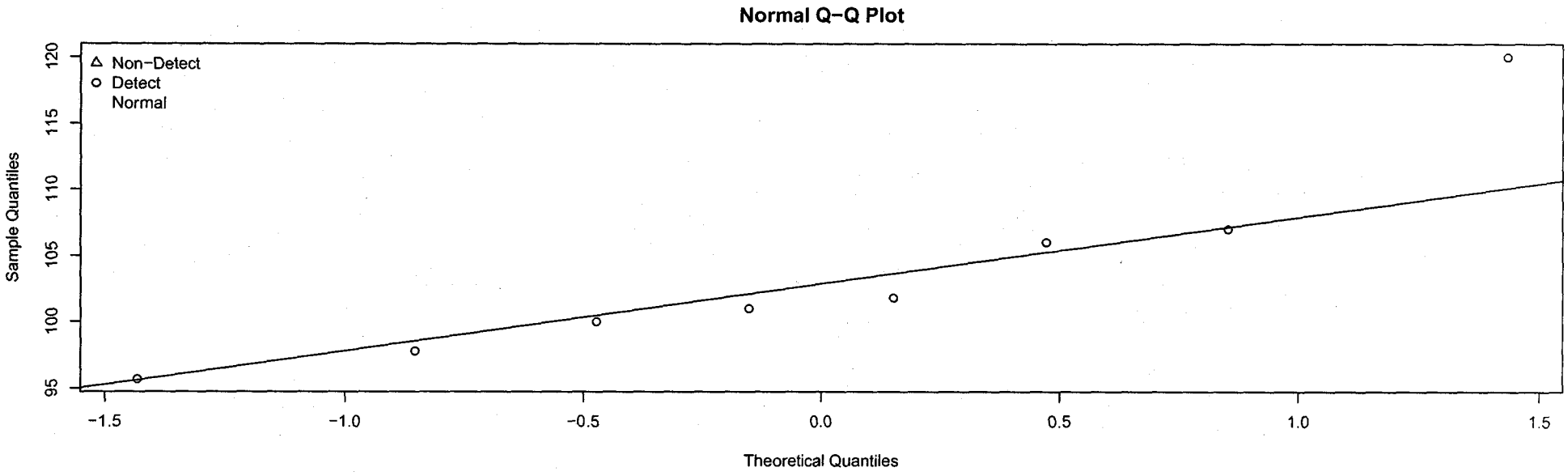


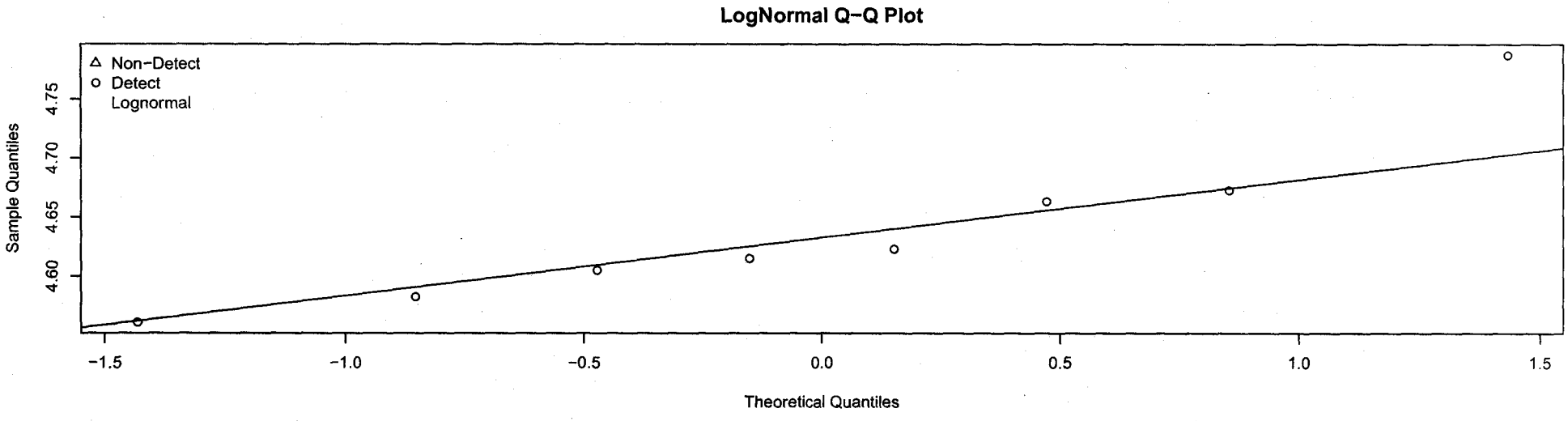
Mere Brook
Fall Surface Water
DISSOLVED SODIUM



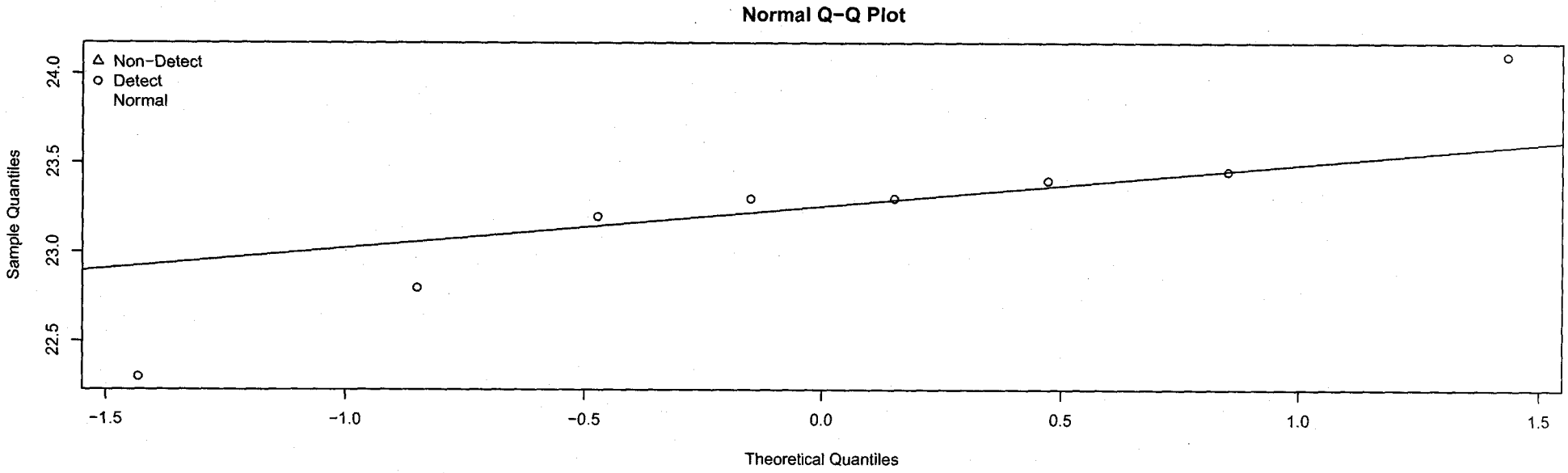


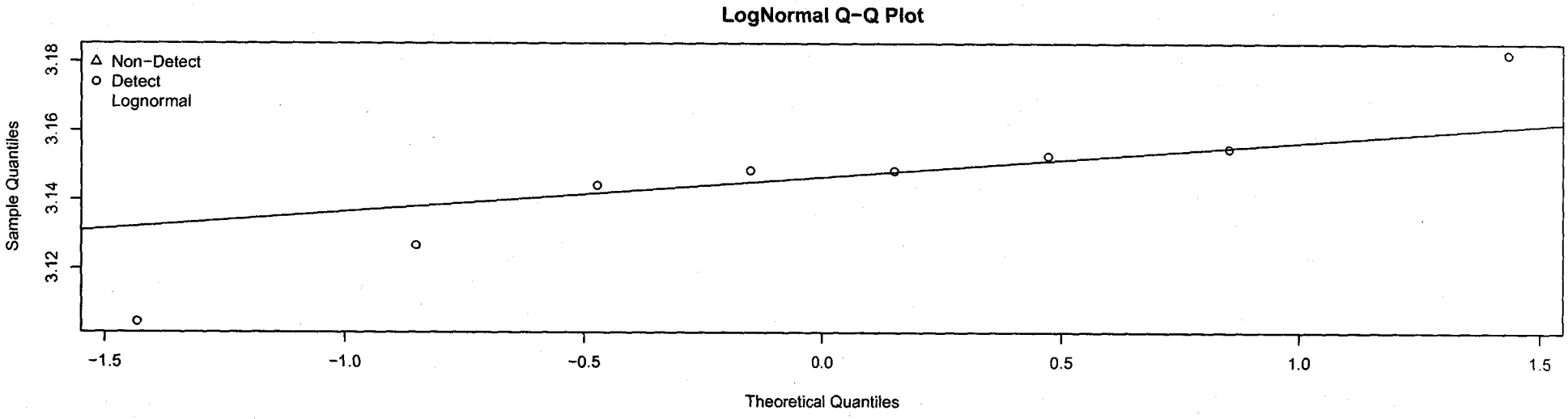
Mere Brook
Spring Surface Water
TOTAL ALUMINUM



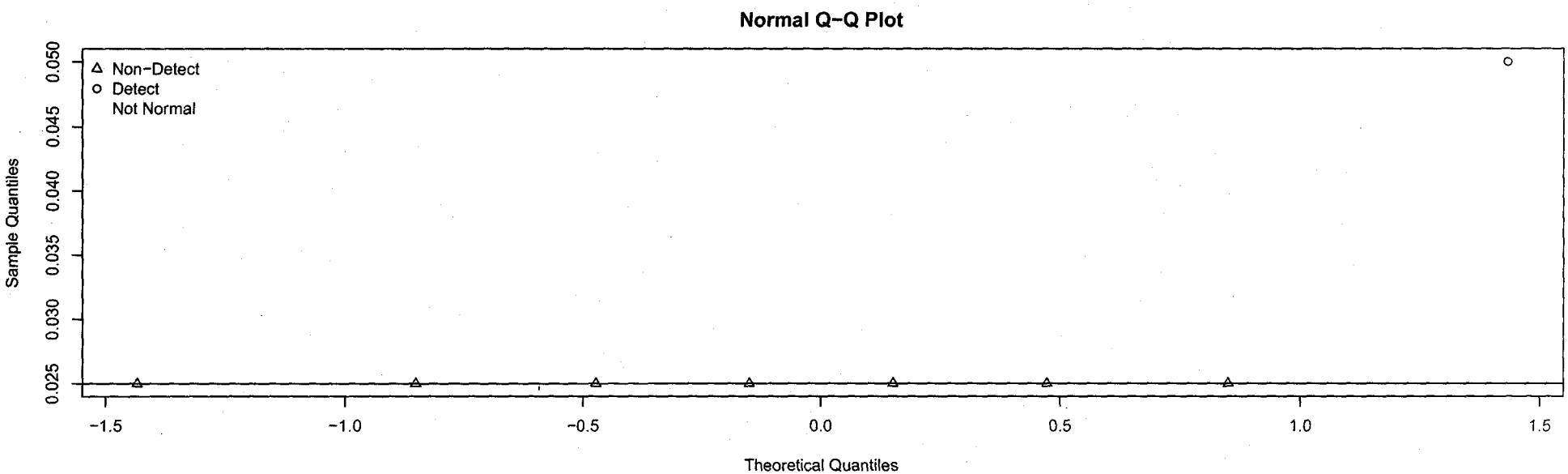


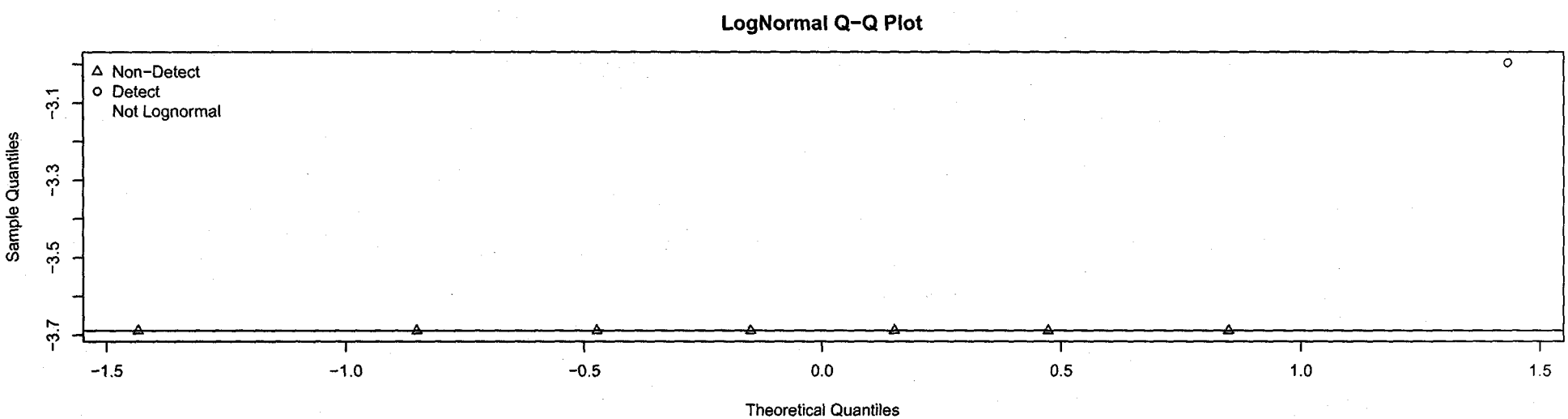
Mere Brook
Spring Surface Water
TOTAL BARIUM



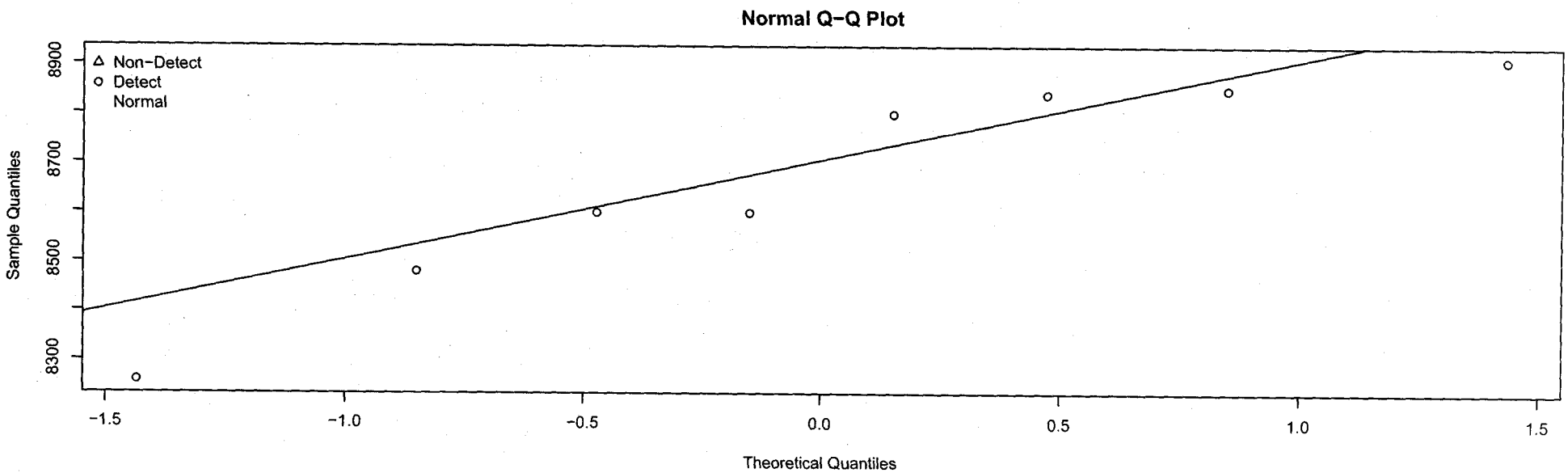


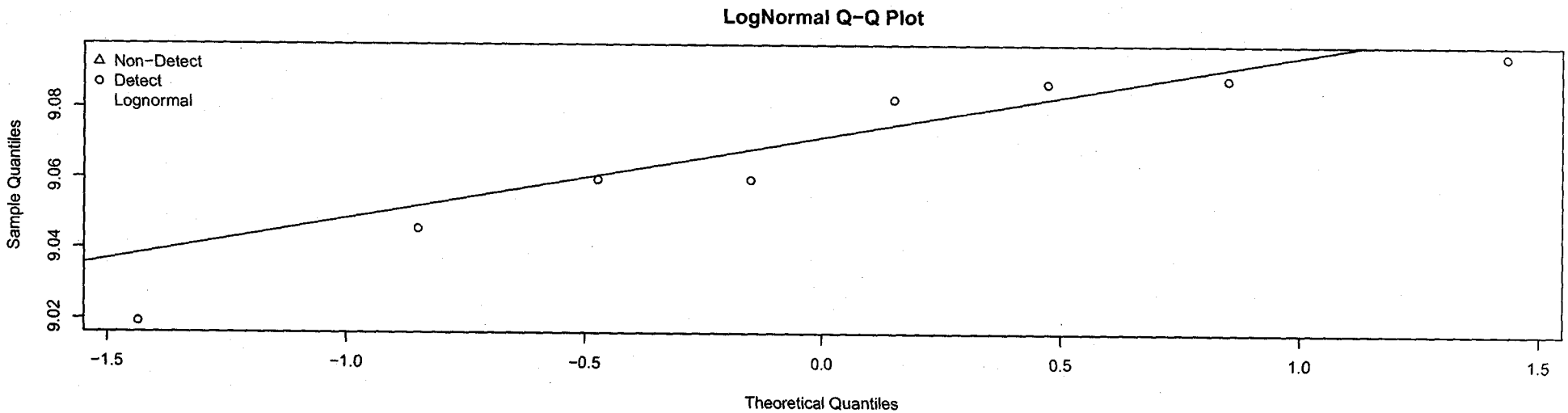
Mere Brook
Spring Surface Water
TOTAL CADMIUM



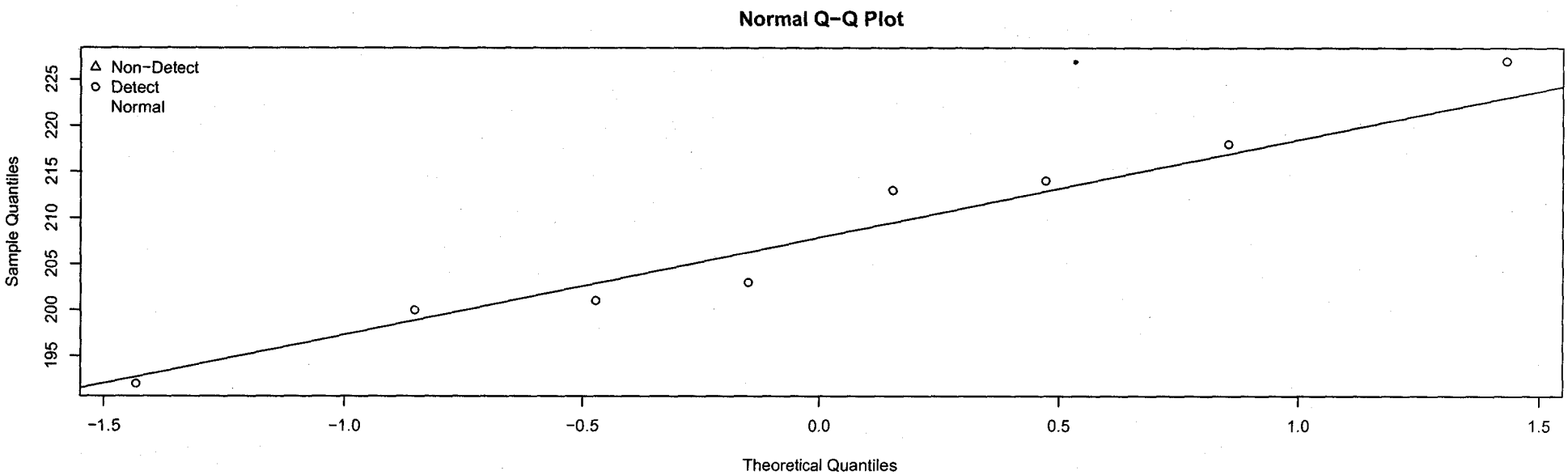


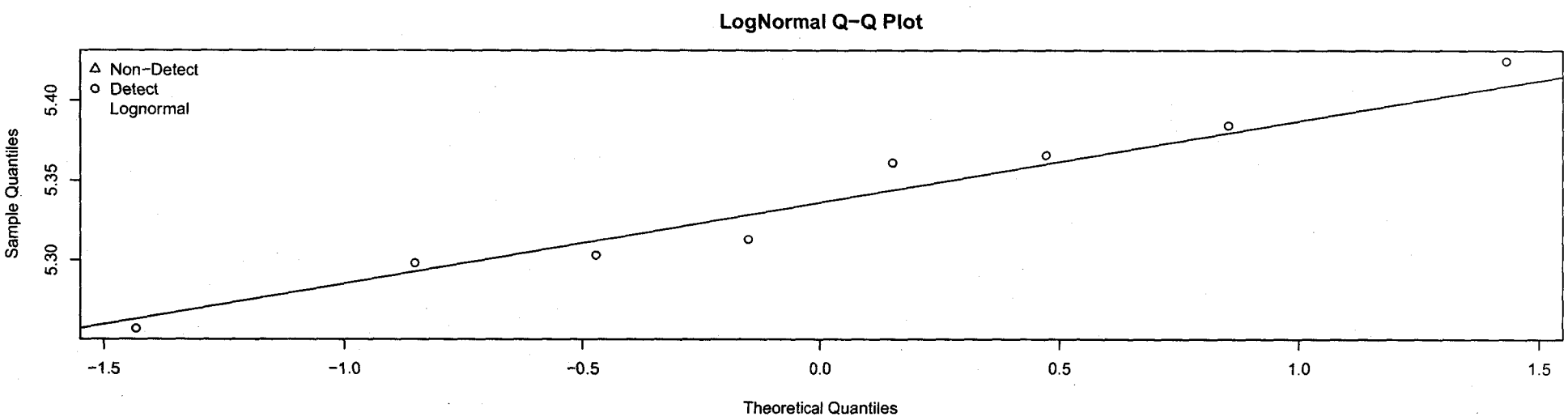
Mere Brook
Spring Surface Water
TOTAL CALCIUM



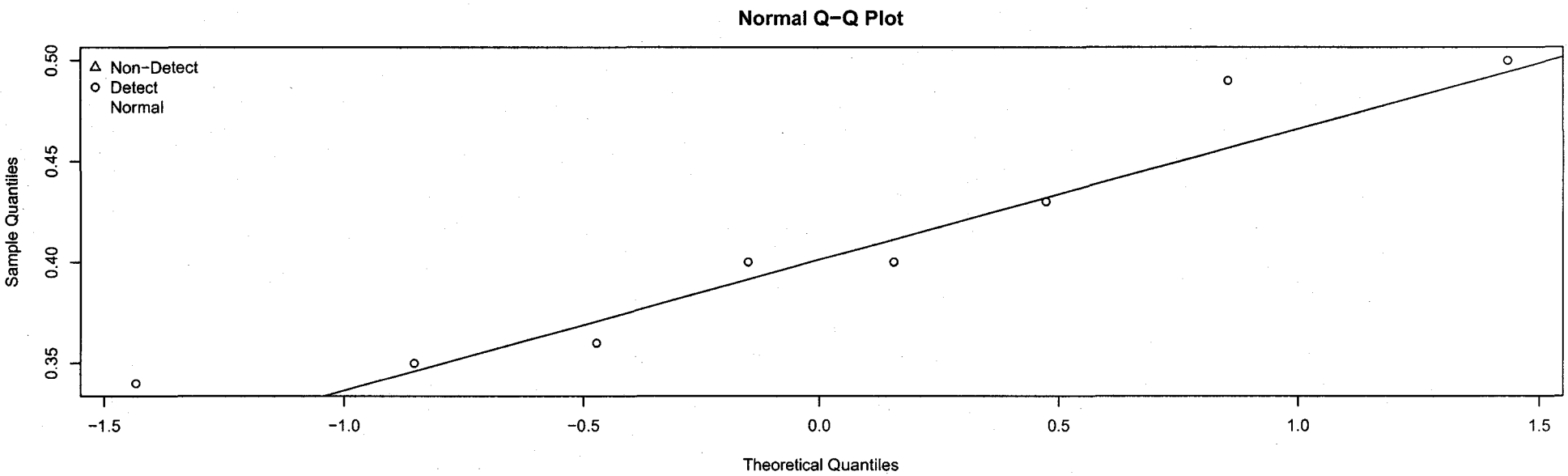


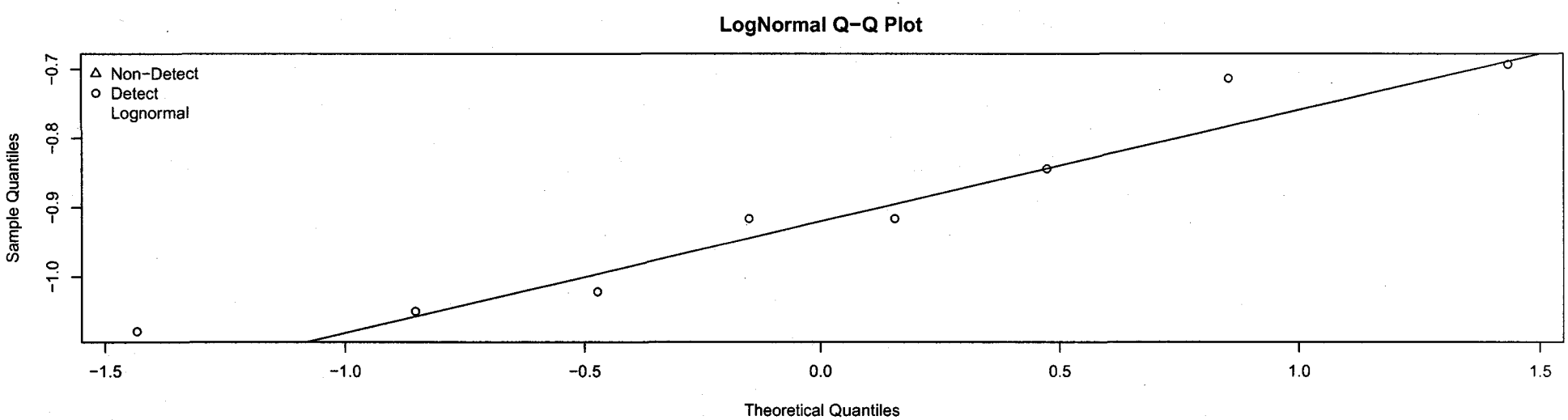
Mere Brook
Spring Surface Water
TOTAL IRON



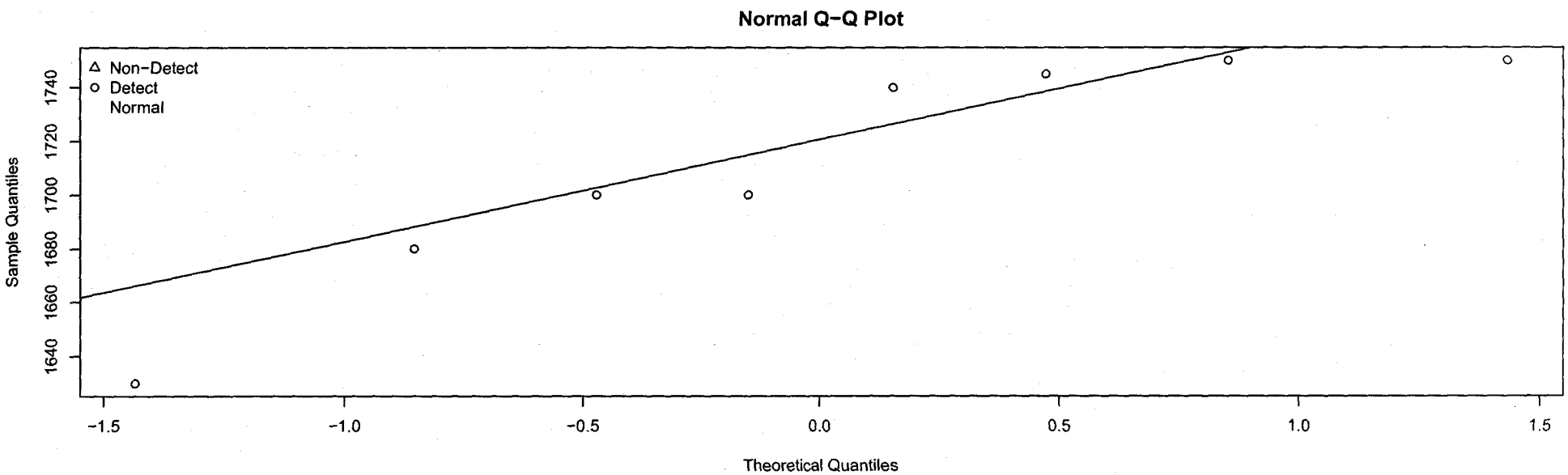


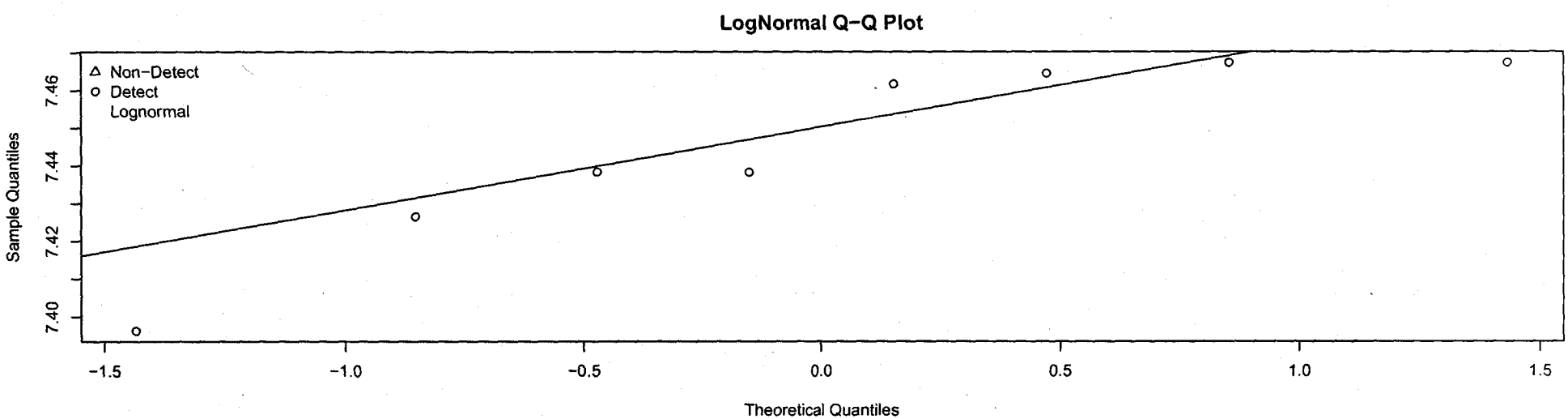
Mere Brook
Spring Surface Water
TOTAL LEAD



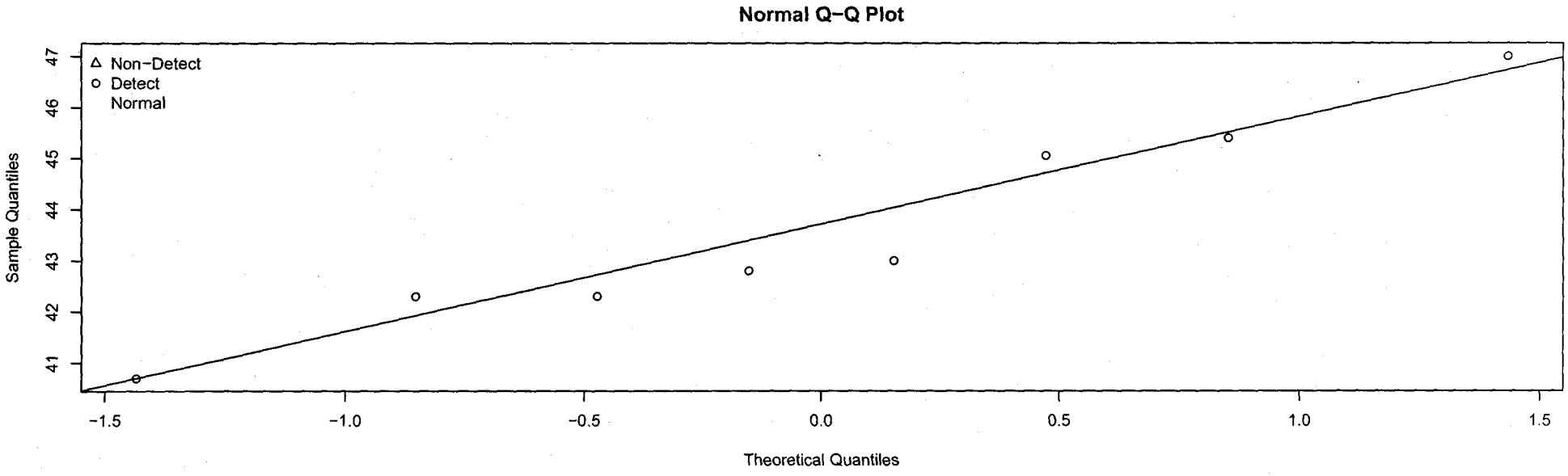


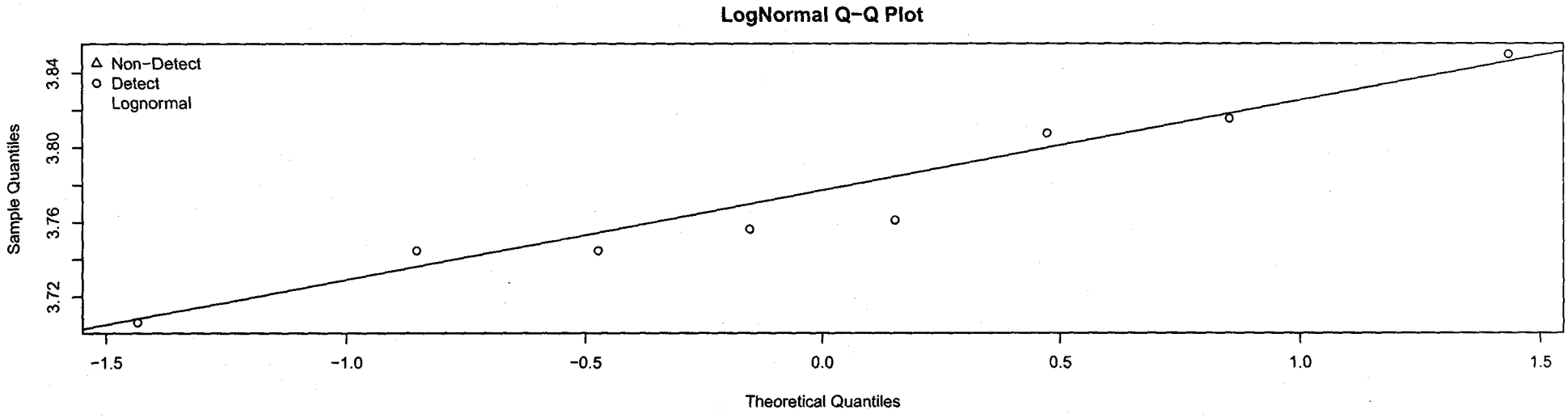
Mere Brook
Spring Surface Water
TOTAL MAGNESIUM



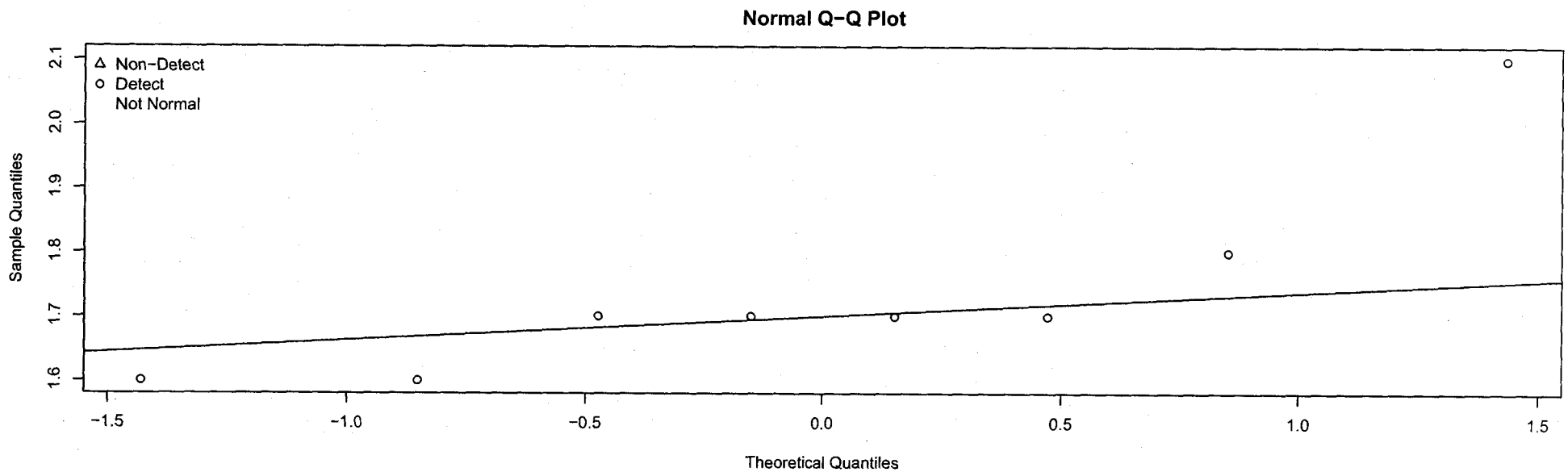


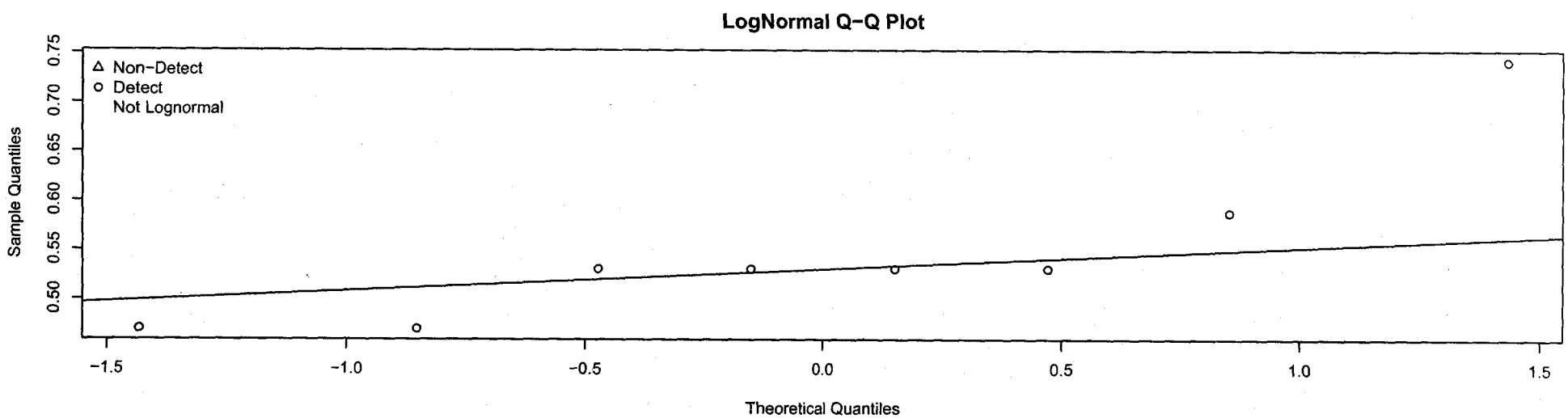
Mere Brook
Spring Surface Water
TOTAL MANGANESE



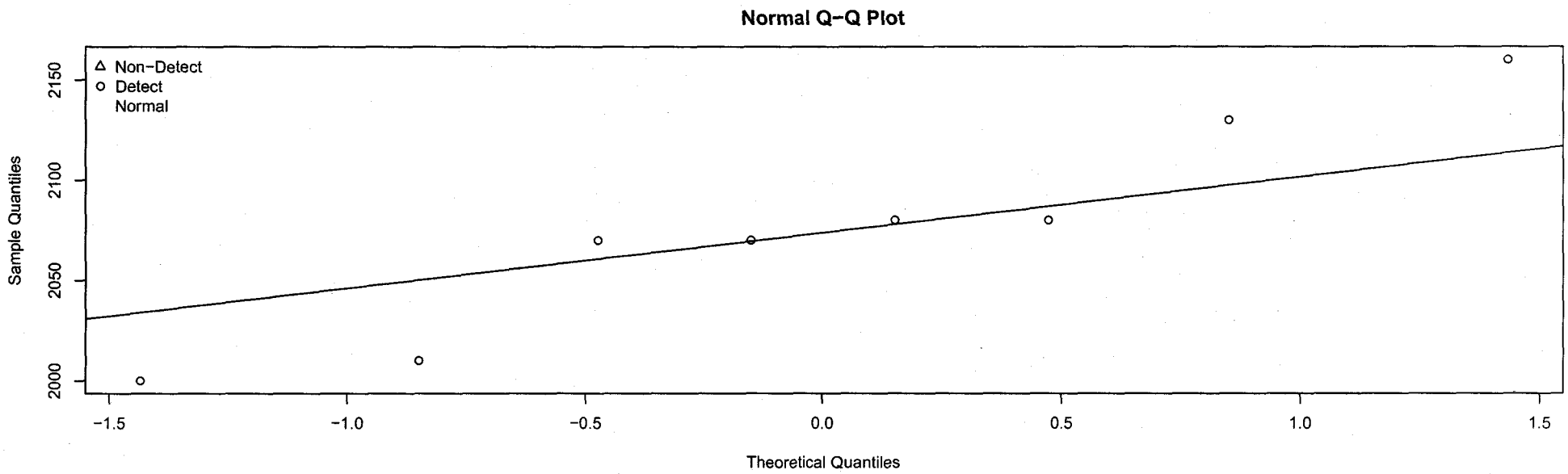


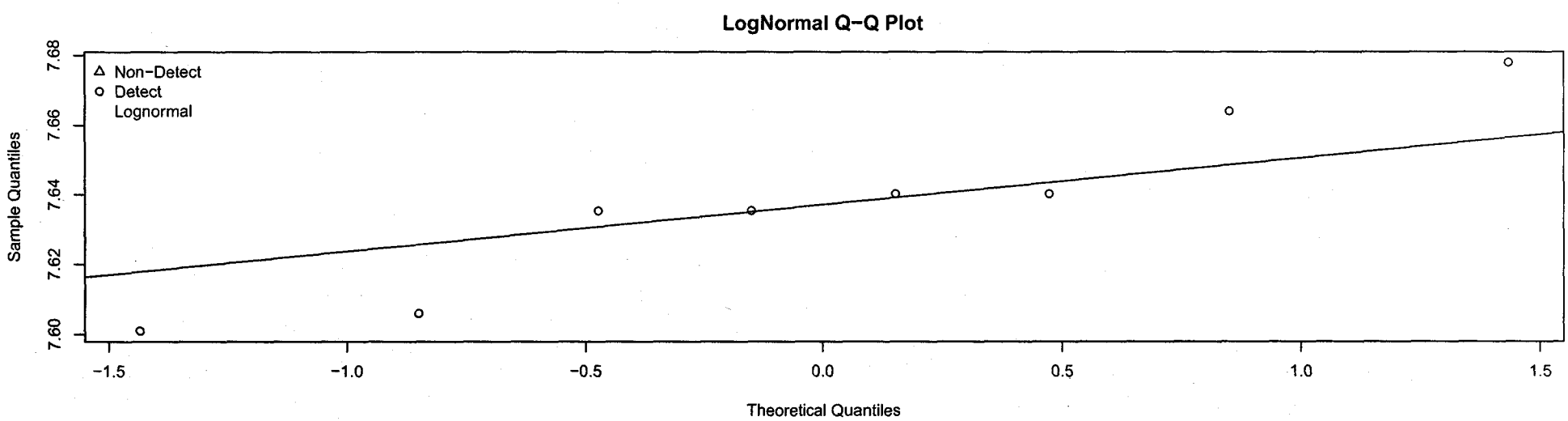
Mere Brook
Spring Surface Water
TOTAL NICKEL



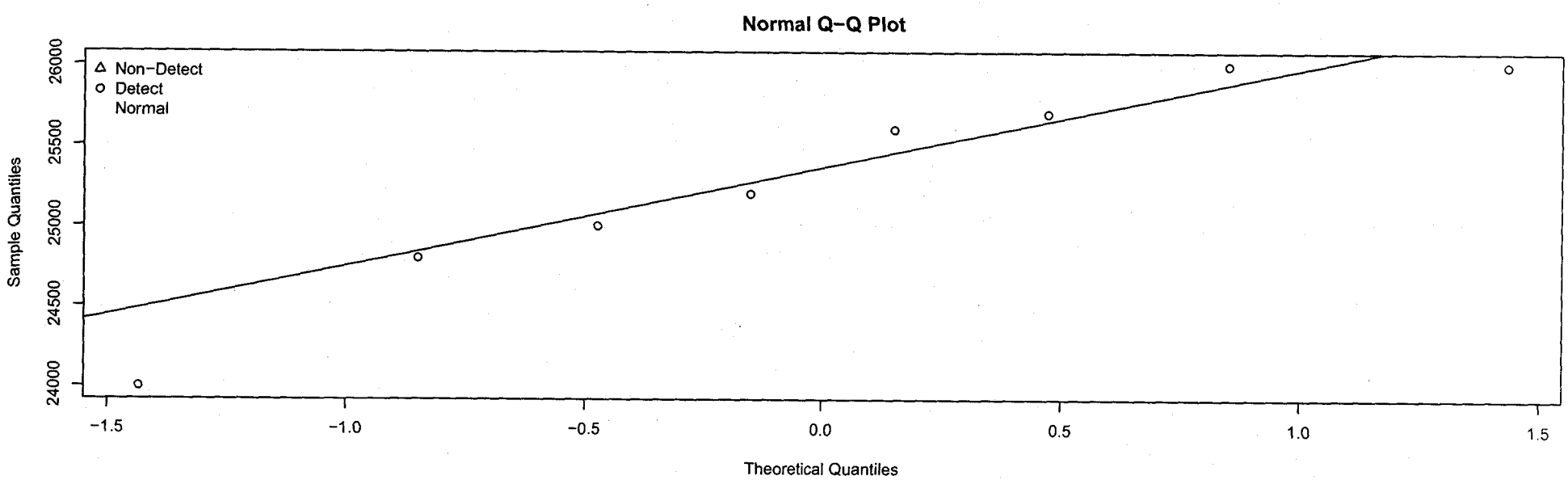


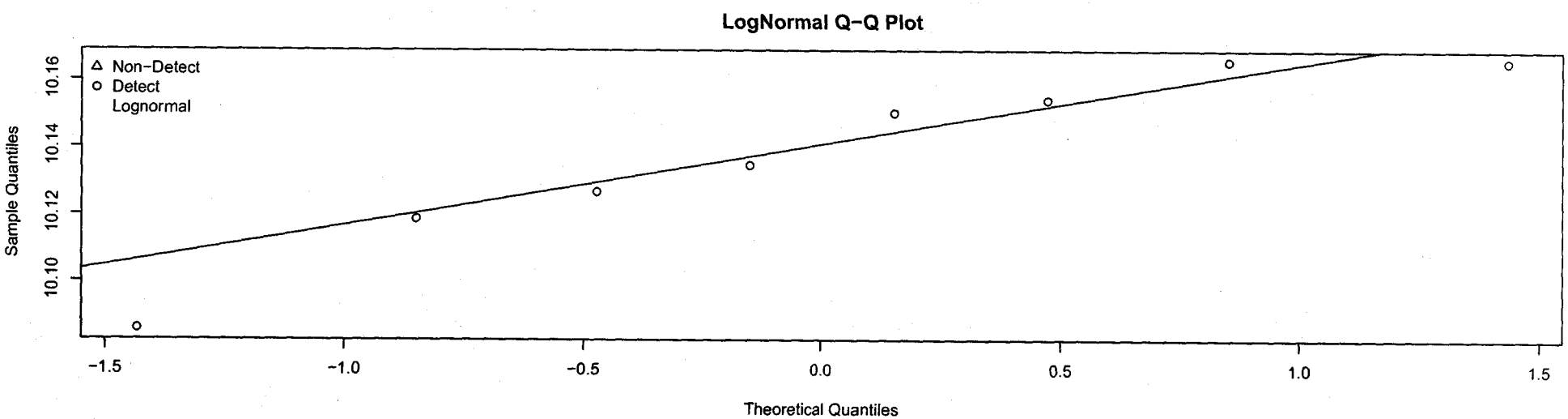
Mere Brook
Spring Surface Water
TOTAL POTASSIUM



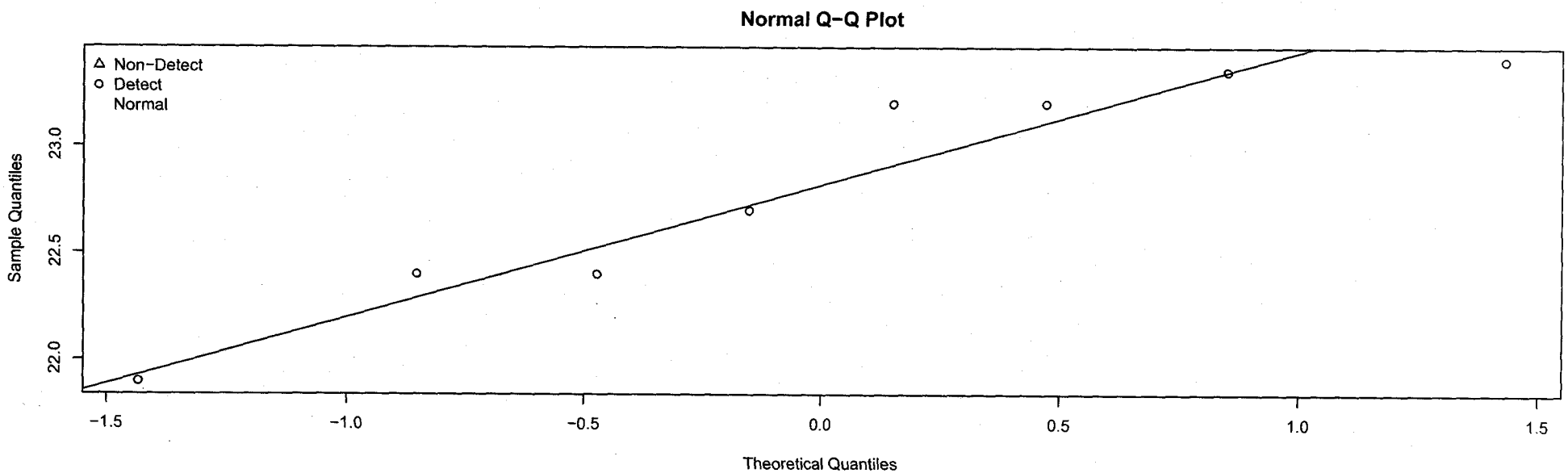


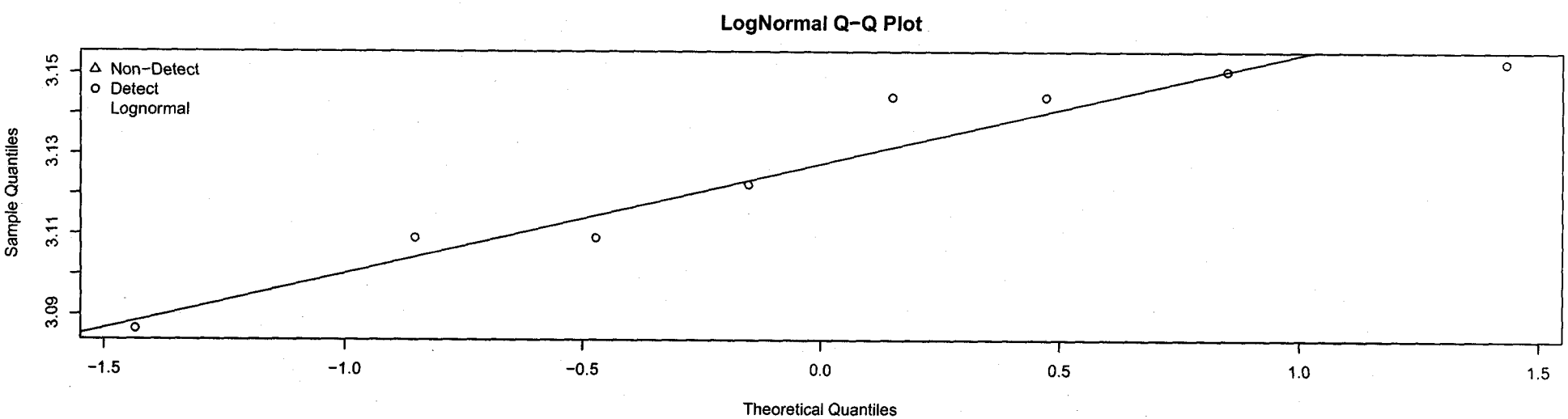
Mere Brook
Spring Surface Water
TOTAL SODIUM



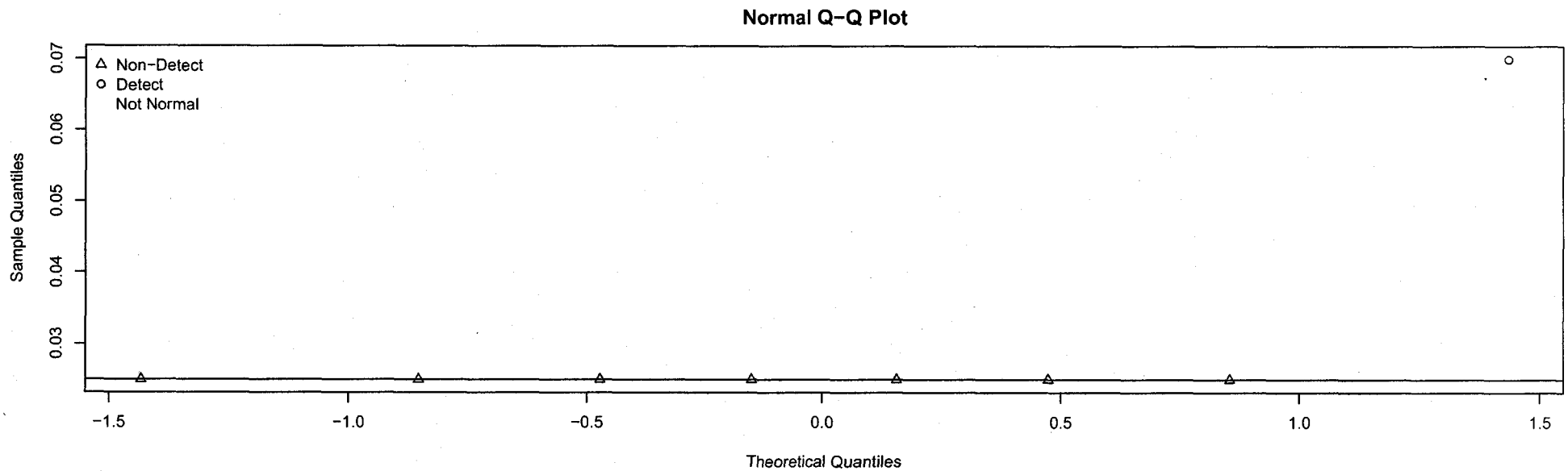


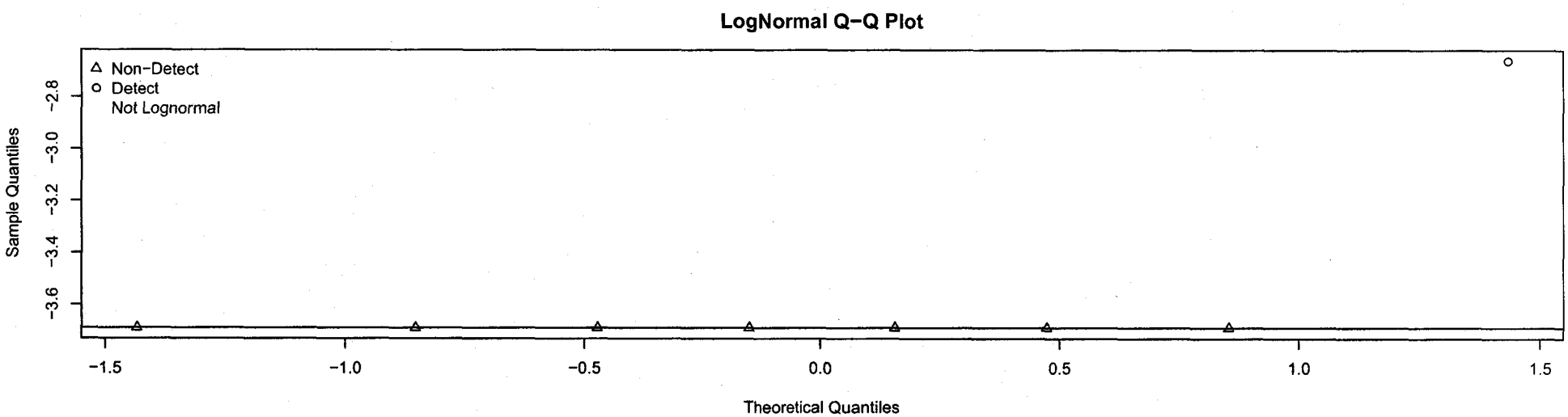
Mere Brook
Spring Surface Water
DISSOLVED BARIUM



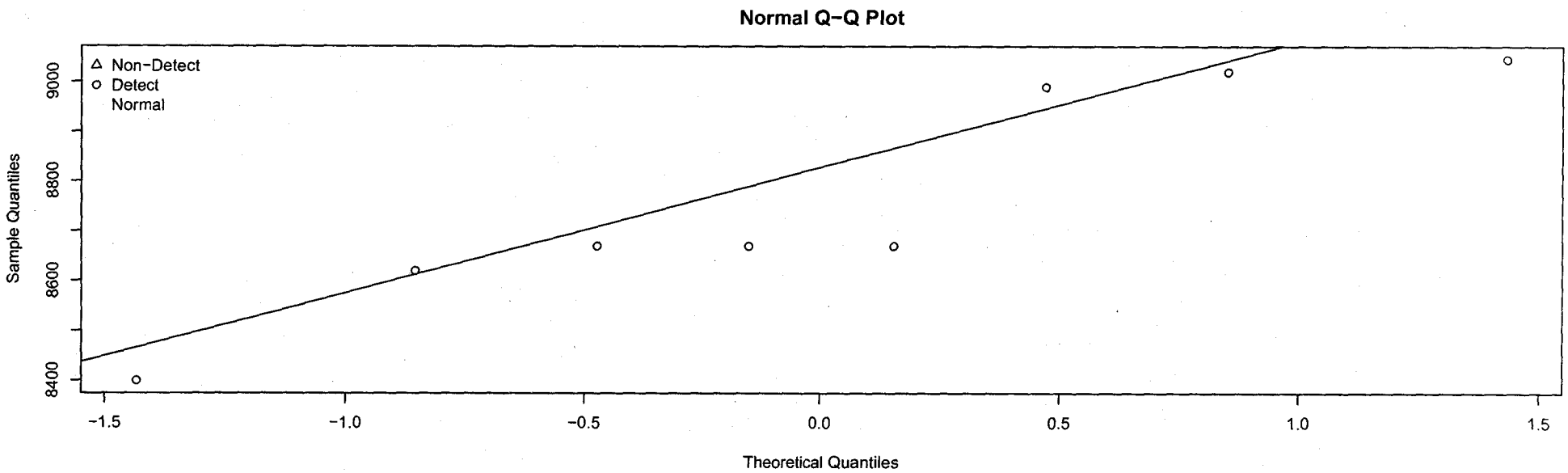


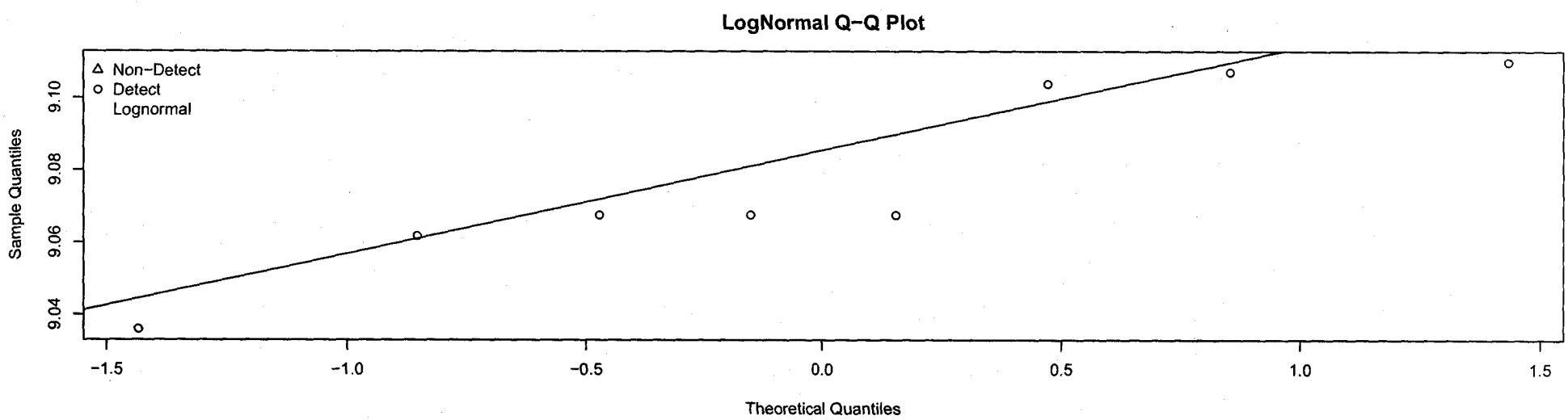
Mere Brook
Spring Surface Water
DISSOLVED CADMIUM



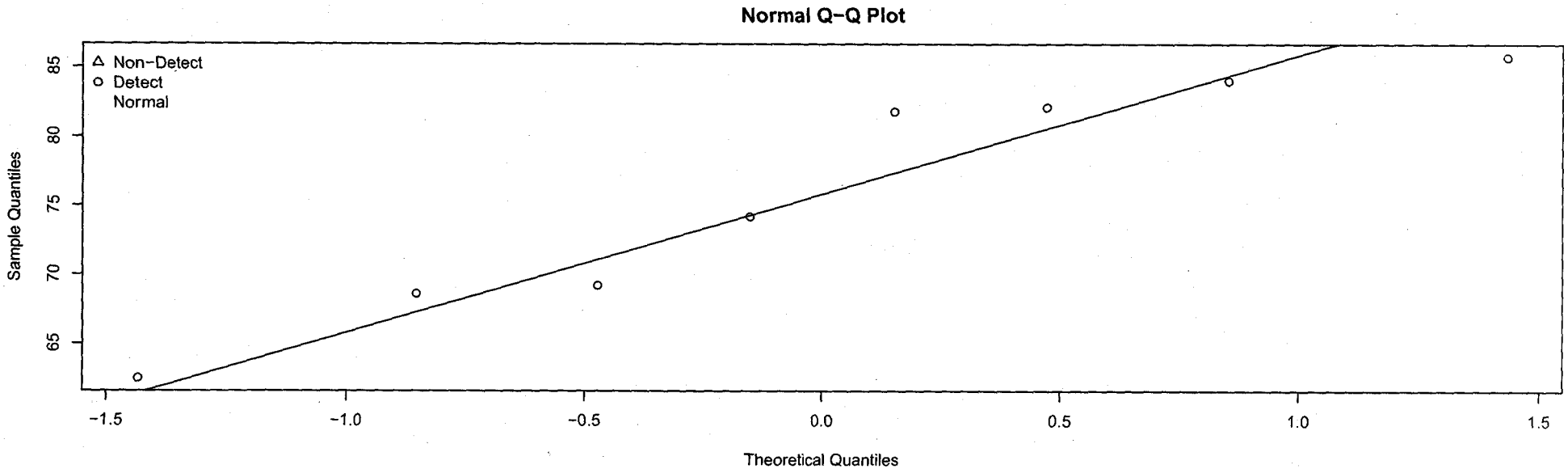


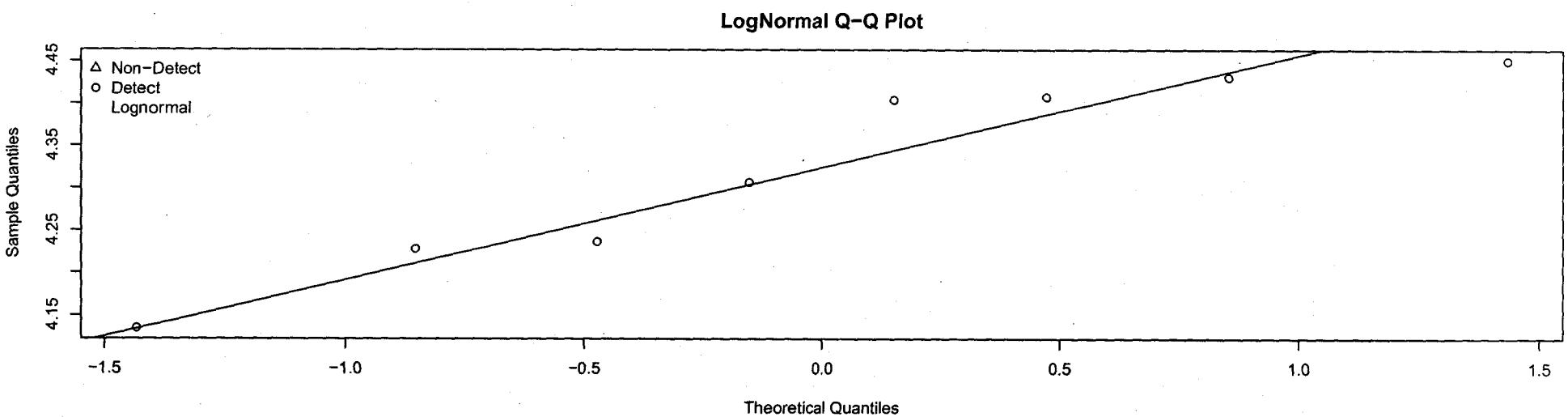
Mere Brook
Spring Surface Water
DISSOLVED CALCIUM



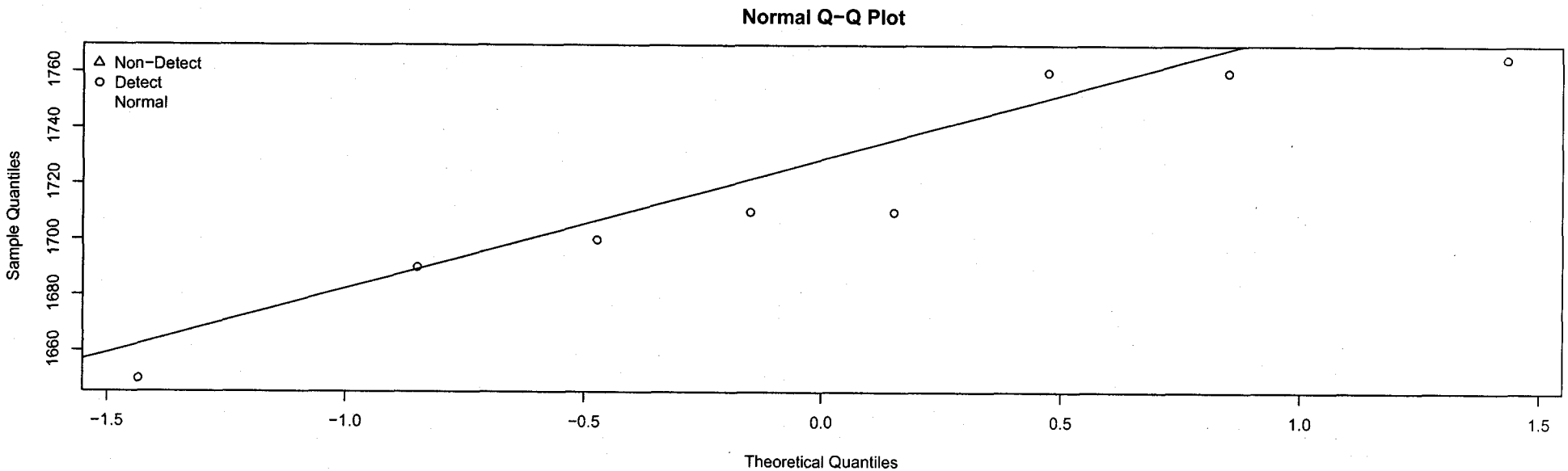


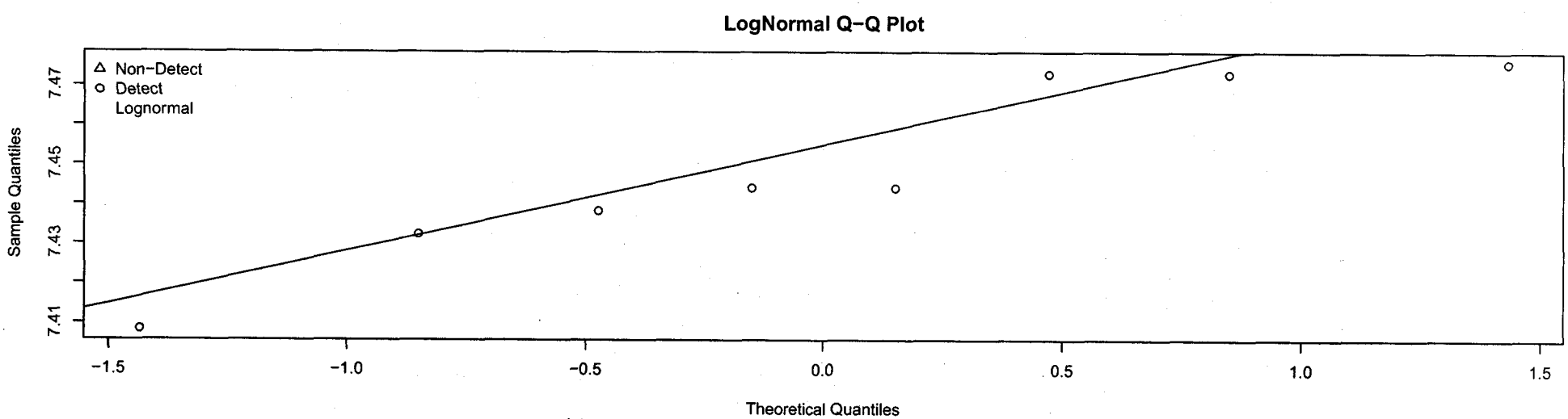
Mere Brook
Spring Surface Water
DISSOLVED IRON



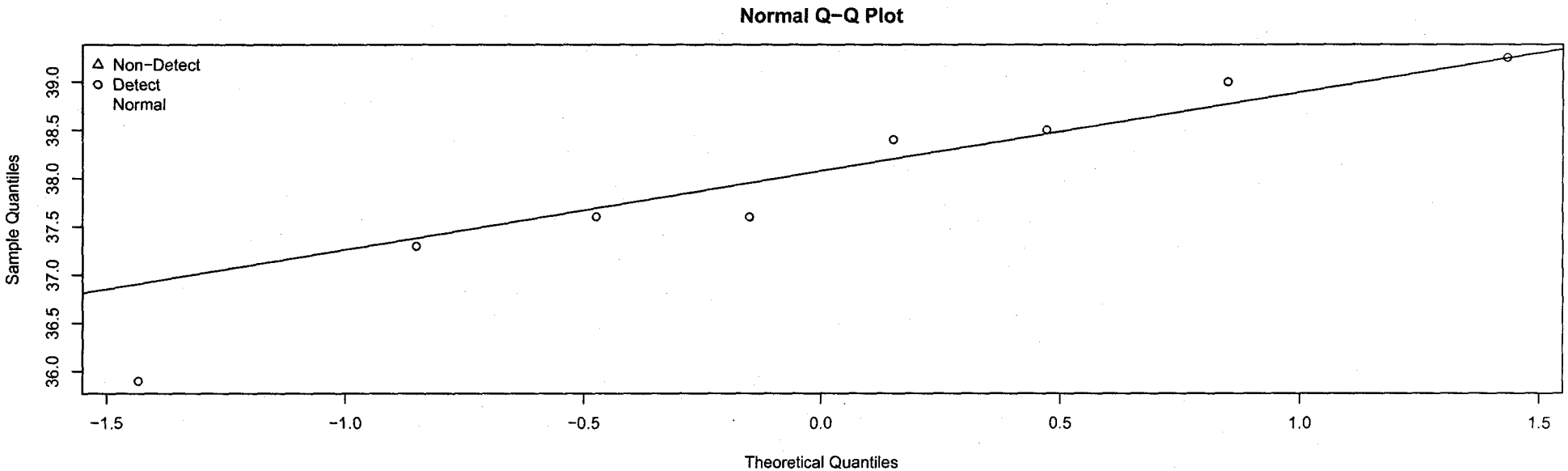


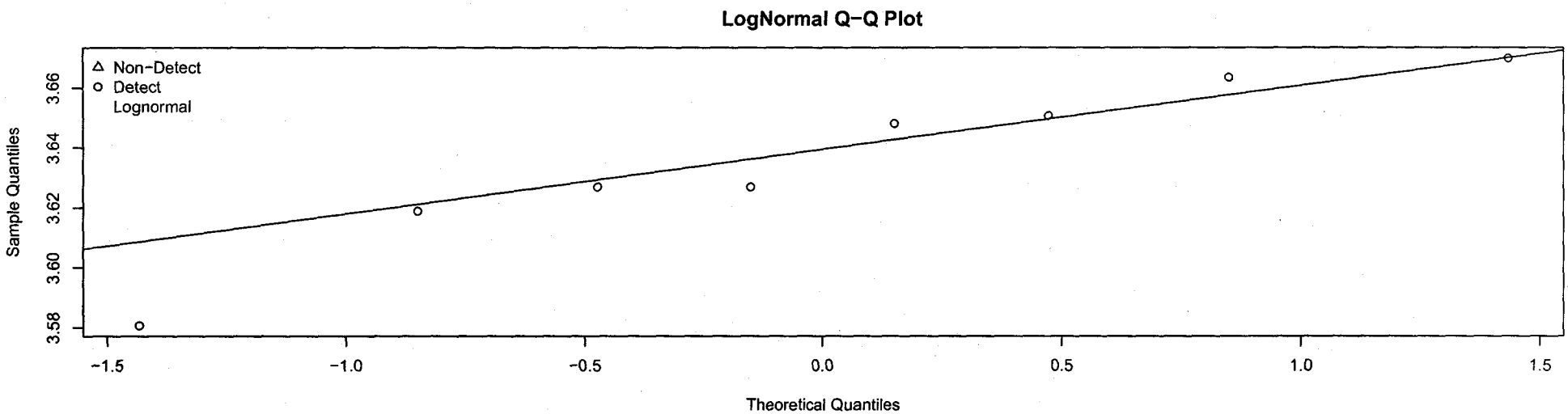
Mere Brook
Spring Surface Water
DISSOLVED MAGNESIUM



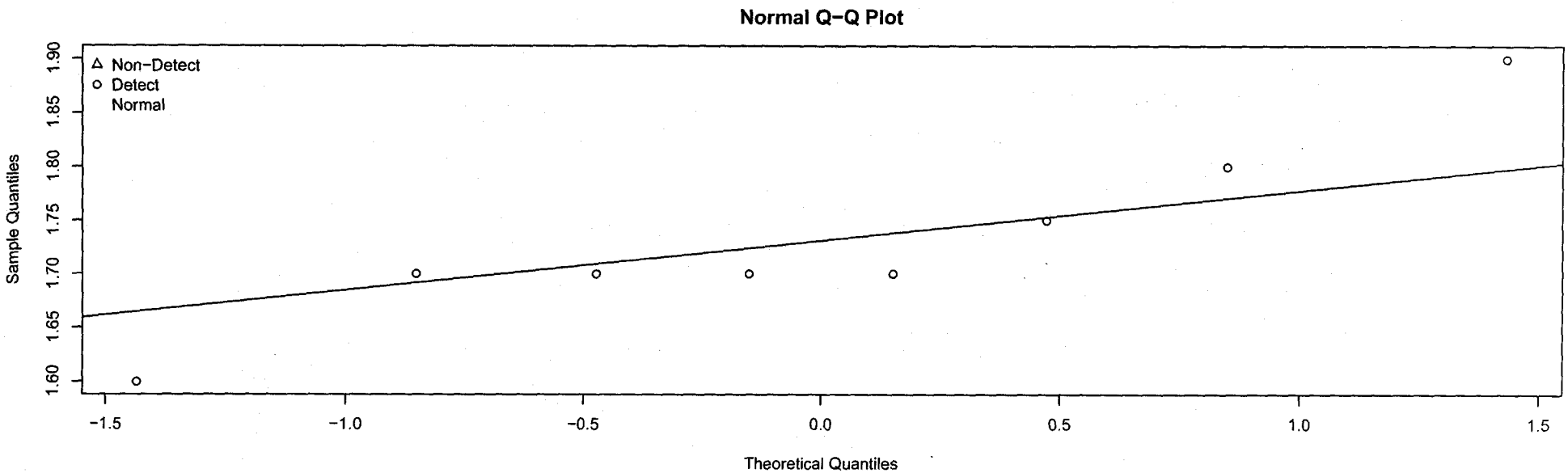


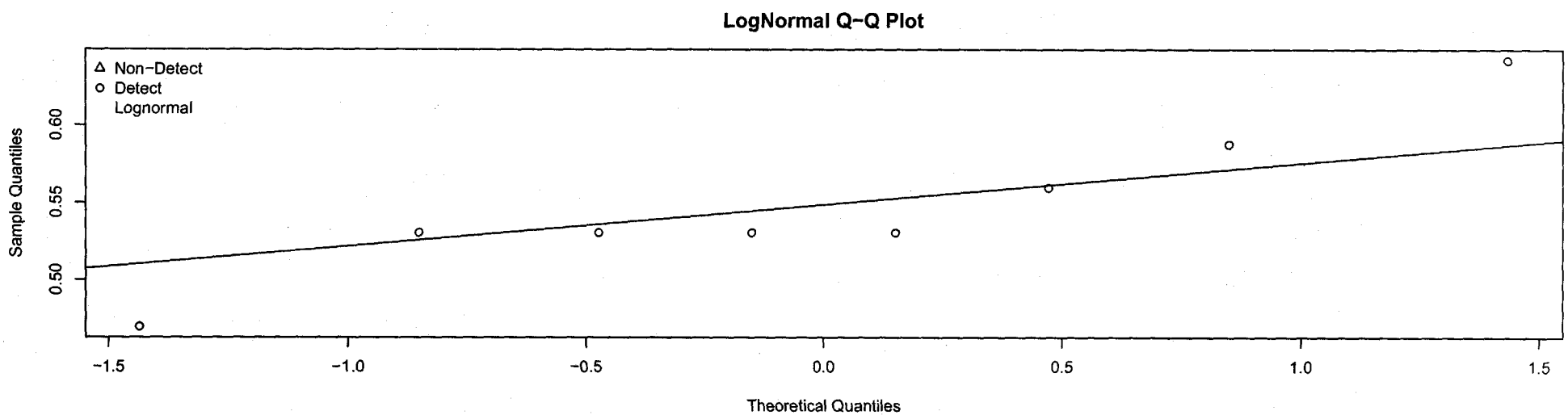
Mere Brook
Spring Surface Water
DISSOLVED MANGANESE



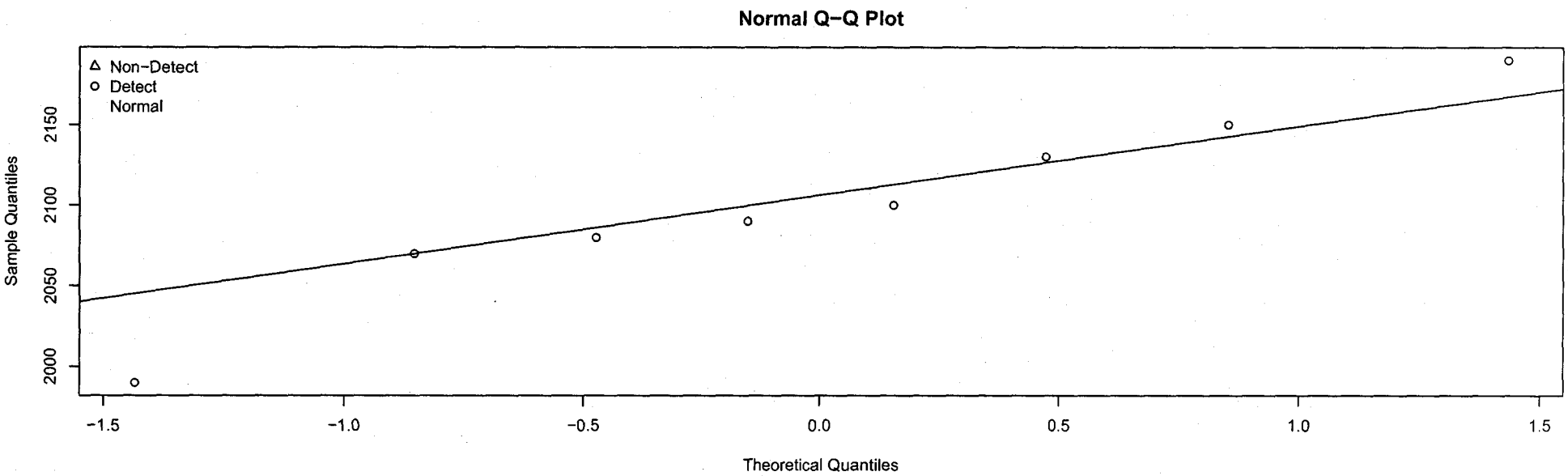


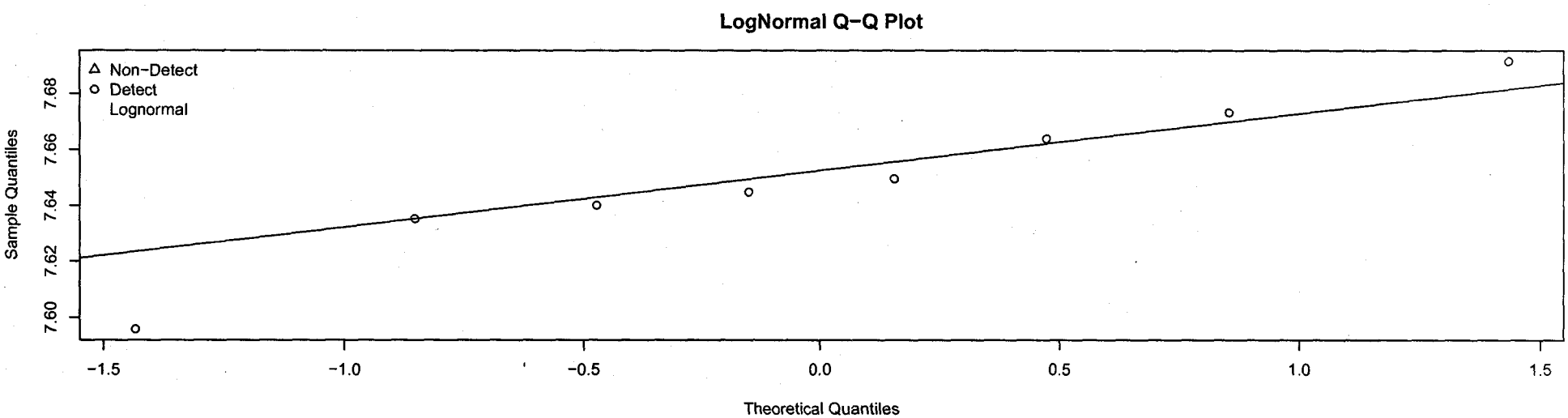
Mere Brook
Spring Surface Water
DISSOLVED NICKEL



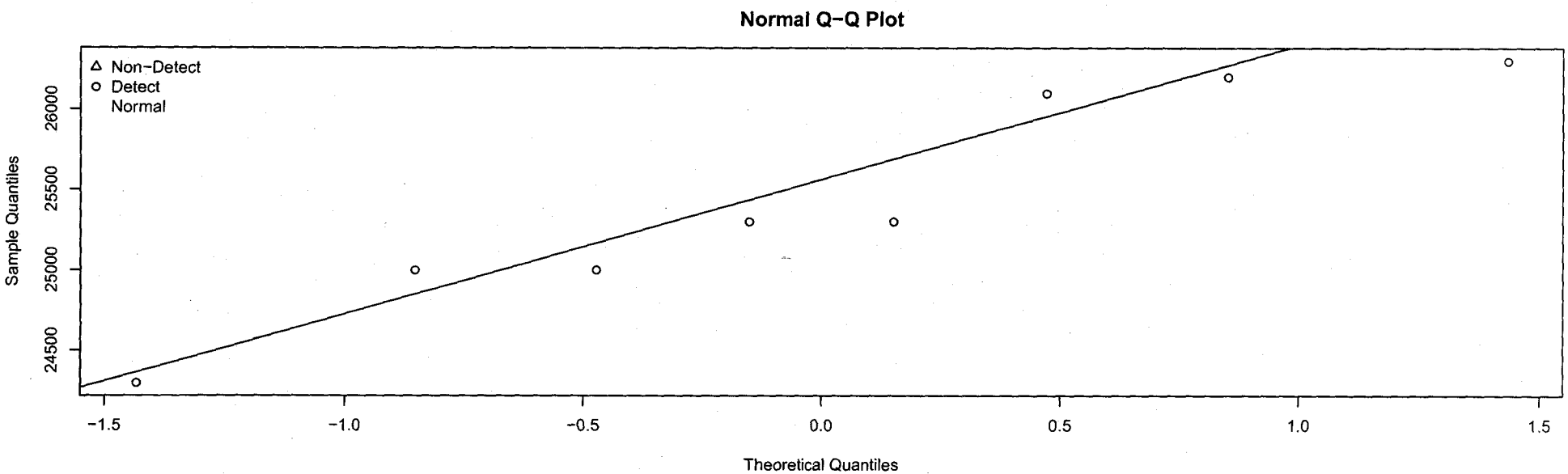


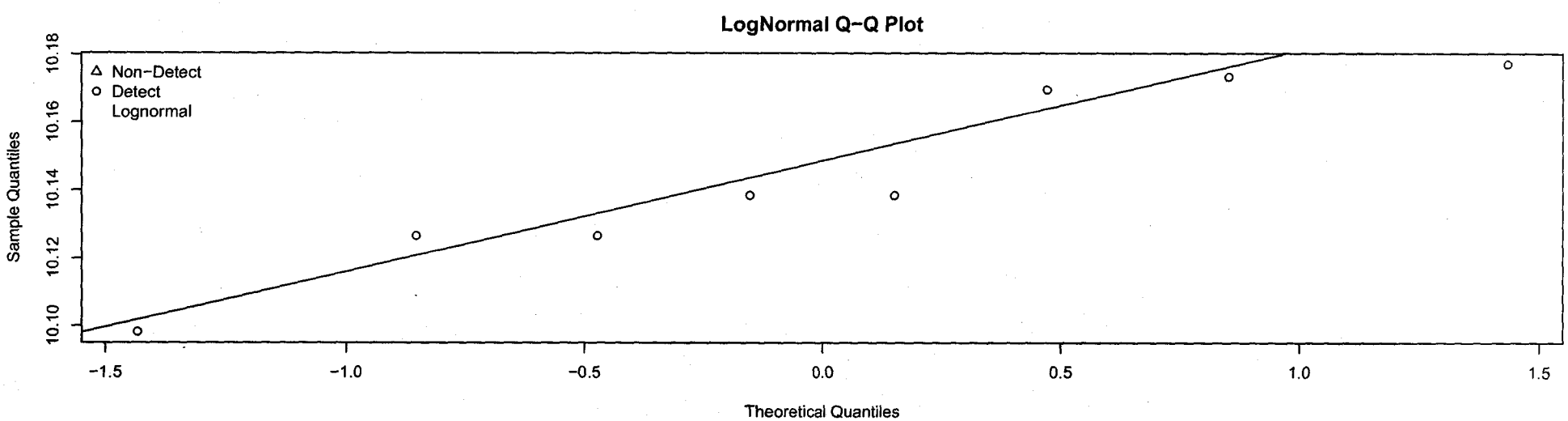
Mere Brook
Spring Surface Water
DISSOLVED POTASSIUM





Mere Brook
Spring Surface Water
DISSOLVED SODIUM





A.3.3 SURFACE WATER GRAPHICAL DATA EVALUATION

APPENDIX A.3.3 GRAPHICAL DATA EVALUATION

Graphical presentations of the data may identify potential outliers, indicate the presence of more than one data population represented by a data set, suggest that data gaps exist, and/or that there are spatial or temporal trends in the dataset. Each of these has the potential to confound data evaluations and statistical analyses. Box plots, normal probability (Q-Q) plots, and histograms were used to evaluate the data sets and are presented at the end of this section.

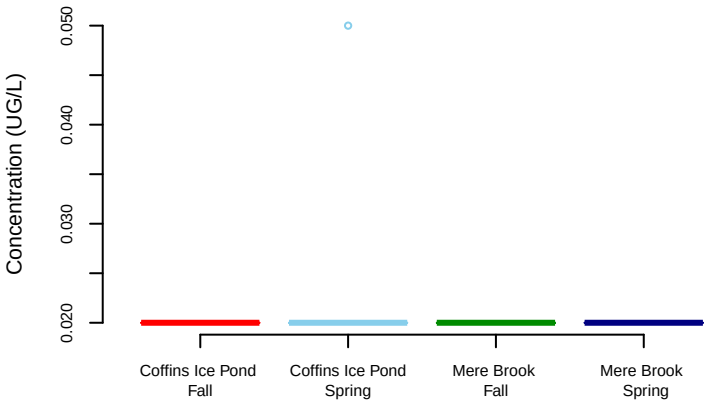
Box plots show the central tendency, degree of symmetry, range of variation, and potential outliers of a data set. The data set is shown as a rectangular box that represents the middle 50 percent of the data. The upper value of the box (75th percentile) and the lower value of the box (25th percentile) define the top and bottom of the rectangle, respectively. The median is represented by the middle line in the box. This type of plot can reveal whether data groups are similar and the extent and magnitude of candidate outliers. Candidate outliers were labeled with location ID.

A probability (Q-Q) plot graphs the quantiles of a data set against the quantiles of the normal data distribution. A non-linear bend in the Q-Q probability plot, or a point of departure from linearity at one end of the probability plot, suggest that the data do not follow the normal distribution. Probability (Q-Q) plots augment the identification of outliers and identify any data points or data ranges that contribute to a poor fit to a normal distributional shape. Non-detects and detects were labeled with different symbols and different soil groupings were plotted using different colors. Multiple non-detected concentrations can be seen as the step like pattern on the plots. Candidate outliers were labeled with location ID.

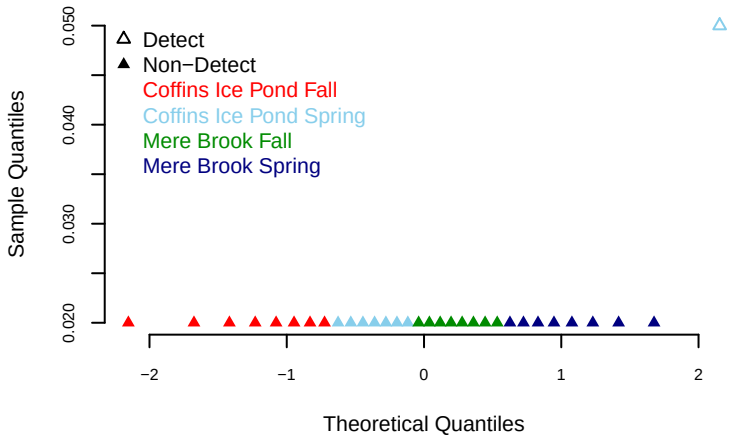
Histograms also depict the distributional shape, showing the mode, the relative frequency of detection at various concentration ranges, and the spread of data points near the upper end. These may be used in conjunction with probability plots to determine which data points contribute anomalies relative to the assumption of a normal bell curve shape.

ANTHRACENE

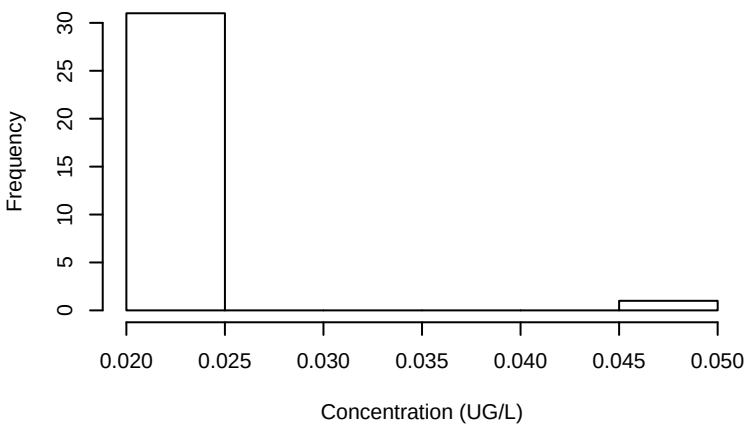
Box Plot



Normal Q−Q Plot



Histogram



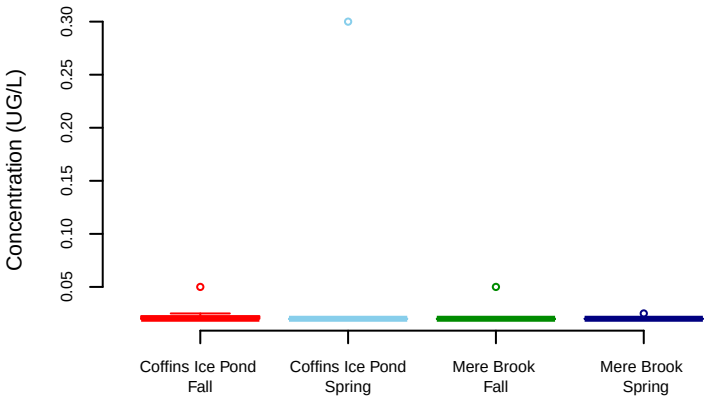
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	0.02	0.02	0.02	0.02
25th Percentile	0.02	0.02	0.02	0.02
Median	0.02	0.02	0.02	0.02
Mean	0.02	0.024	0.02	0.02
75th Percentile	0.02	0.02	0.02	0.02
Maximum	0.02	0.05	0.02	0.02

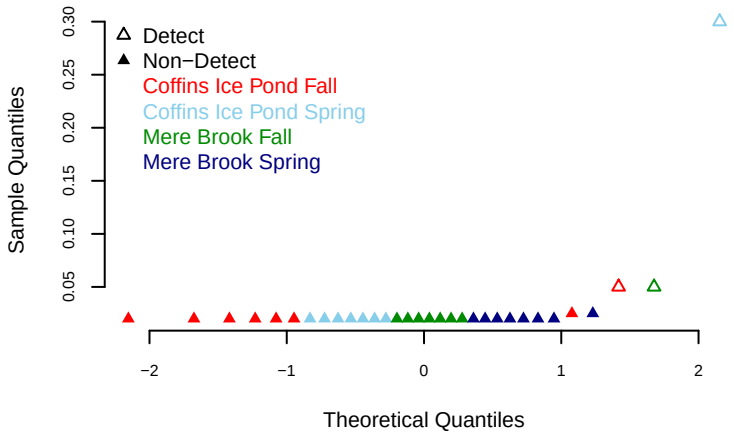
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

BENZO(A)ANTHRACENE

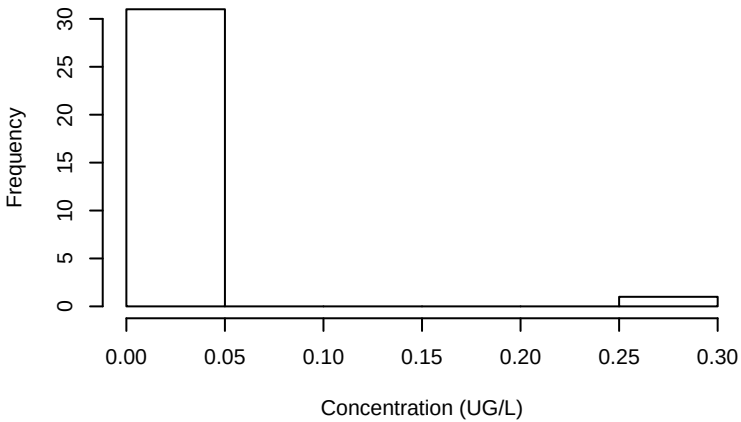
Box Plot



Normal Q−Q Plot



Histogram



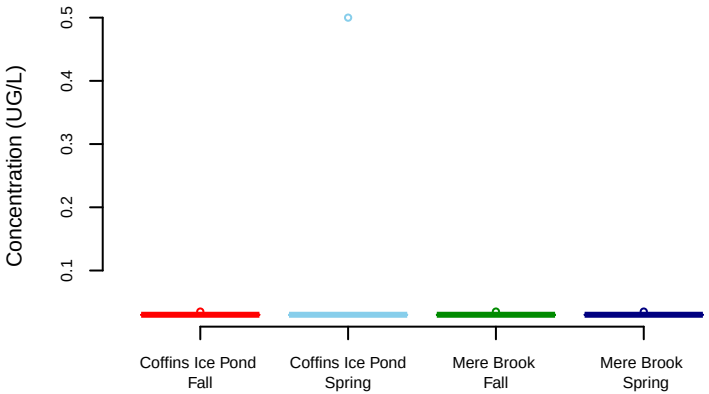
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	0.02	0.02	0.02	0.02
25th Percentile	0.02	0.02	0.02	0.02
Median	0.02	0.02	0.02	0.02
Mean	0.024	0.055	0.024	0.021
75th Percentile	0.021	0.02	0.02	0.02
Maximum	0.05	0.3	0.05	0.025

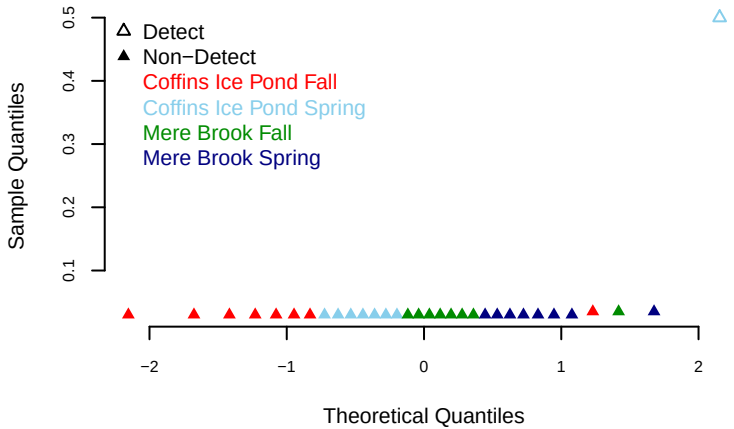
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

BENZO(A)PYRENE

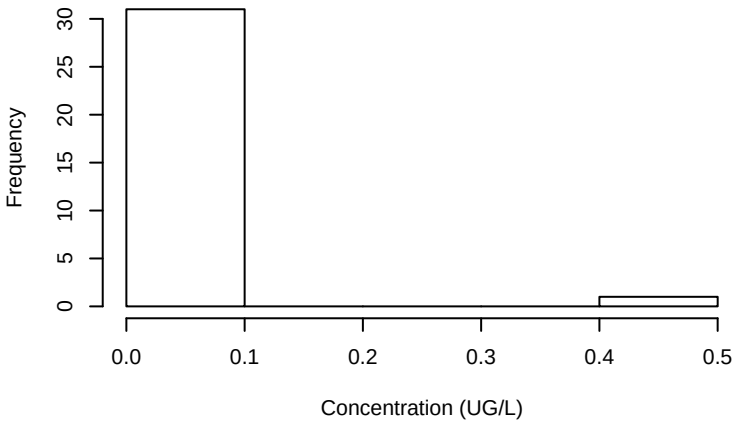
Box Plot



Normal Q−Q Plot



Histogram



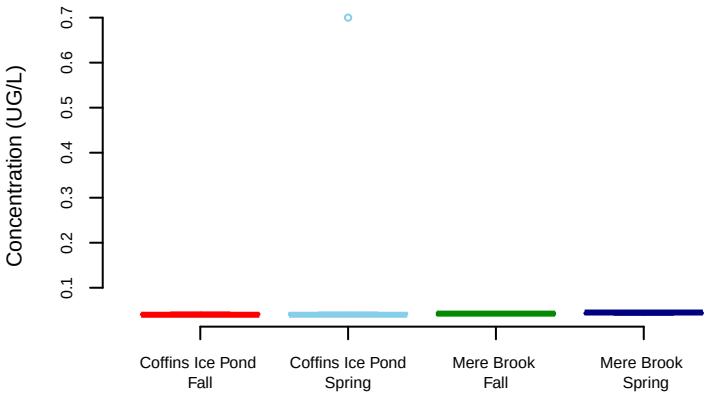
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	0.03	0.03	0.03	0.03
25th Percentile	0.03	0.03	0.03	0.03
Median	0.03	0.03	0.03	0.03
Mean	0.031	0.089	0.031	0.031
75th Percentile	0.03	0.03	0.03	0.03
Maximum	0.035	0.5	0.035	0.035

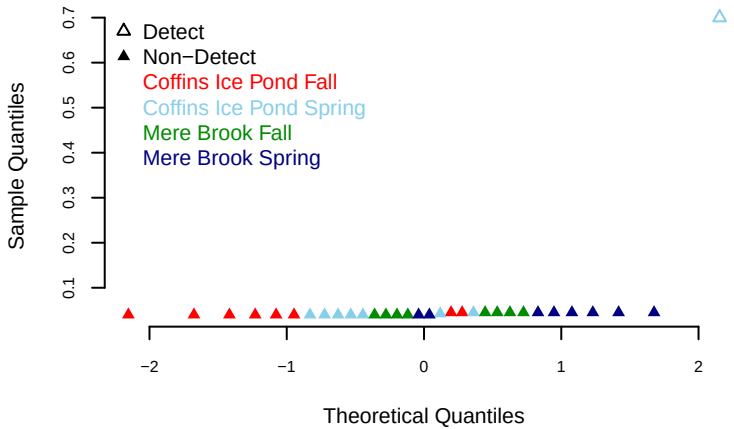
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

BENZO(B)FLUORANTHENE

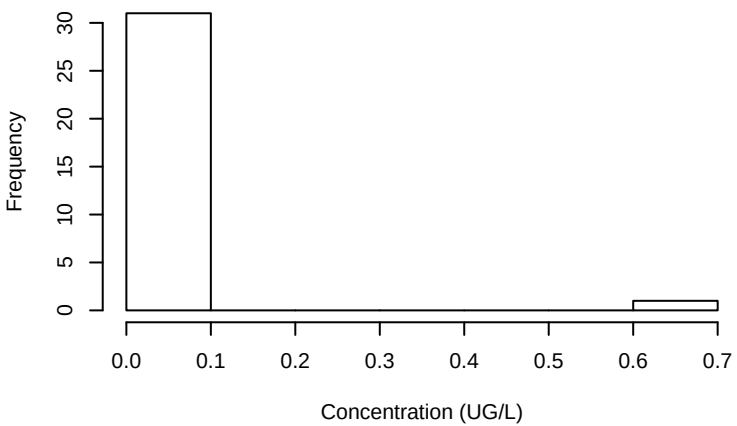
Box Plot



Normal Q−Q Plot



Histogram



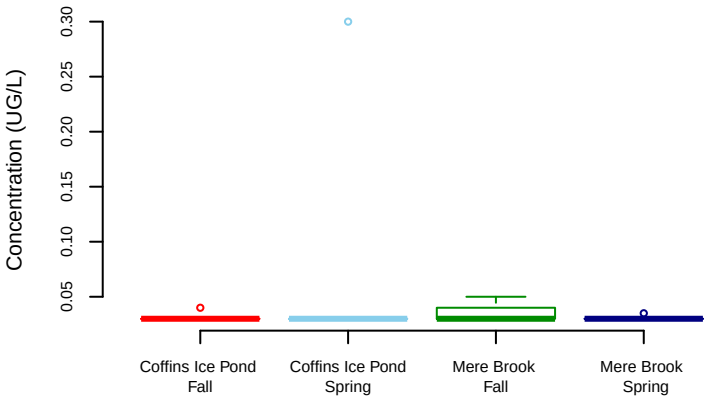
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	0.04	0.04	0.04	0.04
25th Percentile	0.04	0.04	0.04	0.044
Median	0.04	0.04	0.042	0.045
Mean	0.041	0.12	0.042	0.044
75th Percentile	0.041	0.043	0.045	0.045
Maximum	0.045	0.7	0.045	0.045

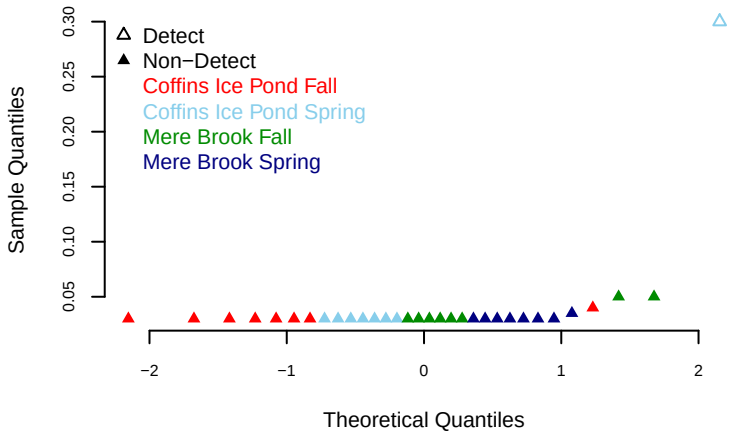
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

BENZO(G,H,I)PERYLENE

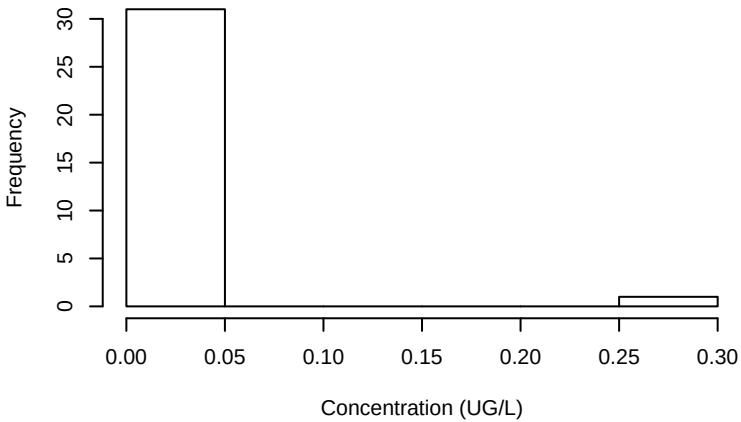
Box Plot



Normal Q−Q Plot



Histogram



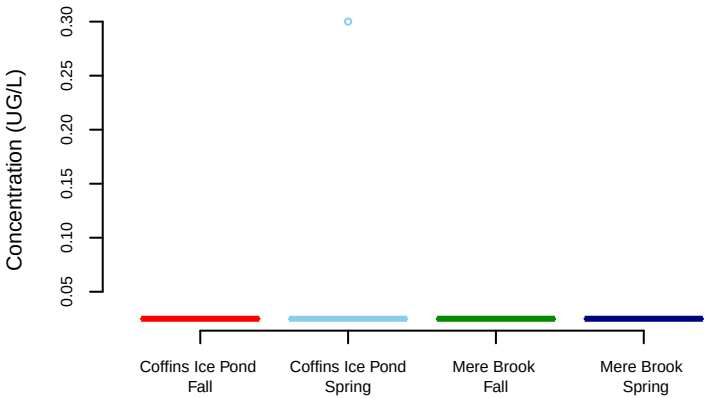
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	0.03	0.03	0.03	0.03
25th Percentile	0.03	0.03	0.03	0.03
Median	0.03	0.03	0.03	0.03
Mean	0.031	0.064	0.035	0.031
75th Percentile	0.03	0.03	0.035	0.03
Maximum	0.04	0.3	0.05	0.035

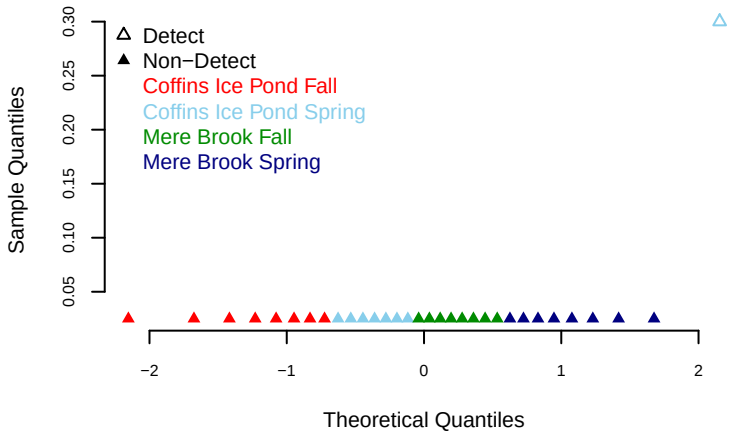
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

BENZO(K)FLUORANTHENE

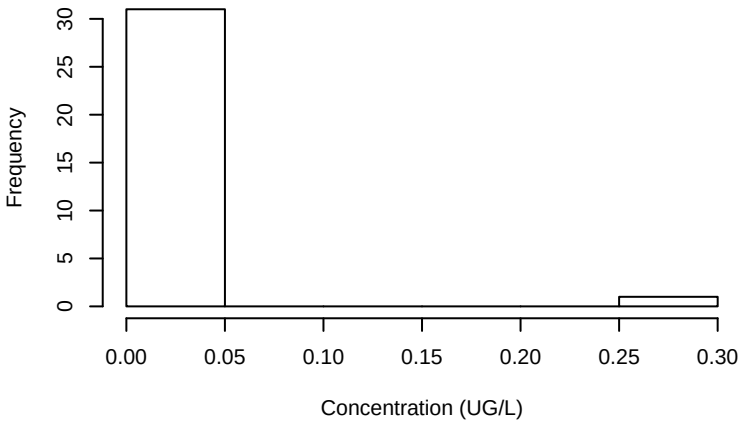
Box Plot



Normal Q−Q Plot



Histogram



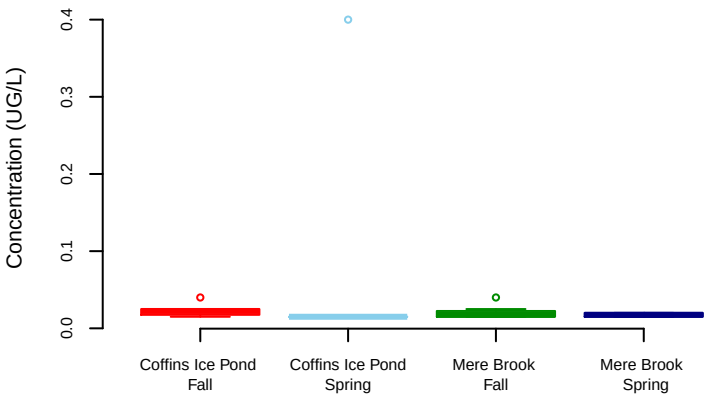
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	0.025	0.025	0.025	0.025
25th Percentile	0.025	0.025	0.025	0.025
Median	0.025	0.025	0.025	0.025
Mean	0.025	0.059	0.025	0.025
75th Percentile	0.025	0.025	0.025	0.025
Maximum	0.025	0.3	0.025	0.025

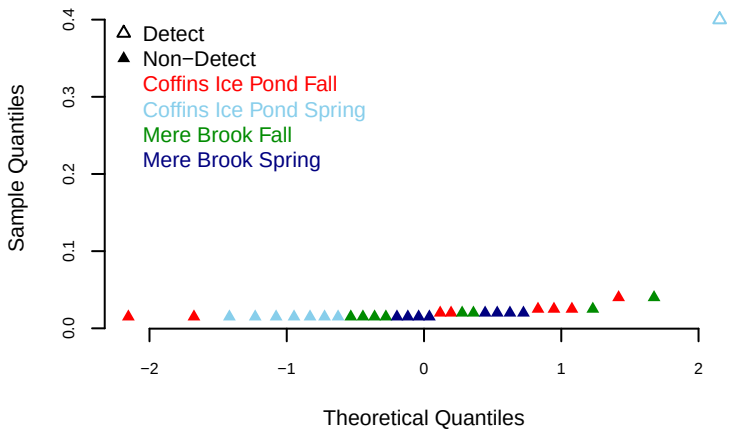
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

CHRYSENE

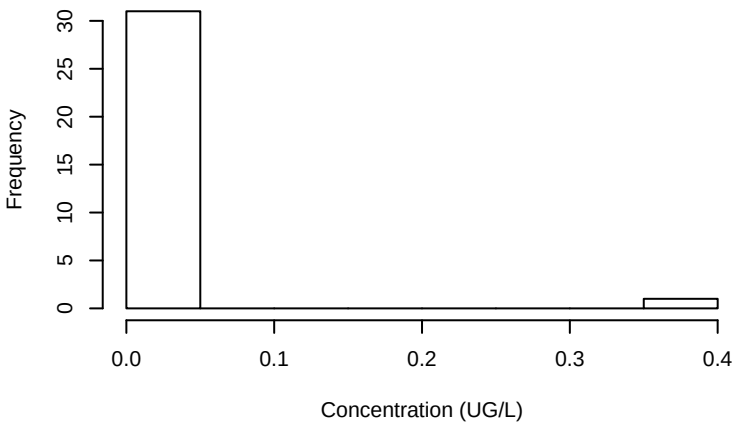
Box Plot



Normal Q−Q Plot



Histogram



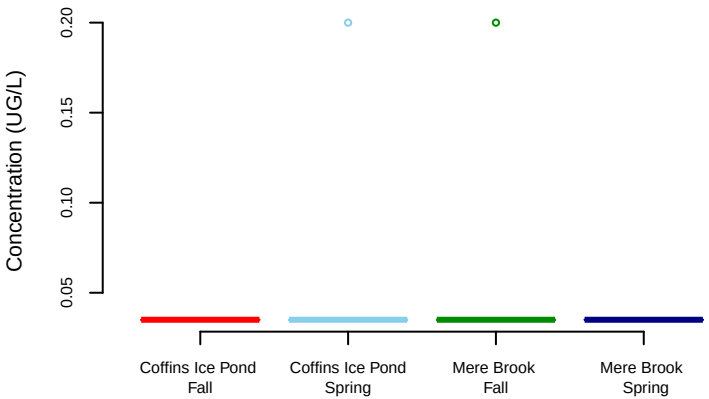
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	0.015	0.015	0.015	0.015
25th Percentile	0.019	0.015	0.015	0.015
Median	0.022	0.015	0.018	0.018
Mean	0.023	0.063	0.021	0.018
75th Percentile	0.025	0.015	0.021	0.02
Maximum	0.04	0.4	0.04	0.02

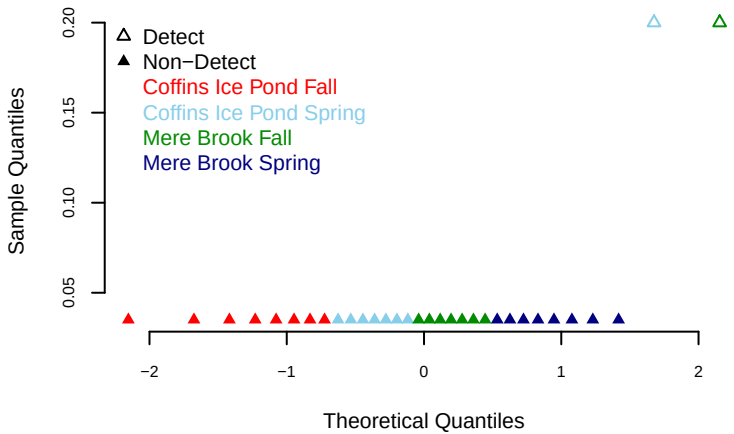
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

DIBENZO(A,H)ANTHRACENE

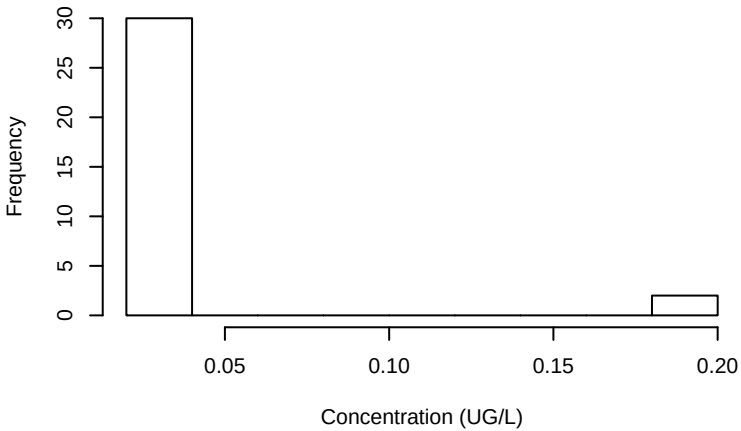
Box Plot



Normal Q−Q Plot



Histogram



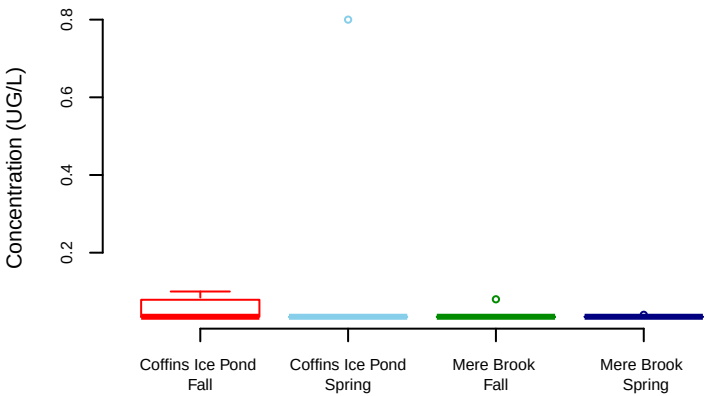
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	0.035	0.035	0.035	0.035
25th Percentile	0.035	0.035	0.035	0.035
Median	0.035	0.035	0.035	0.035
Mean	0.035	0.056	0.056	0.035
75th Percentile	0.035	0.035	0.035	0.035
Maximum	0.035	0.2	0.2	0.035

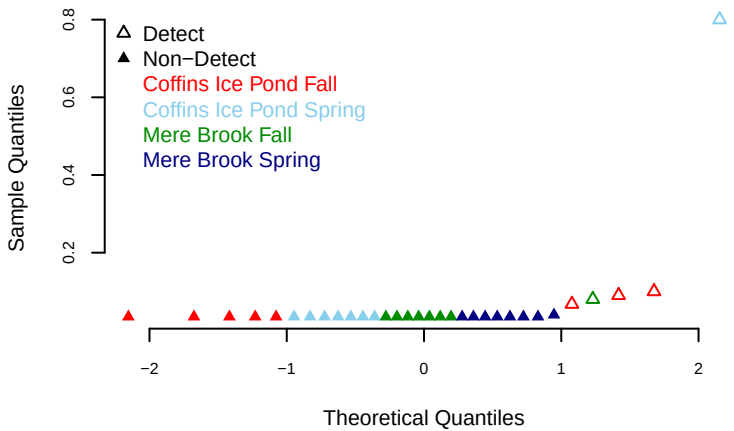
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

FLUORANTHENE

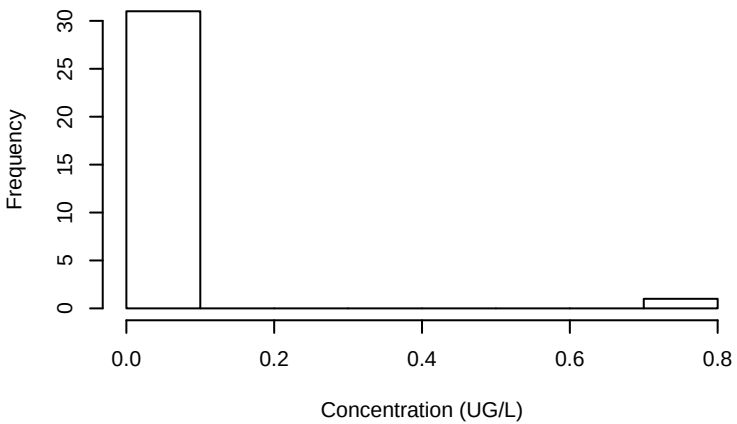
Box Plot



Normal Q−Q Plot



Histogram



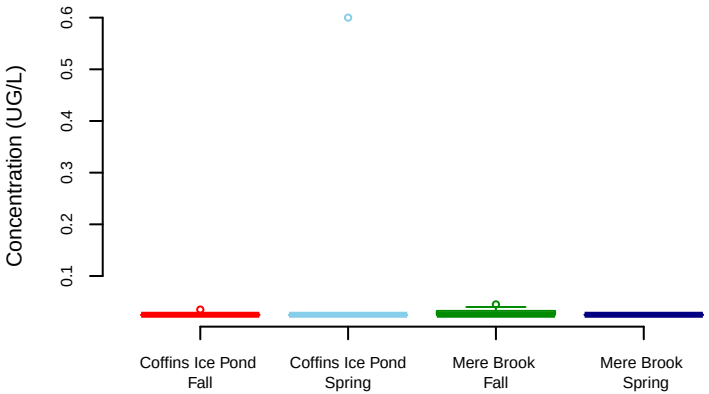
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	0.035	0.035	0.035	0.035
25th Percentile	0.035	0.035	0.035	0.035
Median	0.035	0.035	0.035	0.035
Mean	0.054	0.13	0.041	0.036
75th Percentile	0.073	0.035	0.035	0.035
Maximum	0.1	0.8	0.08	0.04

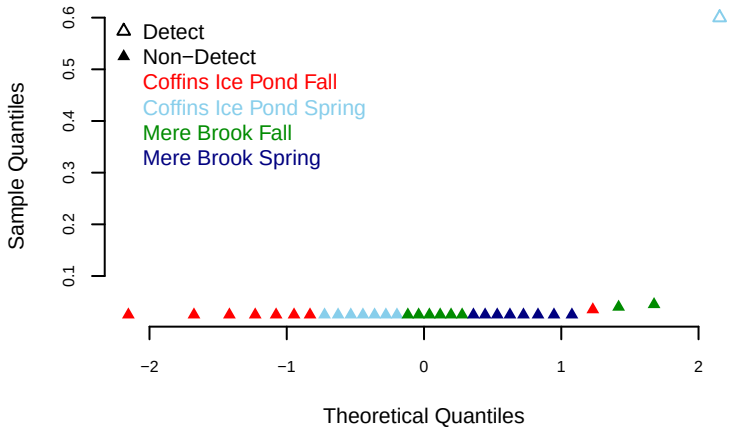
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

INDENO(1,2,3−CD)PYRENE

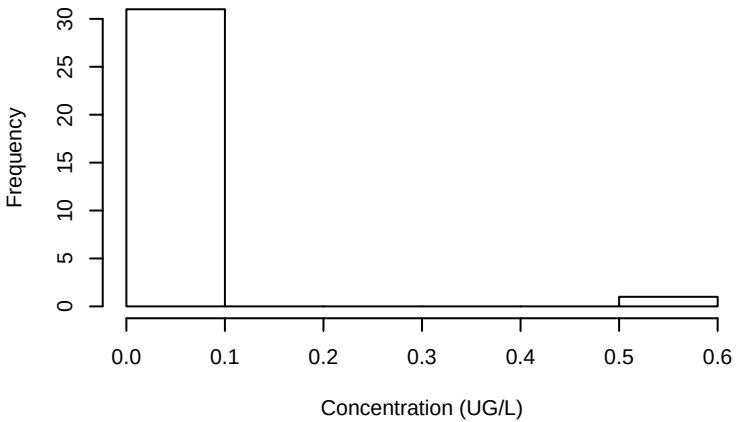
Box Plot



Normal Q−Q Plot



Histogram



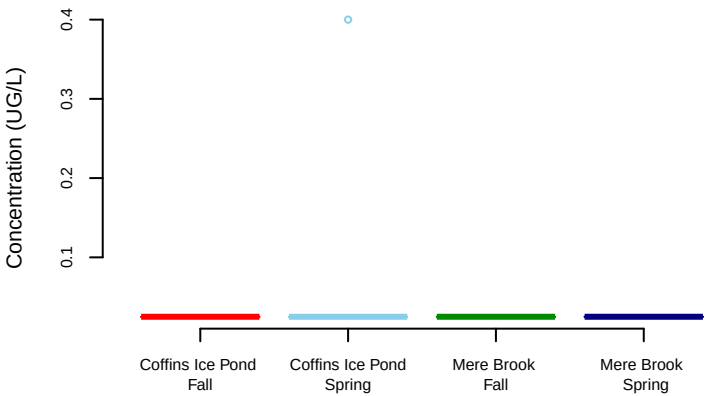
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	0.025	0.025	0.025	0.025
25th Percentile	0.025	0.025	0.025	0.025
Median	0.025	0.025	0.025	0.025
Mean	0.026	0.097	0.029	0.025
75th Percentile	0.025	0.025	0.029	0.025
Maximum	0.035	0.6	0.045	0.025

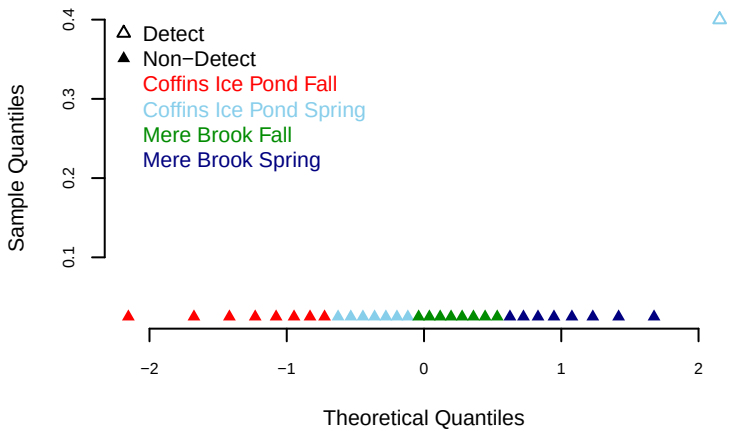
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

PHENANTHRENE

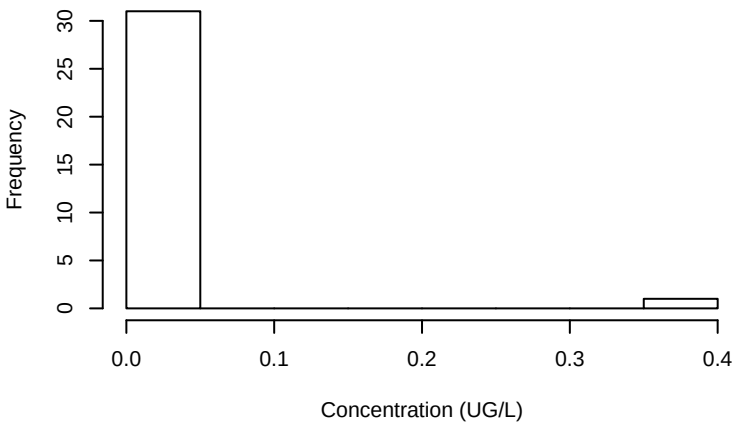
Box Plot



Normal Q−Q Plot



Histogram



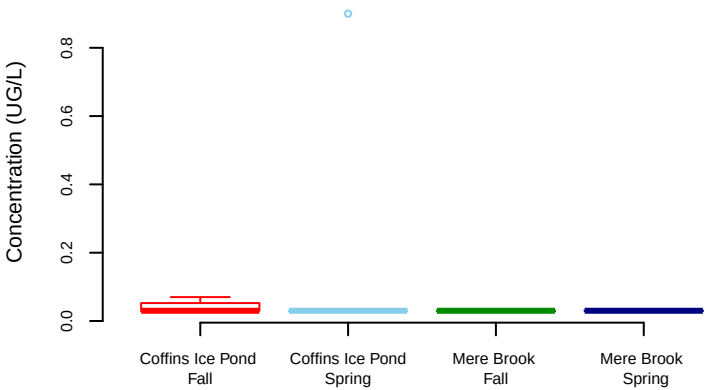
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	0.025	0.025	0.025	0.025
25th Percentile	0.025	0.025	0.025	0.025
Median	0.025	0.025	0.025	0.025
Mean	0.025	0.072	0.025	0.025
75th Percentile	0.025	0.025	0.025	0.025
Maximum	0.025	0.4	0.025	0.025

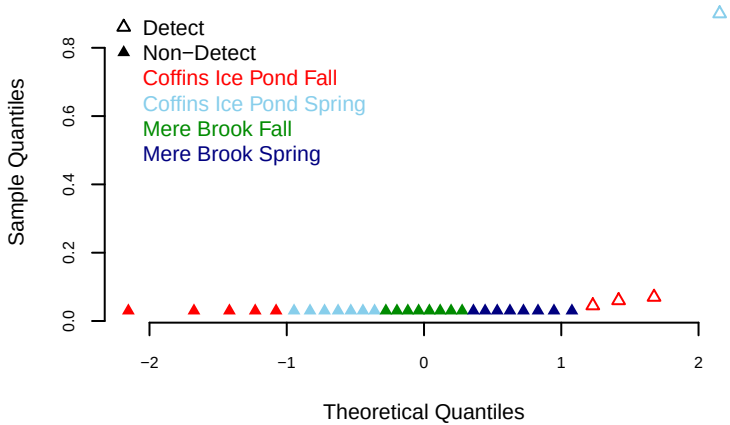
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

PYRENE

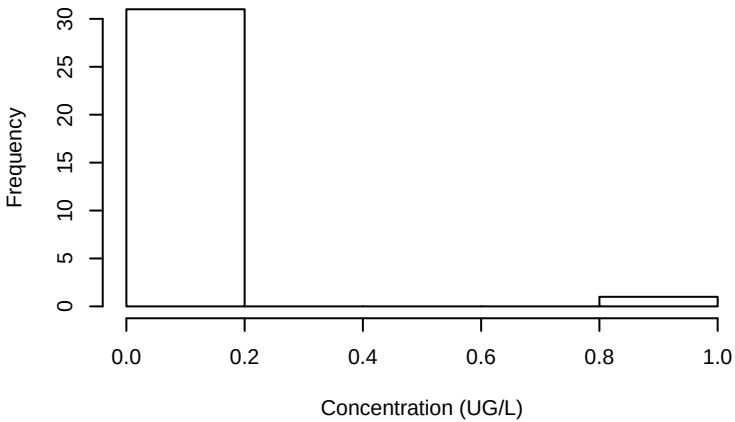
Box Plot



Normal Q−Q Plot



Histogram



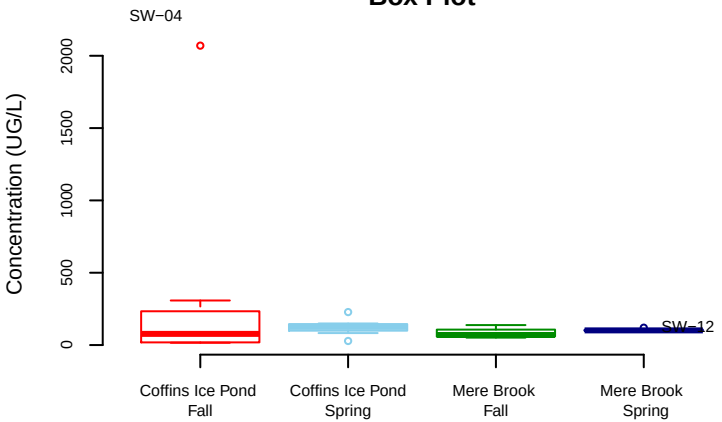
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	0.03	0.03	0.03	0.03
25th Percentile	0.03	0.03	0.03	0.03
Median	0.03	0.03	0.03	0.03
Mean	0.041	0.14	0.03	0.03
75th Percentile	0.049	0.03	0.03	0.03
Maximum	0.07	0.9	0.03	0.03

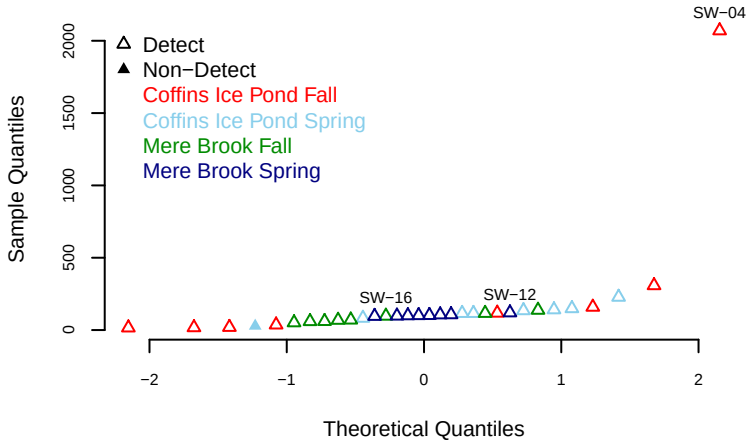
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

TOTAL ALUMINUM

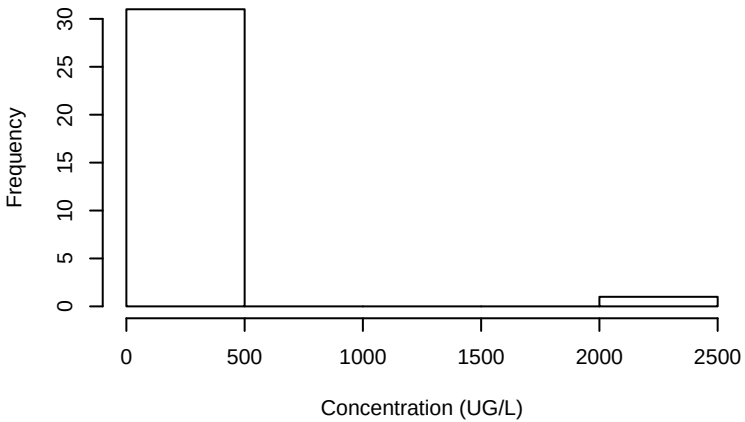
Box Plot



Normal Q−Q Plot



Histogram



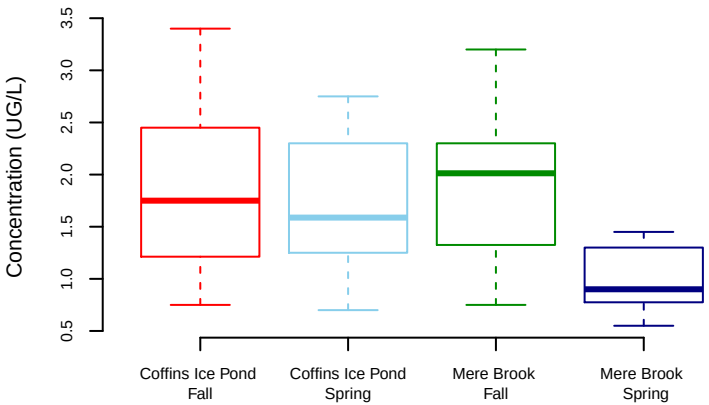
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	16	28	51	96
25th Percentile	19	110	60	99
Median	77	130	69	100
Mean	340	120	83	100
75th Percentile	200	140	100	110
Maximum	2100	230	140	120

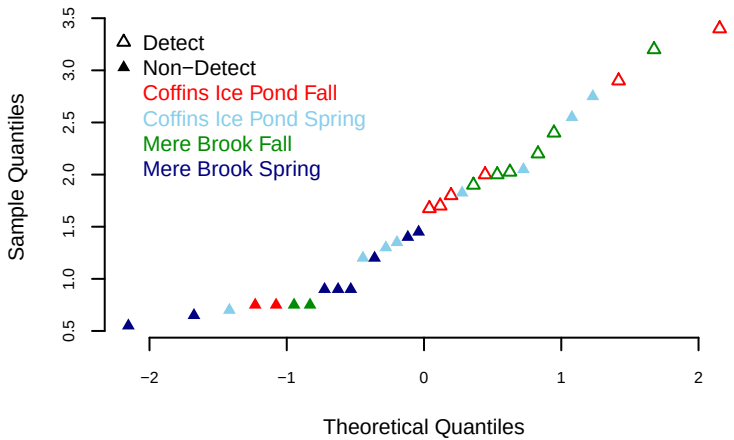
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

TOTAL ARSENIC

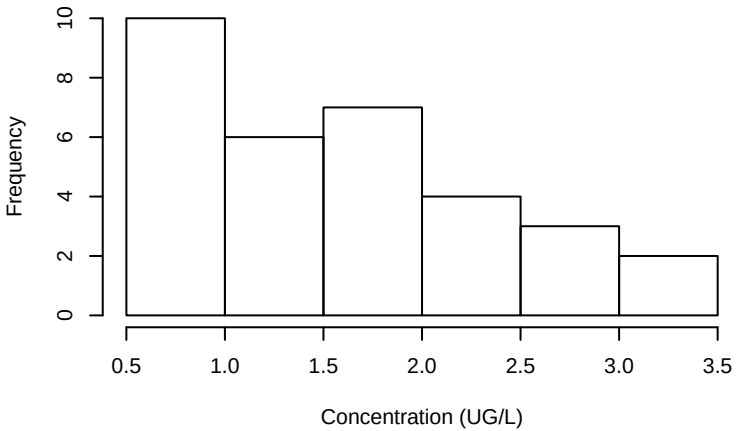
Box Plot



Normal Q−Q Plot



Histogram



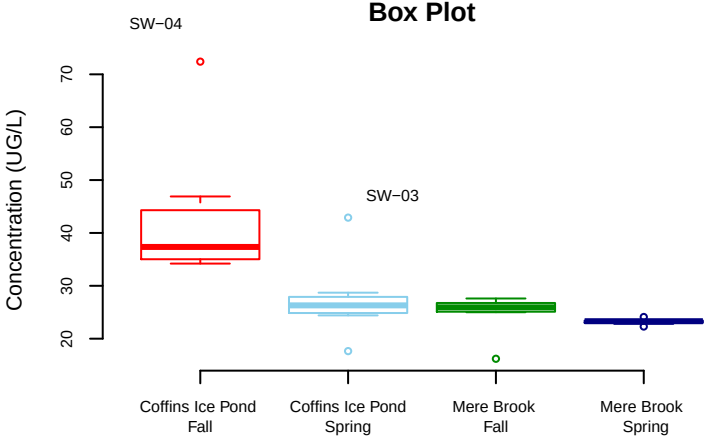
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	0.75	0.7	0.75	0.55
25th Percentile	1.4	1.3	1.6	0.84
Median	1.8	1.6	2	0.9
Mean	1.9	1.7	1.9	0.99
75th Percentile	2.2	2.2	2.2	1.2
Maximum	3.4	2.8	3.2	1.4

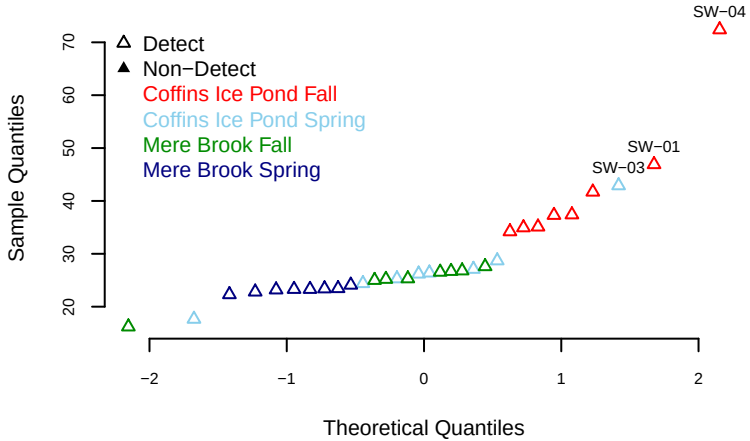
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

TOTAL BARIUM

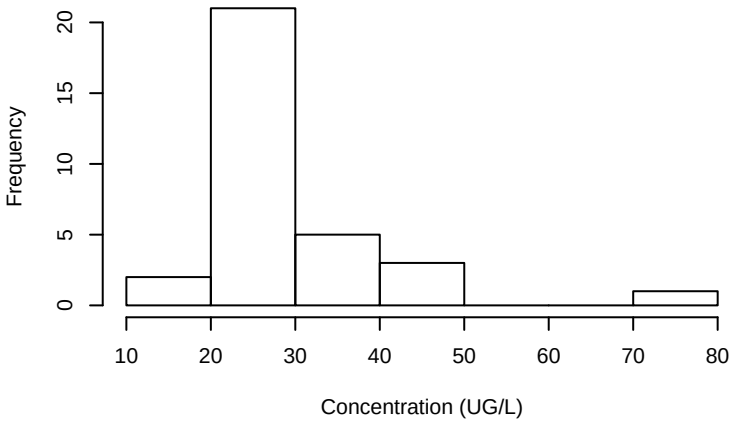
Box Plot



Normal Q−Q Plot



Histogram



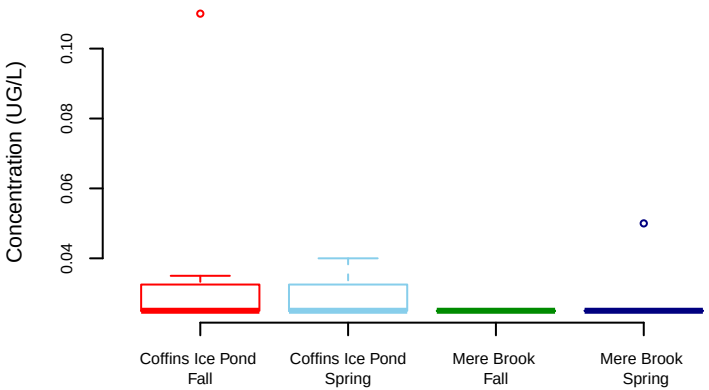
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	34	18	16	22
25th Percentile	35	25	25	23
Median	37	26	26	23
Mean	42	27	25	23
75th Percentile	43	28	27	23
Maximum	72	43	28	24

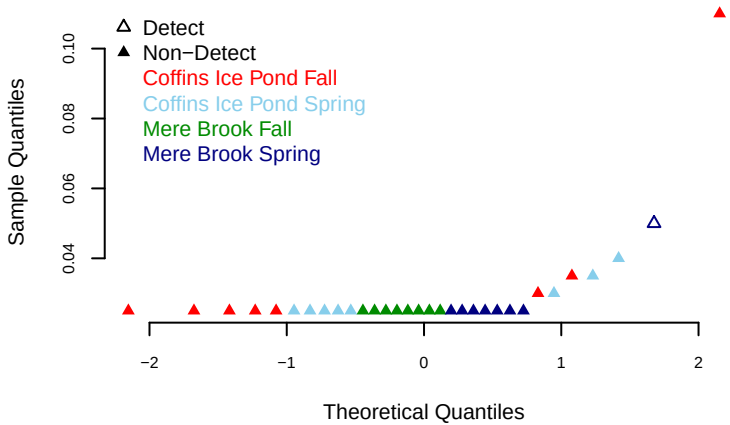
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

TOTAL CADMIUM

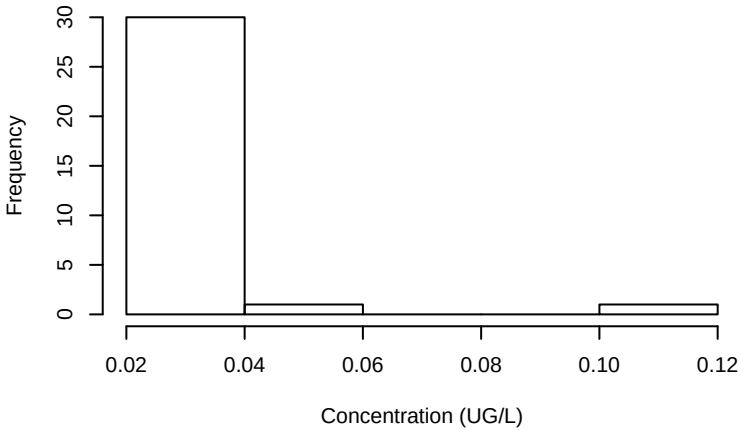
Box Plot



Normal Q−Q Plot



Histogram



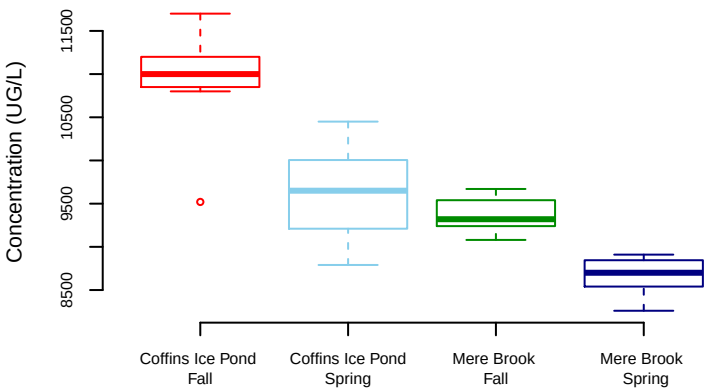
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	0.025	0.025	0.025	0.025
25th Percentile	0.025	0.025	0.025	0.025
Median	0.025	0.025	0.025	0.025
Mean	0.038	0.029	0.025	0.028
75th Percentile	0.031	0.031	0.025	0.025
Maximum	0.11	0.04	0.025	0.05

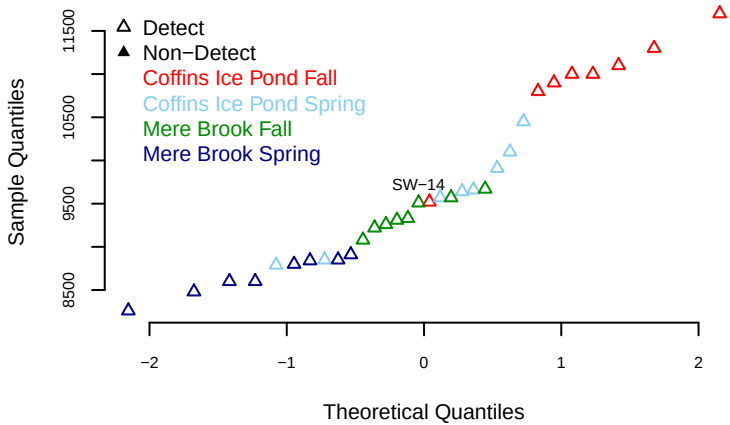
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

TOTAL CALCIUM

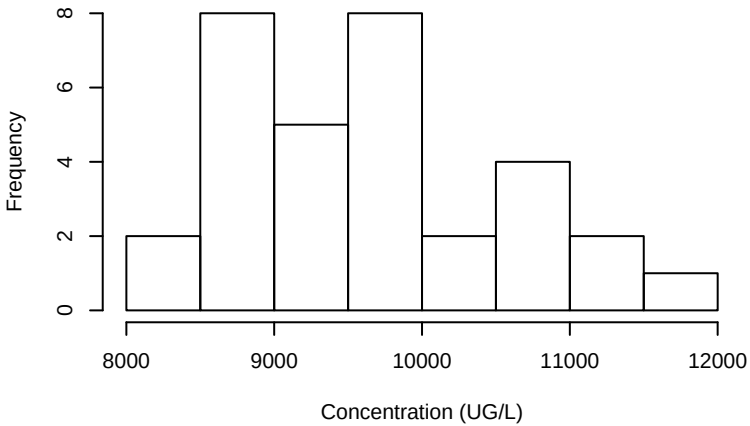
Box Plot



Normal Q−Q Plot



Histogram



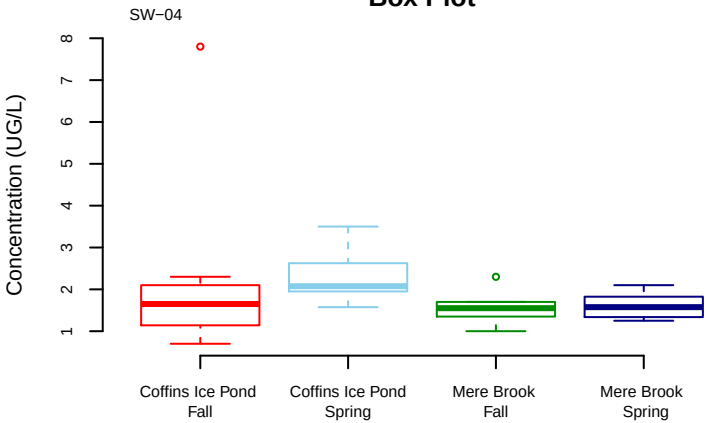
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	9500	8800	9100	8300
25th Percentile	11000	9400	9200	8600
Median	11000	9600	9300	8700
Mean	11000	9600	9400	8700
75th Percentile	11000	10000	9500	8800
Maximum	12000	10000	9700	8900

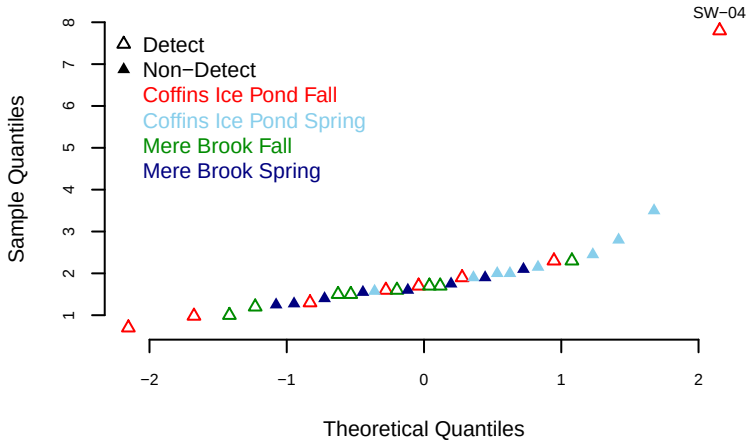
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

TOTAL CHROMIUM

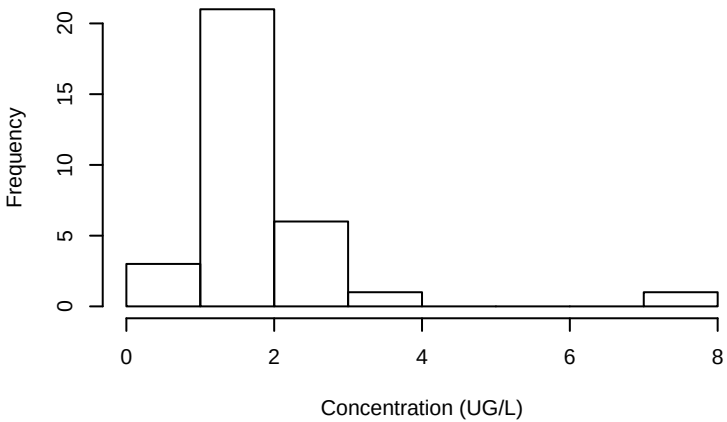
Box Plot



Normal Q−Q Plot



Histogram



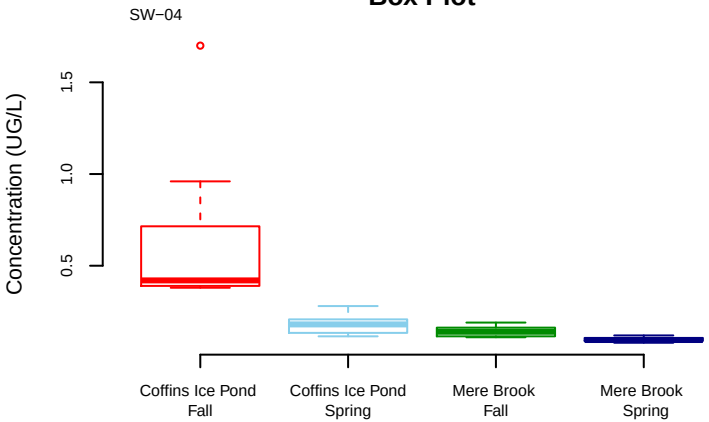
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	0.7	1.6	1	1.2
25th Percentile	1.2	2	1.4	1.4
Median	1.6	2.1	1.6	1.6
Mean	2.3	2.3	1.6	1.6
75th Percentile	2	2.5	1.7	1.8
Maximum	7.8	3.5	2.3	2.1

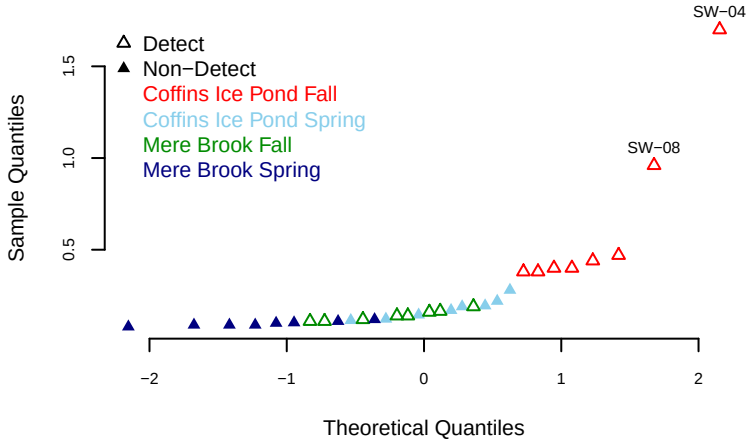
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

TOTAL COBALT

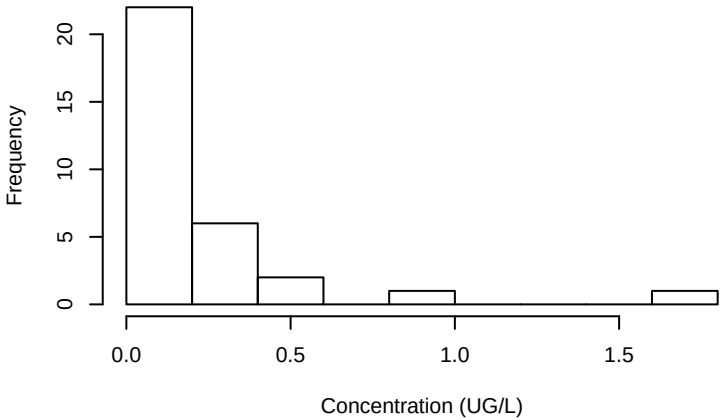
Box Plot



Normal Q−Q Plot



Histogram



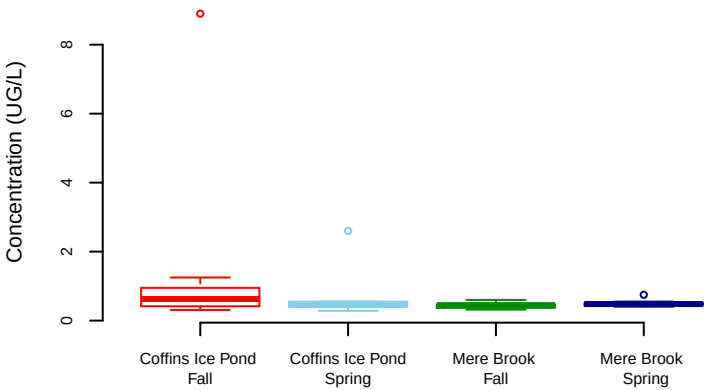
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	0.38	0.12	0.11	0.08
25th Percentile	0.4	0.14	0.12	0.09
Median	0.42	0.18	0.14	0.095
Mean	0.64	0.18	0.14	0.098
75th Percentile	0.59	0.2	0.16	0.1
Maximum	1.7	0.28	0.19	0.12

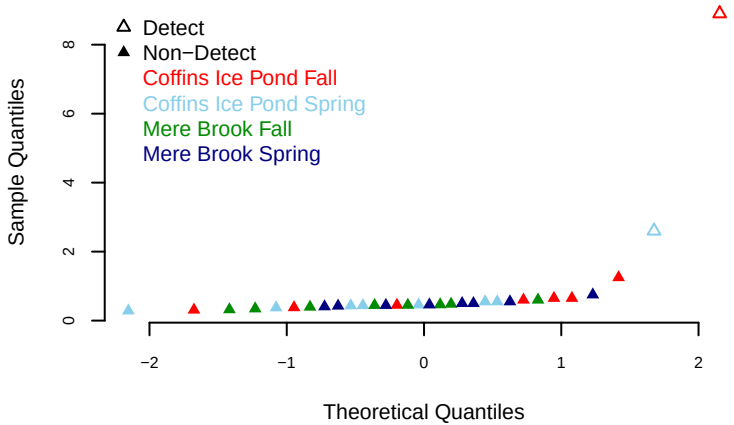
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

TOTAL COPPER

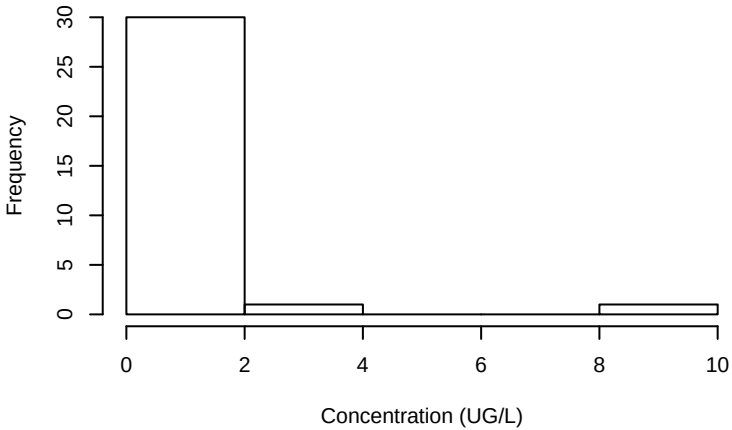
Box Plot



Normal Q−Q Plot



Histogram



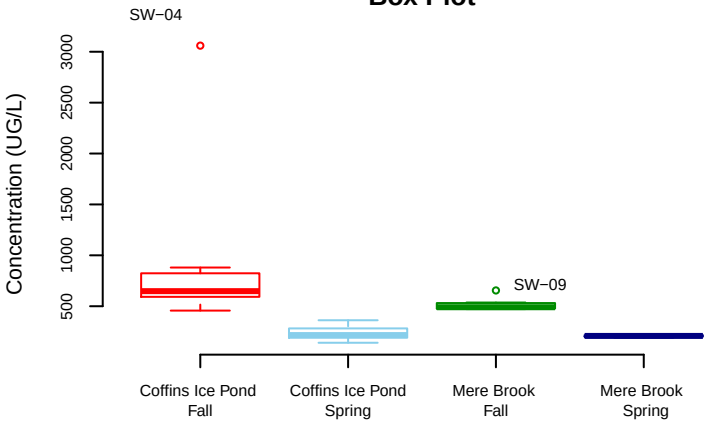
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	0.31	0.28	0.32	0.4
25th Percentile	0.43	0.42	0.38	0.44
Median	0.62	0.45	0.45	0.48
Mean	1.6	0.71	0.44	0.5
75th Percentile	0.8	0.55	0.47	0.51
Maximum	8.9	2.6	0.6	0.75

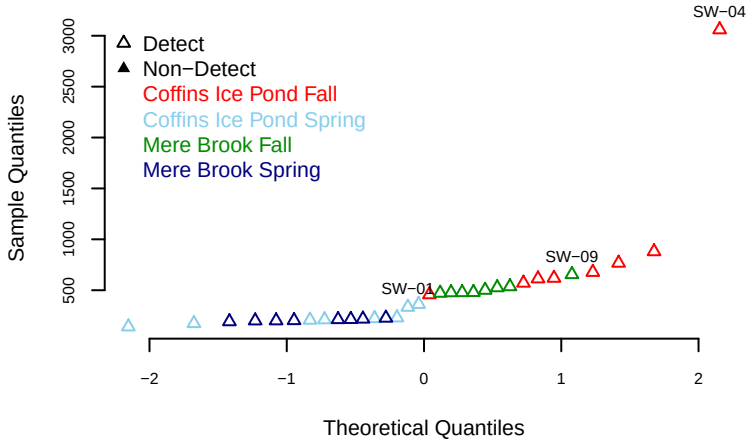
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

TOTAL IRON

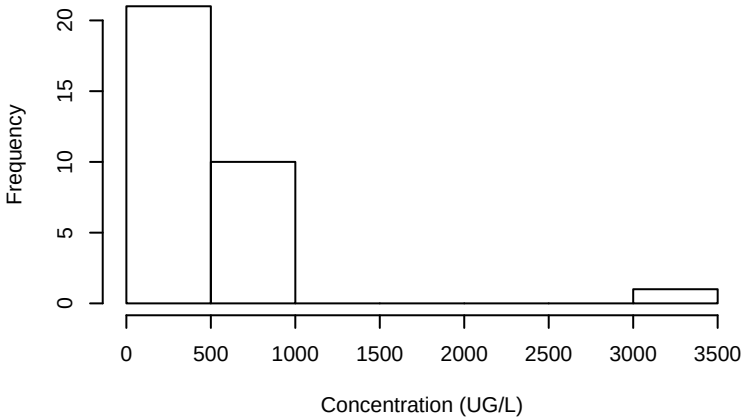
Box Plot



Normal Q−Q Plot



Histogram



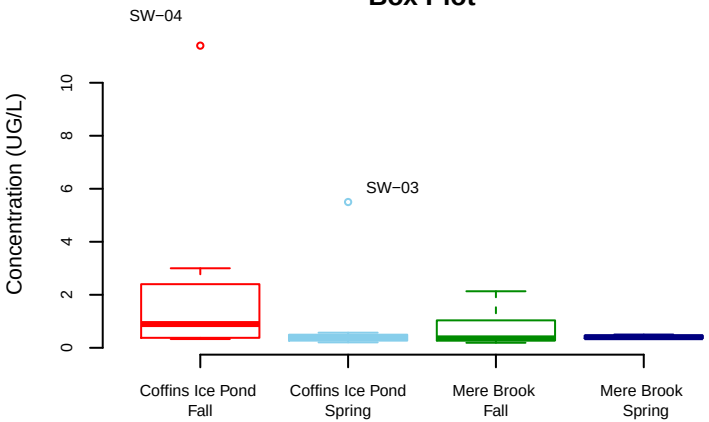
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	460	140	470	190
25th Percentile	600	200	480	200
Median	650	220	490	210
Mean	960	240	520	210
75th Percentile	800	260	530	220
Maximum	3100	360	660	230

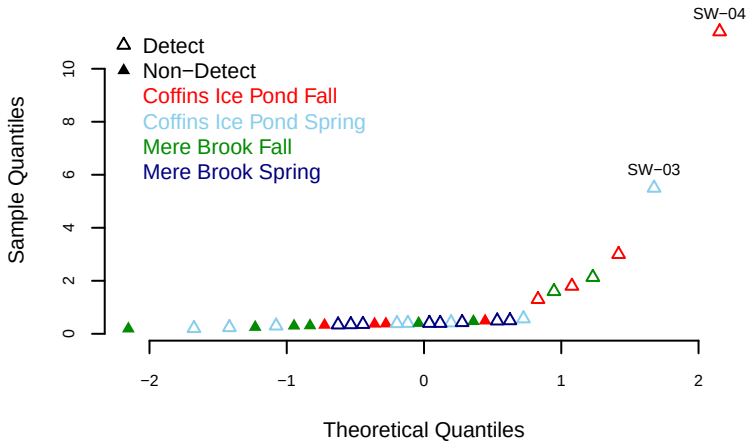
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

TOTAL LEAD

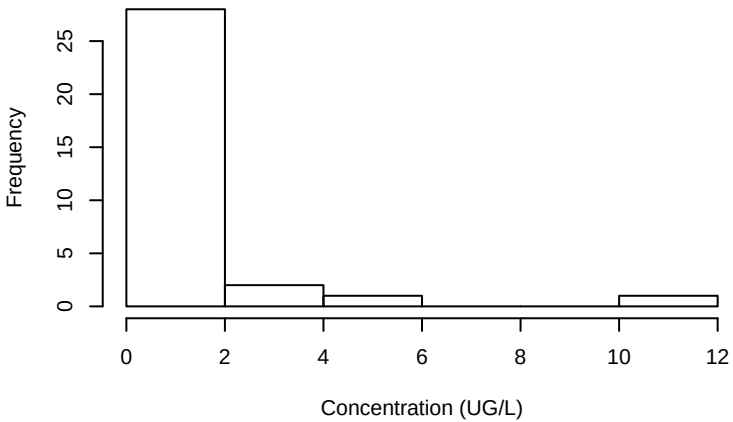
Box Plot



Normal Q−Q Plot



Histogram



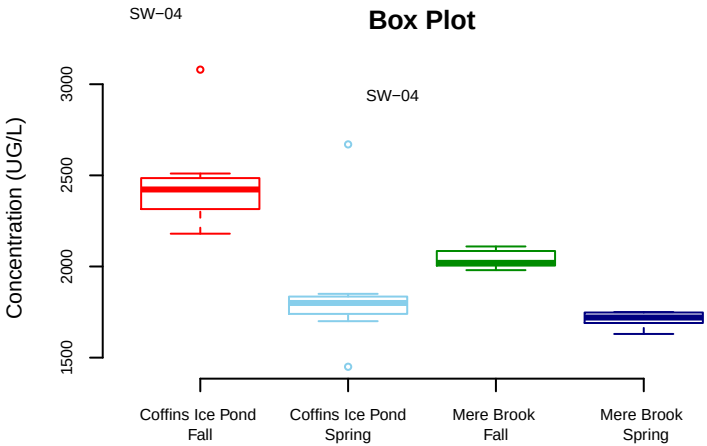
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	0.33	0.2	0.19	0.34
25th Percentile	0.38	0.28	0.29	0.36
Median	0.9	0.4	0.36	0.4
Mean	2.4	1	0.71	0.41
75th Percentile	2.1	0.46	0.75	0.44
Maximum	11	5.5	2.1	0.5

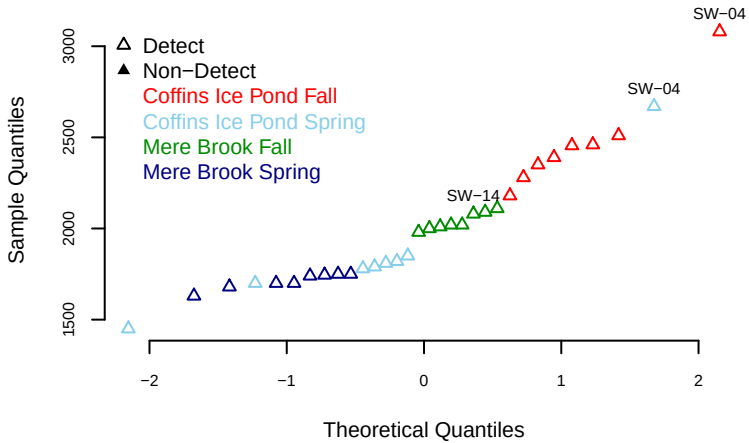
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

TOTAL MAGNESIUM

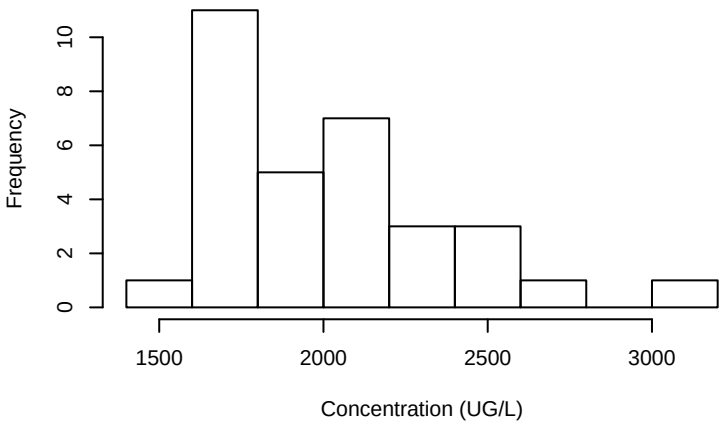
Box Plot



Normal Q−Q Plot



Histogram



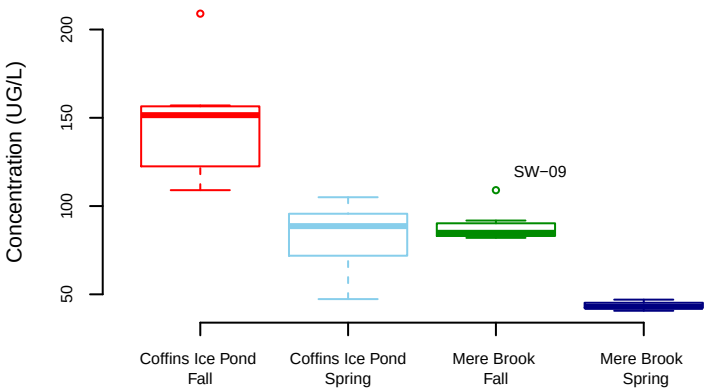
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	2200	1400	2000	1600
25th Percentile	2300	1800	2000	1700
Median	2400	1800	2000	1700
Mean	2500	1900	2000	1700
75th Percentile	2500	1800	2100	1700
Maximum	3100	2700	2100	1800

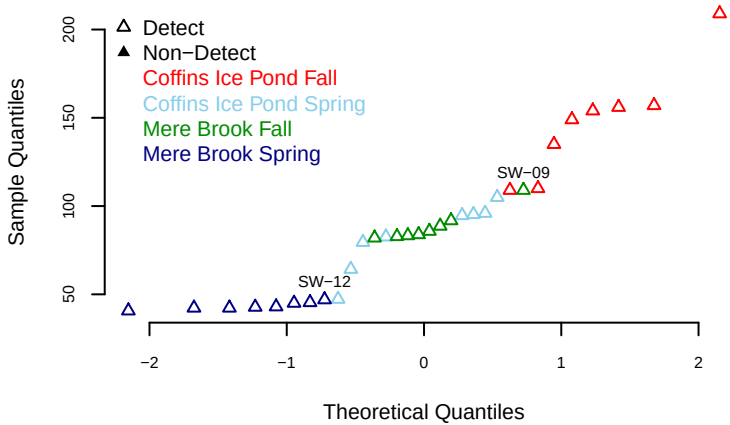
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

TOTAL MANGANESE

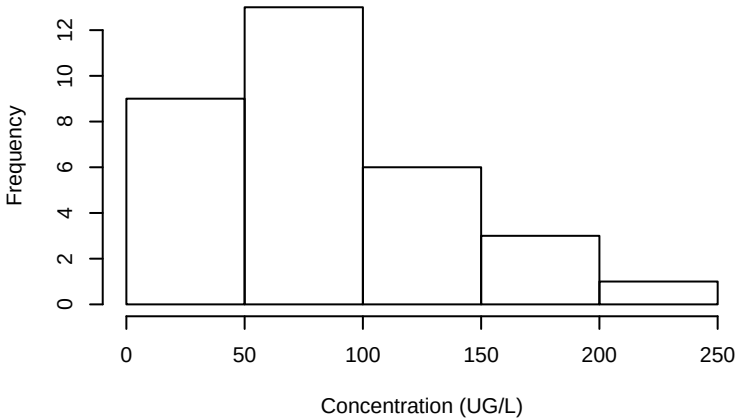
Box Plot



Normal Q−Q Plot



Histogram



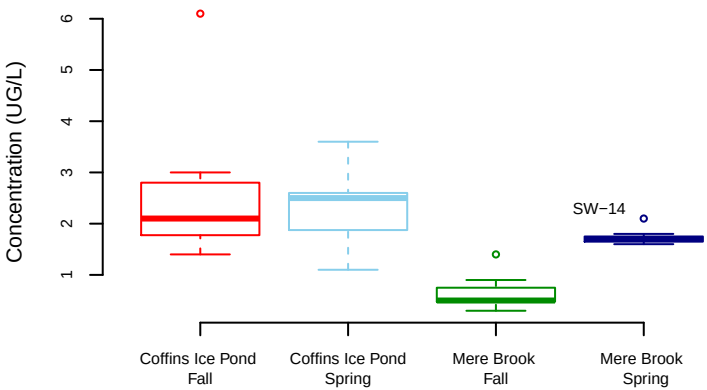
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	110	47	82	41
25th Percentile	130	76	83	42
Median	150	89	85	43
Mean	150	83	88	44
75th Percentile	160	95	89	45
Maximum	210	100	110	47

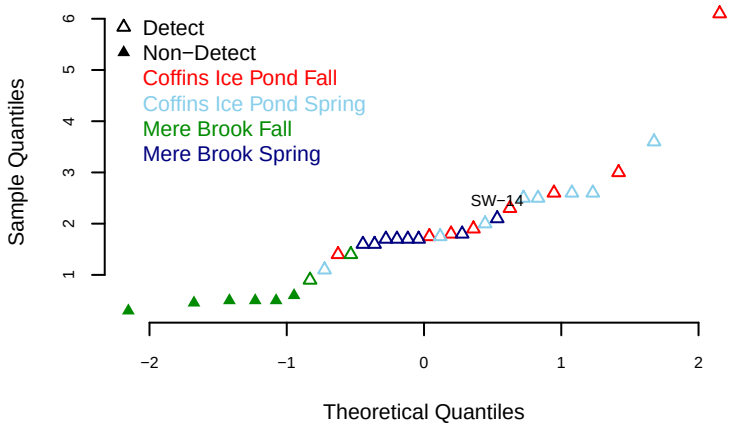
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

TOTAL NICKEL

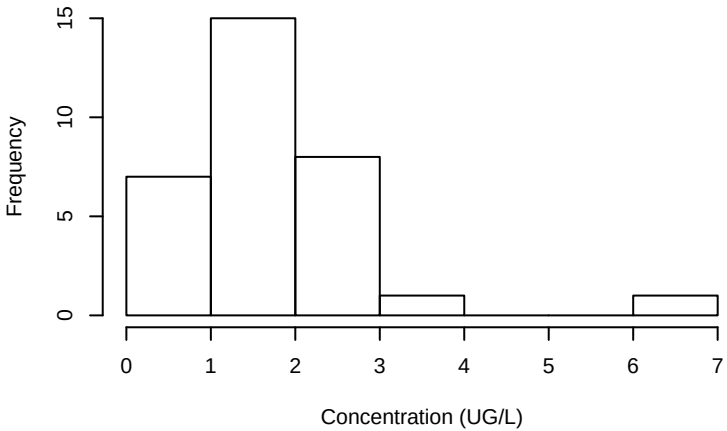
Box Plot



Normal Q−Q Plot



Histogram



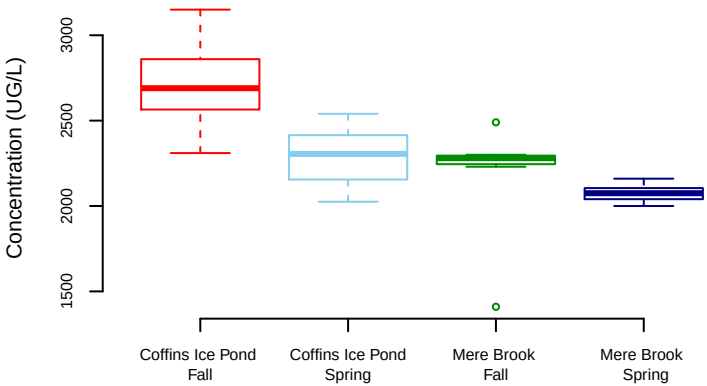
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	1.4	1.1	0.3	1.6
25th Percentile	1.8	1.9	0.49	1.7
Median	2.1	2.5	0.5	1.7
Mean	2.6	2.3	0.64	1.7
75th Percentile	2.7	2.6	0.68	1.7
Maximum	6.1	3.6	1.4	2.1

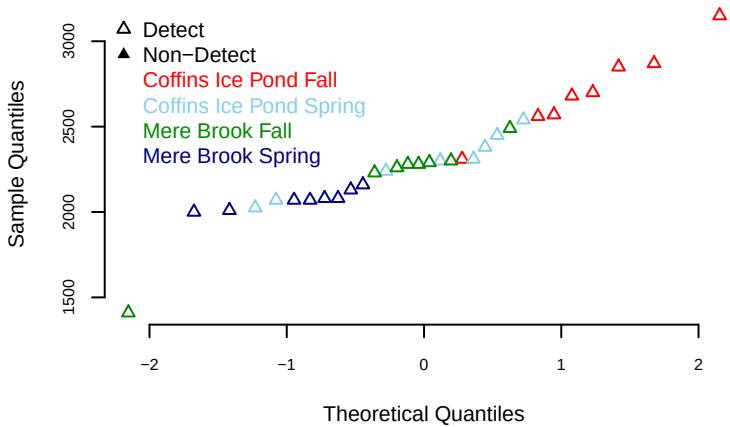
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

TOTAL POTASSIUM

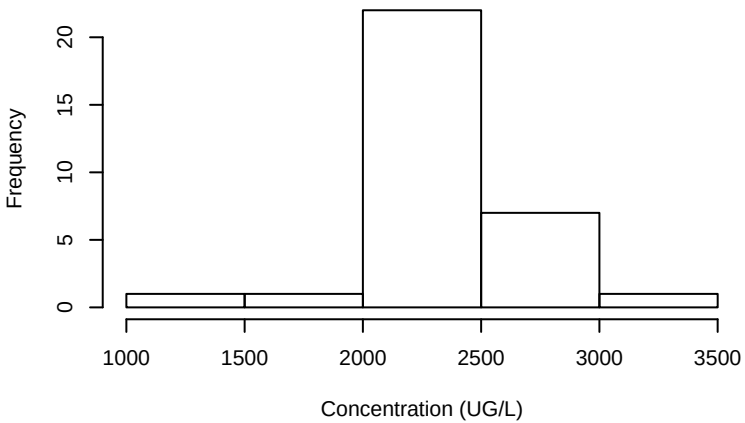
Box Plot



Normal Q−Q Plot



Histogram



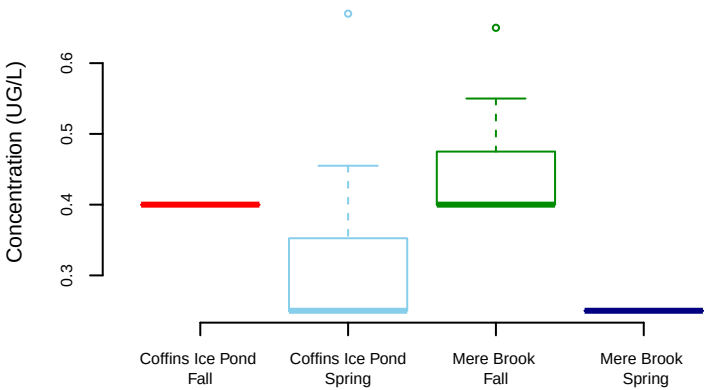
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	2300	2000	1400	2000
25th Percentile	2600	2200	2300	2100
Median	2700	2300	2300	2100
Mean	2700	2300	2200	2100
75th Percentile	2900	2400	2300	2100
Maximum	3200	2500	2500	2200

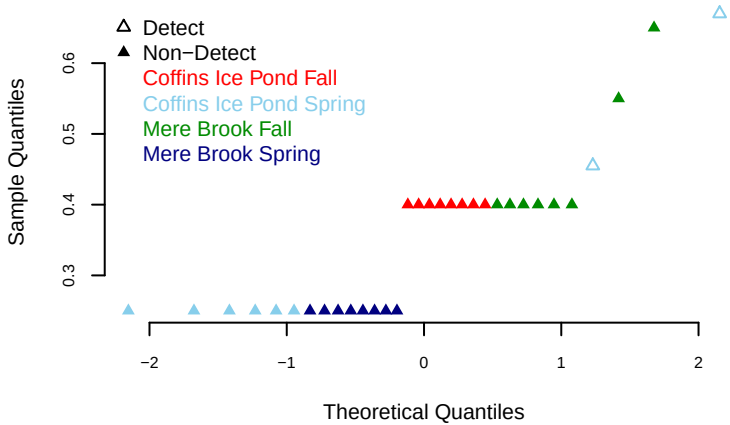
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

TOTAL SELENIUM

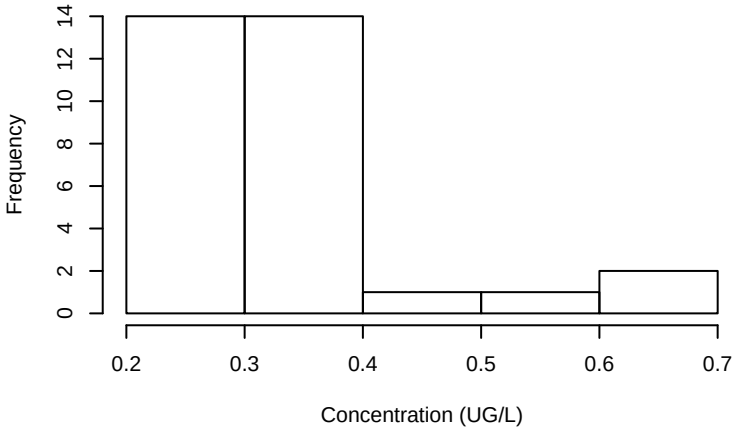
Box Plot



Normal Q−Q Plot



Histogram



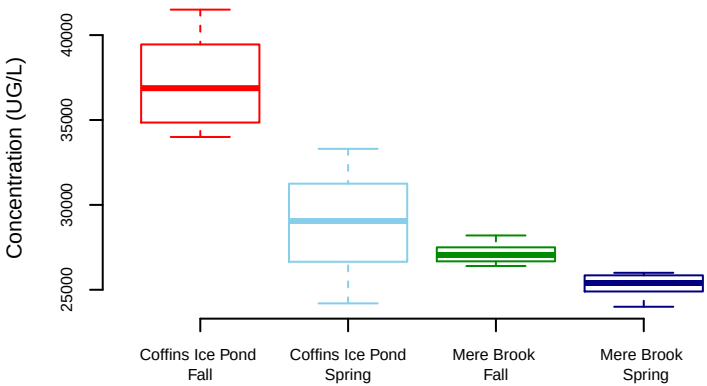
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	0.4	0.25	0.4	0.25
25th Percentile	0.4	0.25	0.4	0.25
Median	0.4	0.25	0.4	0.25
Mean	0.4	0.33	0.45	0.25
75th Percentile	0.4	0.3	0.44	0.25
Maximum	0.4	0.67	0.65	0.25

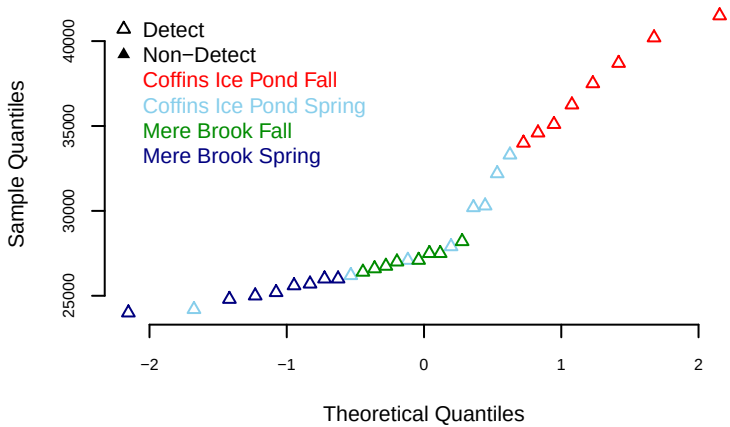
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

TOTAL SODIUM

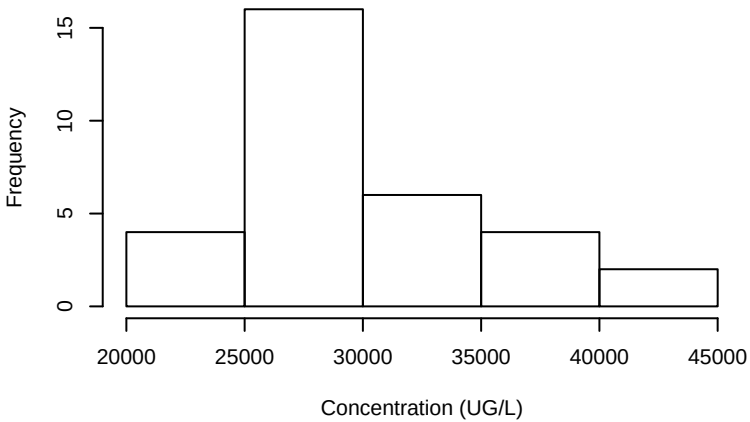
Box Plot



Normal Q−Q Plot



Histogram



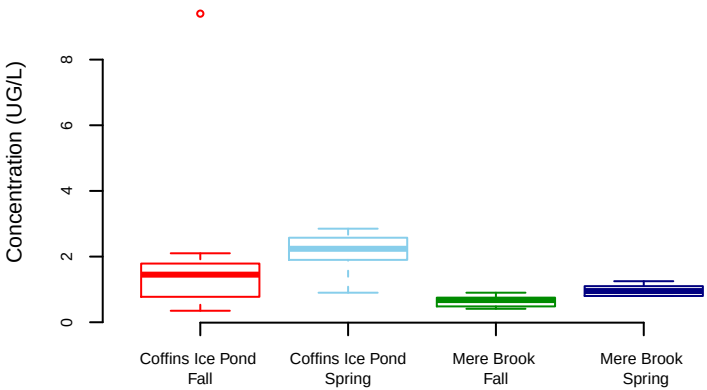
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	34000	24000	26000	24000
25th Percentile	35000	27000	27000	25000
Median	37000	29000	27000	25000
Mean	37000	29000	27000	25000
75th Percentile	39000	31000	28000	26000
Maximum	42000	33000	28000	26000

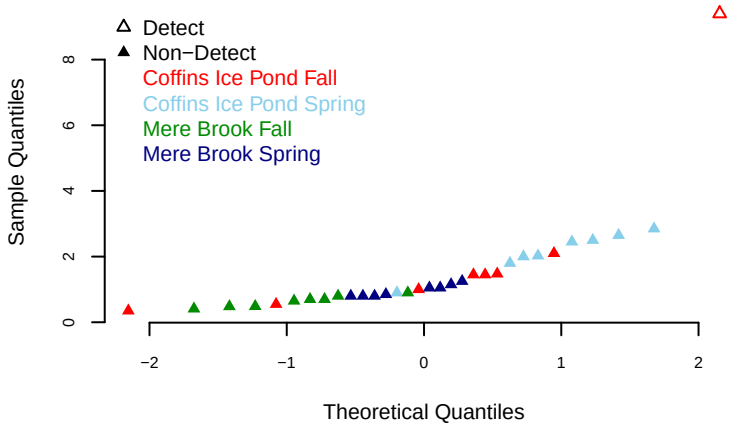
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

TOTAL VANADIUM

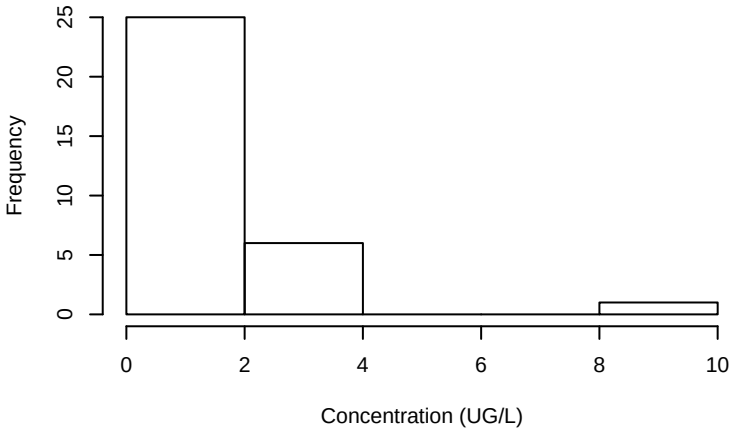
Box Plot



Normal Q−Q Plot



Histogram



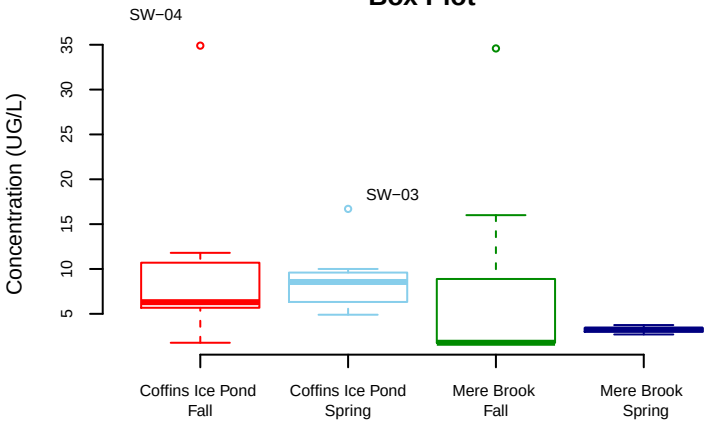
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	0.35	0.9	0.41	0.8
25th Percentile	0.89	2	0.48	0.8
Median	1.4	2.2	0.68	0.95
Mean	2.2	2.1	0.64	0.97
75th Percentile	1.6	2.5	0.72	1.1
Maximum	9.4	2.8	0.9	1.2

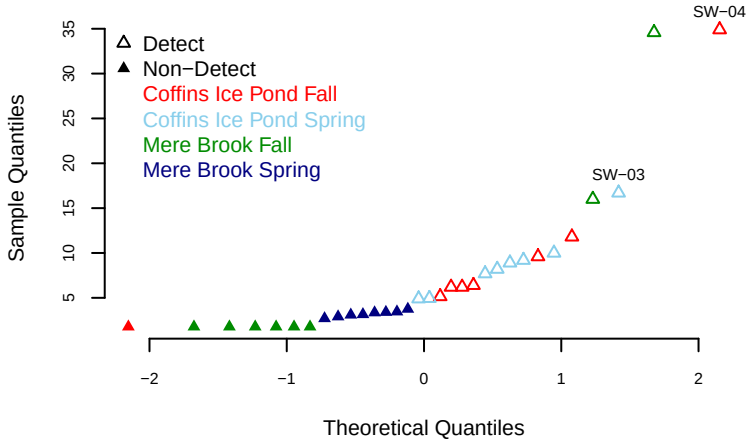
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

TOTAL ZINC

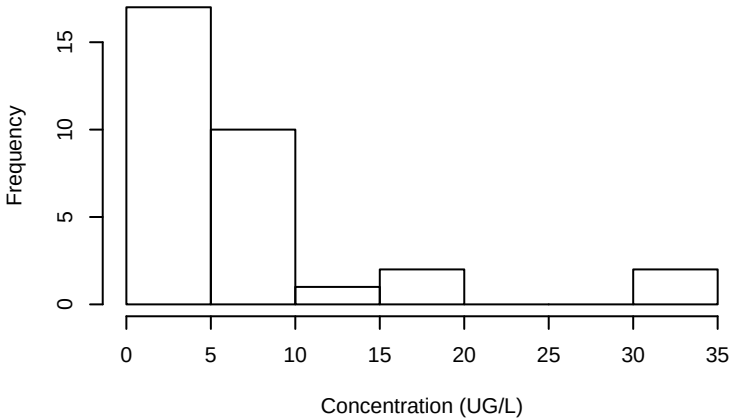
Box Plot



Normal Q−Q Plot



Histogram



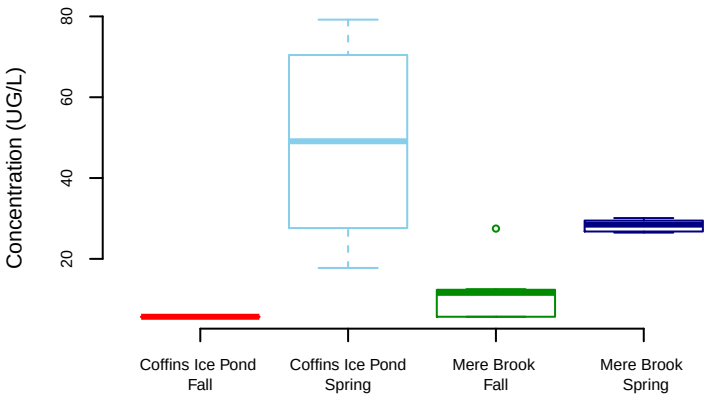
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	1.8	4.9	1.8	2.7
25th Percentile	5.9	7	1.8	3
Median	6.3	8.6	1.8	3.2
Mean	10	8.8	7.7	3.2
75th Percentile	10	9.4	5.3	3.4
Maximum	35	17	35	3.8

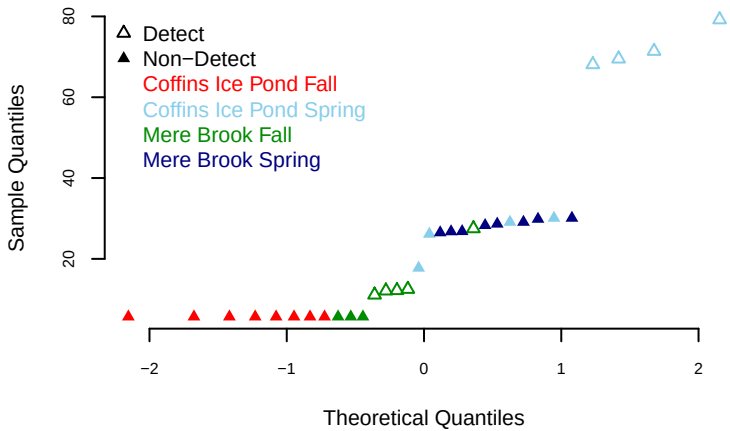
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

DISSOLVED ALUMINUM

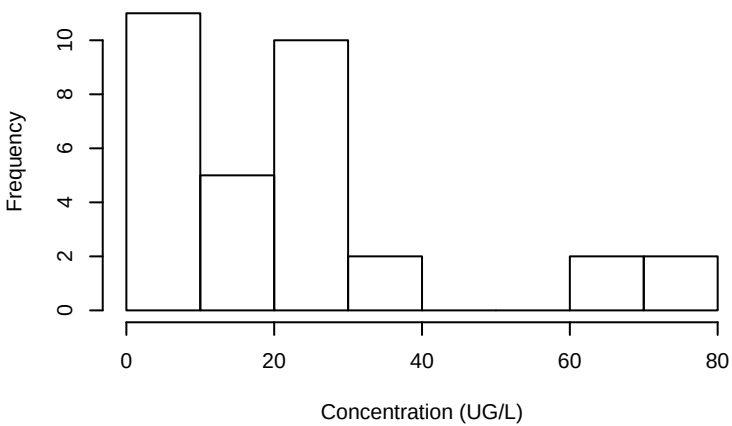
Box Plot



Normal Q−Q Plot



Histogram



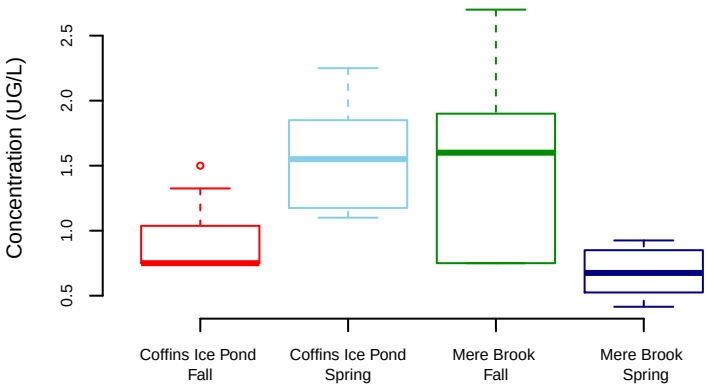
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	5.7	18	5.7	26
25th Percentile	5.7	28	5.7	27
Median	5.7	49	12	28
Mean	5.7	49	12	28
75th Percentile	5.7	70	12	29
Maximum	5.7	79	28	30

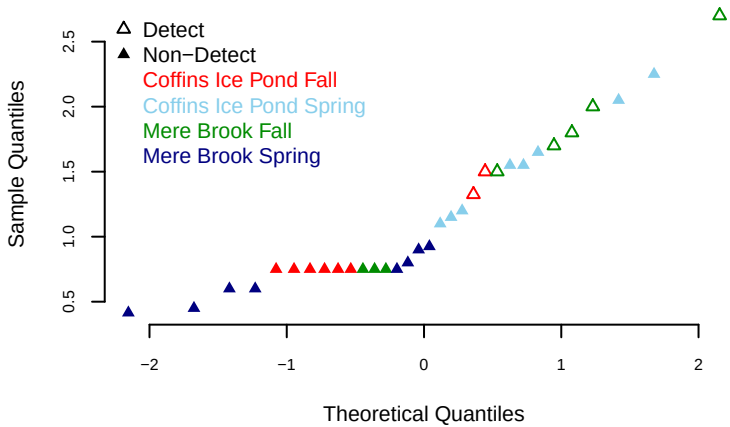
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

DISSOLVED ARSENIC

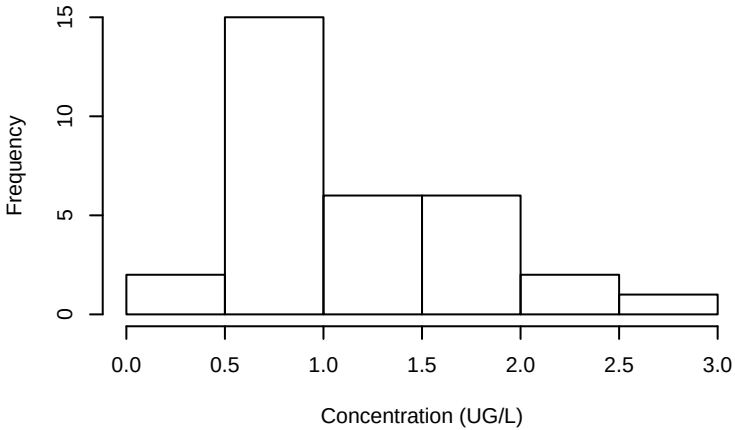
Box Plot



Normal Q−Q Plot



Histogram



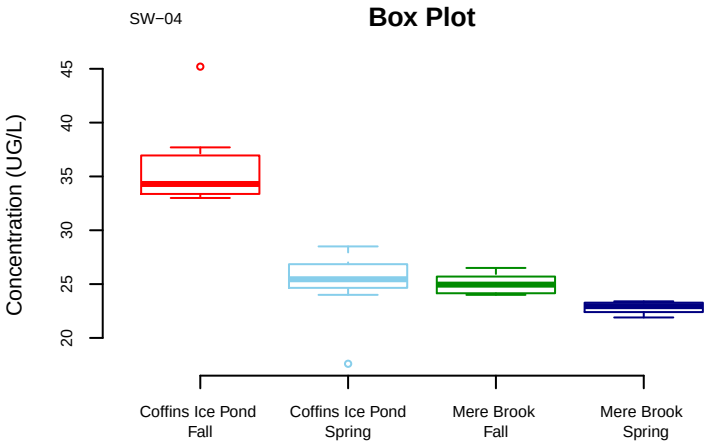
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	0.75	1.1	0.75	0.42
25th Percentile	0.75	1.2	0.75	0.56
Median	0.75	1.6	1.6	0.68
Mean	0.92	1.6	1.5	0.68
75th Percentile	0.89	1.8	1.8	0.82
Maximum	1.5	2.2	2.7	0.92

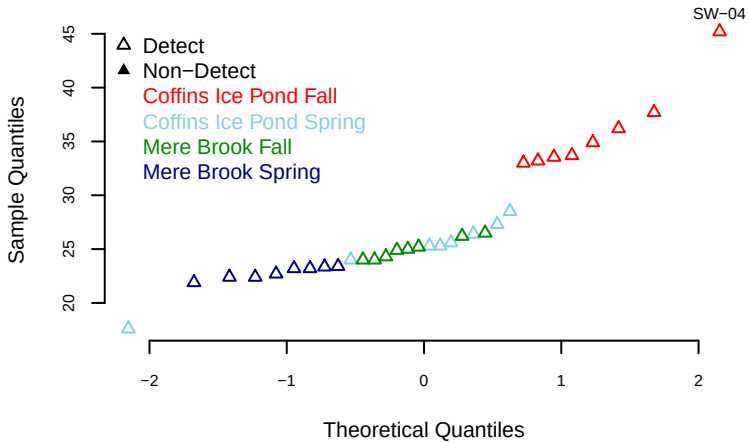
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

DISSOLVED BARIUM

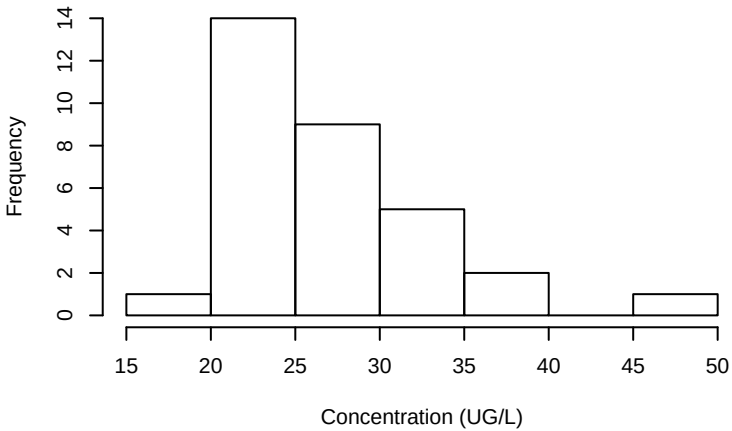
Box Plot



Normal Q−Q Plot



Histogram



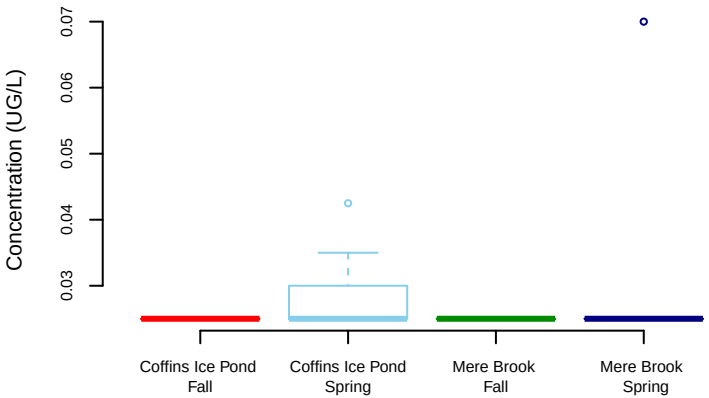
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	33	18	24	22
25th Percentile	33	25	24	22
Median	34	25	25	23
Mean	36	25	25	23
75th Percentile	37	27	25	23
Maximum	45	28	26	23

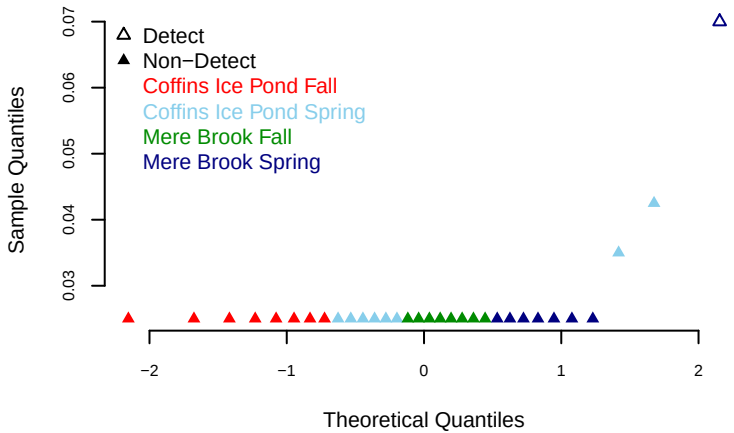
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

DISSOLVED CADMIUM

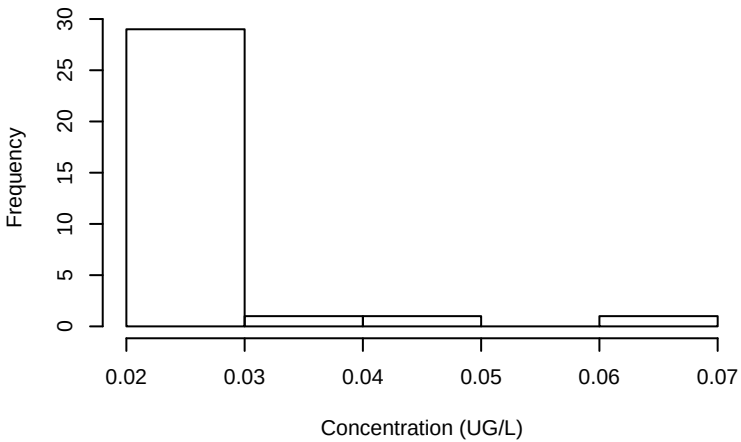
Box Plot



Normal Q−Q Plot



Histogram



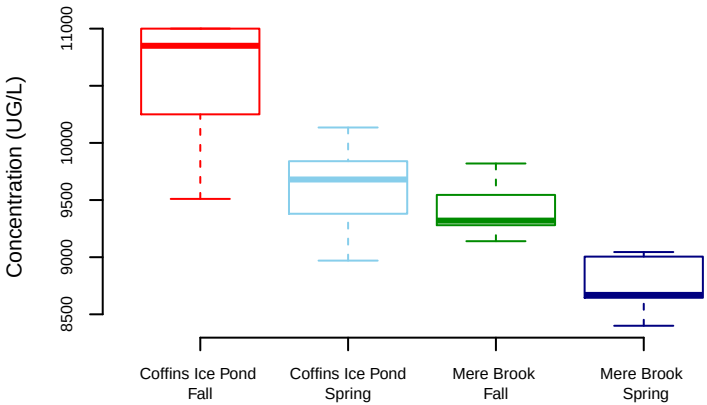
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	0.025	0.025	0.025	0.025
25th Percentile	0.025	0.025	0.025	0.025
Median	0.025	0.025	0.025	0.025
Mean	0.025	0.028	0.025	0.031
75th Percentile	0.025	0.028	0.025	0.025
Maximum	0.025	0.042	0.025	0.07

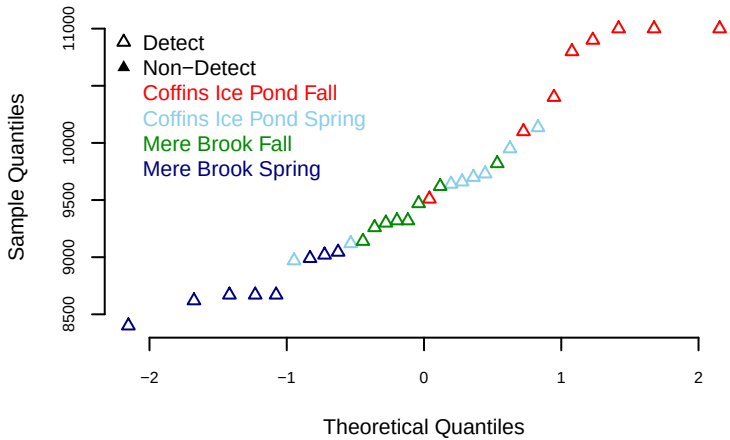
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

DISSOLVED CALCIUM

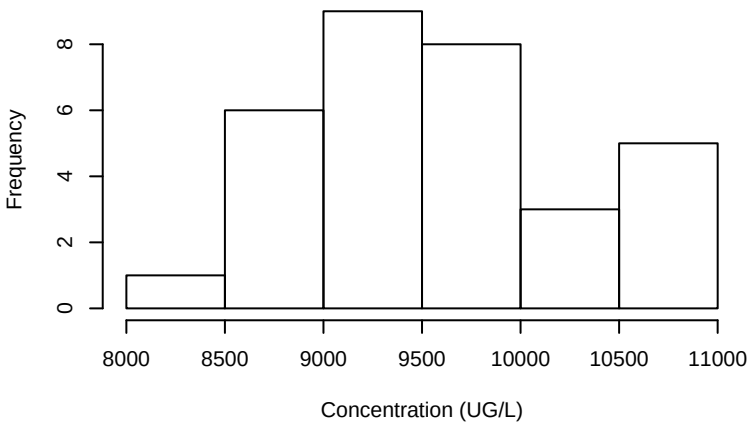
Box Plot



Normal Q−Q Plot



Histogram



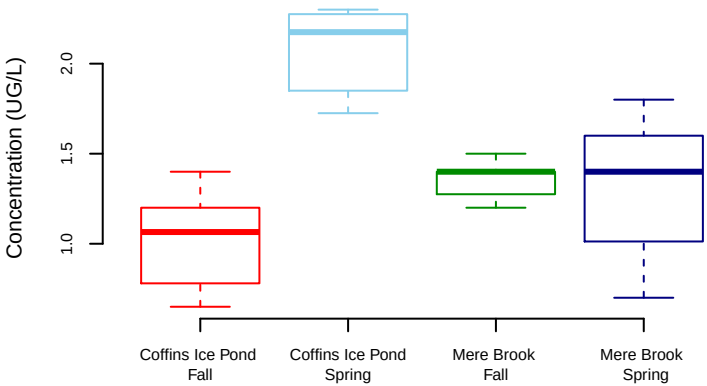
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	9500	9000	9100	8400
25th Percentile	10000	9500	9300	8700
Median	11000	9700	9300	8700
Mean	11000	9600	9400	8800
75th Percentile	11000	9800	9500	9000
Maximum	11000	10000	9800	9000

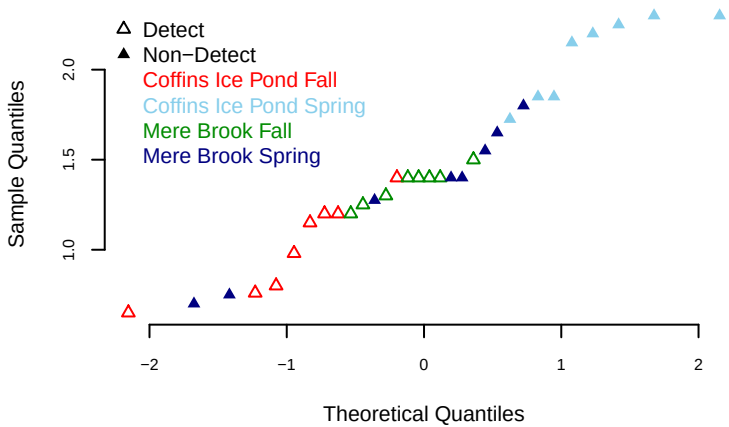
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

DISSOLVED CHROMIUM

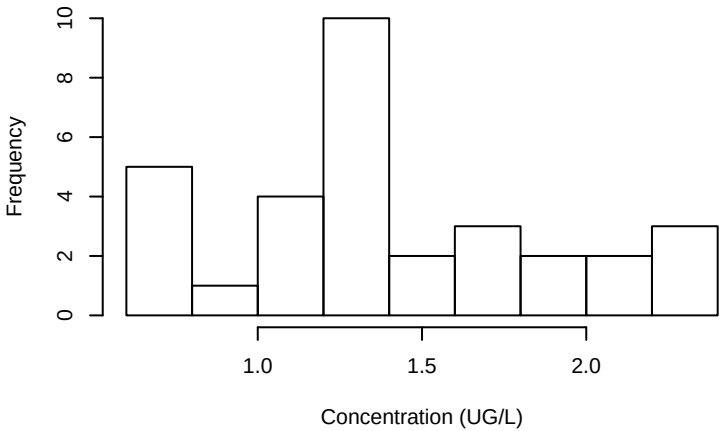
Box Plot



Normal Q−Q Plot



Histogram



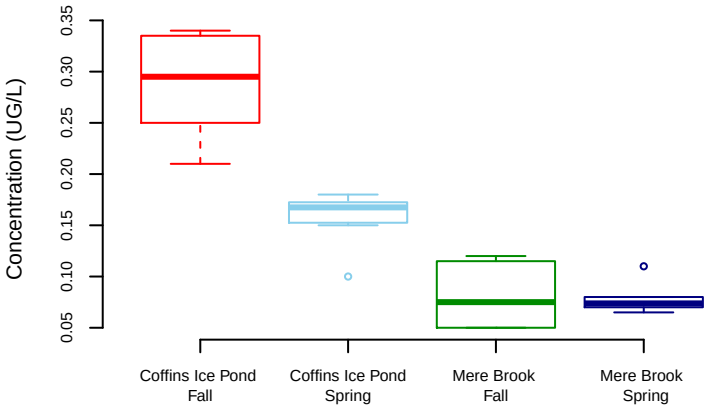
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	0.65	1.7	1.2	0.7
25th Percentile	0.79	1.8	1.3	1.1
Median	1.1	2.2	1.4	1.4
Mean	1	2.1	1.4	1.3
75th Percentile	1.2	2.3	1.4	1.6
Maximum	1.4	2.3	1.5	1.8

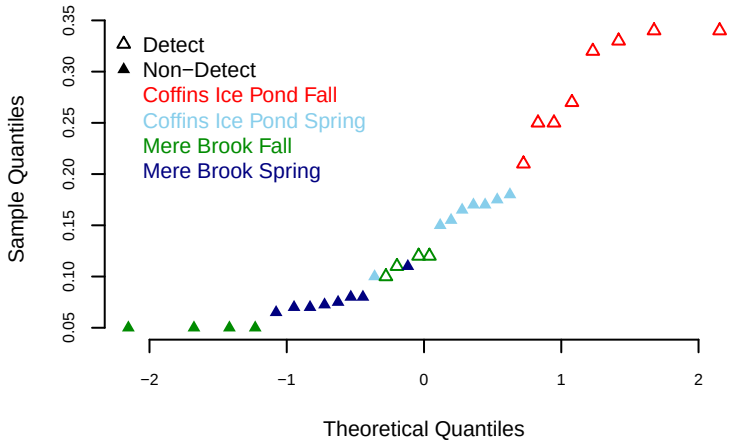
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

DISSOLVED COBALT

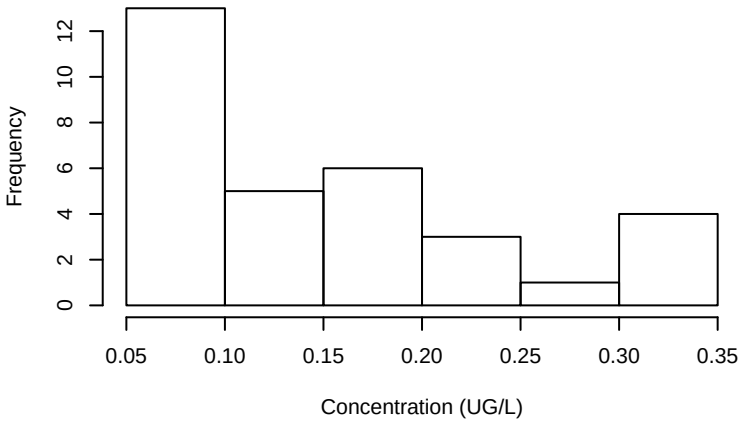
Box Plot



Normal Q−Q Plot



Histogram



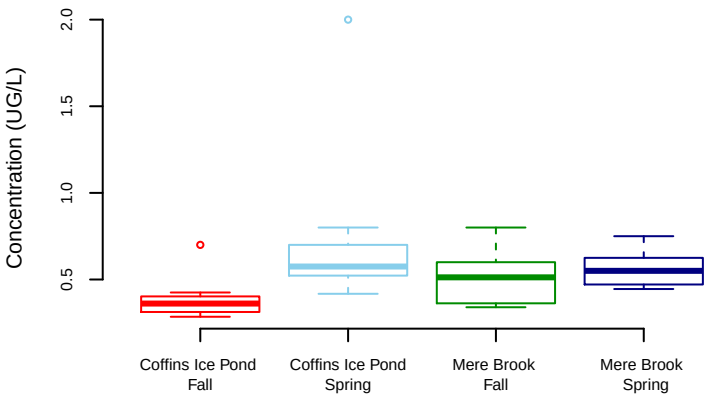
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	0.21	0.1	0.05	0.065
25th Percentile	0.25	0.15	0.05	0.07
Median	0.3	0.17	0.075	0.074
Mean	0.29	0.16	0.081	0.078
75th Percentile	0.33	0.17	0.11	0.08
Maximum	0.34	0.18	0.12	0.11

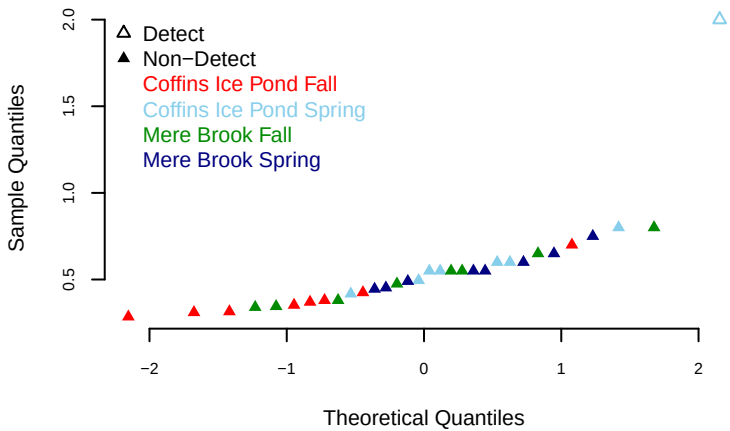
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

DISSOLVED COPPER

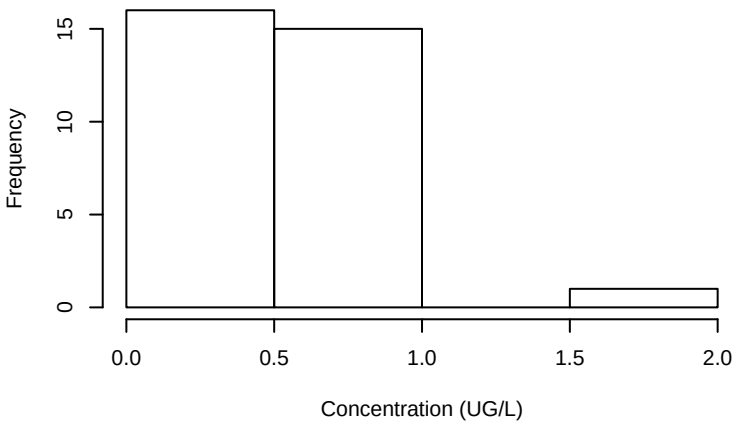
Box Plot



Normal Q−Q Plot



Histogram



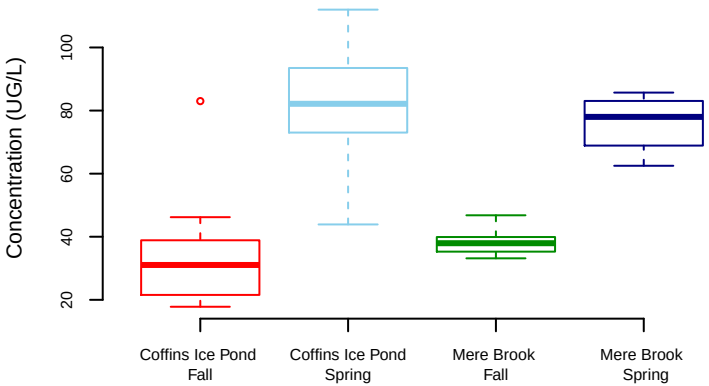
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	0.28	0.42	0.34	0.44
25th Percentile	0.31	0.54	0.37	0.48
Median	0.36	0.57	0.51	0.55
Mean	0.39	0.75	0.51	0.56
75th Percentile	0.39	0.65	0.57	0.61
Maximum	0.7	2	0.8	0.75

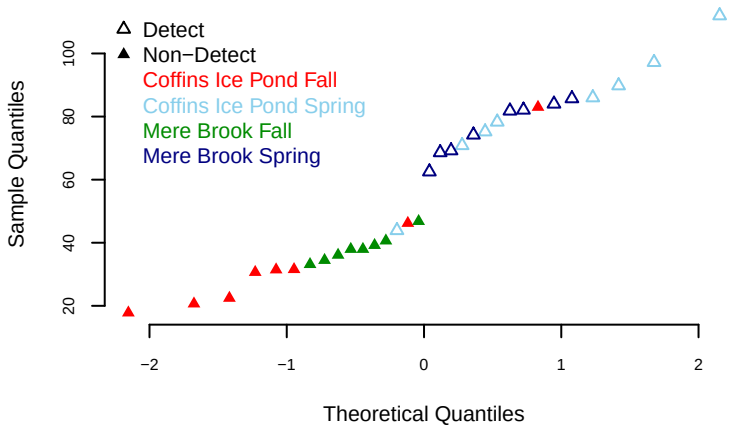
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

DISSOLVED IRON

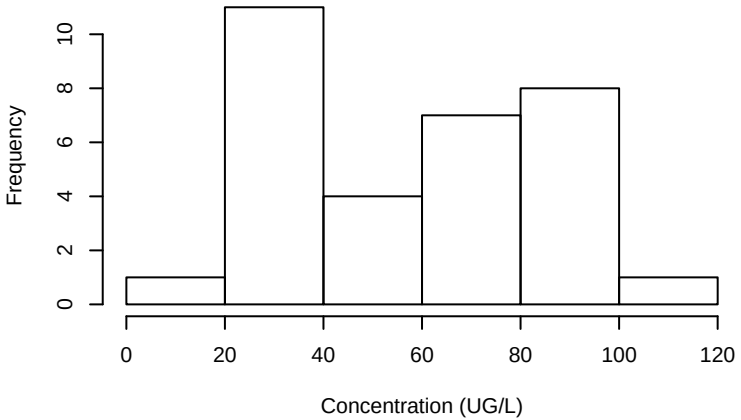
Box Plot



Normal Q−Q Plot



Histogram



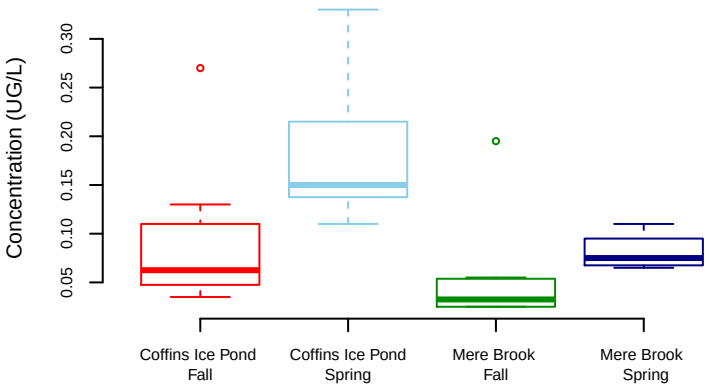
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	18	44	33	62
25th Percentile	22	74	36	69
Median	31	82	38	78
Mean	35	82	38	76
75th Percentile	35	92	40	83
Maximum	83	110	47	86

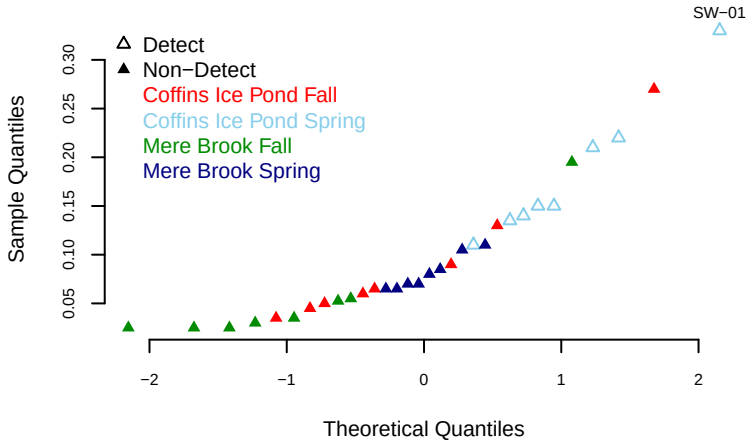
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

DISSOLVED LEAD

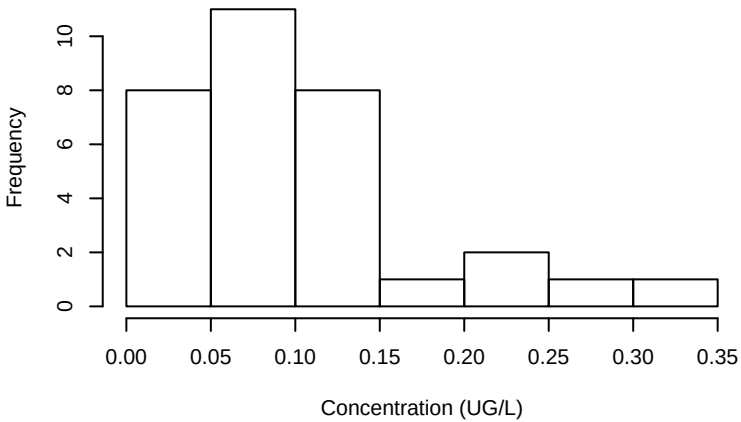
Box Plot



Normal Q−Q Plot



Histogram



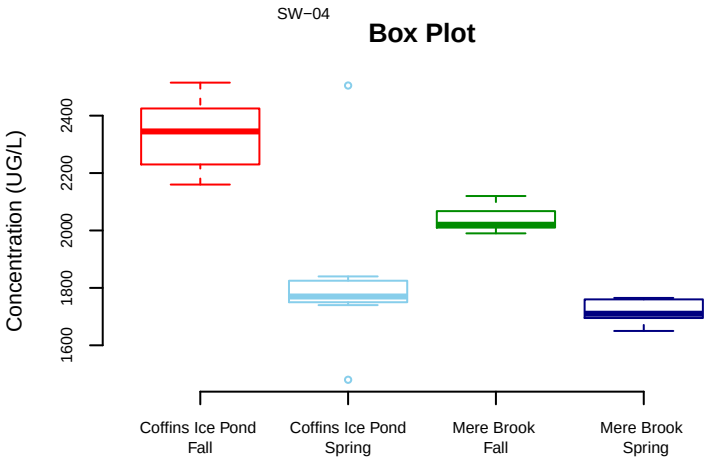
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	0.035	0.11	0.025	0.065
25th Percentile	0.049	0.14	0.025	0.069
Median	0.062	0.15	0.032	0.075
Mean	0.093	0.18	0.055	0.081
75th Percentile	0.1	0.21	0.053	0.09
Maximum	0.27	0.33	0.2	0.11

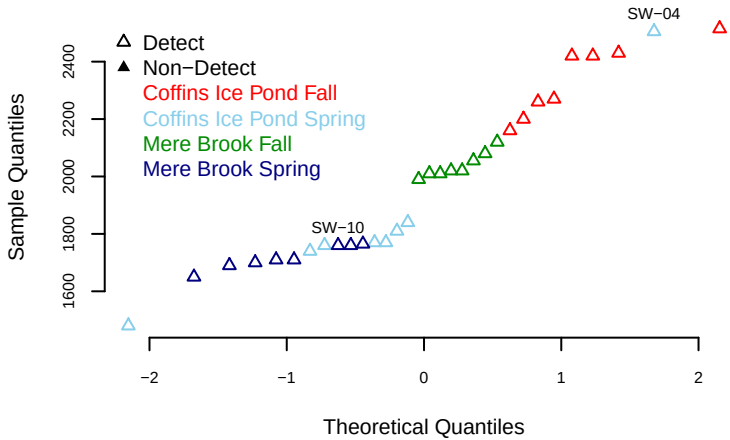
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

DISSOLVED MAGNESIUM

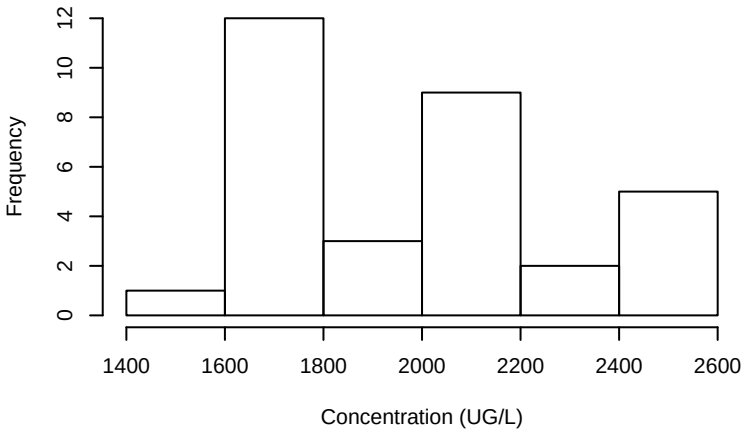
Box Plot



Normal Q−Q Plot



Histogram



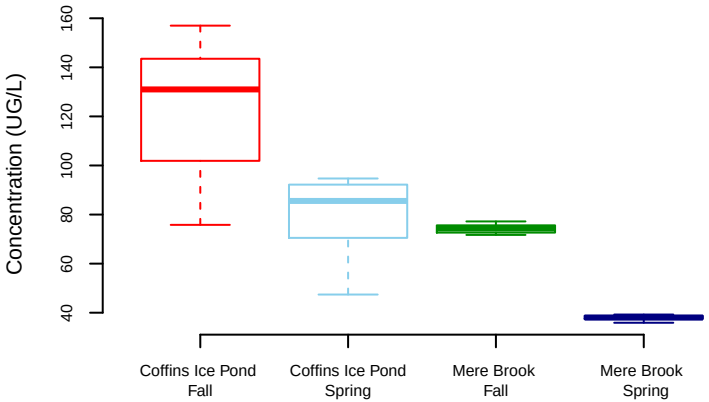
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	2200	1500	2000	1600
25th Percentile	2200	1800	2000	1700
Median	2300	1800	2000	1700
Mean	2300	1800	2000	1700
75th Percentile	2400	1800	2100	1800
Maximum	2500	2500	2100	1800

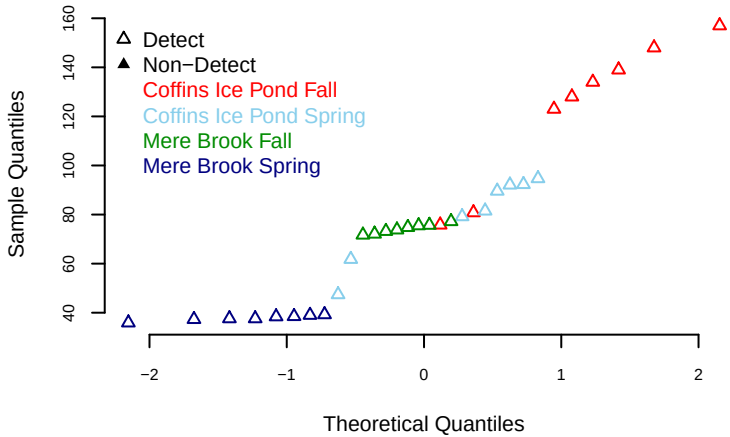
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

DISSOLVED MANGANESE

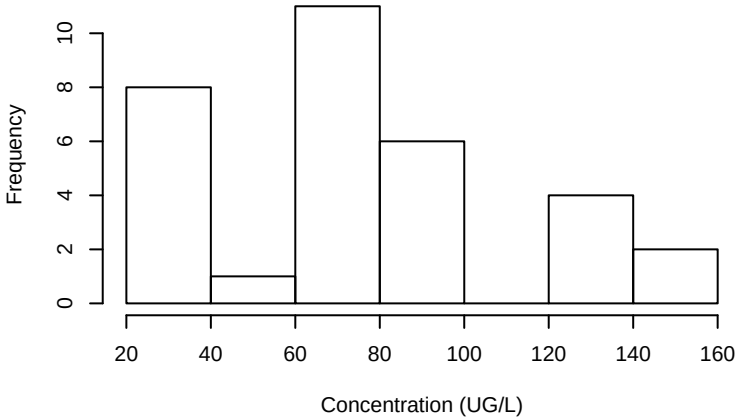
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	76	47	72	36
25th Percentile	110	75	73	38
Median	130	86	74	38
Mean	120	80	74	38
75th Percentile	140	92	76	39
Maximum	160	95	77	39

CP F = Coffins Ice Pond Fall

CP S = Coffins Ice Pond Spring

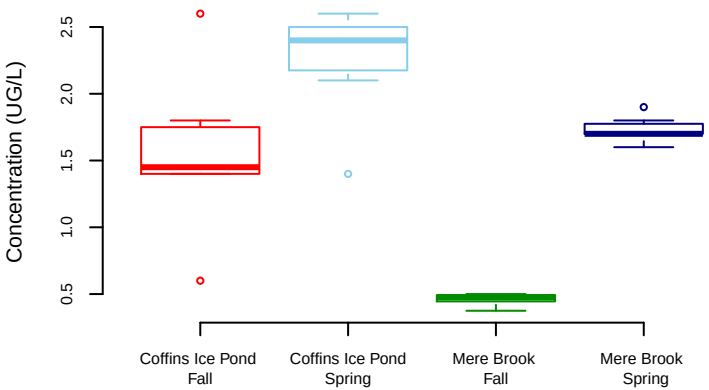
MB F = Mere Brook Fall

MB S = Mere Brook Spring

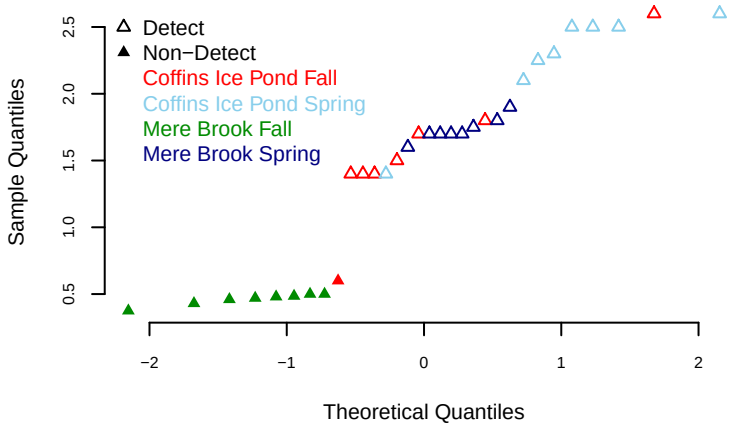
Summary statistics presented using two significant figures

DISSOLVED NICKEL

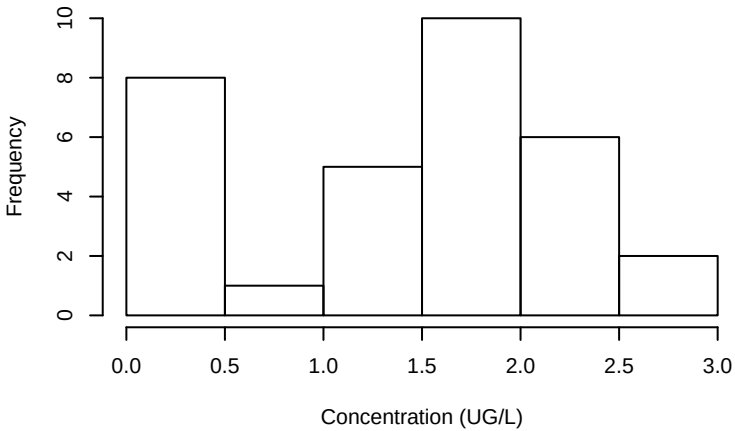
Box Plot



Normal Q−Q Plot



Histogram



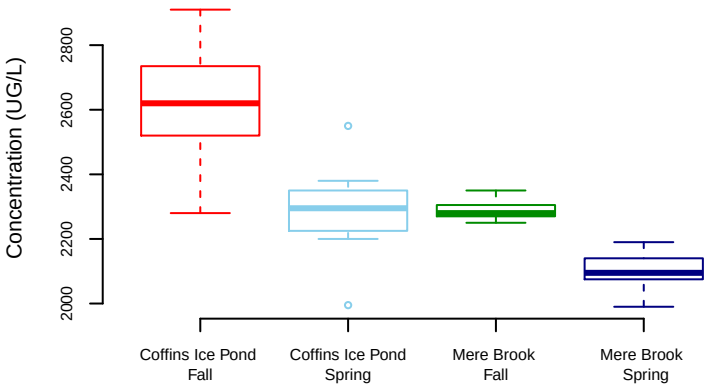
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	0.6	1.4	0.38	1.6
25th Percentile	1.4	2.2	0.45	1.7
Median	1.4	2.4	0.48	1.7
Mean	1.6	2.3	0.46	1.7
75th Percentile	1.7	2.5	0.49	1.8
Maximum	2.6	2.6	0.5	1.9

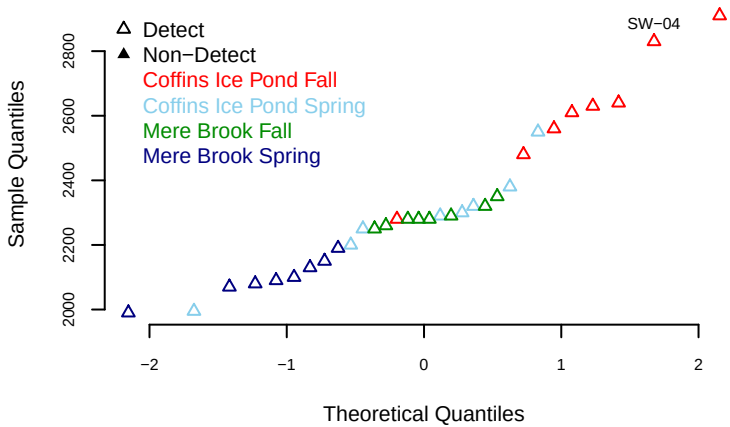
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

DISSOLVED POTASSIUM

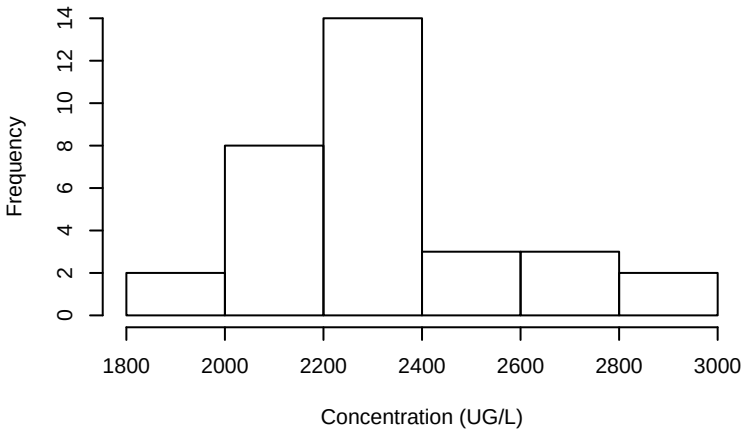
Box Plot



Normal Q−Q Plot



Histogram



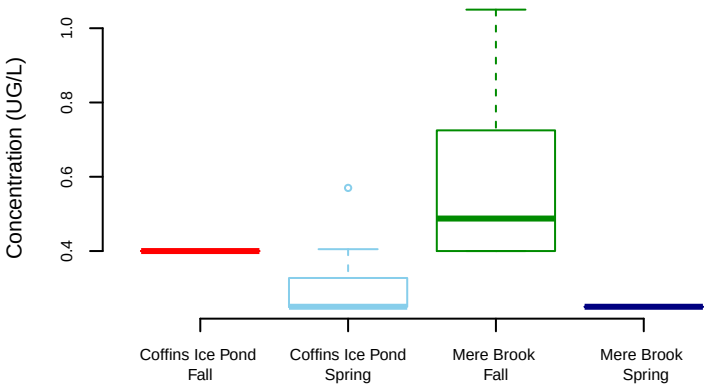
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	2300	2000	2200	2000
25th Percentile	2500	2200	2300	2100
Median	2600	2300	2300	2100
Mean	2600	2300	2300	2100
75th Percentile	2700	2300	2300	2100
Maximum	2900	2600	2400	2200

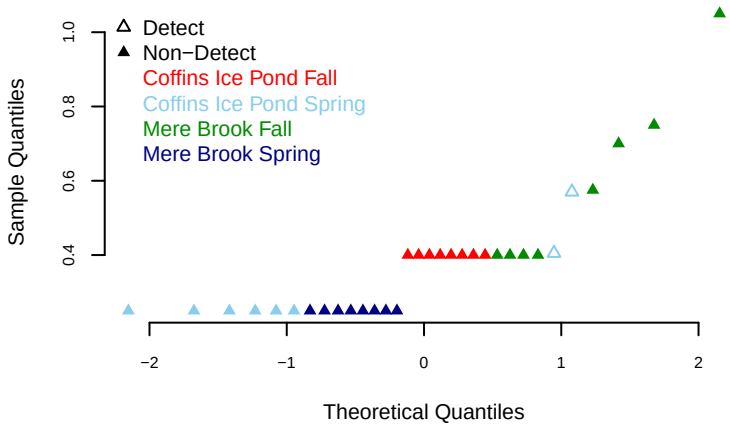
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

DISSOLVED SELENIUM

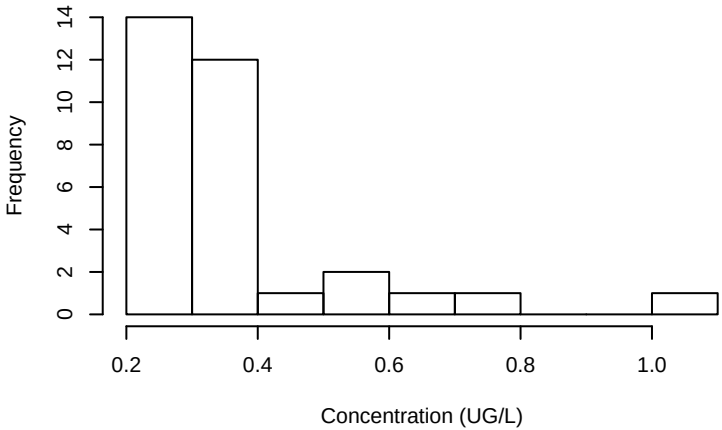
Box Plot



Normal Q−Q Plot



Histogram



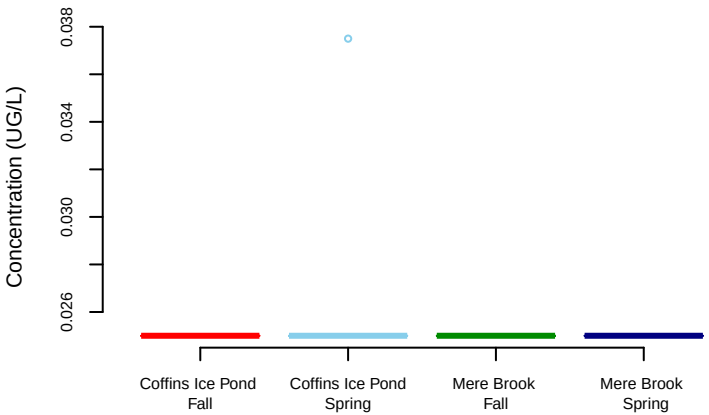
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	0.4	0.25	0.4	0.25
25th Percentile	0.4	0.25	0.4	0.25
Median	0.4	0.25	0.49	0.25
Mean	0.4	0.31	0.58	0.25
75th Percentile	0.4	0.29	0.71	0.25
Maximum	0.4	0.57	1	0.25

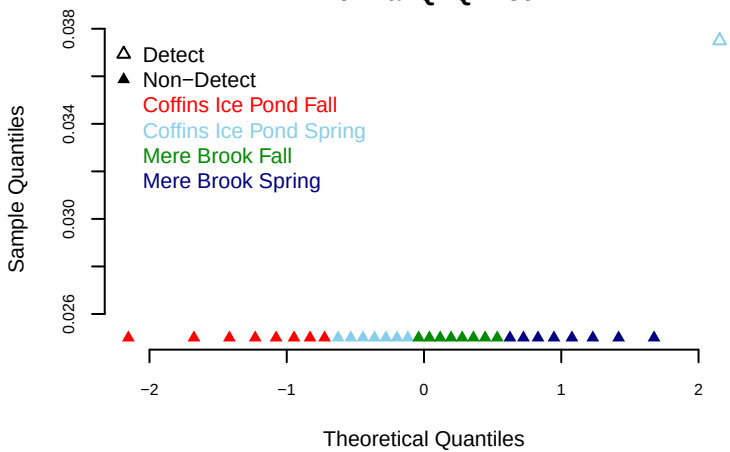
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

DISSOLVED SILVER

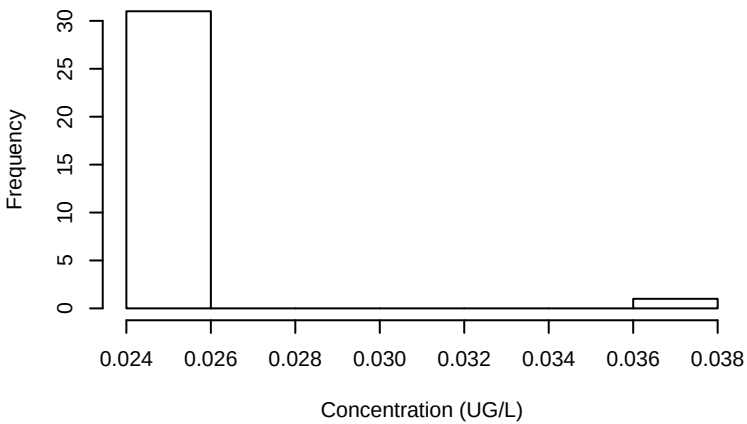
Box Plot



Normal Q−Q Plot



Histogram



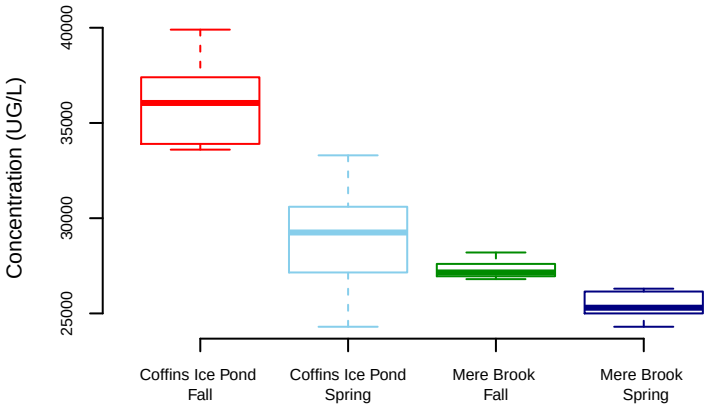
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	0.025	0.025	0.025	0.025
25th Percentile	0.025	0.025	0.025	0.025
Median	0.025	0.025	0.025	0.025
Mean	0.025	0.027	0.025	0.025
75th Percentile	0.025	0.025	0.025	0.025
Maximum	0.025	0.038	0.025	0.025

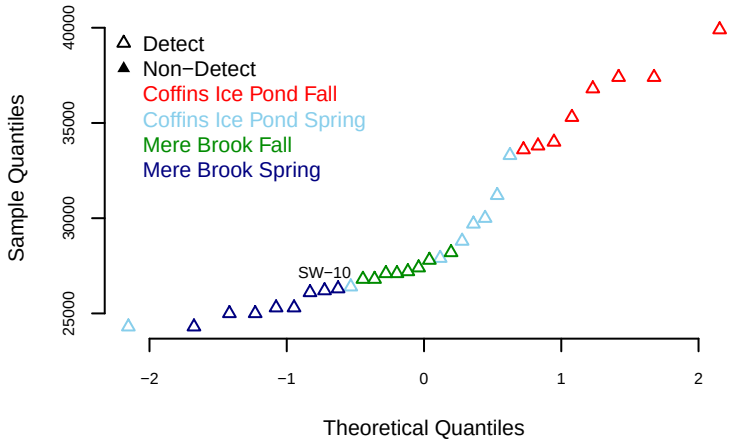
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

DISSOLVED SODIUM

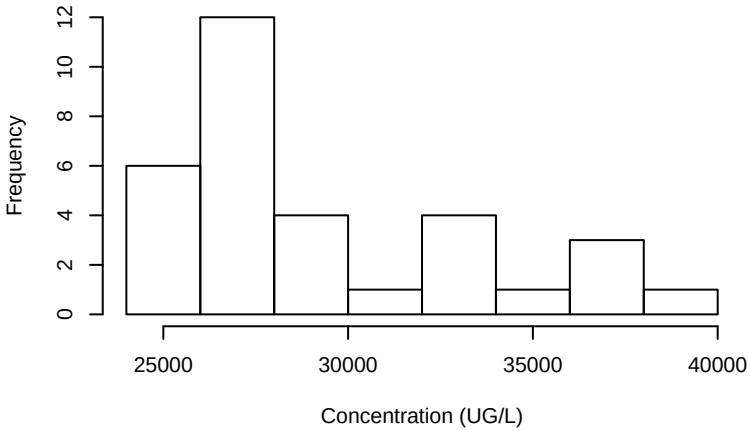
Box Plot



Normal Q−Q Plot



Histogram



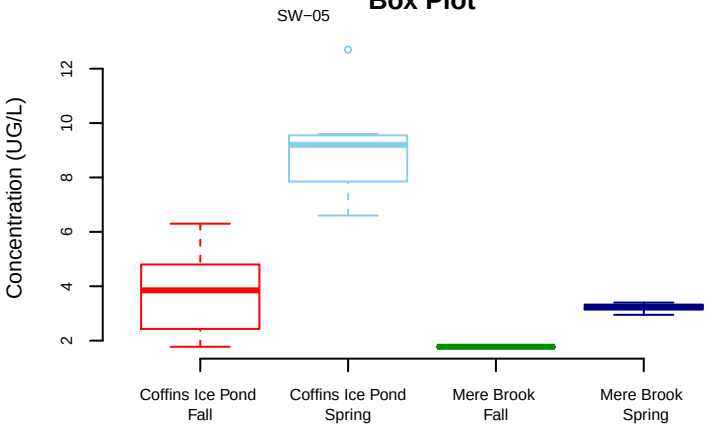
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	34000	24000	27000	24000
25th Percentile	34000	28000	27000	25000
Median	36000	29000	27000	25000
Mean	36000	29000	27000	25000
75th Percentile	37000	30000	28000	26000
Maximum	40000	33000	28000	26000

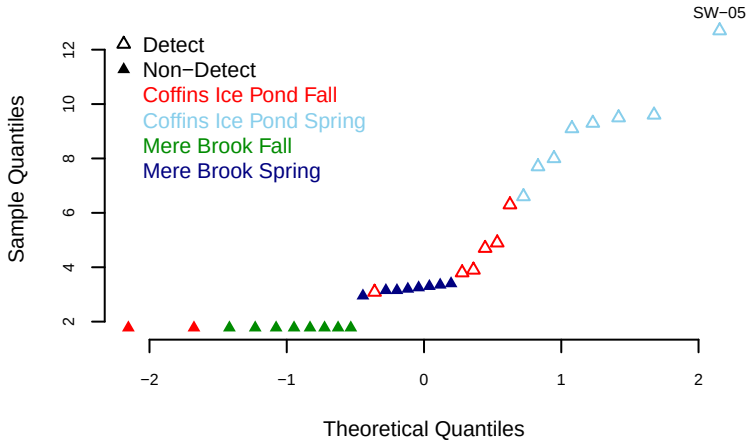
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

DISSOLVED ZINC

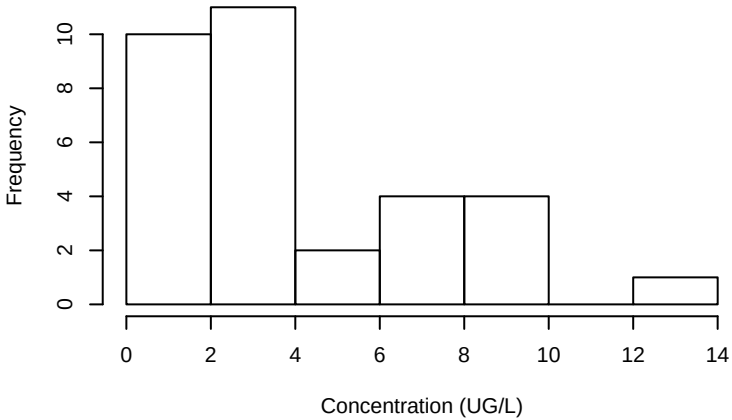
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	1.8	6.6	1.8	3
25th Percentile	2.8	7.9	1.8	3.2
Median	3.8	9.2	1.8	3.2
Mean	3.8	9.1	1.8	3.2
75th Percentile	4.8	9.5	1.8	3.3
Maximum	6.3	13	1.8	3.4

CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

APPENDIX A.3.4 HYPOTHESIS TESTING TO COMPARE DATA GROUPS

To determine whether differences exist between surface water data subgroups, an appropriate statistical hypothesis test was conducted in accordance with the project SAP (Tt, 2009). Table A.3.4.1 presents the frequency of detection, data distribution conclusion (see discussion in Appendix A.3.2) and the appropriate test for each chemical subgroup. In Appendix A.3.2 only chemicals that were detected at least once were presented. If a chemical was not detected in at least two samples each in more than one location subgroup then the chemical subgroup was not included in the statistical hypothesis test. All tests were conducted using a significance level of 0.05.

PAHs, cadmium, copper, selenium, vanadium, dissolved cadmium, dissolved copper, dissolved lead, dissolved selenium, and dissolved silver were detected infrequently, therefore formal hypothesis testing was not conducted on these chemicals. For arsenic, chromium, cobalt, dissolved aluminum, dissolved arsenic, dissolved chromium, dissolved cobalt, dissolved iron, and dissolved zinc there are only two sample-location subgroups to compare. For these chemicals, an appropriate two sample hypothesis test was conducted as discussed below. For the remaining chemicals there are more than two background location subgroups to be compared. When there are more than two subgroups to compare, either a parametric or nonparametric ANOVA can be used to determine if there are differences among them. The parametric ANOVA test determines if the means of the subgroups differ, while the nonparametric Kruskall Wallis ANOVA test determines if the medians of the subgroups differ. The parametric ANOVA test is valid only if the population variances are equal (homoscedastic) and either the population distributions are normal or the sample sizes are large.

The parametric and nonparametric ANOVA tests only determine that differences exist, not which subgroups are different. To determine which groups differ, multiple comparisons are used. For chemicals with more than two subgroups the residuals were not constant and all of the subgroups were not normally distributed; therefore, Kruskall Wallis ANOVAs were used to determine differences between the appropriate subgroups. Table A.3.4.2 presents the p-value for the Kruskall Wallis ANOVA and the conclusion regarding the comparisons of the subgroups. Table A.3.4.3 presents the p-value for the multiple comparisons for chemicals where differences were detected. If the p-value is less than 0.05 then it can be concluded that the two subgroups being compared are not statistically similar.

When there are only two background data groups to be compared, either a parametric or nonparametric two sample test can determine if the two groups are different, depending on the

data distribution. When the two groups are not normally distributed or there are more than two non-detects then the non-parametric Gehan Test is applied to determine whether two background data sets belong to populations with identical medians and distributions. When the two groups are not normally distributed and there are less than two non-detected concentrations the Mann-Whitney Test is applied to determine whether two background data sets belong to populations with identical median and distributions.

If the Gehan Test or the Mann-Whitney Test concluded that the two groups were similar, then the quantile test or upper ranks test (EPA, 1992, 2006) was applied to determine whether the upper tail of one data set is greater than the upper tail of the other data set. The data in all of the subgroups were not normally distributed and/or there were multiple non-detects, therefore the Gehan Test or proportion test was used depending on the percentages of non-detects. Table A.3.4.4 presents the p-values for the Gehan Test, Mann-Whitney Test and Quantile Test for each chemical and the conclusions regarding the comparison of the two groups. For the quantile test if the test statistic is greater than or equal to the critical value then it was concluded that the two data sets do not have equal upper tails. For the Gehan and Fisher Exact Test if the p-value is less than 0.05 it was concluded that the two data sets represent different populations.

The SAP stated that at least 15 samples were needed for each background dataset. For most of the chemicals two subgroups could be combined to provide 16 samples per background dataset. However, based on low frequency of detections the following chemicals do not have at least 15 samples per subgroup: cadmium, copper, selenium, vanadium, dissolved cadmium, dissolved copper, dissolved lead, dissolved selenium, dissolved silver. Based one the formal hypothesis test the following chemical subgroup combinations do not have at least 15 samples: nickel, Coffins Ice Pond fall samples, cobalt, Coffins Ice Pond fall samples, cobalt, Mere Brook fall samples, aluminum, Coffins Ice Pond Spring samples, aluminum, Mere Brook fall samples, arsenic Coffins Ice Pond fall samples, arsenic Mere Brook fall samples, chromium, Coffins Ice Pond fall samples, chromium, Mere Brook fall samples, cobalt, Coffins Ice Pond fall samples, cobalt, Mere brook fall samples, iron, Coffins Ice Pond spring samples, iron, Mere Brook spring samples, zinc, Coffins Ice Pond fall samples, and zinc, Coffins Ice Pond spring samples.

Table A.3.4.1
Hypothesis Tests
Surface Water
Naval Air Station, Brunswick, Maine

Parameter	Frequency of Detection				Data Distribution				Test
	Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	
PAHs									
ANTHRACENE	0/8	1/8	0/8	0/8	NA	NA	NA	NA	NA
BENZO(A)ANTHRACENE	1/8	1/8	1/8	0/8	NA	NA	NA	NA	NA
BENZO(A)PYRENE	0/8	1/8	0/8	0/8	NA	NA	NA	NA	NA
BENZO(B)FLUORANTHENE	0/8	1/8	0/8	0/8	NA	NA	NA	NA	NA
BENZO(G,H,I)PERYLENE	0/8	1/8	0/8	0/8	NA	NA	NA	NA	NA
BENZO(K)FLUORANTHENE	0/8	1/8	0/8	0/8	NA	NA	NA	NA	NA
CHRYSENE	0/8	1/8	0/8	0/8	NA	NA	NA	NA	NA
DIBENZO(A,H)ANTHRACENE	0/8	1/8	1/8	0/8	NA	NA	NA	NA	NA
FLUORANTHENE	3/8	1/8	1/8	0/8	Nonparametric	NA	NA	NA	NA
INDENO(1,2,3-CD)PYRENE	0/8	1/8	0/8	0/8	NA	NA	NA	NA	NA
PHENANTHRENE	0/8	1/8	0/8	0/8	NA	NA	NA	NA	NA
PYRENE	3/8	1/8	0/8	0/8	Nonparametric	NA	NA	NA	NA
Inorganics									
ALUMINUM	8/8	7/8	8/8	8/8	LogNormal	Normal	LogNormal	LogNormal	ANOVA
ARSENIC	6/8	0/8	6/8	0/8	Normal	NA	Normal	NA	GEHAN
BARIUM	8/8	8/8	8/8	8/8	Nonparametric	LogNormal	Nonparametric	Normal	ANOVA
CADMIUM	0/8	0/8	0/8	1/8	NA	NA	NA	NA	NA ONLY DETECTED ONCE IN ONE GROUP
CALCIUM	8/8	8/8	8/8	8/8	Normal	Normal	LogNormal	Normal	ANOVA
CHROMIUM	8/8	0/8	8/8	0/8	LogNormal	NA	LogNormal	NA	MANN-WHITNEY
COBALT	8/8	0/8	8/8	0/8	Nonparametric	NA	LogNormal	NA	MANN-WHITNEY
COPPER	1/8	1/8	0/8	0/8	NA	NA	NA	NA	NA ONLY DETECTED ONCE IN TWO GROUPS
IRON	8/8	8/8	8/8	8/8	Nonparametric	LogNormal	Nonparametric	LogNormal	ANOVA
LEAD	4/8	8/8	2/8	8/8	LogNormal	Nonparametric	NA	LogNormal	ANOVA
MAGNESIUM	8/8	8/8	8/8	8/8	LogNormal	Nonparametric	LogNormal	Normal	ANOVA
MANGANESE	8/8	8/8	8/8	8/8	LogNormal	Normal	Nonparametric	LogNormal	ANOVA
NICKEL	8/8	8/8	2/8	8/8	LogNormal	Normal	NA	Nonparametric	ANOVA
POTASSIUM	8/8	8/8	8/8	8/8	LogNormal	Normal	Nonparametric	Normal	ANOVA
SELENIUM	0/8	2/8	0/8	0/8	NA	NA	NA	NA	NA ONLY DETECTED TWICE IN ONE GROUP
SODIUM	8/8	8/8	8/8	8/8	LogNormal	Normal	LogNormal	Normal	ANOVA
VANADIUM	1/8	0/8	0/8	0/8	NA	NA	NA	NA	NA ONLY DETECTED ONCE IN ONE GROUP
ZINC	7/8	8/8	2/8	0/8	LogNormal	LogNormal	NA	NA	ANOVA
Dissolved Inorganics									
ALUMINUM	0/8	4/8	5/8	0/8	NA	LogNormal	LogNormal	NA	GEHAN
ARSENIC	2/8	0/8	5/8	0/8	NA	NA	Normal	NA	GEHAN
BARIUM	8/8	8/8	8/8	8/8	Nonparametric	Nonparametric	LogNormal	Normal	ANOVA
CADMIUM	0/8	0/8	0/8	1/8	NA	NA	NA	NA	NA ONLY DETECTED ONCE IN ONE GROUP
CALCIUM	8/8	8/8	8/8	8/8	Nonparametric	Normal	LogNormal	LogNormal	ANOVA
CHROMIUM	8/8	0/8	8/8	0/8	Nonparametric	NA	Normal	NA	MANN-WHITNEY
COBALT	8/8	0/8	4/8	0/8	Normal	NA	Nonparametric	NA	GEHAN
COPPER	0/8	1/8	0/8	0/8	NA	NA	NA	NA	NA ONLY DETECTED ONCE IN ONE GROUP
IRON	0/8	8/8	0/8	8/8	NA	Normal	NA	Normal	MANN-WHITNEY
LEAD	0/8	8/8	0/8	0/8	NA	LogNormal	NA	NA	NA ONLY DETECTED IN ONE GROUP
MAGNESIUM	8/8	8/8	8/8	8/8	Normal	Nonparametric	LogNormal	LogNormal	ANOVA
MANGANESE	8/8	8/8	8/8	8/8	Normal	Normal	Normal	Normal	ANOVA
NICKEL	7/8	8/8	0/8	8/8	Normal	Nonparametric	NA	LogNormal	ANOVA
POTASSIUM	8/8	8/8	8/8	8/8	Normal	Normal	LogNormal	Normal	ANOVA
SELENIUM	0/8	2/8	0/8	0/8	NA	NA	NA	NA	NA ONLY DETECTED TWICE IN ONE GROUP
SILVER	0/8	1/8	0/8	0/8	NA	NA	NA	NA	NA ONLY DETECTED ONCE IN ONE GROUP
SODIUM	8/8	8/8	8/8	8/8	LogNormal	Normal	LogNormal	LogNormal	ANOVA
ZINC	6/8	8/8	0/8	0/8	Normal	LogNormal	NA	NA	GEHAN

NA - Not Applicable

Table A.3.4.2
Surface Water
Kruskal Wallis Test Results
Naval Air Station, Brunswick, Maine

Parameter	Test	P-Value	Conclusion
Inorganics			
ALUMINUM	KRUSKAL WALLIS ANOVA	0.3807	All Groups are Similar
BARIUM	KRUSKAL WALLIS ANOVA	0.0001	At Least One Group is Different
CALCIUM	KRUSKAL WALLIS ANOVA	0.0000	At Least One Group is Different
IRON	KRUSKAL WALLIS ANOVA	0.0000	At Least One Group is Different
LEAD	KRUSKAL WALLIS ANOVA	0.3586	All Groups are Similar
MAGNESIUM	KRUSKAL WALLIS ANOVA	0.0000	At Least One Group is Different
MANGANESE	KRUSKAL WALLIS ANOVA	0.0000	At Least One Group is Different
NICKEL	KRUSKAL WALLIS ANOVA	0.0001	At Least One Group is Different
POTASSIUM	KRUSKAL WALLIS ANOVA	0.0001	At Least One Group is Different
SODIUM	KRUSKAL WALLIS ANOVA	0.0000	At Least One Group is Different
ZINC	KRUSKAL WALLIS ANOVA	0.1340	All Groups are Similar
Dissolved Inorganics			
BARIUM	KRUSKAL WALLIS ANOVA	0.0000	At Least One Group is Different
CALCIUM	KRUSKAL WALLIS ANOVA	0.0002	At Least One Group is Different
MAGNESIUM	KRUSKAL WALLIS ANOVA	0.0000	At Least One Group is Different
MANGANESE	KRUSKAL WALLIS ANOVA	0.0000	At Least One Group is Different
NICKEL	KRUSKAL WALLIS ANOVA	0.0168	At Least One Group is Different
POTASSIUM	KRUSKAL WALLIS ANOVA	0.0001	At Least One Group is Different
SODIUM	KRUSKAL WALLIS ANOVA	0.0000	At Least One Group is Different

5 Percent Significance Level Used.

Table A.3.4.3
Surface Water
Nonparametric Multiple Comparison Test Results
Naval Air Station, Brunswick, Maine

Parameter	P-Values for Nonparametric Multiple Comparisons					Conclusion[1]
Inorganics						
BARIUM		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall and Spring are similar. Mere Brook in the Fall and Spring are similar.
	Coffins Ice Pond Fall		0.118241	0.037813	0.000035	
	Coffins Ice Pond Spring	0.118241		1.000000	0.167424	
	Mere Brook Fall	0.037813	1.000000		0.432225	
	Mere Brook Spring	0.000035	0.167424	0.432225		
CALCIUM		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall and Spring are similar. Mere Brook in the Fall and Spring are similar.
	Coffins Ice Pond Fall		0.273808	0.051984	0.000012	
	Coffins Ice Pond Spring	0.273808		1.000000	0.034863	
	Mere Brook Fall	0.051984	1.000000		0.198038	
	Mere Brook Spring	0.000012	0.034863	0.198038		
IRON		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall is similar to Mere Brook in the Fall. Coffins Ice Pond in the Spring is similar to Mere Brook in the Spring.
	Coffins Ice Pond Fall		0.000925	1.000000	0.000193	
	Coffins Ice Pond Spring	0.000925		0.046192	1.000000	
	Mere Brook Fall	1.000000	0.046192		0.014284	
	Mere Brook Spring	0.000193	1.000000	0.014284		
MAGNESIUM		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall is similar to Mere Brook in the Fall. Coffins Ice Pond in the Spring is similar to Mere Brook in the Spring.
	Coffins Ice Pond Fall		0.009104	0.499368	0.000027	
	Coffins Ice Pond Spring	0.009104		0.900725	0.946897	
	Mere Brook Fall	0.499368	0.900725		0.026103	
	Mere Brook Spring	0.000027	0.946897	0.026103		
MANGANESE		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall is similar to Mere Brook in the Fall. Coffins Ice Pond in the Spring is similar to Mere Brook in the Spring.
	Coffins Ice Pond Fall		0.051984	0.085284	0.000002	
	Coffins Ice Pond Spring	0.051984		1.000000	0.079171	
	Mere Brook Fall	0.085284	1.000000		0.048055	
	Mere Brook Spring	0.000002	0.079171	0.048055		
NICKEL		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall and Spring are similar. Mere Brook in the Fall and Spring are similar.
	Coffins Ice Pond Fall		1.000000	0.000745	0.733055	
	Coffins Ice Pond Spring	1.000000		0.000480	0.590834	
	Mere Brook Fall	0.000745	0.000480		0.131466	
	Mere Brook Spring	0.733055	0.590834	0.131466		
POTASSIUM		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall and Spring are similar. Mere Brook in the Fall and Spring are similar.
	Coffins Ice Pond Fall		0.088494	0.028376	0.000043	
	Coffins Ice Pond Spring	0.088494		1.000000	0.240985	
	Mere Brook Fall	0.028376	1.000000		0.574722	
	Mere Brook Spring	0.000043	0.240985	0.574722		
SODIUM		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall and Spring are similar. Mere Brook in the Fall and Spring are similar.
	Coffins Ice Pond Fall		0.088494	0.025030	0.000005	
	Coffins Ice Pond Spring	0.088494		1.000000	0.076262	
	Mere Brook Fall	0.025030	1.000000		0.233321	
	Mere Brook Spring	0.000005	0.076262	0.233321		
Dissolved Inorganics						
BARIUM		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall and Spring are similar. Mere Brook in the Fall and Spring are similar.
	Coffins Ice Pond Fall		0.073448	0.028376	0.000006	
	Coffins Ice Pond Spring	0.073448		1.000000	0.098772	
	Mere Brook Fall	0.028376	1.000000		0.225866	
	Mere Brook Spring	0.000006	0.098772	0.225866		

Table A.3.4.3
Surface Water
Nonparametric Multiple Comparison Test Results
Naval Air Station, Brunswick, Maine

Parameter	P-Values for Nonparametric Multiple Comparisons					Conclusion[1]
CALCIUM		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall and Spring are similar. Mere Brook in the Fall and Spring are similar.
	Coffins Ice Pond Fall		0.350821	0.058417	0.000010	
	Coffins Ice Pond Spring	0.350821		1.000000	0.022045	
	Mere Brook Fall	0.058417	1.000000		0.161818	
	Mere Brook Spring	0.000010	0.022045	0.161818		
MAGNESIUM		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall is similar to Mere Brook in the Fall. Coffins Ice Pond in the Spring is similar to Mere Brook in the Spring.
	Coffins Ice Pond Fall		0.009104	0.499368	0.000027	
	Coffins Ice Pond Spring	0.009104		0.900725	0.946897	
	Mere Brook Fall	0.499368	0.900725		0.026103	
	Mere Brook Spring	0.000027	0.946897	0.026103		
MANGANESE		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall and Spring are similar. Mere Brook in the Fall and Spring are similar.
	Coffins Ice Pond Fall		0.772492	0.049985	0.000010	
	Coffins Ice Pond Spring	0.772492		1.000000	0.006274	
	Mere Brook Fall	0.049985	1.000000		0.185261	
	Mere Brook Spring	0.000010	0.006274	0.185261		
NICKEL		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Spring		Coffins Ice Pond in the Spring is Similar to Mere Brook in the Spring.
	Coffins Ice Pond Fall		0.016540	1.000000		
	Coffins Ice Pond Spring	0.016540		0.175669		
	Mere Brook Spring	1.000000	0.175669			
POTASSIUM		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall and Spring are similar. Mere Brook in the Fall and Spring are similar.
	Coffins Ice Pond Fall		0.151089	0.156374	0.000020	
	Coffins Ice Pond Spring	0.151089		1.000000	0.095235	
	Mere Brook Fall	0.156374	1.000000		0.091810	
	Mere Brook Spring	0.000020	0.095235	0.091810		
SODIUM		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall and Spring are similar. Mere Brook in the Fall and Spring are similar.
	Coffins Ice Pond Fall		0.110084	0.018569	0.000005	
	Coffins Ice Pond Spring	0.110084		1.000000	0.063091	
	Mere Brook Fall	0.018569	1.000000		0.300830	
	Mere Brook Spring	0.000005	0.063091	0.300830		

5 Percent Significance Level was used.

(1) Conclusion based hypothesis test and combining at least two subgroups.

Table A.3.4.4
Two Sample Hypothesis Tests
Surface water
Naval Air Station, Brunswick, Maine

Parameter	Mann Whitney	Gehan Test	Quantile Test			Proportion Test	Conclusion
	P-Value	P-Value	Test Statistic	Critical Value	Conclusion	P-Value	
Inorganics							
ARSENIC	NA	0.597	2	4	EQUAL	NA	Coffins Ice Pond in the Fall is Similar to Mere Brook in the Fall.
CHROMIUM	0.793	NA	3	4	EQUAL	NA	Coffins Ice Pond in the Fall is Similar to Mere Brook in the Fall.
COBALT	9.49E-04	NA	NA	NA	NA	NA	Coffins Ice Pond in the Fall is Not Similar to Mere Brook in the Fall.
Dissolved Inorganics							
ALUMINUM	NA	0.0429	NA	NA	NA	NA	Coffins Ice Pond in the Spring is Not Similar to Mere Brook in the Fall.
ARSENIC	NA	0.0256	NA	NA	NA	NA	Coffins Ice Pond in the Fall is Not Similar to Mere Brook in the Fall.
CHROMIUM	0.00538	NA	NA	NA	NA	NA	Coffins Ice Pond in the Fall is Not Similar to Mere Brook in the Fall.
COBALT	NA	0.0007	NA	NA	NA	NA	Coffins Ice Pond in the Fall is Not Similar to Mere Brook in the Fall.
IRON	0.27	NA	4	4	NOT EQUAL	NA	Coffins Ice Pond in the Spring is Not Similar to Mere Brook in the Spring.
ZINC	GEHAN	0.0007	NA	NA	NA	NA	Coffins Ice Pond in the Fall is Not Similar to Coffins Ice Pond in the Spring.

5 Percent Significance Level was used.

A.3.5 SURFACE WATER UPPER PREDICTION LIMITS

APPENDIX A.3.5 UPPER PREDICTION LIMITS

For the evaluation of site data, either site-wide tests or individual comparison tests will be used to compare site concentrations to background concentrations. Site wide tests are used to compare an average/median site concentration to an average/median background concentration. Individual comparison tests are used to compare individual site data concentrations to a representative background concentration. Site wide comparisons are the preferred method of comparison whoever, if site-wide comparisons cannot be used, then the alternative is to use individual comparison tests.

UPL will be available for site comparison when a data set to data set comparison is not conducted. UPLs were established for each chemical in each subgroup. The UPL is based on the null hypothesis that individual site concentrations represent background concentrations. Concentrations from one site sample are compared to a threshold level that is statistically derived so as to represent an upper bound of the average background concentration. The 95 percent UPL was based on the t distribution if the data follow a normal distribution; otherwise, a nonparametric 95 percent UPL was estimated.

$$95\%\ \text{Normal UPL} = \bar{x} + t_{((1-\alpha),(n-1))} S \sqrt{1 + \frac{1}{n}}$$

$$95\%\ \text{Nonparametric UPL} = X_m,\ m = (n+1)(1-\alpha)$$

where,
$\bar{x}$ = average concentration
S = standard deviation
n = sample size
α = significance level, 0.05

The data subgroups were combined to calculate 95 percent UPLs based on the recommendations presented in Appendix A.3.4 (Tables A.3.4.2 through A.3.4.4). Table A.3.5.1 presents the 95 percent UPLs for surface water. A UPL was calculated only if there were at least three detected concentrations for a specific chemical.

TABLE A.3.5.1

SURFACE WATER UPPER PREDICTION LIMITS
NAVAL AIR STATION, BRUNSWICK, MAINE

Parameter	Upper Prediction Limits							
	Coffins Ice Pond Fall		Coffins Ice Pond Spring		Mere Brook Fall		Mere Brook Spring	
	UPL	UPL Type	UPL	UPL Type	UPL	UPL Type	UPL	UPL Type
Inorganics (µg/L)								
ALUMINUM	762	Nonparametric	762	Nonparametric	762	Nonparametric	762	Nonparametric
ARSENIC	6.1	Gamma WH	ND	ND	6.1	Gamma WH	ND	ND
BARIUM	58.7	Gamma WH	58.7	Gamma WH	29.5	Gamma WH	29.5	Gamma WH
CADMIUM	ND	ND	ND	ND	ND	ND	NA	NA
CALCIUM	11900	Normal	11900	Normal	9770	Normal	9770	Normal
CHROMIUM	7.8	Nonparametric	ND	ND	7.8	Nonparametric	ND	ND
COBALT	1.7	Nonparametric	ND	ND	0.2	Normal	ND	ND
COPPER	NA	NA	NA	NA	ND	ND	ND	ND
IRON	3060	Nonparametric	362	Nonparametric	3060	Nonparametric	362	Nonparametric
LEAD	4.8	Nonparametric	4.8	Nonparametric	4.8	Nonparametric	4.8	Nonparametric
MAGNESIUM	2770	Gamma WH	2670	Nonparametric	2770	Gamma WH	2670	Nonparametric
MANGANESE	191	Gamma WH	105	Nonparametric	191	Gamma WH	105	Nonparametric
NICKEL	4.6	Gamma WH	4.6	GammaWH	2	Normal	2	Normal
POTASSIUM	3050	Normal	3050	Normal	2490	Nonparametric	2490	Nonparametric
SELENIUM	ND	ND	NA	NA	ND	ND	ND	ND
SODIUM	42400	Normal	42400	Normal	28300	Normal	28300	Normal
VANADIUM	NA	NA	ND	ND	ND	ND	ND	ND
ZINC	24.2	Nonparametric	24.2	Nonparametric	24.2	Nonparametric	ND	ND
Dissolved Inorganics (µg/L)								
ALUMINUM	ND	ND	85.6	Normal	24.2	Nonparametric	ND	ND
ARSENIC	NA	NA	ND	ND	2.7	Normal	ND	ND
BARIUM	42.6	Normal	42.6	Normal	26.4	Normal	26.4	Normal
CADMIUM	ND	ND	ND	ND	ND	ND	NA	NA
CALCIUM	11300	Normal	11300	Normal	9770(1)	Normal	9770(1)	Normal
CHROMIUM	1.5	Normal	ND	ND	1.6	Normal	ND	ND
COBALT	0.39	Normal	ND	ND	0.12	Nonparametric	ND	ND
COPPER	ND	ND	NA	NA	ND	ND	ND	ND
IRON	ND	ND	122	Normal	ND	ND	93.3	Normal
LEAD	ND	ND	0.33	Normal	ND	ND	ND	ND
MAGNESIUM	2520	Gamma WH	2510	Nonparametric	2520	Gamma WH	2510	Nonparametric
MANGANESE	160	Normal	160	Normal	77.2	Nonparametric	77.2	Nonparametric
NICKEL	3.1	Gamma WH	2.7	Normal	ND	ND	2.7	Normal
POTASSIUM	2890	Normal	2890	Normal	2390	Normal	2390	Normal
SELENIUM	ND	ND	NA	NA	ND	ND	ND	ND
SILVER	ND	ND	NA	NA	ND	ND	ND	ND
SODIUM	40400	Normal	40400	Normal	28400	Normal	28400	Normal
ZINC	6.6	Normal	12.7	Normal	ND	ND	ND	ND

UPLs were calculated using Pro UCL version 4.1.00.
Chemicals are listed only if there are enough detected samples in one group to calculate a UPL.
(1) Dissolved Calcium UPL calculated by ProUCL was greater than the Total Calcium UPL, the Total Calcium UPL will be used for both Total and Dissolved Calcium.
ND = Non-Detect
NA = Not enough detected samples to calculate a meaningful UPL.
UPL = 95% Upper Prediction
WH = Wilson Hilferty

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Data Sets with Non-Detects								
2			User Selected Options									
3			From File	Misc Groups.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	Aluminum_MF_CoffinsSpring											
12												
13						General Statistics						
14						Number of Valid Data	8			Number of Detected Data	4	
15						Number of Distinct Detected Data	4			Number of Non-Detect Data	4	
16						Tolerance Factor	2.582			Percent Non-Detects	50.00%	
17												
18						Raw Statistics				Log-transformed Statistics		
19						Minimum Detected	68.1			Minimum Detected	4.221	
20						Maximum Detected	79.2			Maximum Detected	4.372	
21						Mean of Detected	72.05			Mean of Detected	4.276	
22						SD of Detected	4.955			SD of Detected	0.0671	
23						Minimum Non-Detect	35.5			Minimum Non-Detect	3.57	
24						Maximum Non-Detect	60.2			Maximum Non-Detect	4.098	
25												
26						Data with Multiple Detection Limits				Single Detection Limit Scenario		
27						Note: Data have multiple DLs - Use of KM Method is recommended				Number treated as Non-Detect with Single DL	4	
28						For all methods (except KM, DL/2, and ROS Methods),				Number treated as Detected with Single DL	4	
29						Observations < Largest ND are treated as NDs				Single DL Non-Detect Percentage	50.00%	
30												
31												
32						Warning: There are only 4 Distinct Detected Values in this data						
33						Note: It should be noted that even though bootstrap may be performed on this data set						
34						the resulting calculations may not be reliable enough to draw conclusions						
35												
36						It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.						
37												
38						Background Statistics						
39						Normal Distribution Test with Detected Values Only				Lognormal Distribution Test with Detected Values Only		
40						Shapiro Wilk Test Statistic	0.857			Shapiro Wilk Test Statistic	0.869	
41						5% Shapiro Wilk Critical Value	0.748			5% Shapiro Wilk Critical Value	0.748	
42						Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level		
43												
44						Assuming Normal Distribution				Assuming Lognormal Distribution		
45						DL/2 Substitution Method				DL/2 Substitution Method		
46						Mean	48.91			Mean (Log Scale)	3.752	
47						SD	25.22			SD (Log Scale)	0.583	
48						95% UTL 90% Coverage	114			95% UTL 90% Coverage	192.1	
49						95% UPL (t)	99.58			95% UPL (t)	137.6	
50						90% Percentile (z)	81.23			90% Percentile (z)	89.99	
51						95% Percentile (z)	90.39			95% Percentile (z)	111.2	
52						99% Percentile (z)	107.6			99% Percentile (z)	165.5	
53												
54						Maximum Likelihood Estimate(MLE) Method				Log ROS Method		
55						Mean	61.62			Mean in Original Scale	65.35	

	A	B	C	D	E	F	G	H	I	J	K	L
56					SD	11.92					SD in Original Scale	7.862
57					95% UTL with 90% Coverage	92.39					95% UTL with 90% Coverage	87.99
58											95% BCA UTL with 90% Coverage	79.2
59											95% Bootstrap (%) UTL with 90% Coverage	79.2
60					95% UPL (t)	85.57					95% UPL (t)	82.26
61					90% Percentile (z)	76.89					90% Percentile (z)	75.51
62					95% Percentile (z)	81.22					95% Percentile (z)	78.81
63					99% Percentile (z)	89.34					99% Percentile (z)	85.38
64												
65				**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**		
66					k star (bias corrected)	73.06				Data appear Normal at 5% Significance Level		
67					Theta Star	0.986						
68					nu star	584.5						
69												
70					A-D Test Statistic	0.437				**Nonparametric Statistics**		
71					5% A-D Critical Value	0.657					Kaplan-Meier (KM) Method	
72					K-S Test Statistic	0.304					Mean	70.08
73					5% K-S Critical Value	0.394					SD	3.62
74				Data appear Gamma Distributed at 5% Significance Level							SE of Mean	1.478
75											95% KM UTL with 90% Coverage	79.42
76				**Assuming Gamma Distribution**							95% KM Chebyshev UPL	86.81
77					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	77.35
78					Mean	59.93					90% Percentile (z)	74.71
79					Median	57.96					95% Percentile (z)	76.03
80					SD	13.35					99% Percentile (z)	78.5
81					k star	14.57						
82					Theta star	4.114				**Gamma ROS Limits with Extrapolated Data**		
83					Nu star	233.1					95% Wilson Hilferty (WH) Approx. Gamma UPL	89.74
84					95% Percentile of Chisquare (2k)	42.72					95% Hawkins Wixley (HW) Approx. Gamma UPL	90.2
85											95% WH Approx. Gamma UTL with 90% Coverage	100.1
86					90% Percentile	80.73					95% HW Approx. Gamma UTL with 90% Coverage	101
87					95% Percentile	87.88						
88					99% Percentile	102.4						
89												
90	Note: DL/2 is not a recommended method.											
91												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Data Sets with Non-Detects								
2			User Selected Options									
3			From File	Misc Groups.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	Aluminum_MF_MereFall											
12												
13						General Statistics						
14						Number of Valid Data	8			Number of Detected Data	5	
15						Number of Distinct Detected Data	5			Number of Non-Detect Data	3	
16						Tolerance Factor	2.582			Percent Non-Detects	37.50%	
17												
18						Raw Statistics				Log-transformed Statistics		
19						Minimum Detected	11.09			Minimum Detected	2.406	
20						Maximum Detected	27.5			Maximum Detected	3.314	
21						Mean of Detected	15.08			Mean of Detected	2.648	
22						SD of Detected	6.965			SD of Detected	0.375	
23						Minimum Non-Detect	11.35			Minimum Non-Detect	2.429	
24						Maximum Non-Detect	11.35			Maximum Non-Detect	2.429	
25												
26												
27												
28						Warning: There are only 5 Detected Values in this data						
29						Note: It should be noted that even though bootstrap may be performed on this data set						
30						the resulting calculations may not be reliable enough to draw conclusions						
31												
32						It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.						
33												
34						Background Statistics						
35						Normal Distribution Test with Detected Values Only				Lognormal Distribution Test with Detected Values Only		
36						Shapiro Wilk Test Statistic	0.624			Shapiro Wilk Test Statistic	0.664	
37						5% Shapiro Wilk Critical Value	0.762			5% Shapiro Wilk Critical Value	0.762	
38						Data not Normal at 5% Significance Level				Data not Lognormal at 5% Significance Level		
39												
40						Assuming Normal Distribution				Assuming Lognormal Distribution		
41						DL/2 Substitution Method				DL/2 Substitution Method		
42						Mean	11.55			Mean (Log Scale)	2.306	
43						SD	7.169			SD (Log Scale)	0.551	
44						95% UTL 90% Coverage	30.06			95% UTL 90% Coverage	41.59	
45						95% UPL (t)	25.96			95% UPL (t)	30.34	
46						90% Percentile (z)	20.74			90% Percentile (z)	20.32	
47						95% Percentile (z)	23.34			95% Percentile (z)	24.82	
48						99% Percentile (z)	28.23			99% Percentile (z)	36.13	
49												
50						Maximum Likelihood Estimate(MLE) Method				Log ROS Method		
51						Mean	10.09			Mean in Original Scale	12.9	
52						SD	8.473			SD in Original Scale	6.111	
53						95% UTL with 90% Coverage	31.97			95% UTL with 90% Coverage	31.24	
54										95% BCA UTL with 90% Coverage	27.5	
55										95% Bootstrap (%) UTL with 90% Coverage	27.5	

	A	B	C	D	E	F	G	H	I	J	K	L
56					95% UPL (t)	27.12					95% UPL (t)	25.28
57					90% Percentile (z)	20.95					90% Percentile (z)	19.31
58					95% Percentile (z)	24.03					95% Percentile (z)	22.09
59					99% Percentile (z)	29.81					99% Percentile (z)	28.42
60												
61			**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**			
62					k star (bias corrected)	3.269			Data do not follow a Discernable Distribution (0.05)			
63					Theta Star	4.612						
64					nu star	32.69						
65												
66					A-D Test Statistic	1.046			**Nonparametric Statistics**			
67					5% A-D Critical Value	0.68					Kaplan-Meier (KM) Method	
68					K-S Test Statistic	0.451					Mean	13.58
69					5% K-S Critical Value	0.358					SD	5.29
70			Data not Gamma Distributed at 5% Significance Level								SE of Mean	2.091
71											95% KM UTL with 90% Coverage	27.24
72			**Assuming Gamma Distribution**								95% KM Chebyshev UPL	38.04
73				Gamma ROS Statistics with Extrapolated Data							95% KM UPL (t)	24.21
74					Mean	12.5					90% Percentile (z)	20.36
75					Median	11.59					95% Percentile (z)	22.28
76					SD	6.556					99% Percentile (z)	25.89
77					k star	3.301						
78					Theta star	3.786			**Gamma ROS Limits with Extrapolated Data**			
79					Nu star	52.81					95% Wilson Hilferty (WH) Approx. Gamma UPL	27
80					95% Percentile of Chisquare (2k)	13.48					95% Hawkins Wixley (HW) Approx. Gamma UPL	27.37
81											95% WH Approx. Gamma UTL with 90% Coverage	33.02
82					90% Percentile	21.72					95% HW Approx. Gamma UTL with 90% Coverage	33.92
83					95% Percentile	25.52						
84					99% Percentile	33.73						
85												
86	Note: DL/2 is not a recommended method.											
87												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Data Sets with Non-Detects								
2			User Selected Options									
3			From File	Misc Groups.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	Arsenic_MF_MereFall											
12												
13						General Statistics						
14						Number of Valid Data	8			Number of Detected Data	5	
15						Number of Distinct Detected Data	5			Number of Non-Detect Data	3	
16						Tolerance Factor	2.582			Percent Non-Detects	37.50%	
17												
18						Raw Statistics				Log-transformed Statistics		
19						Minimum Detected	1.5			Minimum Detected	0.405	
20						Maximum Detected	2.7			Maximum Detected	0.993	
21						Mean of Detected	1.94			Mean of Detected	0.642	
22						SD of Detected	0.462			SD of Detected	0.222	
23						Minimum Non-Detect	1.5			Minimum Non-Detect	0.405	
24						Maximum Non-Detect	1.5			Maximum Non-Detect	0.405	
25												
26												
27												
28						Warning: There are only 5 Detected Values in this data						
29						Note: It should be noted that even though bootstrap may be performed on this data set						
30						the resulting calculations may not be reliable enough to draw conclusions						
31												
32						It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.						
33												
34						Background Statistics						
35						Normal Distribution Test with Detected Values Only				Lognormal Distribution Test with Detected Values Only		
36						Shapiro Wilk Test Statistic	0.888			Shapiro Wilk Test Statistic	0.937	
37						5% Shapiro Wilk Critical Value	0.762			5% Shapiro Wilk Critical Value	0.762	
38						Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level		
39												
40						Assuming Normal Distribution				Assuming Lognormal Distribution		
41						DL/2 Substitution Method				DL/2 Substitution Method		
42						Mean	1.494			Mean (Log Scale)	0.293	
43						SD	0.708			SD (Log Scale)	0.51	
44						95% UTL 90% Coverage	3.321			95% UTL 90% Coverage	4.999	
45						95% UPL (t)	2.916			95% UPL (t)	3.734	
46						90% Percentile (z)	2.401			90% Percentile (z)	2.577	
47						95% Percentile (z)	2.658			95% Percentile (z)	3.101	
48						99% Percentile (z)	3.14			99% Percentile (z)	4.388	
49												
50						Maximum Likelihood Estimate(MLE) Method				Log ROS Method		
51						Mean	1.624			Mean in Original Scale	1.598	
52						SD	0.556			SD in Original Scale	0.594	
53						95% UTL with 90% Coverage	3.06			95% UTL with 90% Coverage	3.944	
54										95% BCA UTL with 90% Coverage	2.7	
55										95% Bootstrap (%) UTL with 90% Coverage	2.7	

	A	B	C	D	E	F	G	H	I	J	K	L
56					95% UPL (t)	2.742					95% UPL (t)	3.185
57					90% Percentile (z)	2.337					90% Percentile (z)	2.427
58					95% Percentile (z)	2.539					95% Percentile (z)	2.78
59					99% Percentile (z)	2.918					99% Percentile (z)	3.585
60												
61			**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**			
62					k star (bias corrected)	9.893			Data appear Normal at 5% Significance Level			
63					Theta Star	0.196						
64					nu star	98.93						
65												
66					A-D Test Statistic	0.328			**Nonparametric Statistics**			
67					5% A-D Critical Value	0.679					Kaplan-Meier (KM) Method	
68					K-S Test Statistic	0.217					Mean	1.775
69					5% K-S Critical Value	0.357					SD	0.39
70			Data appear Gamma Distributed at 5% Significance Level								SE of Mean	0.154
71											95% KM UTL with 90% Coverage	2.781
72			**Assuming Gamma Distribution**								95% KM Chebyshev UPL	3.577
73			Gamma ROS Statistics with Extrapolated Data								95% KM UPL (t)	2.558
74					Mean	1.315					90% Percentile (z)	2.274
75					Median	1.6					95% Percentile (z)	2.416
76					SD	0.948					99% Percentile (z)	2.682
77					k star	0.307						
78					Theta star	4.288			**Gamma ROS Limits with Extrapolated Data**			
79					Nu star	4.908					95% Wilson Hilferty (WH) Approx. Gamma UPL	6.721
80					95% Percentile of Chisquare (2k)	2.786					95% Hawkins Wixley (HW) Approx. Gamma UPL	9.744
81											95% WH Approx. Gamma UTL with 90% Coverage	9.978
82					90% Percentile	3.869					95% HW Approx. Gamma UTL with 90% Coverage	16.16
83					95% Percentile	5.974						
84					99% Percentile	11.43						
85												
86	Note: DL/2 is not a recommended method.											
87												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	Coffins Ice Pond.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	BARIUM_MF											
12												
13					General Statistics							
14					Total Number of Observations	16			Number of Distinct Observations		15	
15					Tolerance Factor	2.033						
16												
17					Raw Statistics				Log-Transformed Statistics			
18					Minimum	17.6			Minimum		2.868	
19					Maximum	45.2			Maximum		3.811	
20					Second Largest	37.7			Second Largest		3.63	
21					First Quartile	25.53			First Quartile		3.24	
22					Median	30.75			Median		3.423	
23					Third Quartile	34			Third Quartile		3.526	
24					Mean	30.47			Mean		3.393	
25					SD	6.687			SD		0.226	
26					Coefficient of Variation	0.219						
27					Skewness	0.269						
28												
29					Background Statistics							
30					Normal Distribution Test				Lognormal Distribution Test			
31					Shapiro Wilk Test Statistic	0.962			Shapiro Wilk Test Statistic		0.955	
32					Shapiro Wilk Critical Value	0.887			Shapiro Wilk Critical Value		0.887	
33					Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level			
34												
35					Assuming Normal Distribution				Assuming Lognormal Distribution			
36					95% UTL with 90% Coverage	44.06			95% UTL with 90% Coverage		47.15	
37					95% UPL (t)	42.55			95% UPL (t)		44.8	
38					90% Percentile (z)	39.03			90% Percentile (z)		39.78	
39					95% Percentile (z)	41.46			95% Percentile (z)		43.18	
40					99% Percentile (z)	46.02			99% Percentile (z)		50.38	
41												
42					Gamma Distribution Test				Data Distribution Test			
43					k star	17.58			Data appear Normal at 5% Significance Level			
44					Theta Star	1.733						
45					MLE of Mean	30.47						
46					MLE of Standard Deviation	7.265						
47					nu star	562.7						
48												
49					A-D Test Statistic	0.366			Nonparametric Statistics			
50					5% A-D Critical Value	0.736			90% Percentile		36.95	
51					K-S Test Statistic	0.173			95% Percentile		39.58	
52					5% K-S Critical Value	0.215			99% Percentile		44.08	
53					Data appear Gamma Distributed at 5% Significance Level							
54												
55					Assuming Gamma Distribution				95% UTL with 90% Coverage		45.2	

	A	B	C	D	E	F	G	H	I	J	K	L
56					90% Percentile	40.07			95% Percentile Bootstrap UTL with		90% Coverage	45.2
57					95% Percentile	43.32			95% BCA Bootstrap UTL with		90% Coverage	45.2
58					99% Percentile	49.86					95% UPL	45.2
59											95% Chebyshev UPL	60.51
60				95% WH Approx. Gamma UPL		43.81				Upper Threshold Limit Based upon IQR		46.71
61				95% HW Approx. Gamma UPL		44.03						
62			95% WH Approx. Gamma UTL with		90% Coverage	45.79						
63			95% HW Approx. Gamma UTL with		90% Coverage	46.09						
64												
65												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	Mere Brook.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	BARIUM_MF											
12												
13						General Statistics						
14						Total Number of Observations	16			Number of Distinct Observations	13	
15						Tolerance Factor	2.033					
16												
17						Raw Statistics				Log-Transformed Statistics		
18						Minimum	21.9			Minimum	3.086	
19						Maximum	26.5			Maximum	3.277	
20						Second Largest	26.2			Second Largest	3.266	
21						First Quartile	23.08			First Quartile	3.139	
22						Median	23.7			Median	3.165	
23						Third Quartile	24.93			Third Quartile	3.216	
24						Mean	23.92			Mean	3.173	
25						SD	1.356			SD	0.0562	
26						Coefficient of Variation	0.0567					
27						Skewness	0.476					
28												
29						Background Statistics						
30						Normal Distribution Test				Lognormal Distribution Test		
31						Shapiro Wilk Test Statistic	0.955			Shapiro Wilk Test Statistic	0.961	
32						Shapiro Wilk Critical Value	0.887			Shapiro Wilk Critical Value	0.887	
33						Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level		
34												
35						Assuming Normal Distribution				Assuming Lognormal Distribution		
36						95% UTL with 90% Coverage	26.67			95% UTL with 90% Coverage	26.77	
37						95% UPL (t)	26.37			95% UPL (t)	26.43	
38						90% Percentile (z)	25.65			90% Percentile (z)	25.66	
39						95% Percentile (z)	26.15			95% Percentile (z)	26.19	
40						99% Percentile (z)	27.07			99% Percentile (z)	27.21	
41												
42						Gamma Distribution Test				Data Distribution Test		
43						k star	273			Data appear Normal at 5% Significance Level		
44						Theta Star	0.0876					
45						MLE of Mean	23.92					
46						MLE of Standard Deviation	1.447					
47						nu star	8736					
48												
49						A-D Test Statistic	0.276			Nonparametric Statistics		
50						5% A-D Critical Value	0.736			90% Percentile	25.7	
51						K-S Test Statistic	0.148			95% Percentile	26.28	
52						5% K-S Critical Value	0.214			99% Percentile	26.46	
53						Data appear Gamma Distributed at 5% Significance Level						
54												
55						Assuming Gamma Distribution				95% UTL with 90% Coverage	26.5	

	A	B	C	D	E	F	G	H	I	J	K	L
56					90% Percentile	25.79			95% Percentile Bootstrap UTL with		90% Coverage	26.5
57					95% Percentile	26.35			95% BCA Bootstrap UTL with		90% Coverage	26.5
58					99% Percentile	27.41					95% UPL	26.5
59											95% Chebyshev UPL	30.01
60				95% WH Approx. Gamma UPL		26.41				Upper Threshold Limit Based upon IQR		27.7
61				95% HW Approx. Gamma UPL		26.41						
62			95% WH Approx. Gamma UTL with		90% Coverage	26.74						
63			95% HW Approx. Gamma UTL with		90% Coverage	26.74						
64												
65												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	Coffins Ice Pond.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	CALCIUM_MF											
12												
13				General Statistics								
14			Total Number of Observations	16			Number of Distinct Observations			14		
15			Tolerance Factor	2.033								
16												
17			Raw Statistics				Log-Transformed Statistics					
18			Minimum	8970			Minimum			9.102		
19			Maximum	11000			Maximum			9.306		
20			Second Largest	11000			Second Largest			9.306		
21			First Quartile	9655			First Quartile			9.175		
22			Median	10025			Median			9.213		
23			Third Quartile	10825			Third Quartile			9.29		
24			Mean	10101			Mean			9.218		
25			SD	681.2			SD			0.0676		
26			Coefficient of Variation	0.0674								
27			Skewness	0.0384								
28												
29				Background Statistics								
30			Normal Distribution Test				Lognormal Distribution Test					
31			Shapiro Wilk Test Statistic	0.917			Shapiro Wilk Test Statistic			0.921		
32			Shapiro Wilk Critical Value	0.887			Shapiro Wilk Critical Value			0.887		
33			Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level					
34												
35			Assuming Normal Distribution				Assuming Lognormal Distribution					
36			95% UTL with 90% Coverage	11486			95% UTL with 90% Coverage			11564		
37			95% UPL (t)	11332			95% UPL (t)			11388		
38			90% Percentile (z)	10974			90% Percentile (z)			10991		
39			95% Percentile (z)	11221			95% Percentile (z)			11264		
40			99% Percentile (z)	11686			99% Percentile (z)			11795		
41												
42			Gamma Distribution Test				Data Distribution Test					
43			k star	190.3			Data appear Normal at 5% Significance Level					
44			Theta Star	53.09								
45			MLE of Mean	10101								
46			MLE of Standard Deviation	732.3								
47			nu star	6088								
48												
49			A-D Test Statistic	0.504			Nonparametric Statistics					
50			5% A-D Critical Value	0.736			90% Percentile			11000		
51			K-S Test Statistic	0.167			95% Percentile			11000		
52			5% K-S Critical Value	0.214			99% Percentile			11000		
53			Data appear Gamma Distributed at 5% Significance Level									
54												
55			Assuming Gamma Distribution				95% UTL with 90% Coverage			11000		

	A	B	C	D	E	F	G	H	I	J	K	L
56					90% Percentile	11050			95% Percentile Bootstrap UTL with		90% Coverage	11000
57					95% Percentile	11335			95% BCA Bootstrap UTL with		90% Coverage	11000
58					99% Percentile	11882					95% UPL	11000
59											95% Chebyshev UPL	13162
60				95% WH Approx. Gamma UPL		11368					Upper Threshold Limit Based upon IQR	12580
61				95% HW Approx. Gamma UPL		11373						
62			95% WH Approx. Gamma UTL with		90% Coverage	11536						
63			95% HW Approx. Gamma UTL with		90% Coverage	11543						
64												
65												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	Mere Brook.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	CALCIUM_MF											
12												
13						General Statistics						
14						Total Number of Observations	16			Number of Distinct Observations	13	
15						Tolerance Factor	2.033					
16												
17						Raw Statistics				Log-Transformed Statistics		
18						Minimum	8400			Minimum	9.036	
19						Maximum	9820			Maximum	9.192	
20						Second Largest	9620			Second Largest	9.172	
21						First Quartile	8670			First Quartile	9.068	
22						Median	9093			Median	9.115	
23						Third Quartile	9320			Third Quartile	9.14	
24						Mean	9083			Mean	9.113	
25						SD	398.5			SD	0.0439	
26						Coefficient of Variation	0.0439					
27						Skewness	0.0268					
28												
29						Background Statistics						
30						Normal Distribution Test				Lognormal Distribution Test		
31						Shapiro Wilk Test Statistic	0.965			Shapiro Wilk Test Statistic	0.964	
32						Shapiro Wilk Critical Value	0.887			Shapiro Wilk Critical Value	0.887	
33						Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level		
34												
35						Assuming Normal Distribution				Assuming Lognormal Distribution		
36						95% UTL with 90% Coverage	9894			95% UTL with 90% Coverage	9923	
37						95% UPL (t)	9804			95% UPL (t)	9825	
38						90% Percentile (z)	9594			90% Percentile (z)	9601	
39						95% Percentile (z)	9739			95% Percentile (z)	9755	
40						99% Percentile (z)	10010			99% Percentile (z)	10051	
41												
42						Gamma Distribution Test				Data Distribution Test		
43						k star	449.9			Data appear Normal at 5% Significance Level		
44						Theta Star	20.19					
45						MLE of Mean	9083					
46						MLE of Standard Deviation	428.2					
47						nu star	14398					
48												
49						A-D Test Statistic	0.325			Nonparametric Statistics		
50						5% A-D Critical Value	0.736			90% Percentile	9545	
51						K-S Test Statistic	0.171			95% Percentile	9670	
52						5% K-S Critical Value	0.214			99% Percentile	9790	
53						Data appear Gamma Distributed at 5% Significance Level						
54												
55						Assuming Gamma Distribution				95% UTL with 90% Coverage	9820	

	A	B	C	D	E	F	G	H	I	J	K	L
56					90% Percentile	9636			95% Percentile Bootstrap UTL with		90% Coverage	9820
57					95% Percentile	9799			95% BCA Bootstrap UTL with		90% Coverage	9820
58					99% Percentile	10109					95% UPL	9820
59											95% Chebyshev UPL	10874
60				95% WH Approx. Gamma UPL		9817				Upper Threshold Limit Based upon IQR		10295
61				95% HW Approx. Gamma UPL		9819						
62			95% WH Approx. Gamma UTL with		90% Coverage	9913						
63			95% HW Approx. Gamma UTL with		90% Coverage	9915						
64												
65												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	Misc Groups.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	Chromium_MF_CoffinsFall											
12												
13						General Statistics						
14						Total Number of Observations	8			Number of Distinct Observations	7	
15						Tolerance Factor	2.582					
16												
17						Raw Statistics				Log-Transformed Statistics		
18						Minimum	0.65			Minimum	-0.431	
19						Maximum	1.4			Maximum	0.336	
20						Second Largest	1.2			Second Largest	0.182	
21						First Quartile	0.79			First Quartile	-0.236	
22						Median	1.065			Median	0.0598	
23						Third Quartile	1.2			Third Quartile	0.182	
24						Mean	1.018			Mean	-0.0135	
25						SD	0.262			SD	0.27	
26						Coefficient of Variation	0.258					
27						Skewness	-0.0699					
28												
29												
30						Warning: There are only 8 Values in this data						
31						Note: It should be noted that even though bootstrap methods may be performed on this data set,						
32						the resulting calculations may not be reliable enough to draw conclusions						
33												
34						The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.						
35												
36						Background Statistics						
37						Normal Distribution Test				Lognormal Distribution Test		
38						Shapiro Wilk Test Statistic	0.941			Shapiro Wilk Test Statistic	0.932	
39						Shapiro Wilk Critical Value	0.818			Shapiro Wilk Critical Value	0.818	
40						Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level		
41												
42						Assuming Normal Distribution				Assuming Lognormal Distribution		
43						95% UTL with 90% Coverage	1.694			95% UTL with 90% Coverage	1.979	
44						95% UPL (t)	1.544			95% UPL (t)	1.696	
45						90% Percentile (z)	1.353			90% Percentile (z)	1.394	
46						95% Percentile (z)	1.448			95% Percentile (z)	1.537	
47						99% Percentile (z)	1.627			99% Percentile (z)	1.847	
48												
49						Gamma Distribution Test				Data Distribution Test		
50						k star	10.33			Data appear Normal at 5% Significance Level		
51						Theta Star	0.0985					
52						MLE of Mean	1.018					
53						MLE of Standard Deviation	0.317					
54						nu star	165.3					
55												

	A	B	C	D	E	F	G	H	I	J	K	L
56					A-D Test Statistic	0.352			**Nonparametric Statistics**			
57					5% A-D Critical Value	0.716					90% Percentile	1.26
58					K-S Test Statistic	0.222					95% Percentile	1.33
59					5% K-S Critical Value	0.294					99% Percentile	1.386
60	Data appear Gamma Distributed at 5% Significance Level											
61												
62				**Assuming Gamma Distribution**						95% UTL with	90% Coverage	1.4
63					90% Percentile	1.438			95% Percentile Bootstrap UTL with		90% Coverage	1.4
64					95% Percentile	1.588			95% BCA Bootstrap UTL with		90% Coverage	1.4
65					99% Percentile	1.895					95% UPL	1.4
66											95% Chebyshev UPL	2.229
67					95% WH Approx. Gamma UPL	1.631					Upper Threshold Limit Based upon IQR	1.815
68					95% HW Approx. Gamma UPL	1.645						
69				95% WH Approx. Gamma UTL with	90% Coverage	1.851						
70				95% HW Approx. Gamma UTL with	90% Coverage	1.878						
71												
72												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	Misc Groups.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	Chromium_MF_MereFall											
12												
13						General Statistics						
14						Total Number of Observations	8			Number of Distinct Observations	5	
15						Tolerance Factor	2.582					
16												
17						Raw Statistics				Log-Transformed Statistics		
18						Minimum	1.2			Minimum	0.182	
19						Maximum	1.5			Maximum	0.405	
20						Second Largest	1.4			Second Largest	0.336	
21						First Quartile	1.288			First Quartile	0.253	
22						Median	1.4			Median	0.336	
23						Third Quartile	1.4			Third Quartile	0.336	
24						Mean	1.356			Mean	0.302	
25						SD	0.098			SD	0.0733	
26						Coefficient of Variation	0.0722					
27						Skewness	-0.382					
28												
29												
30						Warning: There are only 8 Values in this data						
31						Note: It should be noted that even though bootstrap methods may be performed on this data set,						
32						the resulting calculations may not be reliable enough to draw conclusions						
33												
34						The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.						
35												
36						Background Statistics						
37						Normal Distribution Test				Lognormal Distribution Test		
38						Shapiro Wilk Test Statistic	0.904			Shapiro Wilk Test Statistic	0.899	
39						Shapiro Wilk Critical Value	0.818			Shapiro Wilk Critical Value	0.818	
40						Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level		
41												
42						Assuming Normal Distribution				Assuming Lognormal Distribution		
43						95% UTL with 90% Coverage	1.609			95% UTL with 90% Coverage	1.635	
44						95% UPL (t)	1.553			95% UPL (t)	1.568	
45						90% Percentile (z)	1.482			90% Percentile (z)	1.486	
46						95% Percentile (z)	1.517			95% Percentile (z)	1.526	
47						99% Percentile (z)	1.584			99% Percentile (z)	1.605	
48												
49						Gamma Distribution Test				Data Distribution Test		
50						k star	134.6			Data appear Normal at 5% Significance Level		
51						Theta Star	0.0101					
52						MLE of Mean	1.356					
53						MLE of Standard Deviation	0.117					
54						nu star	2153					
55												

	A	B	C	D	E	F	G	H	I	J	K	L
56					A-D Test Statistic	0.557	**Nonparametric Statistics**					
57					5% A-D Critical Value	0.715					90% Percentile	1.43
58					K-S Test Statistic	0.313					95% Percentile	1.465
59					5% K-S Critical Value	0.294					99% Percentile	1.493
60	Data follow Appx. Gamma Distribution at 5% Significance Level											
61												
62			**Assuming Gamma Distribution**							95% UTL with	90% Coverage	1.5
63					90% Percentile	1.508			95% Percentile Bootstrap UTL with		90% Coverage	1.5
64					95% Percentile	1.554			95% BCA Bootstrap UTL with		90% Coverage	1.5
65					99% Percentile	1.643					95% UPL	1.5
66											95% Chebyshev UPL	1.809
67					95% WH Approx. Gamma UPL	1.562					Upper Threshold Limit Based upon IQR	1.569
68					95% HW Approx. Gamma UPL	1.564						
69				95% WH Approx. Gamma UTL with	90% Coverage	1.625						
70				95% HW Approx. Gamma UTL with	90% Coverage	1.628						
71												
72												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	Misc Groups.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	Cobalt_MF_CoffinsFall											
12												
13					General Statistics							
14					Total Number of Observations	8			Number of Distinct Observations		6	
15					Tolerance Factor	2.582						
16												
17					Raw Statistics				Log-Transformed Statistics			
18					Minimum	0.21			Minimum		-1.561	
19					Maximum	0.34			Maximum		-1.079	
20					Second Largest	0.34			Second Largest		-1.079	
21					First Quartile	0.25			First Quartile		-1.386	
22					Median	0.295			Median		-1.224	
23					Third Quartile	0.333			Third Quartile		-1.101	
24					Mean	0.289			Mean		-1.256	
25					SD	0.05			SD		0.18	
26					Coefficient of Variation	0.173						
27					Skewness	-0.368						
28												
29												
30					Warning: There are only 8 Values in this data							
31					Note: It should be noted that even though bootstrap methods may be performed on this data set,							
32					the resulting calculations may not be reliable enough to draw conclusions							
33												
34					The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.							
35												
36					Background Statistics							
37					Normal Distribution Test				Lognormal Distribution Test			
38					Shapiro Wilk Test Statistic	0.878			Shapiro Wilk Test Statistic		0.877	
39					Shapiro Wilk Critical Value	0.818			Shapiro Wilk Critical Value		0.818	
40					Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level			
41												
42					Assuming Normal Distribution				Assuming Lognormal Distribution			
43					95% UTL with 90% Coverage	0.418			95% UTL with 90% Coverage		0.454	
44					95% UPL (t)	0.389			95% UPL (t)		0.409	
45					90% Percentile (z)	0.353			90% Percentile (z)		0.359	
46					95% Percentile (z)	0.371			95% Percentile (z)		0.383	
47					99% Percentile (z)	0.405			99% Percentile (z)		0.433	
48												
49					Gamma Distribution Test				Data Distribution Test			
50					k star	22.76			Data appear Normal at 5% Significance Level			
51					Theta Star	0.0127						
52					MLE of Mean	0.289						
53					MLE of Standard Deviation	0.0605						
54					nu star	364.2						
55												

	A	B	C	D	E	F	G	H	I	J	K	L
56					A-D Test Statistic	0.52			**Nonparametric Statistics**			
57					5% A-D Critical Value	0.715					90% Percentile	0.34
58					K-S Test Statistic	0.253					95% Percentile	0.34
59					5% K-S Critical Value	0.294					99% Percentile	0.34
60		Data appear Gamma Distributed at 5% Significance Level										
61												
62				**Assuming Gamma Distribution**						95% UTL with	90% Coverage	0.34
63					90% Percentile	0.369				95% Percentile Bootstrap UTL with	90% Coverage	0.34
64					95% Percentile	0.395				95% BCA Bootstrap UTL with	90% Coverage	0.34
65					99% Percentile	0.448					95% UPL	0.34
66											95% Chebyshev UPL	0.52
67					95% WH Approx. Gamma UPL	0.401					Upper Threshold Limit Based upon IQR	0.456
68					95% HW Approx. Gamma UPL	0.403						
69				95% WH Approx. Gamma UTL with	90% Coverage	0.439						
70				95% HW Approx. Gamma UTL with	90% Coverage	0.442						
71												
72												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	Misc Groups.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	Coffins_MF_MereFall											
12												
13						General Statistics						
14						Total Number of Observations	8			Number of Distinct Observations	3	
15						Tolerance Factor	2.582					
16												
17						Raw Statistics				Log-Transformed Statistics		
18						Minimum	0.1			Minimum	-2.303	
19						Maximum	0.12			Maximum	-2.12	
20						Second Largest	0.12			Second Largest	-2.12	
21						First Quartile	0.1			First Quartile	-2.303	
22						Median	0.1			Median	-2.303	
23						Third Quartile	0.113			Third Quartile	-2.186	
24						Mean	0.106			Mean	-2.245	
25						SD	0.00916			SD	0.0838	
26						Coefficient of Variation	0.0862					
27						Skewness	0.999					
28												
29												
30						Warning: There are only 3 Distinct Values in this data						
31						There are insufficient Distinct Values to perform some GOF tests and bootstrap methods.						
32						Those methods will return a 'N/A' value on your output display!						
33												
34						It is necessary to have 4 or more Distinct Values to compute bootstrap methods.						
35						However, results obtained using 4 to 9 distinct values may not be reliable.						
36						It is recommended to have 10-15 or more observations for accurate and meaningful bootstrap results.						
37												
38						Background Statistics						
39						Normal Distribution Test				Lognormal Distribution Test		
40						Shapiro Wilk Test Statistic	0.693			Shapiro Wilk Test Statistic	0.694	
41						Shapiro Wilk Critical Value	0.818			Shapiro Wilk Critical Value	0.818	
42						Data not Normal at 5% Significance Level				Data not Lognormal at 5% Significance Level		
43												
44						Assuming Normal Distribution				Assuming Lognormal Distribution		
45						95% UTL with 90% Coverage	0.13			95% UTL with 90% Coverage	0.131	
46						95% UPL (t)	0.125			95% UPL (t)	0.125	
47						90% Percentile (z)	0.118			90% Percentile (z)	0.118	
48						95% Percentile (z)	0.121			95% Percentile (z)	0.122	
49						99% Percentile (z)	0.128			99% Percentile (z)	0.129	
50												
51						Gamma Distribution Test				Data Distribution Test		
52						k star	100			Data do not follow a Discernable Distribution (0.05)		
53						Theta Star	0.00106					
54						MLE of Mean	0.106					
55						MLE of Standard Deviation	0.0106					

	A	B	C	D	E	F	G	H	I	J	K	L
56					nu star	1600						
57												
58					A-D Test Statistic	1.27			**Nonparametric Statistics**			
59					5% A-D Critical Value	0.715					90% Percentile	0.12
60					K-S Test Statistic	0.393					95% Percentile	0.12
61					5% K-S Critical Value	0.294					99% Percentile	0.12
62		**Data not Gamma Distributed at 5% Significance Level**										
63												
64			**Assuming Gamma Distribution**							95% UTL with	90% Coverage	0.12
65					90% Percentile	0.12			95% Percentile Bootstrap UTL with		90% Coverage	N/A
66					95% Percentile	0.124			95% BCA Bootstrap UTL with		90% Coverage	N/A
67					99% Percentile	0.133					95% UPL	0.12
68											95% Chebyshev UPL	0.149
69					95% WH Approx. Gamma UPL	0.125					Upper Threshold Limit Based upon IQR	0.131
70					95% HW Approx. Gamma UPL	0.125						
71					95% WH Approx. Gamma UTL with 90% Coverage	0.131						
72					95% HW Approx. Gamma UTL with 90% Coverage	0.131						
73												
74												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	Misc Groups.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	Iron_MF_CoffinsSpring											
12												
13					General Statistics							
14					Total Number of Observations	8			Number of Distinct Observations			8
15					Tolerance Factor	2.582						
16												
17					Raw Statistics				Log-Transformed Statistics			
18					Minimum	43.9			Minimum			3.782
19					Maximum	112			Maximum			4.718
20					Second Largest	97.2			Second Largest			4.577
21					First Quartile	74.11			First Quartile			4.305
22					Median	82.15			Median			4.407
23					Third Quartile	91.65			Third Quartile			4.517
24					Mean	81.66			Mean			4.371
25					SD	20.15			SD			0.28
26					Coefficient of Variation	0.247						
27					Skewness	-0.537						
28												
29												
30					Warning: There are only 8 Values in this data							
31					Note: It should be noted that even though bootstrap methods may be performed on this data set,							
32					the resulting calculations may not be reliable enough to draw conclusions							
33												
34					The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.							
35												
36					Background Statistics							
37					Normal Distribution Test				Lognormal Distribution Test			
38					Shapiro Wilk Test Statistic	0.971			Shapiro Wilk Test Statistic			0.902
39					Shapiro Wilk Critical Value	0.818			Shapiro Wilk Critical Value			0.818
40					Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level			
41												
42					Assuming Normal Distribution				Assuming Lognormal Distribution			
43					95% UTL with 90% Coverage	133.7			95% UTL with 90% Coverage			163
44					95% UPL (t)	122.2			95% UPL (t)			138.9
45					90% Percentile (z)	107.5			90% Percentile (z)			113.3
46					95% Percentile (z)	114.8			95% Percentile (z)			125.4
47					99% Percentile (z)	128.5			99% Percentile (z)			151.7
48												
49					Gamma Distribution Test				Data Distribution Test			
50					k star	10.2			Data appear Normal at 5% Significance Level			
51					Theta Star	8.009						
52					MLE of Mean	81.66						
53					MLE of Standard Deviation	25.57						
54					nu star	163.1						
55												

	A	B	C	D	E	F	G	H	I	J	K	L
56					A-D Test Statistic	0.322			**Nonparametric Statistics**			
57					5% A-D Critical Value	0.716					90% Percentile	101.6
58					K-S Test Statistic	0.193					95% Percentile	106.8
59					5% K-S Critical Value	0.294					99% Percentile	111
60		Data appear Gamma Distributed at 5% Significance Level										
61												
62				**Assuming Gamma Distribution**						95% UTL with	90% Coverage	112
63					90% Percentile	115.7			95% Percentile Bootstrap UTL with		90% Coverage	112
64					95% Percentile	127.8			95% BCA Bootstrap UTL with		90% Coverage	112
65					99% Percentile	152.6					95% UPL	112
66											95% Chebyshev UPL	174.8
67					95% WH Approx. Gamma UPL	131.2					Upper Threshold Limit Based upon IQR	118
68					95% HW Approx. Gamma UPL	132.8						
69				95% WH Approx. Gamma UTL with	90% Coverage	149						
70				95% HW Approx. Gamma UTL with	90% Coverage	151.9						
71												
72												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	Misc Groups.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	Iron_MF_MereSpring											
12												
13						General Statistics						
14						Total Number of Observations	8			Number of Distinct Observations	8	
15						Tolerance Factor	2.582					
16												
17						Raw Statistics				Log-Transformed Statistics		
18						Minimum	62.5			Minimum	4.135	
19						Maximum	85.7			Maximum	4.451	
20						Second Largest	84			Second Largest	4.431	
21						First Quartile	69.05			First Quartile	4.235	
22						Median	78			Median	4.356	
23						Third Quartile	82.58			Third Quartile	4.414	
24						Mean	76.01			Mean	4.325	
25						SD	8.581			SD	0.116	
26						Coefficient of Variation	0.113					
27						Skewness	-0.41					
28												
29												
30						Warning: There are only 8 Values in this data						
31						Note: It should be noted that even though bootstrap methods may be performed on this data set,						
32						the resulting calculations may not be reliable enough to draw conclusions						
33												
34						The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.						
35												
36						Background Statistics						
37						Normal Distribution Test				Lognormal Distribution Test		
38						Shapiro Wilk Test Statistic	0.904			Shapiro Wilk Test Statistic	0.9	
39						Shapiro Wilk Critical Value	0.818			Shapiro Wilk Critical Value	0.818	
40						Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level		
41												
42						Assuming Normal Distribution				Assuming Lognormal Distribution		
43						95% UTL with 90% Coverage	98.17			95% UTL with 90% Coverage	101.9	
44						95% UPL (t)	93.26			95% UPL (t)	95.35	
45						90% Percentile (z)	87.01			90% Percentile (z)	87.65	
46						95% Percentile (z)	90.13			95% Percentile (z)	91.41	
47						99% Percentile (z)	95.97			99% Percentile (z)	98.91	
48												
49						Gamma Distribution Test				Data Distribution Test		
50						k star	54.45			Data appear Normal at 5% Significance Level		
51						Theta Star	1.396					
52						MLE of Mean	76.01					
53						MLE of Standard Deviation	10.3					
54						nu star	871.2					
55												

	A	B	C	D	E	F	G	H	I	J	K	L
56					A-D Test Statistic	0.452			**Nonparametric Statistics**			
57					5% A-D Critical Value	0.715					90% Percentile	84.51
58					K-S Test Statistic	0.267					95% Percentile	85.11
59					5% K-S Critical Value	0.294					99% Percentile	85.58
60	Data appear Gamma Distributed at 5% Significance Level											
61												
62				**Assuming Gamma Distribution**						95% UTL with	90% Coverage	85.7
63					90% Percentile	89.48				95% Percentile Bootstrap UTL with	90% Coverage	85.7
64					95% Percentile	93.71				95% BCA Bootstrap UTL with	90% Coverage	85.7
65					99% Percentile	102					95% UPL	85.7
66											95% Chebyshev UPL	115.7
67					95% WH Approx. Gamma UPL	94.57					Upper Threshold Limit Based upon IQR	102.9
68					95% HW Approx. Gamma UPL	94.75						
69				95% WH Approx. Gamma UTL with	90% Coverage	100.5						
70				95% HW Approx. Gamma UTL with	90% Coverage	100.8						
71												
72												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	Misc Groups.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	Lead_MF_CoffinsSpring											
12												
13					General Statistics							
14					Total Number of Observations	8			Number of Distinct Observations		7	
15					Tolerance Factor	2.582						
16												
17					Raw Statistics				Log-Transformed Statistics			
18					Minimum	0.11			Minimum		-2.207	
19					Maximum	0.33			Maximum		-1.109	
20					Second Largest	0.22			Second Largest		-1.514	
21					First Quartile	0.139			First Quartile		-1.975	
22					Median	0.15			Median		-1.897	
23					Third Quartile	0.213			Third Quartile		-1.549	
24					Mean	0.181			Mean		-1.769	
25					SD	0.071			SD		0.351	
26					Coefficient of Variation	0.393						
27					Skewness	1.513						
28												
29												
30					Warning: There are only 8 Values in this data							
31					Note: It should be noted that even though bootstrap methods may be performed on this data set,							
32					the resulting calculations may not be reliable enough to draw conclusions							
33												
34					The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.							
35												
36					Background Statistics							
37					Normal Distribution Test				Lognormal Distribution Test			
38					Shapiro Wilk Test Statistic	0.84			Shapiro Wilk Test Statistic		0.918	
39					Shapiro Wilk Critical Value	0.818			Shapiro Wilk Critical Value		0.818	
40					Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level			
41												
42					Assuming Normal Distribution				Assuming Lognormal Distribution			
43					95% UTL with 90% Coverage	0.364			95% UTL with 90% Coverage		0.422	
44					95% UPL (t)	0.323			95% UPL (t)		0.345	
45					90% Percentile (z)	0.272			90% Percentile (z)		0.267	
46					95% Percentile (z)	0.297			95% Percentile (z)		0.304	
47					99% Percentile (z)	0.346			99% Percentile (z)		0.386	
48												
49					Gamma Distribution Test				Data Distribution Test			
50					k star	5.586			Data appear Normal at 5% Significance Level			
51					Theta Star	0.0323						
52					MLE of Mean	0.181						
53					MLE of Standard Deviation	0.0764						
54					nu star	89.38						
55												

	A	B	C	D	E	F	G	H	I	J	K	L
56					A-D Test Statistic	0.481			**Nonparametric Statistics**			
57					5% A-D Critical Value	0.716					90% Percentile	0.253
58					K-S Test Statistic	0.288					95% Percentile	0.292
59					5% K-S Critical Value	0.295					99% Percentile	0.322
60		Data appear Gamma Distributed at 5% Significance Level										
61												
62				**Assuming Gamma Distribution**						95% UTL with	90% Coverage	0.33
63					90% Percentile	0.283				95% Percentile Bootstrap UTL with	90% Coverage	0.33
64					95% Percentile	0.322				95% BCA Bootstrap UTL with	90% Coverage	0.33
65					99% Percentile	0.404					95% UPL	0.33
66											95% Chebyshev UPL	0.509
67					95% WH Approx. Gamma UPL	0.335					Upper Threshold Limit Based upon IQR	0.323
68					95% HW Approx. Gamma UPL	0.337						
69				95% WH Approx. Gamma UTL with	90% Coverage	0.394						
70				95% HW Approx. Gamma UTL with	90% Coverage	0.4						
71												
72												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	Fall Data.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	MAGNESIUM_MF											
12												
13						General Statistics						
14						Total Number of Observations	16			Number of Distinct Observations	13	
15						Tolerance Factor	2.033					
16												
17						Raw Statistics				Log-Transformed Statistics		
18						Minimum	1990			Minimum	7.596	
19						Maximum	2515			Maximum	7.83	
20						Second Largest	2430			Second Largest	7.796	
21						First Quartile	2020			First Quartile	7.611	
22						Median	2140			Median	7.669	
23						Third Quartile	2308			Third Quartile	7.744	
24						Mean	2186			Mean	7.687	
25						SD	178.7			SD	0.0803	
26						Coefficient of Variation	0.0817					
27						Skewness	0.602					
28												
29						Background Statistics						
30						Normal Distribution Test				Lognormal Distribution Test		
31						Shapiro Wilk Test Statistic	0.88			Shapiro Wilk Test Statistic	0.886	
32						Shapiro Wilk Critical Value	0.887			Shapiro Wilk Critical Value	0.887	
33						Data not Normal at 5% Significance Level				Data not Lognormal at 5% Significance Level		
34												
35						Assuming Normal Distribution				Assuming Lognormal Distribution		
36						95% UTL with 90% Coverage	2550			95% UTL with 90% Coverage	2566	
37						95% UPL (t)	2509			95% UPL (t)	2520	
38						90% Percentile (z)	2415			90% Percentile (z)	2416	
39						95% Percentile (z)	2480			95% Percentile (z)	2487	
40						99% Percentile (z)	2602			99% Percentile (z)	2627	
41												
42						Gamma Distribution Test				Data Distribution Test		
43						k star	133			Data Follow Appr. Gamma Distribution at 5% Significance Level		
44						Theta Star	16.44					
45						MLE of Mean	2186					
46						MLE of Standard Deviation	189.6					
47						nu star	4256					
48												
49						A-D Test Statistic	0.747			Nonparametric Statistics		
50						5% A-D Critical Value	0.736			90% Percentile	2425	
51						K-S Test Statistic	0.165			95% Percentile	2451	
52						5% K-S Critical Value	0.214			99% Percentile	2502	
53						Data follow Appx. Gamma Distribution at 5% Significance Level						
54												
55						Assuming Gamma Distribution				95% UTL with 90% Coverage	2515	

	A	B	C	D	E	F	G	H	I	J	K	L
56					90% Percentile	2432				95% Percentile Bootstrap UTL with	90% Coverage	2515
57					95% Percentile	2507				95% BCA Bootstrap UTL with	90% Coverage	2473
58					99% Percentile	2651					95% UPL	2515
59											95% Chebyshev UPL	2989
60					95% WH Approx. Gamma UPL	2516					Upper Threshold Limit Based upon IQR	2739
61					95% HW Approx. Gamma UPL	2517						
62				95% WH Approx. Gamma UTL with	90% Coverage	2560						
63				95% HW Approx. Gamma UTL with	90% Coverage	2562						
64												
65												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	Spring.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	MAGNESIUM_MF											
12												
13						General Statistics						
14						Total Number of Observations	16			Number of Distinct Observations	12	
15						Tolerance Factor	2.033					
16												
17						Raw Statistics				Log-Transformed Statistics		
18						Minimum	1480			Minimum	7.3	
19						Maximum	2505			Maximum	7.826	
20						Second Largest	1840			Second Largest	7.518	
21						First Quartile	1708			First Quartile	7.443	
22						Median	1760			Median	7.473	
23						Third Quartile	1770			Third Quartile	7.479	
24						Mean	1776			Mean	7.477	
25						SD	210.4			SD	0.105	
26						Coefficient of Variation	0.118					
27						Skewness	2.923					
28												
29						Background Statistics						
30						Normal Distribution Test				Lognormal Distribution Test		
31						Shapiro Wilk Test Statistic	0.617			Shapiro Wilk Test Statistic	0.679	
32						Shapiro Wilk Critical Value	0.887			Shapiro Wilk Critical Value	0.887	
33						Data not Normal at 5% Significance Level				Data not Lognormal at 5% Significance Level		
34												
35						Assuming Normal Distribution				Assuming Lognormal Distribution		
36						95% UTL with 90% Coverage	2204			95% UTL with 90% Coverage	2188	
37						95% UPL (t)	2157			95% UPL (t)	2136	
38						90% Percentile (z)	2046			90% Percentile (z)	2021	
39						95% Percentile (z)	2122			95% Percentile (z)	2100	
40						99% Percentile (z)	2266			99% Percentile (z)	2256	
41												
42						Gamma Distribution Test				Data Distribution Test		
43						k star	72.73			Data do not follow a Discernable Distribution (0.05)		
44						Theta Star	24.42					
45						MLE of Mean	1776					
46						MLE of Standard Deviation	208.3					
47						nu star	2327					
48												
49						A-D Test Statistic	2.153			Nonparametric Statistics		
50						5% A-D Critical Value	0.736			90% Percentile	1825	
51						K-S Test Statistic	0.312			95% Percentile	2006	
52						5% K-S Critical Value	0.214			99% Percentile	2405	
53						Data not Gamma Distributed at 5% Significance Level						
54												
55						Assuming Gamma Distribution				95% UTL with 90% Coverage	2505	

	A	B	C	D	E	F	G	H	I	J	K	L
56					90% Percentile	2048			95% Percentile Bootstrap UTL with		90% Coverage	2505
57					95% Percentile	2132			95% BCA Bootstrap UTL with		90% Coverage	2173
58					99% Percentile	2296					95% UPL	2505
59											95% Chebyshev UPL	2722
60					95% WH Approx. Gamma UPL	2142					Upper Threshold Limit Based upon IQR	1864
61					95% HW Approx. Gamma UPL	2141						
62				95% WH Approx. Gamma UTL with	90% Coverage	2192						
63				95% HW Approx. Gamma UTL with	90% Coverage	2191						
64												
65												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	Coffins Ice Pond.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	MANGANESE_MF											
12												
13						General Statistics						
14						Total Number of Observations	16			Number of Distinct Observations	16	
15						Tolerance Factor	2.033					
16												
17						Raw Statistics				Log-Transformed Statistics		
18						Minimum	47.4			Minimum	3.859	
19						Maximum	157			Maximum	5.056	
20						Second Largest	148			Second Largest	4.997	
21						First Quartile	80.4			First Quartile	4.387	
22						Median	92.2			Median	4.524	
23						Third Quartile	129.5			Third Quartile	4.863	
24						Mean	101.5			Mean	4.57	
25						SD	32.37			SD	0.334	
26						Coefficient of Variation	0.319					
27						Skewness	0.263					
28												
29						Background Statistics						
30						Normal Distribution Test				Lognormal Distribution Test		
31						Shapiro Wilk Test Statistic	0.941			Shapiro Wilk Test Statistic	0.949	
32						Shapiro Wilk Critical Value	0.887			Shapiro Wilk Critical Value	0.887	
33						Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level		
34												
35						Assuming Normal Distribution				Assuming Lognormal Distribution		
36						95% UTL with 90% Coverage	167.3			95% UTL with 90% Coverage	190.3	
37						95% UPL (t)	160			95% UPL (t)	176.4	
38						90% Percentile (z)	143			90% Percentile (z)	148.1	
39						95% Percentile (z)	154.8			95% Percentile (z)	167.2	
40						99% Percentile (z)	176.8			99% Percentile (z)	209.8	
41												
42						Gamma Distribution Test				Data Distribution Test		
43						k star	8.262			Data appear Normal at 5% Significance Level		
44						Theta Star	12.29					
45						MLE of Mean	101.5					
46						MLE of Standard Deviation	35.32					
47						nu star	264.4					
48												
49						A-D Test Statistic	0.406			Nonparametric Statistics		
50						5% A-D Critical Value	0.739			90% Percentile	143.5	
51						K-S Test Statistic	0.17			95% Percentile	150.3	
52						5% K-S Critical Value	0.215			99% Percentile	155.7	
53						Data appear Gamma Distributed at 5% Significance Level						
54												
55						Assuming Gamma Distribution				95% UTL with 90% Coverage	157	

	A	B	C	D	E	F	G	H	I	J	K	L
56					90% Percentile	148.6			95% Percentile Bootstrap UTL with		90% Coverage	157
57					95% Percentile	165.7			95% BCA Bootstrap UTL with		90% Coverage	157
58					99% Percentile	201.1					95% UPL	157
59											95% Chebyshev UPL	247
60					95% WH Approx. Gamma UPL	168.8					Upper Threshold Limit Based upon IQR	203.2
61					95% HW Approx. Gamma UPL	170.4						
62				95% WH Approx. Gamma UTL with	90% Coverage	179.5						
63				95% HW Approx. Gamma UTL with	90% Coverage	181.7						
64												
65												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	Mere Brook.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	Manganese_MF_MB											
12												
13						General Statistics						
14						Total Number of Observations	16			Number of Distinct Observations	15	
15						Tolerance Factor	2.033					
16												
17						Raw Statistics				Log-Transformed Statistics		
18						Minimum	35.9			Minimum	3.581	
19						Maximum	77.2			Maximum	4.346	
20						Second Largest	75.7			Second Largest	4.327	
21						First Quartile	38.2			First Quartile	3.643	
22						Median	55.48			Median	3.971	
23						Third Quartile	74.05			Third Quartile	4.305	
24						Mean	56.1			Mean	3.971	
25						SD	18.81			SD	0.348	
26						Coefficient of Variation	0.335					
27						Skewness	0.0105					
28												
29						Background Statistics						
30						Normal Distribution Test				Lognormal Distribution Test		
31						Shapiro Wilk Test Statistic	0.713			Shapiro Wilk Test Statistic	0.712	
32						Shapiro Wilk Critical Value	0.887			Shapiro Wilk Critical Value	0.887	
33						Data not Normal at 5% Significance Level				Data not Lognormal at 5% Significance Level		
34												
35						Assuming Normal Distribution				Assuming Lognormal Distribution		
36						95% UTL with 90% Coverage	94.33			95% UTL with 90% Coverage	107.6	
37						95% UPL (t)	90.08			95% UPL (t)	99.46	
38						90% Percentile (z)	80.2			90% Percentile (z)	82.85	
39						95% Percentile (z)	87.03			95% Percentile (z)	94.01	
40						99% Percentile (z)	99.85			99% Percentile (z)	119.1	
41												
42						Gamma Distribution Test				Data Distribution Test		
43						k star	7.477			Data do not follow a Discernable Distribution (0.05)		
44						Theta Star	7.502					
45						MLE of Mean	56.1					
46						MLE of Standard Deviation	20.51					
47						nu star	239.3					
48												
49						A-D Test Statistic	2.293			Nonparametric Statistics		
50						5% A-D Critical Value	0.739			90% Percentile	75.6	
51						K-S Test Statistic	0.318			95% Percentile	76.08	
52						5% K-S Critical Value	0.215			99% Percentile	76.98	
53						Data not Gamma Distributed at 5% Significance Level						
54												
55						Assuming Gamma Distribution				95% UTL with 90% Coverage	77.2	

	A	B	C	D	E	F	G	H	I	J	K	L
56					90% Percentile	83.47			95% Percentile Bootstrap UTL with		90% Coverage	77.2
57					95% Percentile	93.54			95% BCA Bootstrap UTL with		90% Coverage	77.2
58					99% Percentile	114.5					95% UPL	77.2
59											95% Chebyshev UPL	140.6
60				95% WH Approx. Gamma UPL		95.45				Upper Threshold Limit Based upon IQR		127.8
61				95% HW Approx. Gamma UPL		96.34						
62			95% WH Approx. Gamma UTL with		90% Coverage	101.8						
63			95% HW Approx. Gamma UTL with		90% Coverage	103						
64												
65												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Data Sets with Non-Detects								
2			User Selected Options									
3			From File	Misc Groups.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	Nickel_MF_CoffinsFall											
12												
13						General Statistics						
14						Number of Valid Data	8			Number of Detected Data	7	
15						Number of Distinct Detected Data	5			Number of Non-Detect Data	1	
16						Tolerance Factor	2.582			Percent Non-Detects	12.50%	
17												
18						Raw Statistics				Log-transformed Statistics		
19						Minimum Detected	1.4			Minimum Detected	0.336	
20						Maximum Detected	2.6			Maximum Detected	0.956	
21						Mean of Detected	1.686			Mean of Detected	0.498	
22						SD of Detected	0.434			SD of Detected	0.226	
23						Minimum Non-Detect	1.2			Minimum Non-Detect	0.182	
24						Maximum Non-Detect	1.2			Maximum Non-Detect	0.182	
25												
26												
27												
28						Warning: There are only 7 Detected Values in this data						
29						Note: It should be noted that even though bootstrap may be performed on this data set						
30						the resulting calculations may not be reliable enough to draw conclusions						
31												
32						It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.						
33												
34						Background Statistics						
35						Normal Distribution Test with Detected Values Only				Lognormal Distribution Test with Detected Values Only		
36						Shapiro Wilk Test Statistic	0.736			Shapiro Wilk Test Statistic	0.784	
37						5% Shapiro Wilk Critical Value	0.803			5% Shapiro Wilk Critical Value	0.803	
38						Data not Normal at 5% Significance Level				Data not Lognormal at 5% Significance Level		
39												
40						Assuming Normal Distribution				Assuming Lognormal Distribution		
41						DL/2 Substitution Method				DL/2 Substitution Method		
42						Mean	1.55			Mean (Log Scale)	0.372	
43						SD	0.555			SD (Log Scale)	0.413	
44						95% UTL 90% Coverage	2.984			95% UTL 90% Coverage	4.22	
45						95% UPL (t)	2.666			95% UPL (t)	3.33	
46						90% Percentile (z)	2.262			90% Percentile (z)	2.465	
47						95% Percentile (z)	2.464			95% Percentile (z)	2.864	
48						99% Percentile (z)	2.842			99% Percentile (z)	3.796	
49												
50						Maximum Likelihood Estimate(MLE) Method				Log ROS Method		
51						Mean	1.594			Mean in Original Scale	1.597	
52						SD	0.454			SD in Original Scale	0.473	
53						95% UTL with 90% Coverage	2.765			95% UTL with 90% Coverage	3.163	
54										95% BCA UTL with 90% Coverage	2.6	
55										95% Bootstrap (%) UTL with 90% Coverage	2.6	

	A	B	C	D	E	F	G	H	I	J	K	L
56					95% UPL (t)	2.506					95% UPL (t)	2.697
57					90% Percentile (z)	2.175					90% Percentile (z)	2.203
58					95% Percentile (z)	2.34					95% Percentile (z)	2.437
59					99% Percentile (z)	2.649					99% Percentile (z)	2.946
60												
61			**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**			
62					k star (bias corrected)	12.2			Data follow Appr. Gamma Distribution at 5% Significance Level			
63					Theta Star	0.138						
64					nu star	170.8						
65												
66					A-D Test Statistic	0.753			**Nonparametric Statistics**			
67					5% A-D Critical Value	0.707					Kaplan-Meier (KM) Method	
68					K-S Test Statistic	0.246					Mean	1.65
69					5% K-S Critical Value	0.311					SD	0.387
70			Data follow Appx. Gamma Distribution at 5% Significance Level								SE of Mean	0.148
71											95% KM UTL with 90% Coverage	2.65
72			**Assuming Gamma Distribution**								95% KM Chebyshev UPL	3.441
73			Gamma ROS Statistics with Extrapolated Data								95% KM UPL (t)	2.428
74					Mean	1.54					90% Percentile (z)	2.146
75					Median	1.45					95% Percentile (z)	2.287
76					SD	0.575					99% Percentile (z)	2.551
77					k star	4.218						
78					Theta star	0.365			**Gamma ROS Limits with Extrapolated Data**			
79					Nu star	67.49					95% Wilson Hilferty (WH) Approx. Gamma UPL	3.092
80					95% Percentile of Chisquare (2k)	16.13					95% Hawkins Wixley (HW) Approx. Gamma UPL	3.183
81											95% WH Approx. Gamma UTL with 90% Coverage	3.71
82					90% Percentile	2.545					95% HW Approx. Gamma UTL with 90% Coverage	3.878
83					95% Percentile	2.944						
84					99% Percentile	3.794						
85												
86	Note: DL/2 is not a recommended method.											
87												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	Spring.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	NICKEL_MF											
12												
13					General Statistics							
14					Total Number of Observations	16			Number of Distinct Observations	11		
15					Tolerance Factor	2.033						
16												
17					Raw Statistics				Log-Transformed Statistics			
18					Minimum	1.4			Minimum	0.336		
19					Maximum	2.6			Maximum	0.956		
20					Second Largest	2.5			Second Largest	0.916		
21					First Quartile	1.7			First Quartile	0.531		
22					Median	1.85			Median	0.615		
23					Third Quartile	2.35			Third Quartile	0.854		
24					Mean	2			Mean	0.676		
25					SD	0.389			SD	0.194		
26					Coefficient of Variation	0.194						
27					Skewness	0.288						
28												
29					Background Statistics							
30					Normal Distribution Test				Lognormal Distribution Test			
31					Shapiro Wilk Test Statistic	0.896			Shapiro Wilk Test Statistic	0.909		
32					Shapiro Wilk Critical Value	0.887			Shapiro Wilk Critical Value	0.887		
33					Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level			
34												
35					Assuming Normal Distribution				Assuming Lognormal Distribution			
36					95% UTL with 90% Coverage	2.79			95% UTL with 90% Coverage	2.914		
37					95% UPL (t)	2.702			95% UPL (t)	2.789		
38					90% Percentile (z)	2.498			90% Percentile (z)	2.519		
39					95% Percentile (z)	2.639			95% Percentile (z)	2.703		
40					99% Percentile (z)	2.904			99% Percentile (z)	3.084		
41												
42					Gamma Distribution Test				Data Distribution Test			
43					k star	23.23			Data appear Normal at 5% Significance Level			
44					Theta Star	0.0861						
45					MLE of Mean	2						
46					MLE of Standard Deviation	0.415						
47					nu star	743.4						
48												
49					A-D Test Statistic	0.739			Nonparametric Statistics			
50					5% A-D Critical Value	0.736			90% Percentile	2.5		
51					K-S Test Statistic	0.188			95% Percentile	2.525		
52					5% K-S Critical Value	0.215			99% Percentile	2.585		
53					Data follow Appx. Gamma Distribution at 5% Significance Level							
54												
55					Assuming Gamma Distribution				95% UTL with 90% Coverage	2.6		

	A	B	C	D	E	F	G	H	I	J	K	L
56					90% Percentile	2.547			95% Percentile Bootstrap UTL with		90% Coverage	2.6
57					95% Percentile	2.728			95% BCA Bootstrap UTL with		90% Coverage	2.5
58					99% Percentile	3.09					95% UPL	2.6
59											95% Chebyshev UPL	3.746
60				95% WH Approx. Gamma UPL		2.754				Upper Threshold Limit Based upon IQR		3.325
61				95% HW Approx. Gamma UPL		2.762						
62			95% WH Approx. Gamma UTL with		90% Coverage	2.864						
63			95% HW Approx. Gamma UTL with		90% Coverage	2.876						
64												
65												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	Coffins Ice Pond.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	POTASSIUM_MF											
12												
13						General Statistics						
14						Total Number of Observations	16			Number of Distinct Observations	16	
15						Tolerance Factor	2.033					
16												
17						Raw Statistics				Log-Transformed Statistics		
18						Minimum	1995			Minimum	7.598	
19						Maximum	2910			Maximum	7.976	
20						Second Largest	2830			Second Largest	7.948	
21						First Quartile	2288			First Quartile	7.735	
22						Median	2430			Median	7.795	
23						Third Quartile	2615			Third Quartile	7.869	
24						Mean	2452			Mean	7.8	
25						SD	242.4			SD	0.099	
26						Coefficient of Variation	0.0989					
27						Skewness	0.184					
28												
29						Background Statistics						
30						Normal Distribution Test				Lognormal Distribution Test		
31						Shapiro Wilk Test Statistic	0.969			Shapiro Wilk Test Statistic	0.971	
32						Shapiro Wilk Critical Value	0.887			Shapiro Wilk Critical Value	0.887	
33						Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level		
34												
35						Assuming Normal Distribution				Assuming Lognormal Distribution		
36						95% UTL with 90% Coverage	2944			95% UTL with 90% Coverage	2984	
37						95% UPL (t)	2890			95% UPL (t)	2918	
38						90% Percentile (z)	2762			90% Percentile (z)	2770	
39						95% Percentile (z)	2850			95% Percentile (z)	2872	
40						99% Percentile (z)	3015			99% Percentile (z)	3072	
41												
42						Gamma Distribution Test				Data Distribution Test		
43						k star	88.77			Data appear Normal at 5% Significance Level		
44						Theta Star	27.62					
45						MLE of Mean	2452					
46						MLE of Standard Deviation	260.2					
47						nu star	2841					
48												
49						A-D Test Statistic	0.285			Nonparametric Statistics		
50						5% A-D Critical Value	0.736			90% Percentile	2735	
51						K-S Test Statistic	0.143			95% Percentile	2850	
52						5% K-S Critical Value	0.214			99% Percentile	2898	
53						Data appear Gamma Distributed at 5% Significance Level						
54												
55						Assuming Gamma Distribution				95% UTL with 90% Coverage	2910	

	A	B	C	D	E	F	G	H	I	J	K	L
56					90% Percentile	2790				95% Percentile Bootstrap UTL with	90% Coverage	2910
57					95% Percentile	2895				95% BCA Bootstrap UTL with	90% Coverage	2870
58					99% Percentile	3097					95% UPL	2910
59											95% Chebyshev UPL	3541
60					95% WH Approx. Gamma UPL	2908					Upper Threshold Limit Based upon IQR	3106
61					95% HW Approx. Gamma UPL	2910						
62				95% WH Approx. Gamma UTL with	90% Coverage	2969						
63				95% HW Approx. Gamma UTL with	90% Coverage	2973						
64												
65												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	Mere Brook.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	POTASSIUM_MF											
12												
13						General Statistics						
14						Total Number of Observations	16			Number of Distinct Observations	14	
15						Tolerance Factor	2.033					
16												
17						Raw Statistics				Log-Transformed Statistics		
18						Minimum	1990			Minimum	7.596	
19						Maximum	2350			Maximum	7.762	
20						Second Largest	2320			Second Largest	7.749	
21						First Quartile	2098			First Quartile	7.648	
22						Median	2220			Median	7.705	
23						Third Quartile	2280			Third Quartile	7.732	
24						Mean	2194			Mean	7.693	
25						SD	107.9			SD	0.0496	
26						Coefficient of Variation	0.0492					
27						Skewness	-0.322					
28												
29						Background Statistics						
30						Normal Distribution Test				Lognormal Distribution Test		
31						Shapiro Wilk Test Statistic	0.929			Shapiro Wilk Test Statistic	0.926	
32						Shapiro Wilk Critical Value	0.887			Shapiro Wilk Critical Value	0.887	
33						Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level		
34												
35						Assuming Normal Distribution				Assuming Lognormal Distribution		
36						95% UTL with 90% Coverage	2414			95% UTL with 90% Coverage	2424	
37						95% UPL (t)	2389			95% UPL (t)	2397	
38						90% Percentile (z)	2333			90% Percentile (z)	2336	
39						95% Percentile (z)	2372			95% Percentile (z)	2378	
40						99% Percentile (z)	2446			99% Percentile (z)	2460	
41												
42						Gamma Distribution Test				Data Distribution Test		
43						k star	354.3			Data appear Normal at 5% Significance Level		
44						Theta Star	6.194					
45						MLE of Mean	2194					
46						MLE of Standard Deviation	116.6					
47						nu star	11337					
48												
49						A-D Test Statistic	0.592			Nonparametric Statistics		
50						5% A-D Critical Value	0.736			90% Percentile	2305	
51						K-S Test Statistic	0.206			95% Percentile	2328	
52						5% K-S Critical Value	0.214			99% Percentile	2346	
53						Data appear Gamma Distributed at 5% Significance Level						
54												
55						Assuming Gamma Distribution				95% UTL with 90% Coverage	2350	

	A	B	C	D	E	F	G	H	I	J	K	L
56					90% Percentile	2345			95% Percentile Bootstrap UTL with		90% Coverage	2350
57					95% Percentile	2390			95% BCA Bootstrap UTL with		90% Coverage	2335
58					99% Percentile	2475					95% UPL	2350
59											95% Chebyshev UPL	2679
60				95% WH Approx. Gamma UPL		2395				Upper Threshold Limit Based upon IQR		2554
61				95% HW Approx. Gamma UPL		2395						
62			95% WH Approx. Gamma UTL with		90% Coverage	2421						
63			95% HW Approx. Gamma UTL with		90% Coverage	2422						
64												
65												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	Coffins Ice Pond.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	SODIUM_MF											
12												
13					General Statistics							
14					Total Number of Observations	16			Number of Distinct Observations		15	
15					Tolerance Factor	2.033						
16												
17					Raw Statistics				Log-Transformed Statistics			
18					Minimum	24300			Minimum		10.1	
19					Maximum	39900			Maximum		10.59	
20					Second Largest	37400			Second Largest		10.53	
21					First Quartile	29475			First Quartile		10.29	
22					Median	33450			Median		10.42	
23					Third Quartile	35675			Third Quartile		10.48	
24					Mean	32488			Mean		10.38	
25					SD	4397			SD		0.139	
26					Coefficient of Variation	0.135						
27					Skewness	-0.185						
28												
29					Background Statistics							
30					Normal Distribution Test				Lognormal Distribution Test			
31					Shapiro Wilk Test Statistic	0.976			Shapiro Wilk Test Statistic		0.967	
32					Shapiro Wilk Critical Value	0.887			Shapiro Wilk Critical Value		0.887	
33					Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level			
34												
35					Assuming Normal Distribution				Assuming Lognormal Distribution			
36					95% UTL with 90% Coverage	41426			95% UTL with 90% Coverage		42710	
37					95% UPL (t)	40433			95% UPL (t)		41390	
38					90% Percentile (z)	38122			90% Percentile (z)		38476	
39					95% Percentile (z)	39720			95% Percentile (z)		40468	
40					99% Percentile (z)	42716			99% Percentile (z)		44486	
41												
42					Gamma Distribution Test				Data Distribution Test			
43					k star	45.93			Data appear Normal at 5% Significance Level			
44					Theta Star	707.4						
45					MLE of Mean	32488						
46					MLE of Standard Deviation	4794						
47					nu star	1470						
48												
49					A-D Test Statistic	0.237			Nonparametric Statistics			
50					5% A-D Critical Value	0.735			90% Percentile		37400	
51					K-S Test Statistic	0.154			95% Percentile		38025	
52					5% K-S Critical Value	0.214			99% Percentile		39525	
53					Data appear Gamma Distributed at 5% Significance Level							
54												
55					Assuming Gamma Distribution				95% UTL with 90% Coverage		39900	

	A	B	C	D	E	F	G	H	I	J	K	L
56					90% Percentile	38763			95% Percentile Bootstrap UTL with		90% Coverage	39900
57					95% Percentile	40754			95% BCA Bootstrap UTL with		90% Coverage	38650
58					99% Percentile	44667					95% UPL	39900
59											95% Chebyshev UPL	52243
60					95% WH Approx. Gamma UPL	41019					Upper Threshold Limit Based upon IQR	44975
61					95% HW Approx. Gamma UPL	41106						
62				95% WH Approx. Gamma UTL with	90% Coverage	42210						
63				95% HW Approx. Gamma UTL with	90% Coverage	42327						
64												
65												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	Mere Brook.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	SODIUM_MF											
12												
13						General Statistics						
14						Total Number of Observations	16			Number of Distinct Observations	12	
15						Tolerance Factor	2.033					
16												
17						Raw Statistics				Log-Transformed Statistics		
18						Minimum	24300			Minimum	10.1	
19						Maximum	28200			Maximum	10.25	
20						Second Largest	27800			Second Largest	10.23	
21						First Quartile	25300			First Quartile	10.14	
22						Median	26550			Median	10.19	
23						Third Quartile	27125			Third Quartile	10.21	
24						Mean	26369			Mean	10.18	
25						SD	1126			SD	0.043	
26						Coefficient of Variation	0.0427					
27						Skewness	-0.254					
28												
29						Background Statistics						
30						Normal Distribution Test				Lognormal Distribution Test		
31						Shapiro Wilk Test Statistic	0.96			Shapiro Wilk Test Statistic	0.957	
32						Shapiro Wilk Critical Value	0.887			Shapiro Wilk Critical Value	0.887	
33						Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level		
34												
35						Assuming Normal Distribution				Assuming Lognormal Distribution		
36						95% UTL with 90% Coverage	28658			95% UTL with 90% Coverage	28750	
37						95% UPL (t)	28403			95% UPL (t)	28473	
38						90% Percentile (z)	27812			90% Percentile (z)	27837	
39						95% Percentile (z)	28221			95% Percentile (z)	28275	
40						99% Percentile (z)	28988			99% Percentile (z)	29115	
41												
42						Gamma Distribution Test				Data Distribution Test		
43						k star	471.7			Data appear Normal at 5% Significance Level		
44						Theta Star	55.9					
45						MLE of Mean	26369					
46						MLE of Standard Deviation	1214					
47						nu star	15096					
48												
49						A-D Test Statistic	0.354			Nonparametric Statistics		
50						5% A-D Critical Value	0.736			90% Percentile	27600	
51						K-S Test Statistic	0.158			95% Percentile	27900	
52						5% K-S Critical Value	0.214			99% Percentile	28140	
53						Data appear Gamma Distributed at 5% Significance Level						
54												
55						Assuming Gamma Distribution				95% UTL with 90% Coverage	28200	

	A	B	C	D	E	F	G	H	I	J	K	L
56					90% Percentile	27936			95% Percentile Bootstrap UTL with		90% Coverage	28200
57					95% Percentile	28397			95% BCA Bootstrap UTL with		90% Coverage	28200
58					99% Percentile	29275					95% UPL	28200
59											95% Chebyshev UPL	31427
60					95% WH Approx. Gamma UPL	28448					Upper Threshold Limit Based upon IQR	29863
61					95% HW Approx. Gamma UPL	28454						
62				95% WH Approx. Gamma UTL with	90% Coverage	28718						
63				95% HW Approx. Gamma UTL with	90% Coverage	28726						
64												
65												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Data Sets with Non-Detects								
2			User Selected Options									
3			From File	Misc Groups.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	Zinc_MF_CoffinsFall											
12												
13						General Statistics						
14						Number of Valid Data	8			Number of Detected Data	6	
15						Number of Distinct Detected Data	6			Number of Non-Detect Data	2	
16						Tolerance Factor	2.582			Percent Non-Detects	25.00%	
17												
18						Raw Statistics				Log-transformed Statistics		
19						Minimum Detected	3.088			Minimum Detected	1.127	
20						Maximum Detected	6.3			Maximum Detected	1.841	
21						Mean of Detected	4.448			Mean of Detected	1.467	
22						SD of Detected	1.12			SD of Detected	0.247	
23						Minimum Non-Detect	3.55			Minimum Non-Detect	1.267	
24						Maximum Non-Detect	3.55			Maximum Non-Detect	1.267	
25												
26												
27												
28						Warning: There are only 6 Detected Values in this data						
29						Note: It should be noted that even though bootstrap may be performed on this data set						
30						the resulting calculations may not be reliable enough to draw conclusions						
31												
32						It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.						
33												
34						Background Statistics						
35						Normal Distribution Test with Detected Values Only				Lognormal Distribution Test with Detected Values Only		
36						Shapiro Wilk Test Statistic	0.953			Shapiro Wilk Test Statistic	0.979	
37						5% Shapiro Wilk Critical Value	0.788			5% Shapiro Wilk Critical Value	0.788	
38						Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level		
39												
40						Assuming Normal Distribution				Assuming Lognormal Distribution		
41						DL/2 Substitution Method				DL/2 Substitution Method		
42						Mean	3.78			Mean (Log Scale)	1.244	
43						SD	1.558			SD (Log Scale)	0.463	
44						95% UTL 90% Coverage	7.802			95% UTL 90% Coverage	11.46	
45						95% UPL (t)	6.91			95% UPL (t)	8.794	
46						90% Percentile (z)	5.776			90% Percentile (z)	6.278	
47						95% Percentile (z)	6.342			95% Percentile (z)	7.428	
48						99% Percentile (z)	7.404			99% Percentile (z)	10.18	
49												
50						Maximum Likelihood Estimate(MLE) Method				Log ROS Method		
51						Mean	3.936			Mean in Original Scale	4.068	
52						SD	1.314			SD in Original Scale	1.185	
53						95% UTL with 90% Coverage	7.329			95% UTL with 90% Coverage	8.105	
54										95% BCA UTL with 90% Coverage	6.3	
55										95% Bootstrap (%) UTL with 90% Coverage	6.3	

	A	B	C	D	E	F	G	H	I	J	K	L
56					95% UPL (t)	6.577					95% UPL (t)	6.902
57					90% Percentile (z)	5.62					90% Percentile (z)	5.627
58					95% Percentile (z)	6.098					95% Percentile (z)	6.231
59					99% Percentile (z)	6.993					99% Percentile (z)	7.544
60												
61			Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only			
62					k star (bias corrected)	9.939			Data appear Normal at 5% Significance Level			
63					Theta Star	0.448						
64					nu star	119.3						
65												
66					A-D Test Statistic	0.22			Nonparametric Statistics			
67					5% A-D Critical Value	0.697					Kaplan-Meier (KM) Method	
68					K-S Test Statistic	0.189					Mean	4.108
69					5% K-S Critical Value	0.332					SD	1.063
70			Data appear Gamma Distributed at 5% Significance Level								SE of Mean	0.412
71											95% KM UTL with 90% Coverage	6.853
72			Assuming Gamma Distribution								95% KM Chebyshev UPL	9.024
73				Gamma ROS Statistics with Extrapolated Data							95% KM UPL (t)	6.245
74					Mean	3.992					90% Percentile (z)	5.47
75					Median	3.85					95% Percentile (z)	5.857
76					SD	1.292					99% Percentile (z)	6.581
77					k star	6.845						
78					Theta star	0.583			Gamma ROS Limits with Extrapolated Data			
79					Nu star	109.5					95% Wilson Hilferty (WH) Approx. Gamma UPL	7.028
80					95% Percentile of Chisquare (2k)	23.28					95% Hawkins Wixley (HW) Approx. Gamma UPL	7.111
81											95% WH Approx. Gamma UTL with 90% Coverage	8.168
82					90% Percentile	6.029					95% HW Approx. Gamma UTL with 90% Coverage	8.332
83					95% Percentile	6.787						
84					99% Percentile	8.366						
85												
86	Note: DL/2 is not a recommended method.											
87												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	Misc Groups.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	Zinc_MF_CoffinsSpring											
12												
13						General Statistics						
14						Total Number of Observations	8			Number of Distinct Observations	8	
15						Tolerance Factor	2.582					
16												
17						Raw Statistics				Log-Transformed Statistics		
18						Minimum	6.6			Minimum	1.887	
19						Maximum	12.7			Maximum	2.542	
20						Second Largest	9.6			Second Largest	2.262	
21						First Quartile	7.925			First Quartile	2.07	
22						Median	9.2			Median	2.219	
23						Third Quartile	9.525			Third Quartile	2.254	
24						Mean	9.063			Mean	2.188	
25						SD	1.805			SD	0.193	
26						Coefficient of Variation	0.199					
27						Skewness	0.962					
28												
29												
30						Warning: There are only 8 Values in this data						
31						Note: It should be noted that even though bootstrap methods may be performed on this data set,						
32						the resulting calculations may not be reliable enough to draw conclusions						
33												
34						The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.						
35												
36						Background Statistics						
37						Normal Distribution Test				Lognormal Distribution Test		
38						Shapiro Wilk Test Statistic	0.913			Shapiro Wilk Test Statistic	0.948	
39						Shapiro Wilk Critical Value	0.818			Shapiro Wilk Critical Value	0.818	
40						Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level		
41												
42						Assuming Normal Distribution				Assuming Lognormal Distribution		
43						95% UTL with 90% Coverage	13.72			95% UTL with 90% Coverage	14.67	
44						95% UPL (t)	12.69			95% UPL (t)	13.13	
45						90% Percentile (z)	11.38			90% Percentile (z)	11.41	
46						95% Percentile (z)	12.03			95% Percentile (z)	12.24	
47						99% Percentile (z)	13.26			99% Percentile (z)	13.96	
48												
49						Gamma Distribution Test				Data Distribution Test		
50						k star	19.06			Data appear Normal at 5% Significance Level		
51						Theta Star	0.476					
52						MLE of Mean	9.063					
53						MLE of Standard Deviation	2.076					
54						nu star	304.9					
55												

	A	B	C	D	E	F	G	H	I	J	K	L
56					A-D Test Statistic	0.343				**Nonparametric Statistics**		
57					5% A-D Critical Value	0.716					90% Percentile	10.53
58					K-S Test Statistic	0.227					95% Percentile	11.62
59					5% K-S Critical Value	0.294					99% Percentile	12.48
60		Data appear Gamma Distributed at 5% Significance Level										
61												
62				**Assuming Gamma Distribution**						95% UTL with	90% Coverage	12.7
63					90% Percentile	11.8			95% Percentile Bootstrap UTL with		90% Coverage	12.7
64					95% Percentile	12.73			95% BCA Bootstrap UTL with		90% Coverage	12.7
65					99% Percentile	14.58					95% UPL	12.7
66											95% Chebyshev UPL	17.41
67					95% WH Approx. Gamma UPL	12.95				Upper Threshold Limit Based upon IQR		11.93
68					95% HW Approx. Gamma UPL	12.99						
69				95% WH Approx. Gamma UTL with	90% Coverage	14.27						
70				95% HW Approx. Gamma UTL with	90% Coverage	14.36						
71												
72												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Data Sets with Non-Detects								
2			User Selected Options									
3			From File	All Groups.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	ALUMINUM_M											
12												
13				General Statistics								
14			Number of Valid Data	32				Number of Detected Data			31	
15			Number of Distinct Detected Data	30				Number of Non-Detect Data			1	
16			Tolerance Factor	1.748				Percent Non-Detects			3.13%	
17												
18			Raw Statistics					Log-transformed Statistics				
19			Minimum Detected	15.8				Minimum Detected			2.76	
20			Maximum Detected	2070				Maximum Detected			7.635	
21			Mean of Detected	167.8				Mean of Detected			4.566	
22			SD of Detected	357.9				SD of Detected			0.883	
23			Minimum Non-Detect	56.2				Minimum Non-Detect			4.029	
24			Maximum Non-Detect	56.2				Maximum Non-Detect			4.029	
25												
26												
27				Background Statistics								
28			Normal Distribution Test with Detected Values Only					Lognormal Distribution Test with Detected Values Only				
29			Shapiro Wilk Test Statistic	0.311				Shapiro Wilk Test Statistic			0.864	
30			5% Shapiro Wilk Critical Value	0.929				5% Shapiro Wilk Critical Value			0.929	
31			Data not Normal at 5% Significance Level					Data not Lognormal at 5% Significance Level				
32												
33			Assuming Normal Distribution					Assuming Lognormal Distribution				
34			DL/2 Substitution Method					DL/2 Substitution Method				
35			Mean	163.5				Mean (Log Scale)			4.528	
36			SD	352.9				SD (Log Scale)			0.895	
37			95% UTL 90% Coverage	780.5				95% UTL 90% Coverage			442.7	
38			95% UPL (t)	771.1				95% UPL (t)			432.3	
39			90% Percentile (z)	615.7				90% Percentile (z)			291.5	
40			95% Percentile (z)	743.9				95% Percentile (z)			403.5	
41			99% Percentile (z)	984.4				99% Percentile (z)			742.6	
42												
43			Maximum Likelihood Estimate(MLE) Method					Log ROS Method				
44			Mean	113.7				Mean in Original Scale			163.5	
45			SD	393				SD in Original Scale			352.9	
46			95% UTL with 90% Coverage	800.9				95% UTL with 90% Coverage			441.9	
47								95% BCA UTL with 90% Coverage			300	
48								95% Bootstrap (%) UTL with 90% Coverage			300	
49			95% UPL (t)	790.4				95% UPL (t)			431.6	
50			90% Percentile (z)	617.4				90% Percentile (z)			291.2	
51			95% Percentile (z)	760.2				95% Percentile (z)			402.9	
52			99% Percentile (z)	1028				99% Percentile (z)			740.6	
53												
54			Gamma Distribution Test with Detected Values Only					Data Distribution Test with Detected Values Only				
55			k star (bias corrected)	0.955				Data do not follow a Discernable Distribution (0.05)				

	A	B	C	D	E	F	G	H	I	J	K	L
56					Theta Star	175.7						
57					nu star	59.21						
58												
59					A-D Test Statistic	3.176			**Nonparametric Statistics**			
60					5% A-D Critical Value	0.775					Kaplan-Meier (KM) Method	
61					K-S Test Statistic	0.293					Mean	163.4
62					5% K-S Critical Value	0.162					SD	347.4
63			Data not Gamma Distributed at 5% Significance Level								SE of Mean	62.42
64										95% KM UTL with	90% Coverage	770.8
65				**Assuming Gamma Distribution**							95% KM Chebyshev UPL	1701
66				Gamma ROS Statistics with Extrapolated Data							95% KM UPL (t)	761.5
67					Mean	162.6					90% Percentile (z)	608.6
68					Median	101.4					95% Percentile (z)	734.8
69					SD	353.3					99% Percentile (z)	971.5
70					k star	0.535						
71					Theta star	304.1			**Gamma ROS Limits with Extrapolated Data**			
72					Nu star	34.22					95% Wilson Hilferty (WH) Approx. Gamma UPL	499.4
73					95% Percentile of Chisquare (2k)	4.01					95% Hawkins Wixley (HW) Approx. Gamma UPL	529.2
74											95% WH Approx. Gamma UTL with 90% Coverage	509
75					90% Percentile	433.7					95% HW Approx. Gamma UTL with 90% Coverage	540.8
76					95% Percentile	609.8						
77					99% Percentile	1040						
78												
79	Note: DL/2 is not a recommended method.											
80												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Data Sets with Non-Detects								
2			User Selected Options									
3			From File	Fall Data.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	ARSENIC_M											
12												
13				General Statistics								
14				Number of Valid Data		16				Number of Detected Data		12
15				Number of Distinct Detected Data		11				Number of Non-Detect Data		4
16				Tolerance Factor		2.033				Percent Non-Detects		25.00%
17												
18				Raw Statistics						Log-transformed Statistics		
19				Minimum Detected		1.675				Minimum Detected		0.516
20				Maximum Detected		3.4				Maximum Detected		1.224
21				Mean of Detected		2.267				Mean of Detected		0.79
22				SD of Detected		0.588				SD of Detected		0.241
23				Minimum Non-Detect		1.5				Minimum Non-Detect		0.405
24				Maximum Non-Detect		1.5				Maximum Non-Detect		0.405
25												
26												
27				Background Statistics								
28				Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only		
29				Shapiro Wilk Test Statistic		0.852				Shapiro Wilk Test Statistic		0.891
30				5% Shapiro Wilk Critical Value		0.859				5% Shapiro Wilk Critical Value		0.859
31				Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
32												
33				Assuming Normal Distribution						Assuming Lognormal Distribution		
34				DL/2 Substitution Method						DL/2 Substitution Method		
35				Mean		1.888				Mean (Log Scale)		0.521
36				SD		0.845				SD (Log Scale)		0.525
37				95% UTL 90% Coverage		3.605				95% UTL 90% Coverage		4.89
38				95% UPL (t)		3.414				95% UPL (t)		4.343
39				90% Percentile (z)		2.97				90% Percentile (z)		3.297
40				95% Percentile (z)		3.277				95% Percentile (z)		3.989
41				99% Percentile (z)		3.853				99% Percentile (z)		5.704
42												
43				Maximum Likelihood Estimate(MLE) Method						Log ROS Method		
44				Mean		1.962				Mean in Original Scale		2.008
45				SD		0.742				SD in Original Scale		0.687
46				95% UTL with 90% Coverage		3.47				95% UTL with 90% Coverage		3.792
47										95% BCA UTL with 90% Coverage		3.4
48										95% Bootstrap (%) UTL with 90% Coverage		3.4
49				95% UPL (t)		3.303				95% UPL (t)		3.512
50				90% Percentile (z)		2.913				90% Percentile (z)		2.939
51				95% Percentile (z)		3.182				95% Percentile (z)		3.324
52				99% Percentile (z)		3.688				99% Percentile (z)		4.188
53												
54				Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only		
55				k star (bias corrected)		13.56				Data appear Gamma Distributed at 5% Significance Level		

	A	B	C	D	E	F	G	H	I	J	K	L
56					Theta Star	0.167						
57					nu star	325.5						
58												
59					A-D Test Statistic	0.656			**Nonparametric Statistics**			
60					5% A-D Critical Value	0.732					Kaplan-Meier (KM) Method	
61					K-S Test Statistic	0.235					Mean	2.119
62					5% K-S Critical Value	0.245					SD	0.551
63			Data appear Gamma Distributed at 5% Significance Level								SE of Mean	0.144
64										95% KM UTL with	90% Coverage	3.238
65				**Assuming Gamma Distribution**							95% KM Chebyshev UPL	4.593
66				Gamma ROS Statistics with Extrapolated Data							95% KM UPL (t)	3.114
67					Mean	1.796					90% Percentile (z)	2.825
68					Median	1.95					95% Percentile (z)	3.025
69					SD	0.996					99% Percentile (z)	3.4
70					k star	0.53						
71					Theta star	3.391			**Gamma ROS Limits with Extrapolated Data**			
72					Nu star	16.95					95% Wilson Hilferty (WH) Approx. Gamma UPL	6.063
73					95% Percentile of Chisquare (2k)	3.987					95% Hawkins Wixley (HW) Approx. Gamma UPL	7.857
74											95% WH Approx. Gamma UTL with 90% Coverage	6.981
75					90% Percentile	4.801					95% HW Approx. Gamma UTL with 90% Coverage	9.377
76					95% Percentile	6.759						
77					99% Percentile	11.55						
78												
79	Note: DL/2 is not a recommended method.											
80												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	Coffins Ice Pond.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	BARIUM_M											
12												
13						General Statistics						
14						Total Number of Observations	16			Number of Distinct Observations	16	
15						Tolerance Factor	2.033					
16												
17						Raw Statistics				Log-Transformed Statistics		
18						Minimum	17.65			Minimum	2.871	
19						Maximum	72.4			Maximum	4.282	
20						Second Largest	46.9			Second Largest	3.848	
21						First Quartile	26.35			First Quartile	3.271	
22						Median	34.58			Median	3.543	
23						Third Quartile	38.48			Third Quartile	3.649	
24						Mean	34.91			Mean	3.5	
25						SD	12.7			SD	0.328	
26						Coefficient of Variation	0.364					
27						Skewness	1.713					
28												
29						Background Statistics						
30						Normal Distribution Test				Lognormal Distribution Test		
31						Shapiro Wilk Test Statistic	0.857			Shapiro Wilk Test Statistic	0.961	
32						Shapiro Wilk Critical Value	0.887			Shapiro Wilk Critical Value	0.887	
33						Data not Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level		
34												
35						Assuming Normal Distribution				Assuming Lognormal Distribution		
36						95% UTL with 90% Coverage	60.74			95% UTL with 90% Coverage	64.55	
37						95% UPL (t)	57.87			95% UPL (t)	59.93	
38						90% Percentile (z)	51.19			90% Percentile (z)	50.43	
39						95% Percentile (z)	55.81			95% Percentile (z)	56.83	
40						99% Percentile (z)	64.46			99% Percentile (z)	71.08	
41												
42						Gamma Distribution Test				Data Distribution Test		
43						k star	7.829			Data appear Gamma Distributed at 5% Significance Level		
44						Theta Star	4.46					
45						MLE of Mean	34.91					
46						MLE of Standard Deviation	12.48					
47						nu star	250.5					
48												
49						A-D Test Statistic	0.394			Nonparametric Statistics		
50						5% A-D Critical Value	0.739			90% Percentile	44.9	
51						K-S Test Statistic	0.123			95% Percentile	53.28	
52						5% K-S Critical Value	0.215			99% Percentile	68.58	
53						Data appear Gamma Distributed at 5% Significance Level						
54												
55						Assuming Gamma Distribution				95% UTL with 90% Coverage	72.4	

	A	B	C	D	E	F	G	H	I	J	K	L
56					90% Percentile	51.55			95% Percentile Bootstrap UTL with		90% Coverage	72.4
57					95% Percentile	57.64			95% BCA Bootstrap UTL with		90% Coverage	59.65
58					99% Percentile	70.27					95% UPL	72.4
59											95% Chebyshev UPL	91.98
60				95% WH Approx. Gamma UPL		58.67				Upper Threshold Limit Based upon IQR		56.66
61				95% HW Approx. Gamma UPL		58.91						
62			95% WH Approx. Gamma UTL with		90% Coverage	62.46						
63			95% HW Approx. Gamma UTL with		90% Coverage	62.88						
64												
65												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	Mere Brook.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	BARIUM_M											
12												
13						General Statistics						
14						Total Number of Observations	16			Number of Distinct Observations	15	
15						Tolerance Factor	2.033					
16												
17						Raw Statistics				Log-Transformed Statistics		
18						Minimum	16.2			Minimum	2.785	
19						Maximum	27.6			Maximum	3.318	
20						Second Largest	26.8			Second Largest	3.288	
21						First Quartile	23.28			First Quartile	3.147	
22						Median	23.78			Median	3.169	
23						Third Quartile	25.61			Third Quartile	3.243	
24						Mean	24.08			Mean	3.175	
25						SD	2.66			SD	0.123	
26						Coefficient of Variation	0.11					
27						Skewness	-1.607					
28												
29						Background Statistics						
30						Normal Distribution Test				Lognormal Distribution Test		
31						Shapiro Wilk Test Statistic	0.844			Shapiro Wilk Test Statistic	0.779	
32						Shapiro Wilk Critical Value	0.887			Shapiro Wilk Critical Value	0.887	
33						Data not Normal at 5% Significance Level				Data not Lognormal at 5% Significance Level		
34												
35						Assuming Normal Distribution				Assuming Lognormal Distribution		
36						95% UTL with 90% Coverage	29.48			95% UTL with 90% Coverage	30.71	
37						95% UPL (t)	28.88			95% UPL (t)	29.86	
38						90% Percentile (z)	27.48			90% Percentile (z)	28	
39						95% Percentile (z)	28.45			95% Percentile (z)	29.28	
40						99% Percentile (z)	30.26			99% Percentile (z)	31.83	
41												
42						Gamma Distribution Test				Data Distribution Test		
43						k star	62.02			Data Follow Appr. Gamma Distribution at 5% Significance Level		
44						Theta Star	0.388					
45						MLE of Mean	24.08					
46						MLE of Standard Deviation	3.057					
47						nu star	1984					
48												
49						A-D Test Statistic	0.942			Nonparametric Statistics		
50						5% A-D Critical Value	0.736			90% Percentile	26.75	
51						K-S Test Statistic	0.208			95% Percentile	27	
52						5% K-S Critical Value	0.214			99% Percentile	27.48	
53						Data follow Appx. Gamma Distribution at 5% Significance Level						
54												
55						Assuming Gamma Distribution				95% UTL with 90% Coverage	27.6	

	A	B	C	D	E	F	G	H	I	J	K	L
56					90% Percentile	28.07			95% Percentile Bootstrap UTL with		90% Coverage	27.6
57					95% Percentile	29.31			95% BCA Bootstrap UTL with		90% Coverage	27.6
58					99% Percentile	31.75					95% UPL	27.6
59											95% Chebyshev UPL	36.02
60				95% WH Approx. Gamma UPL		29.47				Upper Threshold Limit Based upon IQR		29.12
61				95% HW Approx. Gamma UPL		29.56						
62			95% WH Approx. Gamma UTL with		90% Coverage	30.22						
63			95% HW Approx. Gamma UTL with		90% Coverage	30.33						
64												
65												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	Coffins Ice Pond.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	CALCIUM_M											
12												
13						General Statistics						
14						Total Number of Observations	16			Number of Distinct Observations	15	
15						Tolerance Factor	2.033					
16												
17						Raw Statistics				Log-Transformed Statistics		
18						Minimum	8790			Minimum	9.081	
19						Maximum	11700			Maximum	9.367	
20						Second Largest	11300			Second Largest	9.333	
21						First Quartile	9623			First Quartile	9.172	
22						Median	10275			Median	9.237	
23						Third Quartile	11000			Third Quartile	9.306	
24						Mean	10268			Mean	9.233	
25						SD	885.3			SD	0.0872	
26						Coefficient of Variation	0.0862					
27						Skewness	-0.171					
28												
29						Background Statistics						
30						Normal Distribution Test				Lognormal Distribution Test		
31						Shapiro Wilk Test Statistic	0.945			Shapiro Wilk Test Statistic	0.941	
32						Shapiro Wilk Critical Value	0.887			Shapiro Wilk Critical Value	0.887	
33						Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level		
34												
35						Assuming Normal Distribution				Assuming Lognormal Distribution		
36						95% UTL with 90% Coverage	12068			95% UTL with 90% Coverage	12217	
37						95% UPL (t)	11868			95% UPL (t)	11979	
38						90% Percentile (z)	11403			90% Percentile (z)	11442	
39						95% Percentile (z)	11724			95% Percentile (z)	11811	
40						99% Percentile (z)	12328			99% Percentile (z)	12534	
41												
42						Gamma Distribution Test				Data Distribution Test		
43						k star	115			Data appear Normal at 5% Significance Level		
44						Theta Star	89.3					
45						MLE of Mean	10268					
46						MLE of Standard Deviation	957.6					
47						nu star	3679					
48												
49						A-D Test Statistic	0.431			Nonparametric Statistics		
50						5% A-D Critical Value	0.736			90% Percentile	11200	
51						K-S Test Statistic	0.174			95% Percentile	11400	
52						5% K-S Critical Value	0.214			99% Percentile	11640	
53						Data appear Gamma Distributed at 5% Significance Level						
54												
55						Assuming Gamma Distribution				95% UTL with 90% Coverage	11700	

	A	B	C	D	E	F	G	H	I	J	K	L
56					90% Percentile	11513			95% Percentile Bootstrap UTL with		90% Coverage	11700
57					95% Percentile	11892			95% BCA Bootstrap UTL with		90% Coverage	11700
58					99% Percentile	12626					95% UPL	11700
59											95% Chebyshev UPL	14246
60				95% WH Approx. Gamma UPL		11938					Upper Threshold Limit Based upon IQR	13066
61				95% HW Approx. Gamma UPL		11948						
62			95% WH Approx. Gamma UTL with		90% Coverage	12163						
63			95% HW Approx. Gamma UTL with		90% Coverage	12176						
64												
65												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	Mere Brook.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	CALCIUM_M											
12												
13						General Statistics						
14						Total Number of Observations	16			Number of Distinct Observations	15	
15						Tolerance Factor	2.033					
16												
17						Raw Statistics				Log-Transformed Statistics		
18						Minimum	8260			Minimum	9.019	
19						Maximum	9670			Maximum	9.177	
20						Second Largest	9570			Second Largest	9.166	
21						First Quartile	8750			First Quartile	9.077	
22						Median	8995			Median	9.104	
23						Third Quartile	9315			Third Quartile	9.139	
24						Mean	9018			Mean	9.106	
25						SD	415.6			SD	0.0463	
26						Coefficient of Variation	0.0461					
27						Skewness	-0.125					
28												
29						Background Statistics						
30						Normal Distribution Test				Lognormal Distribution Test		
31						Shapiro Wilk Test Statistic	0.968			Shapiro Wilk Test Statistic	0.967	
32						Shapiro Wilk Critical Value	0.887			Shapiro Wilk Critical Value	0.887	
33						Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level		
34												
35						Assuming Normal Distribution				Assuming Lognormal Distribution		
36						95% UTL with 90% Coverage	9863			95% UTL with 90% Coverage	9898	
37						95% UPL (t)	9769			95% UPL (t)	9795	
38						90% Percentile (z)	9551			90% Percentile (z)	9559	
39						95% Percentile (z)	9702			95% Percentile (z)	9722	
40						99% Percentile (z)	9985			99% Percentile (z)	10033	
41												
42						Gamma Distribution Test				Data Distribution Test		
43						k star	406.2			Data appear Normal at 5% Significance Level		
44						Theta Star	22.2					
45						MLE of Mean	9018					
46						MLE of Standard Deviation	447.5					
47						nu star	12997					
48												
49						A-D Test Statistic	0.247			Nonparametric Statistics		
50						5% A-D Critical Value	0.736			90% Percentile	9540	
51						K-S Test Statistic	0.133			95% Percentile	9595	
52						5% K-S Critical Value	0.214			99% Percentile	9655	
53						Data appear Gamma Distributed at 5% Significance Level						
54												
55						Assuming Gamma Distribution				95% UTL with 90% Coverage	9670	

	A	B	C	D	E	F	G	H	I	J	K	L
56					90% Percentile	9596			95% Percentile Bootstrap UTL with		90% Coverage	9670
57					95% Percentile	9767			95% BCA Bootstrap UTL with		90% Coverage	9670
58					99% Percentile	10092					95% UPL	9670
59											95% Chebyshev UPL	10885
60				95% WH Approx. Gamma UPL		9786				Upper Threshold Limit Based upon IQR		10163
61				95% HW Approx. Gamma UPL		9788						
62			95% WH Approx. Gamma UTL with		90% Coverage	9885						
63			95% HW Approx. Gamma UTL with		90% Coverage	9888						
64												
65												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	Fall Data.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	CHROMIUM_M											
12												
13						General Statistics						
14						Total Number of Observations	16			Number of Distinct Observations	11	
15						Tolerance Factor	2.033					
16												
17						Raw Statistics				Log-Transformed Statistics		
18						Minimum	0.7			Minimum	-0.357	
19						Maximum	7.8			Maximum	2.054	
20						Second Largest	2.3			Second Largest	0.833	
21						First Quartile	1.275			First Quartile	0.242	
22						Median	1.6			Median	0.47	
23						Third Quartile	1.75			Third Quartile	0.558	
24						Mean	1.924			Mean	0.486	
25						SD	1.627			SD	0.522	
26						Coefficient of Variation	0.846					
27						Skewness	3.517					
28												
29						Background Statistics						
30						Normal Distribution Test				Lognormal Distribution Test		
31						Shapiro Wilk Test Statistic	0.528			Shapiro Wilk Test Statistic	0.844	
32						Shapiro Wilk Critical Value	0.887			Shapiro Wilk Critical Value	0.887	
33						Data not Normal at 5% Significance Level				Data not Lognormal at 5% Significance Level		
34												
35						Assuming Normal Distribution				Assuming Lognormal Distribution		
36						95% UTL with 90% Coverage	5.231			95% UTL with 90% Coverage	4.698	
37						95% UPL (t)	4.863			95% UPL (t)	4.175	
38						90% Percentile (z)	4.008			90% Percentile (z)	3.173	
39						95% Percentile (z)	4.599			95% Percentile (z)	3.836	
40						99% Percentile (z)	5.708			99% Percentile (z)	5.475	
41												
42						Gamma Distribution Test				Data Distribution Test		
43						k star	2.58			Data do not follow a Discernable Distribution (0.05)		
44						Theta Star	0.746					
45						MLE of Mean	1.924					
46						MLE of Standard Deviation	1.198					
47						nu star	82.56					
48												
49						A-D Test Statistic	1.433			Nonparametric Statistics		
50						5% A-D Critical Value	0.744			90% Percentile	2.3	
51						K-S Test Statistic	0.259			95% Percentile	3.675	
52						5% K-S Critical Value	0.217			99% Percentile	6.975	
53						Data not Gamma Distributed at 5% Significance Level						
54												
55						Assuming Gamma Distribution				95% UTL with 90% Coverage	7.8	

	A	B	C	D	E	F	G	H	I	J	K	L
56					90% Percentile	3.529			95% Percentile Bootstrap UTL with		90% Coverage	7.8
57					95% Percentile	4.219			95% BCA Bootstrap UTL with		90% Coverage	5.05
58					99% Percentile	5.729					95% UPL	7.8
59											95% Chebyshev UPL	9.232
60				95% WH Approx. Gamma UPL		4.309				Upper Threshold Limit Based upon IQR		2.463
61				95% HW Approx. Gamma UPL		4.262						
62			95% WH Approx. Gamma UTL with		90% Coverage	4.754						
63			95% HW Approx. Gamma UTL with		90% Coverage	4.722						
64												
65												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	Misc Groups.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	Cobalt_M_CoffinsFall											
12												
13						General Statistics						
14						Total Number of Observations	8			Number of Distinct Observations	6	
15						Tolerance Factor	2.582					
16												
17						Raw Statistics				Log-Transformed Statistics		
18						Minimum	0.38			Minimum	-0.968	
19						Maximum	1.7			Maximum	0.531	
20						Second Largest	0.96			Second Largest	-0.0408	
21						First Quartile	0.395			First Quartile	-0.929	
22						Median	0.42			Median	-0.869	
23						Third Quartile	0.593			Third Quartile	-0.576	
24						Mean	0.641			Mean	-0.607	
25						SD	0.47			SD	0.552	
26						Coefficient of Variation	0.733					
27						Skewness	2.098					
28												
29												
30						Warning: There are only 8 Values in this data						
31						Note: It should be noted that even though bootstrap methods may be performed on this data set,						
32						the resulting calculations may not be reliable enough to draw conclusions						
33												
34						The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.						
35												
36						Background Statistics						
37						Normal Distribution Test				Lognormal Distribution Test		
38						Shapiro Wilk Test Statistic	0.643			Shapiro Wilk Test Statistic	0.713	
39						Shapiro Wilk Critical Value	0.818			Shapiro Wilk Critical Value	0.818	
40						Data not Normal at 5% Significance Level				Data not Lognormal at 5% Significance Level		
41												
42						Assuming Normal Distribution				Assuming Lognormal Distribution		
43						95% UTL with 90% Coverage	1.854			95% UTL with 90% Coverage	2.268	
44						95% UPL (t)	1.585			95% UPL (t)	1.653	
45						90% Percentile (z)	1.243			90% Percentile (z)	1.106	
46						95% Percentile (z)	1.414			95% Percentile (z)	1.352	
47						99% Percentile (z)	1.734			99% Percentile (z)	1.969	
48												
49						Gamma Distribution Test				Data Distribution Test		
50						k star	2.106			Data do not follow a Discernable Distribution (0.05)		
51						Theta Star	0.305					
52						MLE of Mean	0.641					
53						MLE of Standard Deviation	0.442					
54						nu star	33.69					
55												

	A	B	C	D	E	F	G	H	I	J	K	L
56					A-D Test Statistic	1.251	**Nonparametric Statistics**					
57					5% A-D Critical Value	0.721					90% Percentile	1.182
58					K-S Test Statistic	0.383					95% Percentile	1.441
59					5% K-S Critical Value	0.296					99% Percentile	1.648
60		Data not Gamma Distributed at 5% Significance Level										
61												
62			**Assuming Gamma Distribution**							95% UTL with	90% Coverage	1.7
63					90% Percentile	1.232			95% Percentile Bootstrap UTL with		90% Coverage	1.7
64					95% Percentile	1.497			95% BCA Bootstrap UTL with		90% Coverage	1.7
65					99% Percentile	2.081					95% UPL	1.7
66											95% Chebyshev UPL	2.813
67					95% WH Approx. Gamma UPL	1.614					Upper Threshold Limit Based upon IQR	0.889
68					95% HW Approx. Gamma UPL	1.622						
69				95% WH Approx. Gamma UTL with	90% Coverage	2.052						
70				95% HW Approx. Gamma UTL with	90% Coverage	2.094						
71												
72												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	Misc Groups.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	Cobalt_M_MereFall											
12												
13						General Statistics						
14						Total Number of Observations	8			Number of Distinct Observations	6	
15						Tolerance Factor	2.582					
16												
17						Raw Statistics				Log-Transformed Statistics		
18						Minimum	0.11			Minimum	-2.207	
19						Maximum	0.19			Maximum	-1.661	
20						Second Largest	0.165			Second Largest	-1.802	
21						First Quartile	0.118			First Quartile	-2.142	
22						Median	0.14			Median	-1.966	
23						Third Quartile	0.161			Third Quartile	-1.825	
24						Mean	0.142			Mean	-1.97	
25						SD	0.0285			SD	0.199	
26						Coefficient of Variation	0.201					
27						Skewness	0.447					
28												
29												
30						Warning: There are only 8 Values in this data						
31						Note: It should be noted that even though bootstrap methods may be performed on this data set,						
32						the resulting calculations may not be reliable enough to draw conclusions						
33												
34						The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.						
35												
36						Background Statistics						
37						Normal Distribution Test				Lognormal Distribution Test		
38						Shapiro Wilk Test Statistic	0.93			Shapiro Wilk Test Statistic	0.933	
39						Shapiro Wilk Critical Value	0.818			Shapiro Wilk Critical Value	0.818	
40						Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level		
41												
42						Assuming Normal Distribution				Assuming Lognormal Distribution		
43						95% UTL with 90% Coverage	0.216			95% UTL with 90% Coverage	0.233	
44						95% UPL (t)	0.199			95% UPL (t)	0.208	
45						90% Percentile (z)	0.178			90% Percentile (z)	0.18	
46						95% Percentile (z)	0.189			95% Percentile (z)	0.194	
47						99% Percentile (z)	0.208			99% Percentile (z)	0.222	
48												
49						Gamma Distribution Test				Data Distribution Test		
50						k star	18.08			Data appear Normal at 5% Significance Level		
51						Theta Star	0.00785					
52						MLE of Mean	0.142					
53						MLE of Standard Deviation	0.0334					
54						nu star	289.3					
55												

	A	B	C	D	E	F	G	H	I	J	K	L
56					A-D Test Statistic	0.301			**Nonparametric Statistics**			
57					5% A-D Critical Value	0.716					90% Percentile	0.173
58					K-S Test Statistic	0.166					95% Percentile	0.181
59					5% K-S Critical Value	0.294					99% Percentile	0.188
60		Data appear Gamma Distributed at 5% Significance Level										
61												
62				**Assuming Gamma Distribution**						95% UTL with	90% Coverage	0.19
63					90% Percentile	0.186				95% Percentile Bootstrap UTL with	90% Coverage	0.19
64					95% Percentile	0.201				95% BCA Bootstrap UTL with	90% Coverage	0.19
65					99% Percentile	0.231					95% UPL	0.19
66											95% Chebyshev UPL	0.274
67					95% WH Approx. Gamma UPL	0.204					Upper Threshold Limit Based upon IQR	0.227
68					95% HW Approx. Gamma UPL	0.205						
69				95% WH Approx. Gamma UTL with	90% Coverage	0.226						
70				95% HW Approx. Gamma UTL with	90% Coverage	0.228						
71												
72												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	Fall Data.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	IRON_M											
12												
13						General Statistics						
14						Total Number of Observations	16			Number of Distinct Observations	16	
15						Tolerance Factor	2.033					
16												
17						Raw Statistics				Log-Transformed Statistics		
18						Minimum	457			Minimum	6.125	
19						Maximum	3060			Maximum	8.026	
20						Second Largest	880			Second Largest	6.78	
21						First Quartile	478.8			First Quartile	6.171	
22						Median	553.5			Median	6.316	
23						Third Quartile	660.5			Third Quartile	6.493	
24						Mean	735.5			Mean	6.45	
25						SD	631.2			SD	0.461	
26						Coefficient of Variation	0.858					
27						Skewness	3.768					
28												
29						Background Statistics						
30						Normal Distribution Test				Lognormal Distribution Test		
31						Shapiro Wilk Test Statistic	0.431			Shapiro Wilk Test Statistic	0.641	
32						Shapiro Wilk Critical Value	0.887			Shapiro Wilk Critical Value	0.887	
33						Data not Normal at 5% Significance Level				Data not Lognormal at 5% Significance Level		
34												
35						Assuming Normal Distribution				Assuming Lognormal Distribution		
36						95% UTL with 90% Coverage	2019			95% UTL with 90% Coverage	1616	
37						95% UPL (t)	1876			95% UPL (t)	1456	
38						90% Percentile (z)	1544			90% Percentile (z)	1143	
39						95% Percentile (z)	1774			95% Percentile (z)	1351	
40						99% Percentile (z)	2204			99% Percentile (z)	1850	
41												
42						Gamma Distribution Test				Data Distribution Test		
43						k star	2.87			Data do not follow a Discernable Distribution (0.05)		
44						Theta Star	256.3					
45						MLE of Mean	735.5					
46						MLE of Standard Deviation	434.2					
47						nu star	91.83					
48												
49						A-D Test Statistic	2.534			Nonparametric Statistics		
50						5% A-D Critical Value	0.743			90% Percentile	823.5	
51						K-S Test Statistic	0.301			95% Percentile	1425	
52						5% K-S Critical Value	0.216			99% Percentile	2733	
53						Data not Gamma Distributed at 5% Significance Level						
54												
55						Assuming Gamma Distribution				95% UTL with 90% Coverage	3060	

	A	B	C	D	E	F	G	H	I	J	K	L
56					90% Percentile	1318			95% Percentile Bootstrap UTL with		90% Coverage	3060
57					95% Percentile	1563			95% BCA Bootstrap UTL with		90% Coverage	1970
58					99% Percentile	2098					95% UPL	3060
59											95% Chebyshev UPL	3571
60				95% WH Approx. Gamma UPL		1587				Upper Threshold Limit Based upon IQR		933.1
61				95% HW Approx. Gamma UPL		1553						
62			95% WH Approx. Gamma UTL with		90% Coverage	1744						
63			95% HW Approx. Gamma UTL with		90% Coverage	1711						
64												
65												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	Spring.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	IRON_M											
12												
13						General Statistics						
14						Total Number of Observations	16			Number of Distinct Observations	16	
15						Tolerance Factor	2.033					
16												
17						Raw Statistics				Log-Transformed Statistics		
18						Minimum	141			Minimum	4.949	
19						Maximum	362			Maximum	5.892	
20						Second Largest	334			Second Largest	5.811	
21						First Quartile	200.8			First Quartile	5.302	
22						Median	212			Median	5.357	
23						Third Quartile	223.3			Third Quartile	5.408	
24						Mean	221.8			Mean	5.378	
25						SD	54.03			SD	0.22	
26						Coefficient of Variation	0.244					
27						Skewness	1.677					
28												
29						Background Statistics						
30						Normal Distribution Test				Lognormal Distribution Test		
31						Shapiro Wilk Test Statistic	0.775			Shapiro Wilk Test Statistic	0.851	
32						Shapiro Wilk Critical Value	0.887			Shapiro Wilk Critical Value	0.887	
33						Data not Normal at 5% Significance Level				Data not Lognormal at 5% Significance Level		
34												
35						Assuming Normal Distribution				Assuming Lognormal Distribution		
36						95% UTL with 90% Coverage	331.7			95% UTL with 90% Coverage	338.5	
37						95% UPL (t)	319.4			95% UPL (t)	322.1	
38						90% Percentile (z)	291.1			90% Percentile (z)	287	
39						95% Percentile (z)	310.7			95% Percentile (z)	310.8	
40						99% Percentile (z)	347.5			99% Percentile (z)	361	
41												
42						Gamma Distribution Test				Data Distribution Test		
43						k star	17.09			Data do not follow a Discernable Distribution (0.05)		
44						Theta Star	12.98					
45						MLE of Mean	221.8					
46						MLE of Standard Deviation	53.66					
47						nu star	546.8					
48												
49						A-D Test Statistic	1.331			Nonparametric Statistics		
50						5% A-D Critical Value	0.736			90% Percentile	282	
51						K-S Test Statistic	0.28			95% Percentile	341	
52						5% K-S Critical Value	0.215			99% Percentile	357.8	
53						Data not Gamma Distributed at 5% Significance Level						
54												
55						Assuming Gamma Distribution				95% UTL with 90% Coverage	362	

	A	B	C	D	E	F	G	H	I	J	K	L
56					90% Percentile	292.8			95% Percentile Bootstrap UTL with		90% Coverage	362
57					95% Percentile	316.8			95% BCA Bootstrap UTL with		90% Coverage	348
58					99% Percentile	365.3					95% UPL	362
59											95% Chebyshev UPL	464.6
60				95% WH Approx. Gamma UPL		320.3				Upper Threshold Limit Based upon IQR		257
61				95% HW Approx. Gamma UPL		320.7						
62			95% WH Approx. Gamma UTL with		90% Coverage	335						
63			95% HW Approx. Gamma UTL with		90% Coverage	335.7						
64												
65												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Data Sets with Non-Detects								
2			User Selected Options									
3			From File	All Groups.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	LEAD_M											
12												
13						General Statistics						
14						Number of Valid Data	32			Number of Detected Data	22	
15						Number of Distinct Detected Data	20			Number of Non-Detect Data	10	
16						Tolerance Factor	1.748			Percent Non-Detects	31.25%	
17												
18						Raw Statistics				Log-transformed Statistics		
19						Minimum Detected	0.205			Minimum Detected	-1.585	
20						Maximum Detected	11.4			Maximum Detected	2.434	
21						Mean of Detected	1.479			Mean of Detected	-0.337	
22						SD of Detected	2.54			SD of Detected	1.074	
23						Minimum Non-Detect	0.38			Minimum Non-Detect	-0.968	
24						Maximum Non-Detect	0.98			Maximum Non-Detect	-0.0202	
25												
26						Data with Multiple Detection Limits				Single Detection Limit Scenario		
27				Note: Data have multiple DLs - Use of KM Method is recommended						Number treated as Non-Detect with Single DL	25	
28				For all methods (except KM, DL/2, and ROS Methods),						Number treated as Detected with Single DL	7	
29				Observations < Largest ND are treated as NDs						Single DL Non-Detect Percentage	78.13%	
30												
31						Background Statistics						
32						Normal Distribution Test with Detected Values Only				Lognormal Distribution Test with Detected Values Only		
33						Shapiro Wilk Test Statistic	0.525			Shapiro Wilk Test Statistic	0.84	
34						5% Shapiro Wilk Critical Value	0.911			5% Shapiro Wilk Critical Value	0.911	
35						Data not Normal at 5% Significance Level				Data not Lognormal at 5% Significance Level		
36												
37						Assuming Normal Distribution				Assuming Lognormal Distribution		
38						DL/2 Substitution Method				DL/2 Substitution Method		
39						Mean	1.126			Mean (Log Scale)	-0.572	
40						SD	2.158			SD (Log Scale)	0.964	
41						95% UTL 90% Coverage	4.899			95% UTL 90% Coverage	3.048	
42						95% UPL (t)	4.841			95% UPL (t)	2.971	
43						90% Percentile (z)	3.891			90% Percentile (z)	1.943	
44						95% Percentile (z)	4.675			95% Percentile (z)	2.758	
45						99% Percentile (z)	6.146			99% Percentile (z)	5.322	
46												
47						Maximum Likelihood Estimate(MLE) Method				Log ROS Method		
48						Mean	-3.603			Mean in Original Scale	1.146	
49						SD	5.69			SD in Original Scale	2.15	
50						95% UTL with 90% Coverage	6.346			95% UTL with 90% Coverage	3.041	
51										95% BCA UTL with 90% Coverage	5.25	
52										95% Bootstrap (%) UTL with 90% Coverage	5.5	
53						95% UPL (t)	6.194			95% UPL (t)	2.967	
54						90% Percentile (z)	3.689			90% Percentile (z)	1.97	
55						95% Percentile (z)	5.756			95% Percentile (z)	2.762	

	A	B	C	D	E	F	G	H	I	J	K	L
56					99% Percentile (z)	9.634					99% Percentile (z)	5.205
57												
58				Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only		
59					k star (bias corrected)	0.732				Data do not follow a Discernable Distribution (0.05)		
60					Theta Star	2.019						
61					nu star	32.23						
62												
63					A-D Test Statistic	2.302				Nonparametric Statistics		
64					5% A-D Critical Value	0.78					Kaplan-Meier (KM) Method	
65					K-S Test Statistic	0.318					Mean	1.132
66					5% K-S Critical Value	0.192					SD	2.122
67				Data not Gamma Distributed at 5% Significance Level							SE of Mean	0.384
68											95% KM UTL with 90% Coverage	4.842
69				Assuming Gamma Distribution							95% KM Chebyshev UPL	10.52
70					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	4.785
71					Mean	1.125					90% Percentile (z)	3.851
72					Median	0.412					95% Percentile (z)	4.622
73					SD	2.159					99% Percentile (z)	6.068
74					k star	0.553						
75					Theta star	2.035				Gamma ROS Limits with Extrapolated Data		
76					Nu star	35.4					95% Wilson Hilferty (WH) Approx. Gamma UPL	3.653
77					95% Percentile of Chisquare (2k)	4.099					95% Hawkins Wixley (HW) Approx. Gamma UPL	3.799
78											95% WH Approx. Gamma UTL with 90% Coverage	3.728
79					90% Percentile	2.98					95% HW Approx. Gamma UTL with 90% Coverage	3.887
80					95% Percentile	4.17						
81					99% Percentile	7.068						
82												
83	Note: DL/2 is not a recommended method.											
84												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	Fall Data.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	MAGNESIUM_M											
12												
13						General Statistics						
14						Total Number of Observations	16			Number of Distinct Observations	15	
15						Tolerance Factor	2.033					
16												
17						Raw Statistics				Log-Transformed Statistics		
18						Minimum	1980			Minimum	7.591	
19						Maximum	3080			Maximum	8.033	
20						Second Largest	2510			Second Largest	7.828	
21						First Quartile	2020			First Quartile	7.611	
22						Median	2145			Median	7.671	
23						Third Quartile	2406			Third Quartile	7.786	
24						Mean	2251			Mean	7.712	
25						SD	288.8			SD	0.119	
26						Coefficient of Variation	0.128					
27						Skewness	1.651					
28												
29						Background Statistics						
30						Normal Distribution Test				Lognormal Distribution Test		
31						Shapiro Wilk Test Statistic	0.824			Shapiro Wilk Test Statistic	0.861	
32						Shapiro Wilk Critical Value	0.887			Shapiro Wilk Critical Value	0.887	
33						Data not Normal at 5% Significance Level				Data not Lognormal at 5% Significance Level		
34												
35						Assuming Normal Distribution				Assuming Lognormal Distribution		
36						95% UTL with 90% Coverage	2838			95% UTL with 90% Coverage	2850	
37						95% UPL (t)	2773			95% UPL (t)	2774	
38						90% Percentile (z)	2621			90% Percentile (z)	2605	
39						95% Percentile (z)	2726			95% Percentile (z)	2721	
40						99% Percentile (z)	2923			99% Percentile (z)	2951	
41												
42						Gamma Distribution Test				Data Distribution Test		
43						k star	58.19			Data Follow Appr. Gamma Distribution at 5% Significance Level		
44						Theta Star	38.68					
45						MLE of Mean	2251					
46						MLE of Standard Deviation	295.1					
47						nu star	1862					
48												
49						A-D Test Statistic	0.765			Nonparametric Statistics		
50						5% A-D Critical Value	0.736			90% Percentile	2485	
51						K-S Test Statistic	0.192			95% Percentile	2653	
52						5% K-S Critical Value	0.214			99% Percentile	2995	
53						Data follow Appx. Gamma Distribution at 5% Significance Level						
54												
55						Assuming Gamma Distribution				95% UTL with 90% Coverage	3080	

	A	B	C	D	E	F	G	H	I	J	K	L
56					90% Percentile	2636			95% Percentile Bootstrap UTL with		90% Coverage	3080
57					95% Percentile	2757			95% BCA Bootstrap UTL with		90% Coverage	2795
58					99% Percentile	2994					95% UPL	3080
59											95% Chebyshev UPL	3548
60				95% WH Approx. Gamma UPL		2773				Upper Threshold Limit Based upon IQR		2986
61				95% HW Approx. Gamma UPL		2773						
62			95% WH Approx. Gamma UTL with		90% Coverage	2845						
63			95% HW Approx. Gamma UTL with		90% Coverage	2846						
64												
65												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	Spring.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	MAGNESIUM_M											
12												
13						General Statistics						
14						Total Number of Observations	16			Number of Distinct Observations	13	
15						Tolerance Factor	2.033					
16												
17						Raw Statistics				Log-Transformed Statistics		
18						Minimum	1450			Minimum	7.279	
19						Maximum	2670			Maximum	7.89	
20						Second Largest	1850			Second Largest	7.523	
21						First Quartile	1700			First Quartile	7.438	
22						Median	1748			Median	7.466	
23						Third Quartile	1795			Third Quartile	7.493	
24						Mean	1785			Mean	7.48	
25						SD	253.6			SD	0.123	
26						Coefficient of Variation	0.142					
27						Skewness	3.029					
28												
29						Background Statistics						
30						Normal Distribution Test				Lognormal Distribution Test		
31						Shapiro Wilk Test Statistic	0.611			Shapiro Wilk Test Statistic	0.687	
32						Shapiro Wilk Critical Value	0.887			Shapiro Wilk Critical Value	0.887	
33						Data not Normal at 5% Significance Level				Data not Lognormal at 5% Significance Level		
34												
35						Assuming Normal Distribution				Assuming Lognormal Distribution		
36						95% UTL with 90% Coverage	2301			95% UTL with 90% Coverage	2275	
37						95% UPL (t)	2243			95% UPL (t)	2213	
38						90% Percentile (z)	2110			90% Percentile (z)	2074	
39						95% Percentile (z)	2202			95% Percentile (z)	2169	
40						99% Percentile (z)	2375			99% Percentile (z)	2359	
41												
42						Gamma Distribution Test				Data Distribution Test		
43						k star	52.37			Data do not follow a Discernable Distribution (0.05)		
44						Theta Star	34.09					
45						MLE of Mean	1785					
46						MLE of Standard Deviation	246.7					
47						nu star	1676					
48												
49						A-D Test Statistic	2.061			Nonparametric Statistics		
50						5% A-D Critical Value	0.736			90% Percentile	1835	
51						K-S Test Statistic	0.309			95% Percentile	2055	
52						5% K-S Critical Value	0.214			99% Percentile	2547	
53						Data not Gamma Distributed at 5% Significance Level						
54												
55						Assuming Gamma Distribution				95% UTL with 90% Coverage	2670	

	A	B	C	D	E	F	G	H	I	J	K	L
56					90% Percentile	2108			95% Percentile Bootstrap UTL with		90% Coverage	2670
57					95% Percentile	2210			95% BCA Bootstrap UTL with		90% Coverage	2260
58					99% Percentile	2409					95% UPL	2670
59											95% Chebyshev UPL	2925
60					95% WH Approx. Gamma UPL	2222					Upper Threshold Limit Based upon IQR	1938
61					95% HW Approx. Gamma UPL	2220						
62				95% WH Approx. Gamma UTL with	90% Coverage	2283						
63				95% HW Approx. Gamma UTL with	90% Coverage	2281						
64												
65												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	Fall Data.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	MANGANESE_M											
12												
13					General Statistics							
14					Total Number of Observations	16			Number of Distinct Observations	15		
15					Tolerance Factor	2.033						
16												
17					Raw Statistics				Log-Transformed Statistics			
18					Minimum	82			Minimum	4.407		
19					Maximum	209			Maximum	5.342		
20					Second Largest	157			Second Largest	5.056		
21					First Quartile	85.33			First Quartile	4.446		
22					Median	109			Median	4.691		
23					Third Quartile	150.3			Third Quartile	5.012		
24					Mean	117.9			Mean	4.726		
25					SD	37.86			SD	0.301		
26					Coefficient of Variation	0.321						
27					Skewness	0.991						
28												
29					Background Statistics							
30					Normal Distribution Test				Lognormal Distribution Test			
31					Shapiro Wilk Test Statistic	0.853			Shapiro Wilk Test Statistic	0.88		
32					Shapiro Wilk Critical Value	0.887			Shapiro Wilk Critical Value	0.887		
33					Data not Normal at 5% Significance Level				Data not Lognormal at 5% Significance Level			
34												
35					Assuming Normal Distribution				Assuming Lognormal Distribution			
36					95% UTL with 90% Coverage	194.9			95% UTL with 90% Coverage	207.9		
37					95% UPL (t)	186.3			95% UPL (t)	194.2		
38					90% Percentile (z)	166.4			90% Percentile (z)	165.8		
39					95% Percentile (z)	180.2			95% Percentile (z)	185		
40					99% Percentile (z)	206			99% Percentile (z)	227		
41												
42					Gamma Distribution Test				Data Distribution Test			
43					k star	9.373			Data Follow Appr. Gamma Distribution at 5% Significance Level			
44					Theta Star	12.58						
45					MLE of Mean	117.9						
46					MLE of Standard Deviation	38.51						
47					nu star	300						
48												
49					A-D Test Statistic	0.835			Nonparametric Statistics			
50					5% A-D Critical Value	0.739			90% Percentile	156.5		
51					K-S Test Statistic	0.2			95% Percentile	170		
52					5% K-S Critical Value	0.215			99% Percentile	201.2		
53					Data follow Appx. Gamma Distribution at 5% Significance Level							
54												
55					Assuming Gamma Distribution				95% UTL with 90% Coverage	209		

	A	B	C	D	E	F	G	H	I	J	K	L
56					90% Percentile	169.1			95% Percentile Bootstrap UTL with		90% Coverage	209
57					95% Percentile	187.5			95% BCA Bootstrap UTL with		90% Coverage	209
58					99% Percentile	225.4					95% UPL	209
59											95% Chebyshev UPL	288
60				95% WH Approx. Gamma UPL		190.7				Upper Threshold Limit Based upon IQR		247.6
61				95% HW Approx. Gamma UPL		191.4						
62		95% WH Approx. Gamma UTL with			90% Coverage	202.1						
63		95% HW Approx. Gamma UTL with			90% Coverage	203.4						
64												
65												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	Spring.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	MANGANESE_M											
12												
13					General Statistics							
14					Total Number of Observations	16			Number of Distinct Observations	15		
15					Tolerance Factor	2.033						
16												
17					Raw Statistics				Log-Transformed Statistics			
18					Minimum	40.7			Minimum	3.706		
19					Maximum	105			Maximum	4.654		
20					Second Largest	96			Second Largest	4.564		
21					First Quartile	42.95			First Quartile	3.76		
22					Median	47.15			Median	3.853		
23					Third Quartile	85.63			Third Quartile	4.448		
24					Mean	63.33			Mean	4.083		
25					SD	24.3			SD	0.368		
26					Coefficient of Variation	0.384						
27					Skewness	0.609						
28												
29					Background Statistics							
30					Normal Distribution Test				Lognormal Distribution Test			
31					Shapiro Wilk Test Statistic	0.795			Shapiro Wilk Test Statistic	0.804		
32					Shapiro Wilk Critical Value	0.887			Shapiro Wilk Critical Value	0.887		
33					Data not Normal at 5% Significance Level				Data not Lognormal at 5% Significance Level			
34												
35					Assuming Normal Distribution				Assuming Lognormal Distribution			
36					95% UTL with 90% Coverage	112.7			95% UTL with 90% Coverage	125.4		
37					95% UPL (t)	107.2			95% UPL (t)	115.4		
38					90% Percentile (z)	94.46			90% Percentile (z)	95.09		
39					95% Percentile (z)	103.3			95% Percentile (z)	108.7		
40					99% Percentile (z)	119.8			99% Percentile (z)	139.7		
41												
42					Gamma Distribution Test				Data Distribution Test			
43					k star	6.362			Data do not follow a Discernable Distribution (0.05)			
44					Theta Star	9.953						
45					MLE of Mean	63.33						
46					MLE of Standard Deviation	25.11						
47					nu star	203.6						
48												
49					A-D Test Statistic	1.468			Nonparametric Statistics			
50					5% A-D Critical Value	0.74			90% Percentile	95.65		
51					K-S Test Statistic	0.306			95% Percentile	98.25		
52					5% K-S Critical Value	0.215			99% Percentile	103.7		
53					Data not Gamma Distributed at 5% Significance Level							
54												
55					Assuming Gamma Distribution				95% UTL with 90% Coverage	105		

	A	B	C	D	E	F	G	H	I	J	K	L
56					90% Percentile	96.87			95% Percentile Bootstrap UTL with		90% Coverage	105
57					95% Percentile	109.5			95% BCA Bootstrap UTL with		90% Coverage	105
58					99% Percentile	135.8					95% UPL	105
59											95% Chebyshev UPL	172.5
60					95% WH Approx. Gamma UPL	111.9					Upper Threshold Limit Based upon IQR	149.6
61					95% HW Approx. Gamma UPL	112.6						
62				95% WH Approx. Gamma UTL with	90% Coverage	119.8						
63				95% HW Approx. Gamma UTL with	90% Coverage	121						
64												
65												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	Coffins Ice Pond.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	NICKEL_M											
12												
13					General Statistics							
14					Total Number of Observations	16			Number of Distinct Observations		12	
15					Tolerance Factor	2.033						
16												
17					Raw Statistics				Log-Transformed Statistics			
18					Minimum	1.1			Minimum		0.0953	
19					Maximum	6.1			Maximum		1.808	
20					Second Largest	3.6			Second Largest		1.281	
21					First Quartile	1.788			First Quartile		0.581	
22					Median	2.4			Median		0.875	
23					Third Quartile	2.6			Third Quartile		0.956	
24					Mean	2.469			Mean		0.825	
25					SD	1.151			SD		0.395	
26					Coefficient of Variation	0.466						
27					Skewness	2.217						
28												
29					Background Statistics							
30					Normal Distribution Test				Lognormal Distribution Test			
31					Shapiro Wilk Test Statistic	0.786			Shapiro Wilk Test Statistic		0.949	
32					Shapiro Wilk Critical Value	0.887			Shapiro Wilk Critical Value		0.887	
33					Data not Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level			
34												
35					Assuming Normal Distribution				Assuming Lognormal Distribution			
36					95% UTL with 90% Coverage	4.809			95% UTL with 90% Coverage		5.089	
37					95% UPL (t)	4.548			95% UPL (t)		4.654	
38					90% Percentile (z)	3.944			90% Percentile (z)		3.783	
39					95% Percentile (z)	4.362			95% Percentile (z)		4.366	
40					99% Percentile (z)	5.146			99% Percentile (z)		5.713	
41												
42					Gamma Distribution Test				Data Distribution Test			
43					k star	5.309			Data appear Gamma Distributed at 5% Significance Level			
44					Theta Star	0.465						
45					MLE of Mean	2.469						
46					MLE of Standard Deviation	1.071						
47					nu star	169.9						
48												
49					A-D Test Statistic	0.533			Nonparametric Statistics			
50					5% A-D Critical Value	0.741			90% Percentile		3.3	
51					K-S Test Statistic	0.208			95% Percentile		4.225	
52					5% K-S Critical Value	0.216			99% Percentile		5.725	
53					Data appear Gamma Distributed at 5% Significance Level							
54												
55					Assuming Gamma Distribution				95% UTL with 90% Coverage		6.1	

	A	B	C	D	E	F	G	H	I	J	K	L
56					90% Percentile	3.903			95% Percentile Bootstrap UTL with		90% Coverage	6.1
57					95% Percentile	4.454			95% BCA Bootstrap UTL with		90% Coverage	6.1
58					99% Percentile	5.615					95% UPL	6.1
59											95% Chebyshev UPL	7.64
60				95% WH Approx. Gamma UPL		4.549				Upper Threshold Limit Based upon IQR		3.819
61				95% HW Approx. Gamma UPL		4.566						
62			95% WH Approx. Gamma UTL with		90% Coverage	4.897						
63			95% HW Approx. Gamma UTL with		90% Coverage	4.932						
64												
65												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Data Sets with Non-Detects								
2			User Selected Options									
3			From File	Mere Brook.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	NICKEL_M											
12												
13				General Statistics								
14			Number of Valid Data	16			Number of Detected Data			10		
15			Number of Distinct Detected Data	6			Number of Non-Detect Data			6		
16			Tolerance Factor	2.033			Percent Non-Detects			37.50%		
17												
18			Raw Statistics				Log-transformed Statistics					
19			Minimum Detected	0.9			Minimum Detected			-0.105		
20			Maximum Detected	2.1			Maximum Detected			0.742		
21			Mean of Detected	1.62			Mean of Detected			0.462		
22			SD of Detected	0.308			SD of Detected			0.224		
23			Minimum Non-Detect	0.6			Minimum Non-Detect			-0.511		
24			Maximum Non-Detect	1.2			Maximum Non-Detect			0.182		
25												
26			Data with Multiple Detection Limits				Single Detection Limit Scenario					
27			Note: Data have multiple DLs - Use of KM Method is recommended				Number treated as Non-Detect with Single DL			7		
28			For all methods (except KM, DL/2, and ROS Methods),				Number treated as Detected with Single DL			9		
29			Observations < Largest ND are treated as NDs				Single DL Non-Detect Percentage			43.75%		
30												
31				Background Statistics								
32			Normal Distribution Test with Detected Values Only				Lognormal Distribution Test with Detected Values Only					
33			Shapiro Wilk Test Statistic	0.852			Shapiro Wilk Test Statistic			0.771		
34			5% Shapiro Wilk Critical Value	0.842			5% Shapiro Wilk Critical Value			0.842		
35			Data appear Normal at 5% Significance Level				Data not Lognormal at 5% Significance Level					
36												
37			Assuming Normal Distribution				Assuming Lognormal Distribution					
38			DL/2 Substitution Method				DL/2 Substitution Method					
39			Mean	1.191			Mean (Log Scale)			0.0026		
40			SD	0.623			SD (Log Scale)			0.651		
41			95% UTL 90% Coverage	2.457			95% UTL 90% Coverage			3.768		
42			95% UPL (t)	2.316			95% UPL (t)			3.252		
43			90% Percentile (z)	1.989			90% Percentile (z)			2.31		
44			95% Percentile (z)	2.215			95% Percentile (z)			2.926		
45			99% Percentile (z)	2.639			99% Percentile (z)			4.561		
46												
47			Maximum Likelihood Estimate(MLE) Method				Log ROS Method					
48			Mean	1.701			Mean in Original Scale			1.396		
49			SD	0.176			SD in Original Scale			0.387		
50			95% UTL with 90% Coverage	2.059			95% UTL with 90% Coverage			2.41		
51							95% BCA UTL with 90% Coverage			1.95		
52							95% Bootstrap (%) UTL with 90% Coverage			2.1		
53			95% UPL (t)	2.02			95% UPL (t)			2.259		
54			90% Percentile (z)	1.927			90% Percentile (z)			1.942		
55			95% Percentile (z)	1.991			95% Percentile (z)			2.156		

	A	B	C	D	E	F	G	H	I	J	K	L
56					99% Percentile (z)	2.111					99% Percentile (z)	2.622
57												
58				Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only		
59					k star (bias corrected)	17.6				Data appear Normal at 5% Significance Level		
60					Theta Star	0.092						
61					nu star	352.1						
62												
63					A-D Test Statistic	0.975				Nonparametric Statistics		
64					5% A-D Critical Value	0.725					Kaplan-Meier (KM) Method	
65					K-S Test Statistic	0.302					Mean	1.35
66					5% K-S Critical Value	0.266					SD	0.418
67				Data not Gamma Distributed at 5% Significance Level							SE of Mean	0.11
68											95% KM UTL with 90% Coverage	2.2
69				Assuming Gamma Distribution							95% KM Chebyshev UPL	3.23
70					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	2.106
71					Mean	1.242					90% Percentile (z)	1.886
72					Median	1.5					95% Percentile (z)	2.038
73					SD	0.585					99% Percentile (z)	2.323
74					k star	2.68						
75					Theta star	0.463				Gamma ROS Limits with Extrapolated Data		
76					Nu star	85.77					95% Wilson Hilferty (WH) Approx. Gamma UPL	2.803
77					95% Percentile of Chisquare (2k)	11.63					95% Hawkins Wixley (HW) Approx. Gamma UPL	2.93
78											95% WH Approx. Gamma UTL with 90% Coverage	3.088
79					90% Percentile	2.258					95% HW Approx. Gamma UTL with 90% Coverage	3.258
80					95% Percentile	2.693						
81					99% Percentile	3.641						
82												
83	Note: DL/2 is not a recommended method.											
84												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	Coffins Ice Pond.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	POTASSIUM_M											
12												
13						General Statistics						
14						Total Number of Observations	16			Number of Distinct Observations	15	
15						Tolerance Factor	2.033					
16												
17						Raw Statistics				Log-Transformed Statistics		
18						Minimum	2025			Minimum	7.613	
19						Maximum	3150			Maximum	8.055	
20						Second Largest	2870			Second Largest	7.962	
21						First Quartile	2308			First Quartile	7.744	
22						Median	2495			Median	7.822	
23						Third Quartile	2685			Third Quartile	7.895	
24						Mean	2500			Mean	7.817	
25						SD	302.4			SD	0.12	
26						Coefficient of Variation	0.121					
27						Skewness	0.423					
28												
29						Background Statistics						
30						Normal Distribution Test				Lognormal Distribution Test		
31						Shapiro Wilk Test Statistic	0.973			Shapiro Wilk Test Statistic	0.981	
32						Shapiro Wilk Critical Value	0.887			Shapiro Wilk Critical Value	0.887	
33						Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level		
34												
35						Assuming Normal Distribution				Assuming Lognormal Distribution		
36						95% UTL with 90% Coverage	3115			95% UTL with 90% Coverage	3169	
37						95% UPL (t)	3047			95% UPL (t)	3084	
38						90% Percentile (z)	2888			90% Percentile (z)	2896	
39						95% Percentile (z)	2998			95% Percentile (z)	3025	
40						99% Percentile (z)	3204			99% Percentile (z)	3282	
41												
42						Gamma Distribution Test				Data Distribution Test		
43						k star	60.2			Data appear Normal at 5% Significance Level		
44						Theta Star	41.53					
45						MLE of Mean	2500					
46						MLE of Standard Deviation	322.2					
47						nu star	1927					
48												
49						A-D Test Statistic	0.176			Nonparametric Statistics		
50						5% A-D Critical Value	0.736			90% Percentile	2860	
51						K-S Test Statistic	0.112			95% Percentile	2940	
52						5% K-S Critical Value	0.214			99% Percentile	3108	
53						Data appear Gamma Distributed at 5% Significance Level						
54												
55						Assuming Gamma Distribution				95% UTL with 90% Coverage	3150	

	A	B	C	D	E	F	G	H	I	J	K	L
56					90% Percentile	2921			95% Percentile Bootstrap UTL with		90% Coverage	3150
57					95% Percentile	3053			95% BCA Bootstrap UTL with		90% Coverage	3150
58					99% Percentile	3310					95% UPL	3150
59											95% Chebyshev UPL	3859
60					95% WH Approx. Gamma UPL	3070					Upper Threshold Limit Based upon IQR	3251
61					95% HW Approx. Gamma UPL	3073						
62				95% WH Approx. Gamma UTL with	90% Coverage	3148						
63				95% HW Approx. Gamma UTL with	90% Coverage	3153						
64												
65												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	Mere Brook.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	POTASSIUM_M											
12												
13						General Statistics						
14						Total Number of Observations	16			Number of Distinct Observations	13	
15						Tolerance Factor	2.033					
16												
17						Raw Statistics				Log-Transformed Statistics		
18						Minimum	1410			Minimum	7.251	
19						Maximum	2490			Maximum	7.82	
20						Second Largest	2300			Second Largest	7.741	
21						First Quartile	2070			First Quartile	7.635	
22						Median	2145			Median	7.671	
23						Third Quartile	2280			Third Quartile	7.732	
24						Mean	2134			Mean	7.659	
25						SD	233.6			SD	0.124	
26						Coefficient of Variation	0.109					
27						Skewness	-1.921					
28												
29						Background Statistics						
30						Normal Distribution Test				Lognormal Distribution Test		
31						Shapiro Wilk Test Statistic	0.809			Shapiro Wilk Test Statistic	0.736	
32						Shapiro Wilk Critical Value	0.887			Shapiro Wilk Critical Value	0.887	
33						Data not Normal at 5% Significance Level				Data not Lognormal at 5% Significance Level		
34												
35						Assuming Normal Distribution				Assuming Lognormal Distribution		
36						95% UTL with 90% Coverage	2609			95% UTL with 90% Coverage	2727	
37						95% UPL (t)	2556			95% UPL (t)	2652	
38						90% Percentile (z)	2433			90% Percentile (z)	2485	
39						95% Percentile (z)	2518			95% Percentile (z)	2599	
40						99% Percentile (z)	2677			99% Percentile (z)	2828	
41												
42						Gamma Distribution Test				Data Distribution Test		
43						k star	61.67			Data do not follow a Discernable Distribution (0.05)		
44						Theta Star	34.6					
45						MLE of Mean	2134					
46						MLE of Standard Deviation	271.7					
47						nu star	1973					
48												
49						A-D Test Statistic	1.217			Nonparametric Statistics		
50						5% A-D Critical Value	0.736			90% Percentile	2295	
51						K-S Test Statistic	0.239			95% Percentile	2348	
52						5% K-S Critical Value	0.214			99% Percentile	2462	
53						Data not Gamma Distributed at 5% Significance Level						
54												
55						Assuming Gamma Distribution				95% UTL with 90% Coverage	2490	

	A	B	C	D	E	F	G	H	I	J	K	L
56					90% Percentile	2489			95% Percentile Bootstrap UTL with		90% Coverage	2490
57					95% Percentile	2599			95% BCA Bootstrap UTL with		90% Coverage	2395
58					99% Percentile	2816					95% UPL	2490
59											95% Chebyshev UPL	3183
60					95% WH Approx. Gamma UPL	2614					Upper Threshold Limit Based upon IQR	2595
61					95% HW Approx. Gamma UPL	2622						
62				95% WH Approx. Gamma UTL with	90% Coverage	2680						
63				95% HW Approx. Gamma UTL with	90% Coverage	2691						
64												
65												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	Coffins Ice Pond.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	SODIUM_M											
12												
13					General Statistics							
14					Total Number of Observations	16			Number of Distinct Observations		16	
15					Tolerance Factor	2.033						
16												
17					Raw Statistics				Log-Transformed Statistics			
18					Minimum	24200			Minimum		10.09	
19					Maximum	41500			Maximum		10.63	
20					Second Largest	40200			Second Largest		10.6	
21					First Quartile	29625			First Quartile		10.3	
22					Median	33650			Median		10.42	
23					Third Quartile	36563			Third Quartile		10.51	
24					Mean	33078			Mean		10.39	
25					SD	5136			SD		0.159	
26					Coefficient of Variation	0.155						
27					Skewness	-0.088						
28												
29					Background Statistics							
30					Normal Distribution Test				Lognormal Distribution Test			
31					Shapiro Wilk Test Statistic	0.976			Shapiro Wilk Test Statistic		0.969	
32					Shapiro Wilk Critical Value	0.887			Shapiro Wilk Critical Value		0.887	
33					Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level			
34												
35					Assuming Normal Distribution				Assuming Lognormal Distribution			
36					95% UTL with 90% Coverage	43519			95% UTL with 90% Coverage		45183	
37					95% UPL (t)	42358			95% UPL (t)		43587	
38					90% Percentile (z)	39660			90% Percentile (z)		40091	
39					95% Percentile (z)	41526			95% Percentile (z)		42477	
40					99% Percentile (z)	45025			99% Percentile (z)		47342	
41												
42					Gamma Distribution Test				Data Distribution Test			
43					k star	35.02			Data appear Normal at 5% Significance Level			
44					Theta Star	944.7						
45					MLE of Mean	33078						
46					MLE of Standard Deviation	5590						
47					nu star	1120						
48												
49					A-D Test Statistic	0.194			Nonparametric Statistics			
50					5% A-D Critical Value	0.736			90% Percentile		39450	
51					K-S Test Statistic	0.1			95% Percentile		40525	
52					5% K-S Critical Value	0.214			99% Percentile		41305	
53					Data appear Gamma Distributed at 5% Significance Level							
54												
55					Assuming Gamma Distribution				95% UTL with 90% Coverage		41500	

	A	B	C	D	E	F	G	H	I	J	K	L
56					90% Percentile	40414			95% Percentile Bootstrap UTL with		90% Coverage	41500
57					95% Percentile	42778			95% BCA Bootstrap UTL with		90% Coverage	41500
58					99% Percentile	47452					95% UPL	41500
59											95% Chebyshev UPL	56153
60				95% WH Approx. Gamma UPL		43105					Upper Threshold Limit Based upon IQR	46969
61				95% HW Approx. Gamma UPL		43217						
62			95% WH Approx. Gamma UTL with		90% Coverage	44524						
63			95% HW Approx. Gamma UTL with		90% Coverage	44677						
64												
65												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	Mere Brook.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	SODIUM_M											
12												
13						General Statistics						
14						Total Number of Observations	16			Number of Distinct Observations	14	
15						Tolerance Factor	2.033					
16												
17						Raw Statistics				Log-Transformed Statistics		
18						Minimum	24000			Minimum	10.09	
19						Maximum	28200			Maximum	10.25	
20						Second Largest	27500			Second Largest	10.22	
21						First Quartile	25500			First Quartile	10.15	
22						Median	26200			Median	10.17	
23						Third Quartile	27025			Third Quartile	10.2	
24						Mean	26209			Mean	10.17	
25						SD	1133			SD	0.0434	
26						Coefficient of Variation	0.0432					
27						Skewness	-0.165					
28												
29						Background Statistics						
30						Normal Distribution Test				Lognormal Distribution Test		
31						Shapiro Wilk Test Statistic	0.988			Shapiro Wilk Test Statistic	0.986	
32						Shapiro Wilk Critical Value	0.887			Shapiro Wilk Critical Value	0.887	
33						Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level		
34												
35						Assuming Normal Distribution				Assuming Lognormal Distribution		
36						95% UTL with 90% Coverage	28513			95% UTL with 90% Coverage	28604	
37						95% UPL (t)	28257			95% UPL (t)	28325	
38						90% Percentile (z)	27662			90% Percentile (z)	27685	
39						95% Percentile (z)	28073			95% Percentile (z)	28126	
40						99% Percentile (z)	28846			99% Percentile (z)	28971	
41												
42						Gamma Distribution Test				Data Distribution Test		
43						k star	460.9			Data appear Normal at 5% Significance Level		
44						Theta Star	56.86					
45						MLE of Mean	26209					
46						MLE of Standard Deviation	1221					
47						nu star	14750					
48												
49						A-D Test Statistic	0.138			Nonparametric Statistics		
50						5% A-D Critical Value	0.736			90% Percentile	27500	
51						K-S Test Statistic	0.0808			95% Percentile	27675	
52						5% K-S Critical Value	0.214			99% Percentile	28095	
53						Data appear Gamma Distributed at 5% Significance Level						
54												
55						Assuming Gamma Distribution				95% UTL with 90% Coverage	28200	

	A	B	C	D	E	F	G	H	I	J	K	L
56					90% Percentile	27786			95% Percentile Bootstrap UTL with		90% Coverage	28200
57					95% Percentile	28249			95% BCA Bootstrap UTL with		90% Coverage	27850
58					99% Percentile	29133					95% UPL	28200
59											95% Chebyshev UPL	31301
60					95% WH Approx. Gamma UPL	28301					Upper Threshold Limit Based upon IQR	29313
61					95% HW Approx. Gamma UPL	28307						
62				95% WH Approx. Gamma UTL with	90% Coverage	28572						
63				95% HW Approx. Gamma UTL with	90% Coverage	28580						
64												
65												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Data Sets with Non-Detects								
2		User Selected Options										
3			From File	All Groups.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	ZINC_M											
12												
13				General Statistics								
14			Number of Valid Data	24				Number of Detected Data			17	
15			Number of Distinct Detected Data	16				Number of Non-Detect Data			7	
16			Tolerance Factor	1.853				Percent Non-Detects			29.17%	
17												
18			Raw Statistics					Log-transformed Statistics				
19			Minimum Detected	4.9				Minimum Detected			1.589	
20			Maximum Detected	34.9				Maximum Detected			3.552	
21			Mean of Detected	11.85				Mean of Detected			2.271	
22			SD of Detected	9.281				SD of Detected			0.603	
23			Minimum Non-Detect	3.55				Minimum Non-Detect			1.267	
24			Maximum Non-Detect	3.55				Maximum Non-Detect			1.267	
25												
26												
27				Background Statistics								
28			Normal Distribution Test with Detected Values Only					Lognormal Distribution Test with Detected Values Only				
29			Shapiro Wilk Test Statistic	0.693				Shapiro Wilk Test Statistic			0.882	
30			5% Shapiro Wilk Critical Value	0.892				5% Shapiro Wilk Critical Value			0.892	
31			Data not Normal at 5% Significance Level					Data not Lognormal at 5% Significance Level				
32												
33			Assuming Normal Distribution					Assuming Lognormal Distribution				
34			DL/2 Substitution Method					DL/2 Substitution Method				
35			Mean	8.909				Mean (Log Scale)			1.776	
36			SD	9.044				SD (Log Scale)			0.935	
37			95% UTL 90% Coverage	25.67				95% UTL 90% Coverage			33.38	
38			95% UPL (t)	24.73				95% UPL (t)			30.29	
39			90% Percentile (z)	20.5				90% Percentile (z)			19.57	
40			95% Percentile (z)	23.78				95% Percentile (z)			27.48	
41			99% Percentile (z)	29.95				99% Percentile (z)			51.96	
42												
43			Maximum Likelihood Estimate(MLE) Method					Log ROS Method				
44			Mean	7.238				Mean in Original Scale			9.081	
45			SD	10.92				SD in Original Scale			8.914	
46			95% UTL with 90% Coverage	27.48				95% UTL with 90% Coverage			31.49	
47								95% BCA UTL with 90% Coverage			34.59	
48								95% Bootstrap (%) UTL with 90% Coverage			34.81	
49			95% UPL (t)	26.34				95% UPL (t)			28.78	
50			90% Percentile (z)	21.24				90% Percentile (z)			19.19	
51			95% Percentile (z)	25.2				95% Percentile (z)			26.29	
52			99% Percentile (z)	32.65				99% Percentile (z)			47.46	
53												
54			Gamma Distribution Test with Detected Values Only					Data Distribution Test with Detected Values Only				
55			k star (bias corrected)	2.211				Data do not follow a Discernable Distribution (0.05)				

	A	B	C	D	E	F	G	H	I	J	K	L
56					Theta Star	5.358						
57					nu star	75.17						
58												
59					A-D Test Statistic	1.098			**Nonparametric Statistics**			
60					5% A-D Critical Value	0.747					Kaplan-Meier (KM) Method	
61					K-S Test Statistic	0.229					Mean	9.82
62					5% K-S Critical Value	0.211					SD	8.209
63			Data not Gamma Distributed at 5% Significance Level								SE of Mean	1.727
64										95% KM UTL with	90% Coverage	25.03
65				**Assuming Gamma Distribution**							95% KM Chebyshev UPL	46.34
66				Gamma ROS Statistics with Extrapolated Data							95% KM UPL (t)	24.18
67					Mean	8.391					90% Percentile (z)	20.34
68					Median	6.3					95% Percentile (z)	23.32
69					SD	9.496					99% Percentile (z)	28.92
70					k star	0.173						
71					Theta star	48.4			**Gamma ROS Limits with Extrapolated Data**			
72					Nu star	8.323				95% Wilson Hilferty (WH) Approx. Gamma UPL		40.61
73				95% Percentile of Chisquare (2k)		1.851				95% Hawkins Wixley (HW) Approx. Gamma UPL		57.8
74										95% WH Approx. Gamma UTL with	90% Coverage	44.72
75					90% Percentile	25.25				95% HW Approx. Gamma UTL with	90% Coverage	65.55
76					95% Percentile	44.78						
77					99% Percentile	99.89						
78												
79	Note: DL/2 is not a recommended method.											
80												

APPENDIX A.4

SEDIMENT STATISTICAL EVALUATION

APPENDIX A.4 SEDIMENT STATISTICAL EVALUATION

Appendix A.4 presents the results of the statistical analyses for the sediment background data sets. Sediment samples were collected once during the fall and once during the spring from Coffins Ice Pond and Mere Brook. Statistical analyses were conducted for two purposes. The first was to determine if any of the geochemical subgroups could be combined, the second was to determine background concentrations to be used to compare future site data. The statistical methods used to determine if the sediment subgroups could be combined are presented in Appendices A.4.1 through A.4.4. Appendix A.4.5 presents the background values that can be used for future site comparisons.

A.4.1 SEDIMENT OUTLIER ASSESSMENT

APPENDIX A.4.1 OUTLIER ASSESSMENT

All background data subsets were evaluated for potential outliers before conducting any statistical comparisons between data groups.

To evaluate the data for potential outliers Dixon's parametric outlier test or Tukey's nonparametric outlier test was used. Dixon's parametric outlier test was applied only when the data without the suspected outlier can be shown to follow a normal distribution, otherwise Tukey's nonparametric outlier test was applied. To determine if the data follow a normal distribution the Shapiro Wilk Normality Test was used. The Shapiro Wilk Normality Test was used because it has more robust statistical properties than alternative normality tests and is preferred.

Tables A.4.1.1 through A.4.1.4 present the results of the normality and outlier assessments for the wells from the following subgroups: Coffins Ice Pond fall, Coffins Ice Pond spring, Mere Brook fall, and Mere Brook spring. Formal outlier tests were only computed if there were at least four detected concentrations. First, the Shapiro Wilk Normality Test was computed on the data set without the suspected outlier. The Shapiro Wilk Normality Test tests the null hypothesis that the data follow a normal distribution against the alternative hypothesis that the data do not follow a normal distribution. The test has an associated p-value as a measure of the credibility of the null hypothesis, with lower probabilities providing lower credibility for the null hypothesis. If the p-value for the Shapiro Wilk Test is less than 0.05 it was concluded that the data do not follow a normal distribution. For cases where the analytical data for a substance fit a normal distribution the suspected outlier was screened by successively deleting the largest, second largest, and third largest data points from the data set and performing Dixon's outlier test on the remaining data points versus the excluded data point. When the Dixon C statistic was greater than the Dixon D critical value the data point was considered a candidate outlier. For cases where the analytical data for a substance did not fit a normal distribution, Tukey's nonparametric outlier test was conducted on the three largest data points. Tukey's outlier test compares each sample concentration to a critical value represented by the 75th percentile plus 3 times the IQR. The IQR is the difference between the 75th percentile (Q3) and the 25th percentile (Q1). When the data point exceeded the critical value the point was considered to be a candidate outlier.

Univarite box plots, probability (Q-Q) plots, and the Shapiro Wilk Normality test were used to further evaluate the candidate outliers. All candidate outliers were labeled with sample ID and highlighted on univariate box plots (see Appendix A.4.3). A point of departure at the upper end of the probability plot may indicate that the candidate outlier does not belong to the same population as the rest of the data.

Candidate outliers were located on a site map to check for any pattern of localized, anthropogenic contamination that is not representative of the background area as a whole. Looking at all the chemicals that were detected at least four times for Coffins Ice Pond, candidate outliers were identified for the fall sampling event at every location except for NASB-BG-SD08, while in the spring candidate outliers were identified at every location except for NASB-BG-SD03 and NASB-BG-SD07. Looking at all the chemicals that were detected at least four times for Mere Brook, candidate outliers were identified for the fall sampling event for NASB-BG-SD09, NASB-BG-SD14, and NASB-BG-SD16, while in the spring sampling event candidate outliers were identified for NASB-BG-SD09, NASB-BG-SD10, NASB-BG-SD14, NASB-BG-SD15, and NASB-BG-SD16. Based on the site uses for these areas, there is no indication that the concentrations from these areas are related to site contamination. Additionally, the locations in which candidate outliers were found are not located in one geographic portion of the background area. Therefore, no candidate outliers were removed from the data sets.

Table A.4.1.4
Outlier Tests
Mere Brook Spring Sediment Samples
Naval Air Station, Brunswick, Maine

Parameter	Dixon's Outlier Test Results									Tukey's Outlier Test						
	Largest Concentration			Second Largest Concentration			Third Largest Concentration									
	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	IQR	Q1	Q3	Tukey Critical Value	Largest Concentration	Second Largest Concentration	Third Largest Concentration
PAHs (ug/kg)																
2-METHYLNAPHTHALENE	Not Normal	Not Normal	0.01	0.71	0.507	0.082	Not Normal	Not Normal	0.027	6.9	1.9	8.8	29.4	90	Normal	6
ACENAPHTHENE	Not Normal	Not Normal	0	0.896	0.507	0.05	Not Normal	Not Normal	0.03	46.9	1.4	48.3	188.9	210	Normal	16
ACENAPHTHYLENE	0.381	0.554	0.17	0.154	0.507	0.131	0.091	0.56	0.147	10	2.5	12.5	42.5	Normal	Normal	Normal
ANTHRACENE	Not Normal	Not Normal	0.043	0.034	0.507	0.067	Not Normal	Not Normal	0.035	26.8	2.5	29.3	109.5	63	Normal	29
BENZO(A)ANTHRACENE	0.153	0.554	0.065	0.06	0.507	0.094	0.064	0.56	0.115	150	12.3	163	613.3	Normal	Normal	Normal
BENZO(A)PYRENE	0.235	0.554	0.095	0.103	0.507	0.098	0.057	0.56	0.126	170	15.5	185	693.5	Normal	Normal	Normal
BENZO(B)FLUORANTHENE	0.291	0.554	0.099	0.068	0.507	0.133	0.11	0.56	0.132	263	22	285	1074.0	Normal	Normal	Normal
BENZO(G,H,I)PERYLENE	0.194	0.554	0.191	0.241	0.507	0.077	0	0.56	0.144	127	13	140	521.0	Normal	Normal	Normal
BENZO(K)FLUORANTHENE	0	0.554	0.175	0.157	0.507	0.122	0.168	0.56	0.076	106	9	115	433.0	Normal	Normal	Normal
CHRYSENE	0.223	0.554	0.074	0.041	0.507	0.124	0.085	0.56	0.141	223	19.5	243	911.5	Normal	Normal	Normal
DIBENZO(A,H)ANTHRACENE	0.224	0.554	0.124	0.145	0.507	0.094	0.056	0.56	0.121	35.1	3.4	38.5	143.9	Normal	Normal	Normal
FLUORANTHENE	0.136	0.554	0.207	0.211	0.507	0.102	0.1	0.56	0.103	299	31	330	1227.0	Normal	Normal	Normal
FLUORENE	Not Normal	Not Normal	0.001	0.828	0.507	0.343	0.143	0.56	0.365	43.3	6	49.3	179.0	160	Normal	Normal
INDENO(1,2,3-CD)PYRENE	0.203	0.554	0.202	0.153	0.507	0.158	0.12	0.56	0.154	162	16	178	662.0	Normal	Normal	Normal
NAPHTHALENE	Not Normal	Not Normal	0	0.907	0.507	0.063	Not Normal	Not Normal	0.023	16.9	2.4	19.3	69.9	300	Normal	7
PHENANTHRENE	Not Normal	Not Normal	0.015	Not Normal	Not Normal	0.014	Not Normal	Not Normal	0.029	235	22.8	258	961.8	400	280	250
PYRENE	0.268	0.554	0.055	0.039	0.507	0.099	0.04	0.56	0.146	467	48	515	1916.0	Normal	Normal	Normal
Pesticides/PCBs (ug/kg)																
4,4'-DDD	0.357	0.554	0.14	0	0.507	0.309	0.194	0.56	0.245	3.1	0.56	3.7	13.1	Normal	Normal	Normal
4,4'-DDE	0.302	0.554	0.075	0.062	0.507	0.097	0.066	0.56	0.108	1.3	0.31	1.6	5.6	Normal	Normal	Normal
4,4'-DDT	Not Normal	Not Normal	0.043	Not Normal	Not Normal	0.019	Not Normal	Not Normal	0.009	1.5	0.13	1.7	6.3	2.4	1.9	1.6
GAMMA-CHLORDANE	Not Normal	Not Normal	0.028	Not Normal	Not Normal	0.013	Not Normal	Not Normal	0.023	0.71	0.10	0.81	2.9	0.93	0.91	0.77
Inorganics (mg/kg)																
ALUMINUM	0.662	0.554	0.71	0.301	0.507	0.39	0.114	0.56	0.594	793	3143	3935	6312.5	Normal	Normal	Normal
ARSENIC	0	0.554	0.737	0.368	0.507	0.679	0.25	0.56	0.556	1.2	1.3	2.5	5.9	Normal	Normal	Normal
BARIUM	0.341	0.554	0.778	0.23	0.507	0.821	0.373	0.56	0.705	7.1	12.4	19.4	40.6	Normal	Normal	Normal
BERYLLIUM	0.391	0.554	0.127	0.214	0.507	0.065	0	0.56	0.094	0.12	0.07	0.19	0.5	Normal	Normal	Normal
CADMIUM	0.357	0.554	0.47	0.111	0.507	0.595	0.125	0.56	0.814	0.08	0.04	0.11	0.3	Normal	Normal	Normal
CALCIUM	0.639	0.554	0.204	0.676	0.507	0.79	0.31	0.56	0.595	140	704	844	1262.6	Normal	Normal	Normal
CHROMIUM	0.802	0.554	0.357	0.512	0.507	0.958	0.375	0.56	0.998	4.5	5.7	10.3	23.8	Normal	Normal	Normal
COBALT	0.125	0.554	0.084	Not Normal	Not Normal	0.031	Not Normal	Not Normal	0.007	0.95	1.5	2.4	5.3	Normal	2.8	2.3
COPPER	Not Normal	Not Normal	0.029	Not Normal	Not Normal	0.041	Not Normal	Not Normal	0.011	2.8	0.99	3.8	12.3	4.6	3.9	3.8
IRON	0.131	0.554	0.304	0.329	0.507	0.219	0.235	0.56	0.189	1066	3079	4145	7343.8	Normal	Normal	Normal
LEAD	0.953	0.554	0.283	0.441	0.507	0.333	0.231	0.56	0.296	5.7	2.5	8.2	25.3	Normal	Normal	Normal
MAGNESIUM	0.13	0.554	0.126	Not Normal	Not Normal	0.038	Not Normal	Not Normal	0.011	148	1060	1208	1650.0	Normal	1260	1190
MANGANESE	0.026	0.554	0.454	0.269	0.507	0.564	0.434	0.56	0.846	54.6	81.4	136	299.8	Normal	Normal	Normal
NICKEL	0.321	0.554	0.147	0.158	0.507	0.092	0.125	0.56	0.078	1.5	3.6	5.1	9.4	Normal	Normal	Normal
POTASSIUM	0.065	0.554	0.787	0.371	0.507	0.497	0.055	0.56	0.811	80.8	299	380	622.0	Normal	Normal	Normal
SELENIUM	0.734	0.554	0.278	0.381	0.507	0.538	0.615	0.56	0.827	0.14	0.17	0.30	0.7	Normal	Normal	Normal
SODIUM	0.36	0.554	0.339	Not Normal	Not Normal	0.046	0.044	0.56	0.143	6.2	59.2	65.3	83.8	Normal	70.5	Normal
VANADIUM	0.357	0.554	0.635	0.481	0.507	0.714	0.643	0.56	0.083	1.5	7.5	9.0	13.5	Normal	Normal	Normal
ZINC	0.215	0.554	0.307	0.304	0.507	0.17	0.119	0.56	0.19	14.5	10.6	25.1	68.4	Normal	Normal	Normal
Miscellaneous Parameters (mg/kg)																
TOTAL ORGANIC CARBON	0.599	0.554	0.616	0.455	0.507	0.411	0.119	0.56	0.482	7600	6150	13750	36550	Normal	Normal	Normal

Shaded cells indicate value is an outlier.

[1] In accordance with Dixon's Test, Shapiro Wilk test was computed on the data set without the suspected outlier.

IQR = Interquartile Range
Q1 = 1st Quartile, 25th Percentile
Q3 = 3rd Quartile, 75th Percentile
Normal = Normally Distributed; Tukey's Outlier Test was not appropriate.
Not Normal = Not Normally Distributed; Dixon's Test was not appropriate.

Table A.4.1.1
Outlier Tests
Coffins Ice Pond Fall Sediment Samples
Naval Air Station, Brunswick, Maine

Parameter	Dixon's Outlier Test Results									Tukey's Outlier Test						
	Largest Concentration			Second Largest Concentration			Third Largest Concentration									
	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	IQR	Q1	Q3	Tukey Critical Value	Largest Concentration	Second Largest Concentration	Third Largest Concentration
PAHs (ug/kg)																
ACENAPHTHENE	0.785	0.554	0.964	0.403	0.507	0.592	0.081	0.56	0.805	17.9	29.8	47.6	101.3	Normal	Normal	Normal
ACENAPHTHYLENE	0	0.554	0.292	0.419	0.507	0.646	0.611	0.56	0.734	198	175	373	965.0	Normal	Normal	Normal
ANTHRACENE	0.598	0.554	0.649	0.106	0.507	0.871	0.437	0.56	0.881	114	115	229	570.8	Normal	Normal	Normal
BENZO(A)ANTHRACENE	0.6	0.554	0.592	0.188	0.507	0.728	0.615	0.56	0.558	1375	1100	2475	6600.0	Normal	Normal	Normal
BENZO(A)PYRENE	0.603	0.554	0.792	0.261	0.507	0.852	0.471	0.56	0.604	1850	1600	3450	9000.0	Normal	Normal	Normal
BENZO(B)FLUORANTHENE	0.62	0.554	0.723	0.167	0.507	0.89	0.467	0.56	0.934	2288	1875	4163	11025.0	Normal	Normal	Normal
BENZO(G,H,I)PERYLENE	0.558	0.554	0.888	0.237	0.507	0.975	0.448	0.56	0.899	1413	1550	2963	7200.0	Normal	Normal	Normal
BENZO(K)FLUORANTHENE	0.79	0.554	0.451	0.176	0.507	0.345	0.143	0.56	0.435	1100	1775	2875	6175.0	Normal	Normal	Normal
CHRYSENE	0.75	0.554	0.67	0.19	0.507	0.555	0.059	0.56	0.901	1350	2050	3400	7450.0	Normal	Normal	Normal
DIBENZO(A,H)ANTHRACENE	0.286	0.554	0.229	0.193	0.507	0.267	0.653	0.56	0.53	551	440	991	2645.0	Normal	Normal	Normal
FLUORANTHENE	0.617	0.554	0.874	0.315	0.507	0.977	0.524	0.56	0.783	3288	3225	6513	16375.0	Normal	Normal	Normal
FLUORENE	0.698	0.554	0.81	0.385	0.507	0.986	0.518	0.56	0.796	58	65.8	124	297.8	Normal	Normal	Normal
INDENO(1,2,3-CD)PYRENE	0.475	0.554	0.671	0.214	0.507	0.841	0.515	0.56	0.898	1538	1525	3063	7675.0	Normal	Normal	Normal
NAPHTHALENE	0.617	0.554	0.098	0.21	0.507	0.09	0.673	0.56	0.747	25.4	19.8	45.1	121.3	Normal	Normal	Normal
PHENANTHRENE	0.732	0.554	0.999	0.28	0.507	0.956	0.302	0.56	0.744	965	1298	2263	5157.5	Normal	Normal	Normal
PYRENE	0.72	0.554	0.898	0.114	0.507	0.999	0.387	0.56	0.923	2750	2950	5700	13950.0	Normal	Normal	Normal
Pesticides/PCBs (ug/kg)																
4,4'-DDD	0.119	0.554	0.782	0.135	0.507	0.844	0.438	0.56	0.303	47.8	64.8	113	255.8	Normal	Normal	Normal
4,4'-DDE	0.26	0.554	0.779	0.135	0.507	0.813	0.25	0.56	0.631	12.1	24.5	36.6	73.0	Normal	Normal	Normal
4,4'-DDT	0.596	0.554	0.39	0.105	0.507	0.483	0.206	0.56	0.444	17.5	17	34.5	87.0	Normal	Normal	Normal
ALPHA-CHLORDANE	0.25	0.554	0.258	0.333	0.507	0.101	0.125	0.56	0.168	3.8	10.8	14.5	25.8	Normal	Normal	Normal
DELTA-BHC	0.056	0.554	0.129	0.529	0.507	0.772	0.5	0.56	0.754	0.88	1.7	2.5	5.2	Normal	Normal	Normal
Inorganics (mg/kg)																
ALUMINUM	0.355	0.554	0.423	0.306	0.507	0.086	0.118	0.56	0.105	1975	17000	18975	24900.0	Normal	Normal	Normal
ANTIMONY	0.172	0.554	0.409	0.25	0.507	0.506	0.708	0.56	0.514	0.38	0.19	0.57	1.7	Normal	Normal	Normal
ARSENIC	0.331	0.554	0.247	0.101	0.507	0.31	0.085	0.56	0.465	4	14.1	18.1	30.1	Normal	Normal	Normal
BARIUM	0.334	0.554	0.264	0.065	0.507	0.351	0.286	0.56	0.145	65.4	157	222	418.1	Normal	Normal	Normal
BERYLLIUM	0.375	0.554	0.27	0.2	0.507	0.183	0	0.56	0.39	0.43	1.5	1.9	3.2	Normal	Normal	Normal
CADMIUM	Not Normal	Not Normal	0.014	0	0.507	0.045	Not Normal	Not Normal	0.037	0.18	2.4	2.6	3.1	2.8	2.6	2.6
CALCIUM	0.203	0.554	0.713	0.111	0.507	0.789	0.454	0.56	0.262	1495	5313	6808	11292.5	Normal	Normal	Normal
CHROMIUM	0.397	0.554	0.296	0.093	0.507	0.311	0.215	0.56	0.16	12.9	46.2	59.0	97.6	Normal	Normal	Normal
COBALT	0.045	0.554	0.892	0.17	0.507	0.971	0.352	0.56	0.898	7.45	8.9	16.35	38.7	Normal	Normal	Normal
COPPER	0.454	0.554	0.963	0.382	0.507	0.788	0.185	0.56	0.796	7.2	44.7	51.9	73.4	Normal	Normal	Normal
IRON	0.476	0.554	0.628	0.117	0.507	0.651	0.588	0.56	0.091	5825	17900	23725	41200.0	Normal	Normal	Normal
LEAD	0.169	0.554	0.247	0.271	0.507	0.097	0.116	0.56	0.169	25.3	126	151	226.8	Normal	Normal	Normal
MAGNESIUM	0.388	0.554	0.247	0.107	0.507	0.283	0.133	0.56	0.351	1530	5158	6688	11277.5	Normal	Normal	Normal
MANGANESE	0.429	0.554	0.856	0.163	0.507	0.917	0.221	0.56	0.977	246	267	513	1251.8	Normal	Normal	Normal
MERCURY	0	0.554	0.722	0.25	0.507	0.473	0.333	0.56	0.223	0.025	0.17	0.19	0.3	Normal	Normal	Normal
NICKEL	0.375	0.554	0.558	0.098	0.507	0.68	0.285	0.56	0.462	12.0	31.2	43.2	79.0	Normal	Normal	Normal
POTASSIUM	0.054	0.554	0.58	0.14	0.507	0.56	0.304	0.56	0.237	963	2733	3695	6582.5	Normal	Normal	Normal
SELENIUM	Not Normal	Not Normal	0.003	Not Normal	Not Normal	0.018	0	0.56	0.087	0.2	2.2	2.4	3.0	2.4	2.4	Normal
SILVER	0.667	0.554	0.612	0.167	0.507	0.792	0.5	0.56	0.905	0.10	0.19	0.29	0.6	Normal	Normal	Normal
SODIUM	0.281	0.554	0.142	0.105	0.507	0.157	0.101	0.56	0.168	192	343	535	1110.5	Normal	Normal	Normal
THALLIUM	Not Normal	Not Normal	0.034	0.573	0.507	0.215	0.652	0.56	0.739	0.74	0.20	0.94	3.2	1.6	Normal	Normal
VANADIUM	0.382	0.554	0.92	0.292	0.507	0.633	0.227	0.56	0.576	15.0	46.1	61.1	106.0	Normal	Normal	Normal
ZINC	0.374	0.554	0.781	0.425	0.507	0.259	0.274	0.56	0.21	40.6	267	308	429.6	Normal	Normal	Normal
Miscellaneous Parameters (mg/kg)																
TOTAL ORGANIC CARBON	0.25	0.554	0.412	0	0.507	0.703	0.667	0.56	0.314	26250	163750	190000	268750	Normal	Normal	Normal

Shaded cells indicate value is an outlier.

[1] In accordance with Dixon's Test, Shapiro Wilk test was computed on the data set without the suspected outlier.

IQR = Interquartile Range
Q1 = 1st Quartile, 25th Percentile
Q3 = 3rd Quartile, 75th Percentile
Normal = Normally Distributed; Tukey's Outlier Test was not appropriate.
Not Normal = Not Normally Distributed; Dixon's Test was not appropriate.

Table A.4.1.2
Outlier Tests
Coffins Ice Pond Spring Sediment Samples
Naval Air Station, Brunswick, Maine

Parameter	Dixon's Outlier Test Results									Tukey's Outlier Test						
	Largest Concentration			Second Largest Concentration			Third Largest Concentration									
	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	Dixon C Statistic	Dixon D Critical Value	Shapiro Wilk P Value[1]	IQR	Q1	Q3	Tukey Critical Value	Largest Concentration	Second Largest Concentration	Third Largest Concentration
PAHs (ug/kg)																
2-METHYLNAPHTHALENE	0.464	0.554	0.316	0	0.507	0.634	0.267	0.56	0.587	11.3	28.8	40	73.75	Normal	Normal	Normal
ACENAPHTHENE	0.385	0.554	0.785	0.5	0.507	0.542	0.583	0.56	0.076	13.5	41.5	55	95.50	Normal	Normal	Normal
ACENAPHTHYLENE	0.593	0.554	0.452	0	0.507	0.848	0.364	0.56	0.955	51.3	189	240	393.75	Normal	Normal	Normal
ANTHRACENE	0.077	0.554	0.361	0.667	0.507	0.277	0.125	0.56	0.423	45	155	200	335.00	Normal	Normal	Normal
BENZO(A)ANTHRACENE	0	0.554	0.726	0.125	0.507	0.741	0.429	0.56	0.229	538	1288	1825	3437.50	Normal	Normal	Normal
BENZO(A)PYRENE	0.091	0.554	0.535	0.2	0.507	0.38	0.375	0.56	0.146	625	2225	2850	4725.00	Normal	Normal	Normal
BENZO(B)FLUORANTHENE	0.062	0.554	0.488	0.133	0.507	0.503	0.385	0.56	0.209	1125	3525	4650	8025.00	Normal	Normal	Normal
BENZO(G,H,I)PERYLENE	0.1	0.554	0.156	0.222	0.507	0.094	0.143	0.56	0.172	450	2100	2550	3900.00	Normal	Normal	Normal
BENZO(K)FLUORANTHENE	0	0.554	0.813	0.125	0.507	0.865	0.286	0.56	0.585	500	1225	1725	3225.00	Normal	Normal	Normal
CHRYSENE	0	0.554	0.711	0.133	0.507	0.711	0.538	0.56	0.138	1125	2525	3650	7025.00	Normal	Normal	Normal
DIBENZO(A,H)ANTHRACENE	0.026	0.554	0.146	0	0.507	0.425	0.105	0.56	0.63	324	336	660	1631.25	Normal	Normal	Normal
FLUORANTHENE	0.095	0.554	0.489	0.158	0.507	0.595	0.688	0.56	0.335	1600	3175	4775	9575.00	Normal	Normal	Normal
FLUORENE	0.476	0.554	0.119	0.519	0.507	0.636	0.595	0.56	0.493	41	89	130	253.00	Normal	Normal	Normal
INDENO(1,2,3-CD)PYRENE	0.2	0.554	0.104	0	0.507	0.32	0.125	0.56	0.47	575	2325	2900	4625.00	Normal	Normal	Normal
NAPHTHALENE	0.227	0.554	0.226	0.059	0.507	0.332	0.125	0.56	0.351	11.4	29.9	41.25	75.38	Normal	Normal	Normal
PHENANTHRENE	0.188	0.554	0.369	0.154	0.507	0.41	0.727	0.56	0.097	963	1488	2450	5337.50	Normal	Normal	Normal
PYRENE	0.031	0.554	0.604	0.065	0.507	0.746	0.621	0.56	0.102	2425	5325	7750	15025.00	Normal	Normal	Normal
Pesticides/PCBs (ug/kg)																
4,4'-DDD	Not Normal	Not Normal	0.044	Not Normal	Not Normal	0.044	Not Normal	Not Normal	0.048	30.5	55.25	85.75	177.25	190	88	85
4,4'-DDE	0.571	0.554	0.893	0.333	0.507	0.535	0.1	0.56	0.76	9.75	19.5	29.25	58.50	Normal	Normal	Normal
4,4'-DDT	0.345	0.554	0.97	0.316	0.507	0.919	0.462	0.56	0.494	13.75	10.75	24.5	65.75	Normal	Normal	Normal
ALPHA-CHLORDANE	0.44	0.554	0.084	Not Normal	Not Normal	0.001	Not Normal	Not Normal	0.001	1.73	6.13	7.85	13.03	Normal	11	6.8
DELTA-BHC	Not Normal	Not Normal	0.001	Not Normal	Not Normal	0	0.976	0.56	0.147	1.86	0.16	2.025	7.61	4.9	3.3	Normal
Inorganics (mg/kg)																
ALUMINUM	0.032	0.554	0.166	0.2	0.507	0.117	0.083	0.56	0.231	2738	17463	20200	28412.50	Normal	Normal	Normal
ARSENIC	0.127	0.554	0.717	0.49	0.507	0.389	0.041	0.56	0.7	5.9	12.7	18.6	36.35	Normal	Normal	Normal
BARIUM	0.193	0.554	0.095	0.077	0.507	0.115	0.472	0.56	0.166	103	114	216	524.50	Normal	Normal	Normal
BERYLLIUM	0	0.554	0.076	Not Normal	Not Normal	0.002	Not Normal	Not Normal	0.015	0.125	1.6	1.7	2.05	Normal	1.9	1.6
CADMIUM	0.467	0.554	0.3	0.25	0.507	0.152	Not Normal	Not Normal	0.012	0.65	2.4	3.1	5.00	Normal	Normal	3
CALCIUM	0.358	0.554	0.132	0.002	0.507	0.304	0.225	0.56	0.166	1259	5408	6666	10442.50	Normal	Normal	Normal
CHROMIUM	0.003	0.554	0.259	0.227	0.507	0.089	0.079	0.56	0.157	15.1	45.1	60.3	105.63	Normal	Normal	Normal
COBALT	0.41	0.554	0.21	0.316	0.507	0.189	0.369	0.56	0.177	6.9	8.5	15.4	35.98	Normal	Normal	Normal
COPPER	0.263	0.554	0.073	Not Normal	Not Normal	0.016	Not Normal	Not Normal	0.008	6.9	47.7	54.7	75.49	Normal	57.9	53.6
IRON	0.194	0.554	0.563	0.446	0.507	0.326	0.048	0.56	0.51	7300	14650	21950	43850.00	Normal	Normal	Normal
LEAD	0.238	0.554	0.927	0.429	0.507	0.498	0.477	0.56	0.129	46.3	137	183	322.00	Normal	Normal	Normal
MAGNESIUM	0.223	0.554	0.066	0.003	0.507	0.144	0.212	0.56	0.057	1605	5148	6753	11567.50	Normal	Normal	Normal
MANGANESE	0.198	0.554	0.064	0.592	0.507	0.52	0.368	0.56	0.653	179	217	395	930.75	Normal	Normal	Normal
MERCURY	0.25	0.554	0.112	0.5	0.507	0.324	0.333	0.56	0.314	0.03	0.17	0.21	0.31	Normal	Normal	Normal
NICKEL	0.124	0.554	0.932	0.494	0.507	0.725	0.407	0.56	0.343	10.3	33.9	44.1	74.85	Normal	Normal	Normal
POTASSIUM	0.136	0.554	0.153	0.014	0.507	0.271	0.283	0.56	0.071	748	2548	3295	5537.50	Normal	Normal	Normal
SELENIUM	0.286	0.554	0.473	0.35	0.507	0.151	0.077	0.56	0.305	0.51	2.3	2.8	4.38	Normal	Normal	Normal
SILVER	Not Normal	Not Normal	0.007	Not Normal	Not Normal	0.004	Not Normal	Not Normal	0.006	0.02	0.18	0.19	0.24	0.21	0.2	0.19
SODIUM	0.509	0.554	0.106	0.776	0.507	0.14	0.328	0.56	0.071	108	377	486	810.25	Normal	Normal	Normal
THALLIUM	0.12	0.554	0.663	0.318	0.507	0.521	0.2	0.56	0.451	0.25	0.25	0.50	1.23	Normal	Normal	Normal
VANADIUM	0.057	0.554	0.271	0.348	0.507	0.092	0.093	0.56	0.193	9.4	54.7	64.1	92.29	Normal	Normal	Normal
ZINC	0.415	0.554	0.961	0.324	0.507	0.648	0.057	0.56	0.974	79.6	239	319	557.38	Normal	Normal	Normal
Miscellaneous Parameters (mg/kg)																
TOTAL ORGANIC CARBON	0.357	0.554	0.703	0.556	0.507	0.576	0.125	0.56	0.673	37500	175000	212500	325000	Normal	Normal	Normal

Shaded cells indicate value is an outlier.

[1] In accordance with Dixon's Test, Shapiro Wilk test was computed on the data set without the suspected outlier.

IQR = Interquartile Range
Q1 = 1st Quartile, 25th Percentile
Q3 = 3rd Quartile, 75th Percentile
Normal = Normally Distributed; Tukey's Outlier Test was not appropriate.
Not Normal = Not Normally Distributed; Dixon's Test was not appropriate.

Table A.4.1.3
Outlier Tests
Mere Brook Fall Sediment Samples
Naval Air Station, Brunswick, Maine

Parameter	Dixon's Outlier Test Results									Tukey's Outlier Test						
	Largest Concentration			Second Largest Concentration			Third Largest Concentration									
	Dixon C Statistic	Dixon D Critical	Shapiro Wilk P	Dixon C Statistic	Dixon D Critical	Shapiro Wilk P	Dixon C Statistic	Dixon D Critical	Shapiro Wilk P	IQR	Q1	Q3	Tukey Critical Value	Largest Concentration	Second Largest Concentration	Third Largest Concentration
PAHs (ug/kg)																
ACENAPHTHENE	Not Normal	Not Normal	0	0.862	0.507	0.111	Not Normal	Not Normal	0.042	10.3	1	11.3	42.0	520	Normal	5
ACENAPHTHYLENE	0.037	0.554	0.176	0.192	0.507	0.122	0.19	0.56	0.088	20	3.3	23.3	83.3	Normal	Normal	Normal
ANTHRACENE	0.876	0.554	0.414	0.185	0.507	0.319	0.182	0.56	0.272	21.4	4.9	26.3	90.4	Normal	Normal	Normal
BENZO(A)ANTHRACENE	0.369	0.554	0.317	0.098	0.507	0.385	0.216	0.56	0.296	177	37.8	215	746.8	Normal	Normal	Normal
BENZO(A)PYRENE	0.346	0.554	0.116	0.118	0.507	0.131	0	0.56	0.313	143	42.4	185	612.9	Normal	Normal	Normal
BENZO(B)FLUORANTHENE	0.245	0.554	0.075	0.054	0.507	0.147	0	0.56	0.345	163	49.6	213	701.1	Normal	Normal	Normal
BENZO(G,H,I)PERYLENE	0.207	0.554	0.246	0.087	0.507	0.346	0.095	0.56	0.494	97	35.5	133	423.5	Normal	Normal	Normal
BENZO(K)FLUORANTHENE	0.361	0.554	0.081	0	0.507	0.228	0.081	0.56	0.341	113	36.9	150	489.4	Normal	Normal	Normal
CHRYSENE	0.38	0.554	0.145	0.153	0.507	0.121	0	0.56	0.295	159	48.6	208	684.1	Normal	Normal	Normal
DIBENZO(A,H)ANTHRACENE	0.294	0.554	0.128	0	0.507	0.365	0.083	0.56	0.566	31.5	15.5	47	141.5	Normal	Normal	Normal
FLUORANTHENE	0.618	0.554	0.122	0	0.507	0.286	0.178	0.56	0.239	470	110	580	1991.1	Normal	Normal	Normal
FLUORENE	0.944	0.554	0.091	Not Normal	Not Normal	0.046	Not Normal	Not Normal	0.045	18.4	2.4	20.8	75.9	Normal	35	16
INDENO(1,2,3-CD)PYRENE	0.242	0.554	0.194	0.08	0.507	0.286	0.087	0.56	0.421	106	36.3	143	461.3	Normal	Normal	Normal
PHENANTHRENE	0.892	0.554	0.181	0.128	0.507	0.163	0.147	0.56	0.14	197	40.6	238	828.1	Normal	Normal	Normal
PYRENE	0.609	0.554	0.36	0.242	0.507	0.182	0.035	0.56	0.335	285	67.9	353	1206.4	Normal	Normal	Normal
Pesticides/PCBs (ug/kg)																
4,4'-DDD	0.276	0.554	0.524	0.19	0.507	0.409	0.176	0.56	0.462	1.5	1.4	2.9	7.4	Normal	Normal	Normal
4,4'-DDE	0.097	0.554	0.352	Not Normal	Not Normal	0.025	0	0.56	0.11	0.345	1.1	1.4	2.5	Normal	1.8	Normal
4,4'-DDT	0.858	0.554	0.093	0.164	0.507	0.074	0.196	0.56	0.085	0.1325	0.58	0.7	1.1	Normal	Normal	Normal
Inorganics (mg/kg)																
ALUMINUM	0.253	0.554	0.245	0.061	0.507	0.383	0.593	0.56	0.934	955	3593	4548	7412.5	Normal	Normal	Normal
ARSENIC	0.154	0.554	0.276	0.136	0.507	0.22	0.158	0.56	0.174	1.43125	1.1	2.6	6.9	Normal	Normal	Normal
BARIUM	0.408	0.554	0.446	0.09	0.507	0.552	0.199	0.56	0.457	6.1875	14.9	21.1	39.7	Normal	Normal	Normal
BERYLLIUM	Not Normal	Not Normal	0.009	Not Normal	Not Normal	0.009	Not Normal	Not Normal	0.041	0.0175	0.26	0.27	0.33	0.34	0.28	0.27
CADMIUM	0.273	0.554	0.368	0.375	0.507	0.149	0	0.56	0.283	0.05	0.05	0.10	0.2	Normal	Normal	Normal
CALCIUM	0.494	0.554	0.797	0.285	0.507	0.466	0.296	0.56	0.152	138.75	768.8	908	1323.8	Normal	Normal	Normal
CHROMIUM	0.13	0.554	0.232	0.2	0.507	0.242	0.438	0.56	0.323	1.55	6.6	8.1	12.8	Normal	Normal	Normal
COBALT	0.267	0.554	0.237	0	0.507	0.501	0.273	0.56	0.318	1.025	1.6	2.6	5.7	Normal	Normal	Normal
COPPER	0.517	0.554	0.413	0.214	0.507	0.283	0.182	0.56	0.305	1.175	2.7	3.9	7.4	Normal	Normal	Normal
IRON	0.036	0.554	0.338	0.157	0.507	0.254	0.067	0.56	0.396	938.75	4124	5063	7878.8	Normal	Normal	Normal
LEAD	0.596	0.554	0.844	0.152	0.507	0.894	0.205	0.56	0.93	3.55	4.0	7.6	18.2	Normal	Normal	Normal
MAGNESIUM	0.107	0.554	0.655	0.16	0.507	0.69	0.095	0.56	0.944	197.5	1203	1400	1992.5	Normal	Normal	Normal
MANGANESE	0.016	0.554	0.53	0.382	0.507	0.873	0.461	0.56	0.967	75	101	176	400.8	Normal	Normal	Normal
NICKEL	0.286	0.554	0.287	0	0.507	0.616	0.267	0.56	0.377	1.05	4.6	5.6	8.8	Normal	Normal	Normal
POTASSIUM	0.048	0.554	0.47	0.123	0.507	0.537	0.149	0.56	0.653	93	375	468	747.3	Normal	Normal	Normal
SODIUM	0.195	0.554	0.913	0.194	0.507	0.903	0.187	0.56	0.968	12.45	55.5	67.9	105.3	Normal	Normal	Normal
VANADIUM	0.583	0.554	0.268	0.1	0.507	0.386	0.111	0.56	0.475	0.85	8.6	9.4	12.0	Normal	Normal	Normal
ZINC	0.013	0.554	0.234	0.09	0.507	0.282	0.218	0.56	0.181	13.65	13.9	27.6	68.5	Normal	Normal	Normal
Miscellaneous Parameters (mg/kg)																
TOTAL ORGANIC CARBON	0.18	0.554	0.165	0.292	0.507	0.087	Not Normal	Not Normal	0.049	9875	4125	14000	43625	Normal	Normal	13000

Shaded cells indicate value is an outlier.

(1) In accordance with Dixon's Test, Shapiro Wilk test was computed on the data set without the suspected outlier.

IQR = Interquartile Range
Q1 = 1st Quartile, 25th Percentile
Q3 = 3rd Quartile, 75th Percentile
Normal = Normally Distributed; Tukey's Outlier Test was not appropriate.
Not Normal = Not Normally Distributed; Dixon's Test was not appropriate.

A.4.2 SEDIMENT ASSESSMENT OF DISTRIBUTIONAL SHAPE

APPENDIX A.4.2 ASSESSMENT OF DISTRIBUTIONAL SHAPE

For each data subset, probability (Q-Q) plots and the Shapiro Wilk Normality Test were used to evaluate how well the data distribution matches either a normal or lognormal shape. Normally distributed data exhibit a characteristic "bell-shape" curve that is symmetrical, whereas lognormal data have a skewed shape with a longer tail at the high-concentration end.

A probability (Q-Q) plot graphs the quantiles of a data set against the quantiles of the hypothesized data distribution. A non-linear bend in the Q-Q probability plot, or a point of departure from linearity at one end of the probability plot, suggest that the data do not follow the hypothesized data distribution. Q-Q plots were constructed twice first using the original data and then using the logarithms of the data. The Shapiro Wilk Normality test was performed twice first using the original data and then using the logarithms of the data. A 5 percent level of significance was used to determine whether or not the data deviate from either hypothesized distribution. The Shapiro Wilk Normality test was not computed if 50 percent or more of the data were non-detect. In this case, it was assumed that the data followed a nonparametric distribution.

Tables A.4.2.1 through A.4.2.4 present the Shapiro Wilk Normality test and the conclusion for the distribution shape assessment for Coffins Ice Pond fall, Coffins Ice Pond spring, Mere Brook fall, and Mere Brook spring. The Shapiro Wilk Normality Test tests the null hypothesis that the data follow a normal distribution against the alternative hypothesis that the data do not follow a normal distribution. If the W-Test statistic is below the W critical value then it can be concluded that the data do not follow a normal distribution. A 5 percent level of significance was used to determine whether or not the data deviate from the normal or lognormal distribution. The Q-Q probability plots for both the normal and lognormal distribution are displayed below.

Data sets that were shown to conform to a normal distribution were subsequently evaluated with parametric statistical tests whenever possible. As stated in the Background Study SAP, comparison tests will not be performed using the log-transformed data sets because of the potential for misinterpretation of the true underlying distribution that tends to occur with lognormal fitting (Tt, 2009). Data sets that were shown not to conform to a normal distribution were subsequently evaluated with non-parametric tests.

Table A.4.2.1
Distributional Shape Assessment
Coffins Ice Pond Sediment Fall Samples
Naval Air Station, Brunswick, Maine

Parameter	W Statistic		W Critical Value	Data Distribution
	Normal	LogNormal		
PAHs				
2-METHYLNAPHTHALENE	0.866	0.908	0.818	LogNormal
ACENAPHTHENE	0.683	0.937	0.818	LogNormal
ACENAPHTHYLENE	0.87	0.933	0.818	LogNormal
ANTHRACENE	0.843	0.974	0.818	LogNormal
BENZO(A)ANTHRACENE	0.839	0.978	0.818	LogNormal
BENZO(A)PYRENE	0.834	0.978	0.818	LogNormal
BENZO(B)FLUORANTHENE	0.833	0.984	0.818	LogNormal
BENZO(G,H,I)PERYLENE	0.865	0.987	0.818	LogNormal
BENZO(K)FLUORANTHENE	0.686	0.924	0.818	LogNormal
CHRYSENE	0.736	0.951	0.818	LogNormal
DIBENZO(A,H)ANTHRACENE	0.895	0.948	0.818	LogNormal
FLUORANTHENE	0.815	0.983	0.818	LogNormal
FLUORENE	0.729	0.954	0.818	LogNormal
INDENO(1,2,3-CD)PYRENE	0.892	0.984	0.818	LogNormal
NAPHTHALENE	0.766	0.906	0.818	LogNormal
PHENANTHRENE	0.731	0.966	0.818	LogNormal
PYRENE	0.762	0.973	0.818	LogNormal
Pesticides PCBs				
4,4'-DDD	0.951	0.923	0.818	Normal
4,4'-DDE	0.981	0.959	0.818	Normal
4,4'-DDT	0.88	0.962	0.818	LogNormal
ALPHA-CHLORDANE	0.932	0.751	0.818	Normal
DELTA-BHC	0.847	0.898	0.818	LogNormal
ENDOSULFAN II	>50% ND	>50% ND	0.818	Assumed Nonparametric
GAMMA-CHLORDANE	>50% ND	>50% ND	0.818	Assumed Nonparametric
Herbicides				
2,4,5-TP (SILVEX)	>50% ND	>50% ND	0.818	Assumed Nonparametric
DINOSEB	>50% ND	>50% ND	0.818	Assumed Nonparametric
MCPP	>50% ND	>50% ND	0.818	Assumed Nonparametric
Inorganics				
ALUMINUM	0.945	0.95	0.818	LogNormal
ANTIMONY	0.913	0.919	0.818	LogNormal
ARSENIC	0.961	0.912	0.818	Normal
BARIUM	0.961	0.87	0.818	Normal
BERYLLIUM	0.939	0.942	0.818	LogNormal
CADMIUM	0.852	0.814	0.818	Normal
CALCIUM	0.965	0.926	0.818	Normal
CHROMIUM	0.952	0.944	0.818	Normal
COBALT	0.94	0.932	0.818	Normal
COPPER	0.908	0.946	0.818	LogNormal

Table A.4.2.1
Distributional Shape Assessment
Coffins Ice Pond Sediment Fall Samples
Naval Air Station, Brunswick, Maine

Parameter	W Statistic		W Critical Value	Data Distribution
	Normal	LogNormal		
IRON	0.964	0.96	0.818	Normal
LEAD	0.918	0.828	0.818	Normal
MAGNESIUM	0.96	0.945	0.818	Normal
MANGANESE	0.963	0.987	0.818	LogNormal
MERCURY	0.918	0.89	0.818	Normal
NICKEL	0.95	0.962	0.818	LogNormal
POTASSIUM	0.918	0.902	0.818	Normal
SELENIUM	0.65	0.63	0.818	Nonparametric
SILVER	0.774	0.899	0.818	LogNormal
SODIUM	0.906	0.908	0.818	LogNormal
THALLIUM	>50% ND	>50% ND	0.818	Assumed Nonparametric
VANADIUM	0.981	0.988	0.818	LogNormal
ZINC	0.978	0.97	0.818	Normal
Miscellaneous				
TOTAL ORGANIC CARBON	0.94	0.945	0.818	LogNormal

> 50% ND = More than 50 percent of the data values are non-detect.

Assumed Nonparametric: More than 50 percent of the data is non-detect, data are assumed to be nonparametric.

Lognormal: W statistic for the Log tranformed data is greater than W critical value and the W statistic for the raw data.

Nonparametric: W statistics for the Log transformed data and the raw data are less than the W critical value.

Normal: W statistic for raw data is greater than W critical value and greater than the W statistic for the log transformed data.

Chemicals only appear if detected once.

Table A.4.2.2
Distributional Shape Assessment
Coffins Ice Pond Sediment Spring Samples
Naval Air Station, Brunswick, Maine

Parameter	W Statistic		W Critical Value	Data Distribution
	Normal	LogNormal		
PAHs				
2-METHYLNAPHTHALENE	0.925	0.954	0.818	LogNormal
ACENAPHTHENE	0.928	0.965	0.818	LogNormal
ACENAPHTHYLENE	0.881	0.932	0.818	LogNormal
ANTHRACENE	0.895	0.936	0.818	LogNormal
BENZO(A)ANTHRACENE	0.913	0.853	0.818	Normal
BENZO(A)PYRENE	0.925	0.842	0.818	Normal
BENZO(B)FLUORANTHENE	0.906	0.824	0.818	Normal
BENZO(G,H,I)PERYLENE	0.872	0.789	0.818	Normal
BENZO(K)FLUORANTHENE	0.919	0.887	0.818	Normal
CHRYSENE	0.913	0.846	0.818	Normal
DIBENZO(A,H)ANTHRACENE	0.823	0.769	0.818	Normal
FLUORANTHENE	0.914	0.925	0.818	LogNormal
FLUORENE	0.794	0.878	0.818	LogNormal
INDENO(1,2,3-CD)PYRENE	0.869	0.791	0.818	Normal
NAPHTHALENE	0.925	0.909	0.818	Normal
PHENANTHRENE	0.918	0.939	0.818	LogNormal
PYRENE	0.911	0.866	0.818	Normal
Pesticides/PCBs				
4,4'-DDD	0.719	0.849	0.818	LogNormal
4,4'-DDE	0.864	0.964	0.818	LogNormal
4,4'-DDT	0.974	0.69	0.818	Normal
ALPHA-BHC	>50% ND	>50% ND	0.818	Assumed Nonparametric
ALPHA-CHLORDANE	0.889	0.617	0.818	Normal
DELTA-BHC	>50% ND	>50% ND	0.818	Assumed Nonparametric
ENDOSULFAN SULFATE	>50% ND	>50% ND	0.818	Assumed Nonparametric
GAMMA-CHLORDANE	>50% ND	>50% ND	0.818	Assumed Nonparametric
Inorganics				
ALUMINUM	0.85	0.79	0.818	Normal
ARSENIC	0.936	0.952	0.818	LogNormal
BARIUM	0.869	0.879	0.818	LogNormal
BERYLLIUM	0.839	0.778	0.818	Normal
CADMIUM	0.954	0.904	0.818	Normal
CALCIUM	0.946	0.913	0.818	Normal
CHROMIUM	0.868	0.827	0.818	Normal
COBALT	0.865	0.917	0.818	LogNormal
COPPER	0.88	0.802	0.818	Normal
IRON	0.928	0.949	0.818	LogNormal
LEAD	0.974	0.955	0.818	Normal
MAGNESIUM	0.891	0.843	0.818	Normal
MANGANESE	0.83	0.896	0.818	LogNormal

Table A.4.2.2
Distributional Shape Assessment
Coffins Ice Pond Sediment Spring Samples
Naval Air Station, Brunswick, Maine

Parameter	W Statistic		W Critical Value	Data Distribution
	Normal	LogNormal		
MERCURY	0.848	0.867	0.818	LogNormal
NICKEL	0.956	0.959	0.818	LogNormal
POTASSIUM	0.887	0.848	0.818	Normal
SELENIUM	0.968	0.892	0.818	Normal
SILVER	0.777	0.696	0.818	Nonparametric
SODIUM	0.793	0.892	0.818	LogNormal
THALLIUM	0.933	0.924	0.818	Normal
VANADIUM	0.886	0.816	0.818	Normal
ZINC	0.962	0.991	0.818	LogNormal
Miscellaneous				
TOTAL ORGANIC CARBON	0.907	0.954	0.818	LogNormal

> 50% ND = More than 50 percent of the data values are non-detect.

Assumed Nonparametric: More than 50 percent of the data is non-detect, data are assumed to be nonparametric.

Lognormal: W statistic for the Log tranformed data is greater than W critical value and the W statistic for the raw data.

Nonparametric: W statistics for the Log transformed data and the raw data are less than the W critical value.

Normal: W statistic for raw data is greater than W critical value and greater than the W statistic for the log transformed data.

Chemicals only appear if detected once.

Table A.4.2.3
Distributional Shape Assessment
Mere Brook Sediment Fall Samples
Naval Air Station, Brunswick, Maine

Parameter	W Statistic		W Critical Value	Data Distribution
	Normal	LogNormal		
PAHs				
2-METHYLNAPHTHALENE	>50% ND	>50% ND	0.818	Assumed Nonparametric
ACENAPHTHENE	0.453	0.812	0.818	Nonparametric
ACENAPHTHYLENE	0.859	0.843	0.818	Normal
ANTHRACENE	0.555	0.964	0.818	LogNormal
BENZO(A)ANTHRACENE	0.944	0.831	0.818	Normal
BENZO(A)PYRENE	0.927	0.795	0.818	Normal
BENZO(B)FLUORANTHENE	0.89	0.783	0.818	Normal
BENZO(G,H,I)PERYLENE	0.923	0.766	0.818	Normal
BENZO(K)FLUORANTHENE	0.922	0.79	0.818	Normal
CHRYSENE	0.933	0.823	0.818	Normal
DIBENZO(A,H)ANTHRACENE	0.923	0.78	0.818	Normal
FLUORANTHENE	0.853	0.878	0.818	LogNormal
FLUORENE	0.464	0.867	0.818	LogNormal
INDENO(1,2,3-CD)PYRENE	0.924	0.757	0.818	Normal
NAPHTHALENE	>50% ND	>50% ND	0.818	Assumed Nonparametric
PHENANTHRENE	0.543	0.95	0.818	LogNormal
PYRENE	0.834	0.866	0.818	LogNormal
Pesticides/PCBs				
4,4'-DDD	0.972	0.762	0.818	Normal
4,4'-DDE	0.919	0.696	0.818	Normal
4,4'-DDT	>50% ND	>50% ND	0.818	Assumed Nonparametric
Inorganics				
ALUMINUM	0.911	0.923	0.818	LogNormal
ANTIMONY	0.748	0.823	0.818	LogNormal
ARSENIC	0.918	0.833	0.818	Normal
BARIUM	0.955	0.961	0.818	LogNormal
BERYLLIUM	0.893	0.847	0.818	Normal
CADMIUM	0.913	0.938	0.818	LogNormal
CALCIUM	0.892	0.94	0.818	LogNormal
CHROMIUM	0.887	0.893	0.818	LogNormal
COBALT	0.933	0.917	0.818	Normal
COPPER	0.943	0.962	0.818	LogNormal
IRON	0.886	0.868	0.818	Normal
LEAD	0.903	0.973	0.818	LogNormal
MAGNESIUM	0.936	0.922	0.818	Normal
MANGANESE	0.898	0.94	0.818	LogNormal
NICKEL	0.955	0.933	0.818	Normal
POTASSIUM	0.9	0.873	0.818	Normal
SODIUM	0.978	0.973	0.818	Normal
VANADIUM	0.95	0.957	0.818	LogNormal

Table A.4.2.3
Distributional Shape Assessment
Mere Brook Sediment Fall Samples
Naval Air Station, Brunswick, Maine

ZINC	0.856	0.84	0.818	Normal
Miscellaneous				
TOTAL ORGANIC CARBON	0.882	0.893	0.818	LogNormal

> 50% ND = More than 50 percent of the data values are non-detect.

Assumed Nonparametric: More than 50 percent of the data is non-detect, data are assumed to be nonparametric.

Lognormal: W statistic for the Log tranformed data is greater than W critical value and the W statistic for the raw data.

Nonparametric: W statistics for the Log transformed data and the raw data are less than the W critical value.

Normal: W statistic for raw data is greater than W critical value and greater than the W statistic for the log transformed data.

Chemicals only appear if detected once.

Table A.4.2.4
Distributional Shape Assessment
Mere Brook Sediment Spring Samples
Naval Air Station, Brunswick, Maine

Parameter	W Statistic		W Critical Value	Data Distribution
	Normal	LogNormal		
PAHs				
2-METHYLNAPHTHALENE	0.544	0.875	0.818	LogNormal
ACENAPHTHENE	0.668	0.884	0.818	LogNormal
ACENAPHTHYLENE	0.906	0.891	0.818	Normal
ANTHRACENE	0.868	0.827	0.818	Normal
BENZO(A)ANTHRACENE	0.855	0.8	0.818	Normal
BENZO(A)PYRENE	0.893	0.814	0.818	Normal
BENZO(B)FLUORANTHENE	0.905	0.829	0.818	Normal
BENZO(G,H,I)PERYLENE	0.906	0.829	0.818	Normal
BENZO(K)FLUORANTHENE	0.845	0.788	0.818	Normal
CHRYSENE	0.881	0.815	0.818	Normal
DIBENZO(A,H)ANTHRACENE	0.898	0.824	0.818	Normal
FLUORANTHENE	0.897	0.812	0.818	Normal
FLUORENE	0.712	0.94	0.818	LogNormal
INDENO(1,2,3-CD)PYRENE	0.91	0.825	0.818	Normal
NAPHTHALENE	0.523	0.82	0.818	LogNormal
PHENANTHRENE	0.859	0.78	0.818	Normal
PYRENE	0.885	0.809	0.818	Normal
Pestices/PCBs				
4,4'-DDD	0.926	0.813	0.818	Normal
4,4'-DDE	0.894	0.86	0.818	Normal
4,4'-DDT	0.865	0.757	0.818	Normal
ENDOSULFAN SULFATE	>50% ND	>50% ND	0.818	Assumed Nonparametric
GAMMA-CHLORDANE	0.781	0.73	0.818	Nonparametric
Inorganics				
ALUMINUM	0.87	0.948	0.818	LogNormal
ANTIMONY	>50% ND	>50% ND	0.818	Assumed Nonparametric
ARSENIC	0.916	0.929	0.818	LogNormal
BARIUM	0.952	0.974	0.818	LogNormal
BERYLLIUM	0.899	0.917	0.818	LogNormal
CADMIUM	0.958	0.92	0.818	Normal
CALCIUM	0.728	0.813	0.818	Nonparametric
CHROMIUM	0.598	0.843	0.818	LogNormal
COBALT	0.849	0.852	0.818	LogNormal
COPPER	0.841	0.778	0.818	Normal
IRON	0.896	0.905	0.818	LogNormal
LEAD	0.459	0.795	0.818	Nonparametric
MAGNESIUM	0.871	0.815	0.818	Normal
MANGANESE	0.894	0.918	0.818	LogNormal
NICKEL	0.921	0.911	0.818	Normal
POTASSIUM	0.936	0.94	0.818	LogNormal

Table A.4.2.4
Distributional Shape Assessment
Mere Brook Sediment Spring Samples
Naval Air Station, Brunswick, Maine

Parameter	W Statistic		W Critical Value	Data Distribution
	Normal	LogNormal		
SELENIUM	0.661	0.863	0.818	LogNormal
SILVER	>50% ND	>50% ND	0.818	Assumed Nonparametric
SODIUM	0.956	0.945	0.818	Normal
THALLIUM	>50% ND	>50% ND	0.818	Assumed Nonparametric
VANADIUM	0.911	0.944	0.818	LogNormal
ZINC	0.911	0.924	0.818	LogNormal
Miscellaneous				
TOTAL ORGANIC CARBON	0.772	0.962	0.818	LogNormal

> 50% ND = More than 50 percent of the data values are non-detect.

Assumed Nonparametric: More than 50 percent of the data is non-detect, data are assumed to be nonparametric.

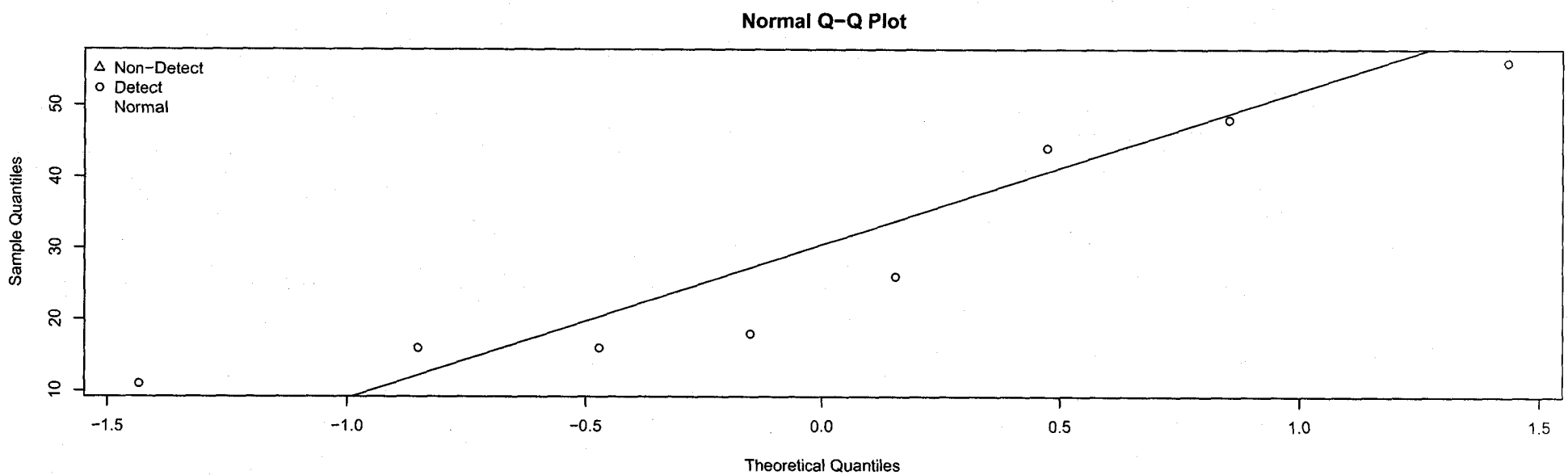
Lognormal: W statistic for the Log tranformed data is greater than W critical value and the W statistic for the raw data.

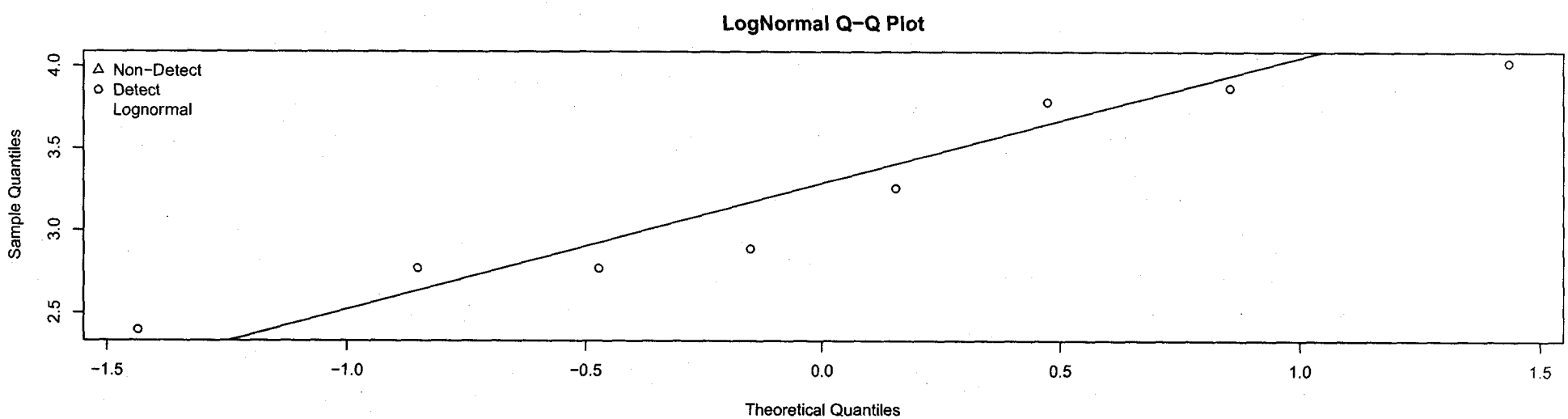
Nonparametric: W statistics for the Log transformed data and the raw data are less than the W critical value.

Normal: W statistic for raw data is greater than W critical value and greater than the W statistic for the log transformed data.

Chemicals only appear if detected once.

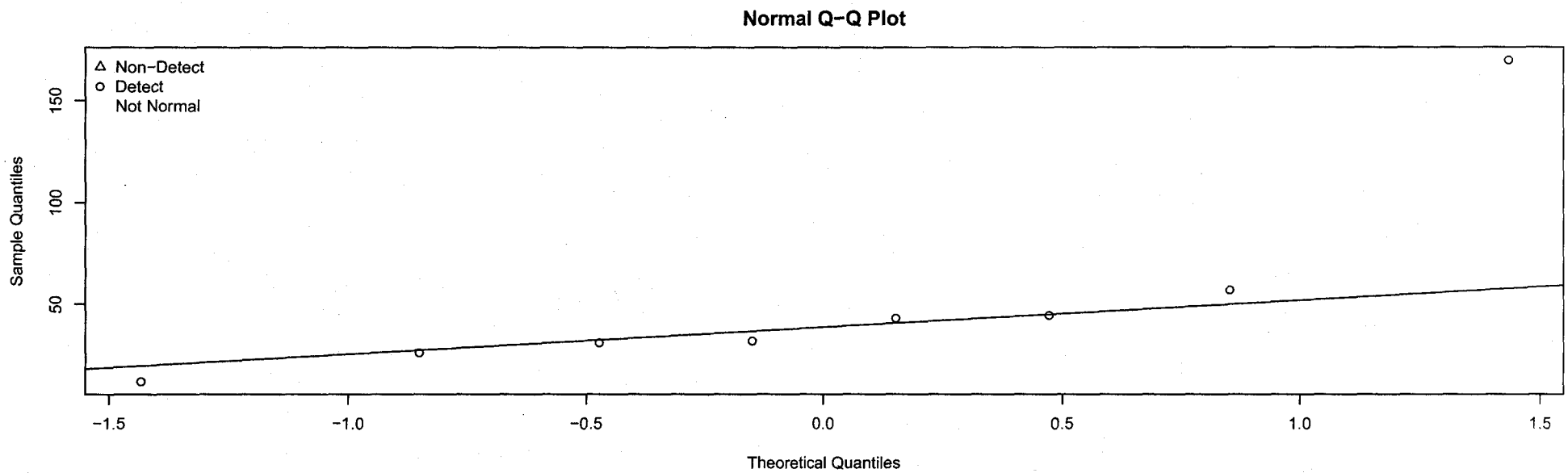
Coffins Ice Pond
Fall Sediment
2-METHYLNAPHTHALENE

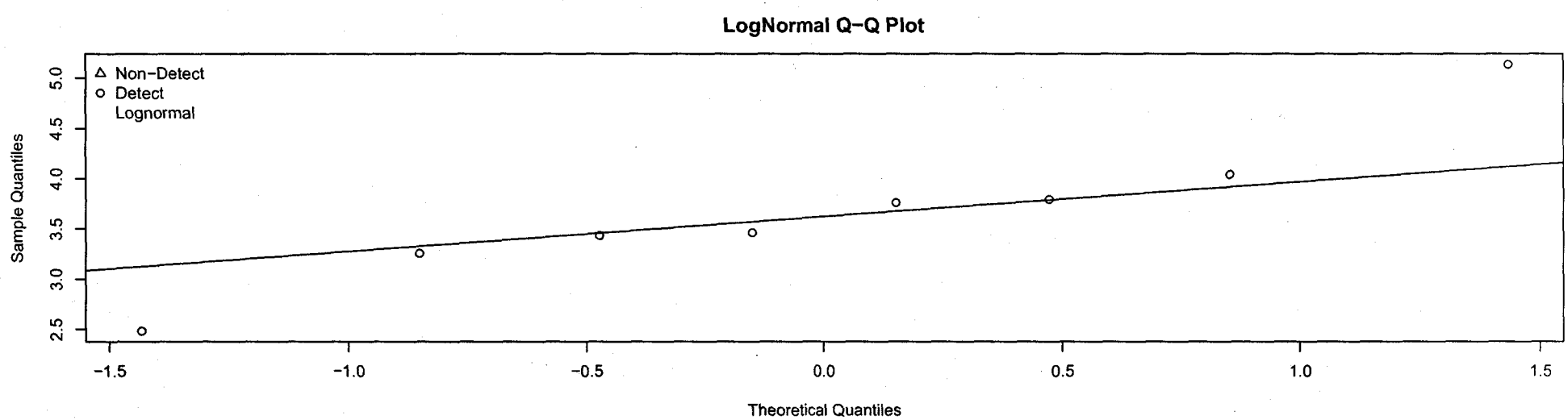




Coffins Ice Pond
Fall Sediment

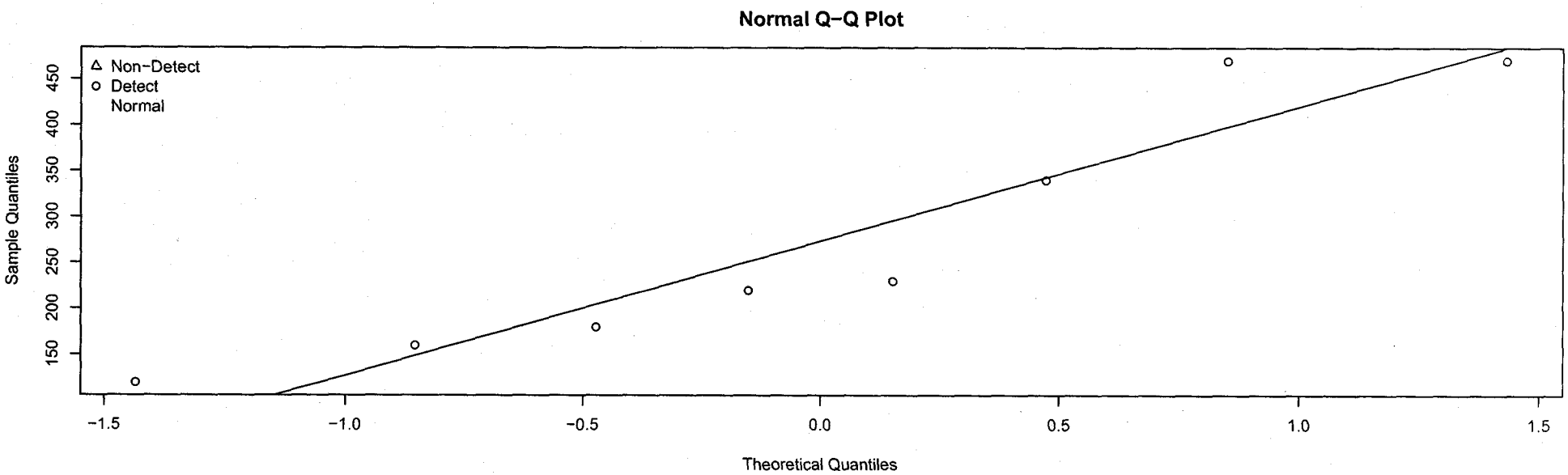
ACENAPHTHENE

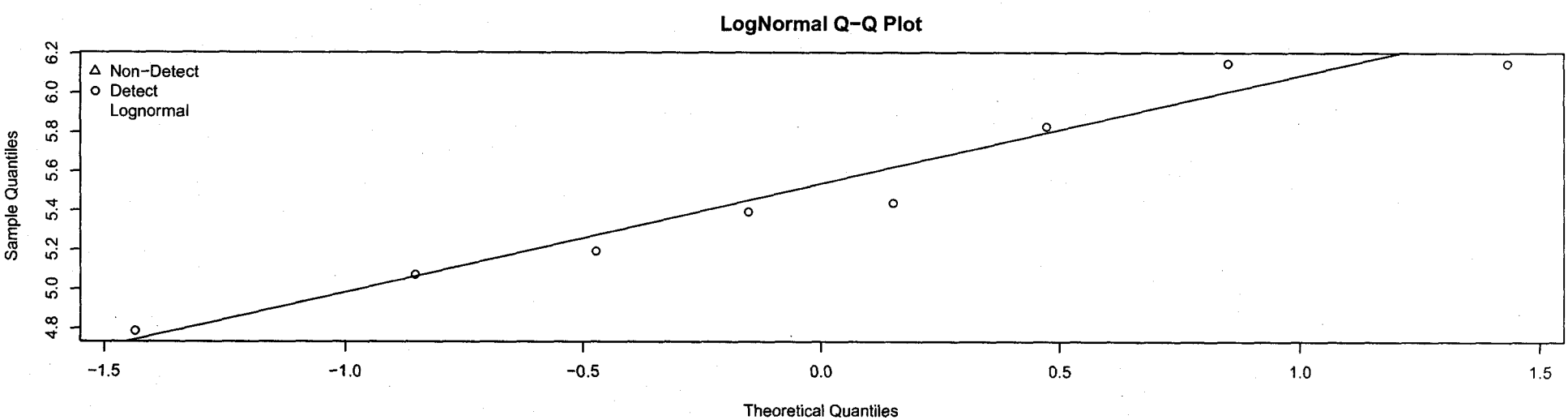




Coffins Ice Pond
Fall Sediment

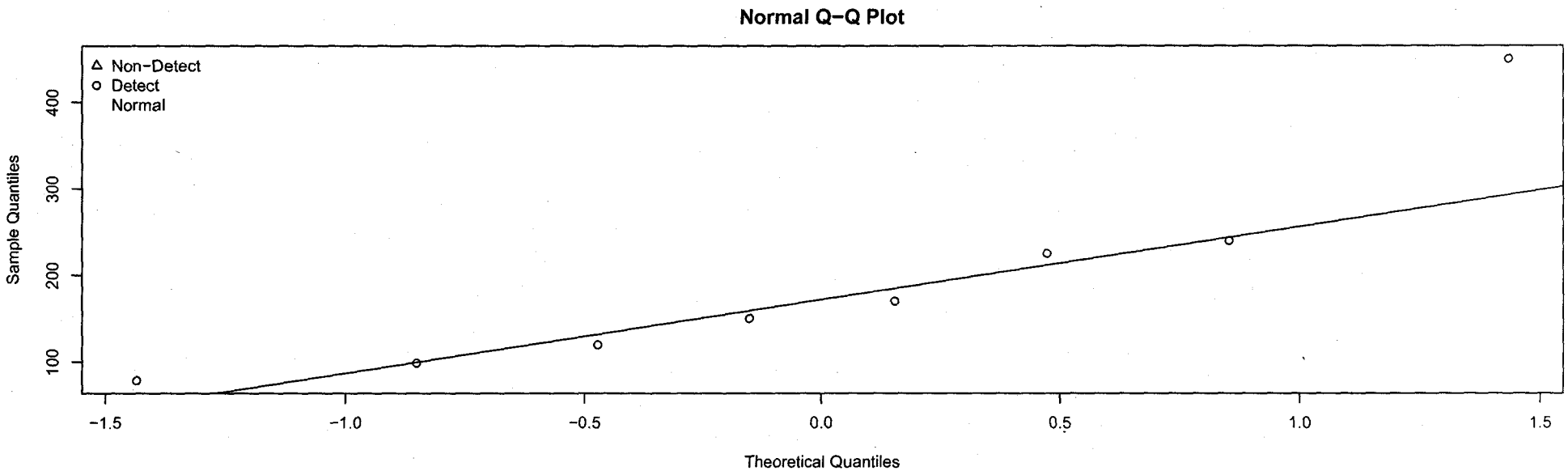
ACENAPHTHYLENE

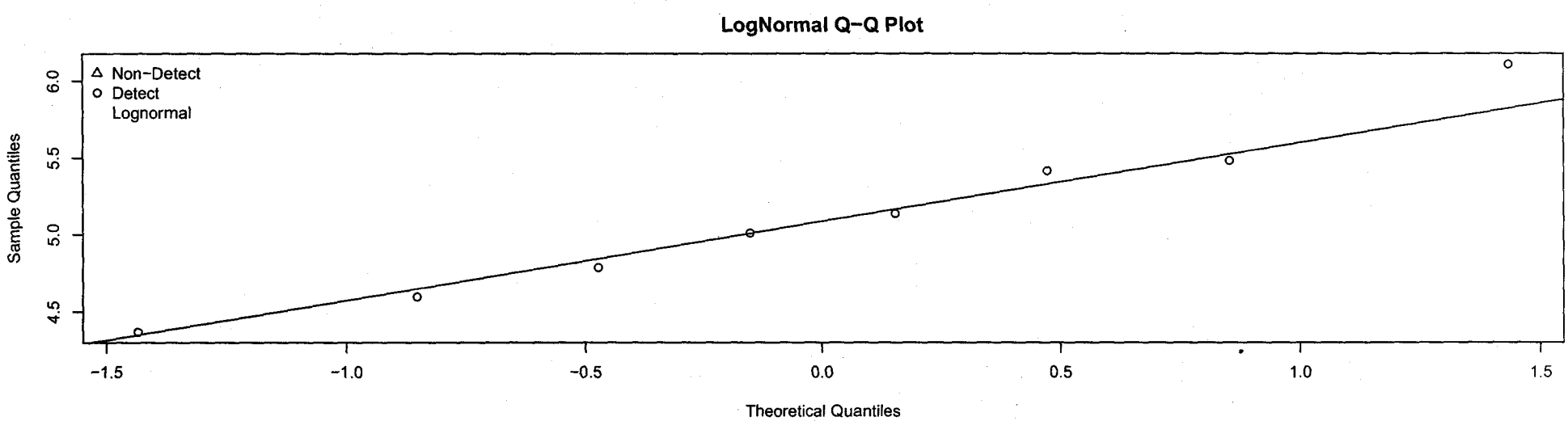




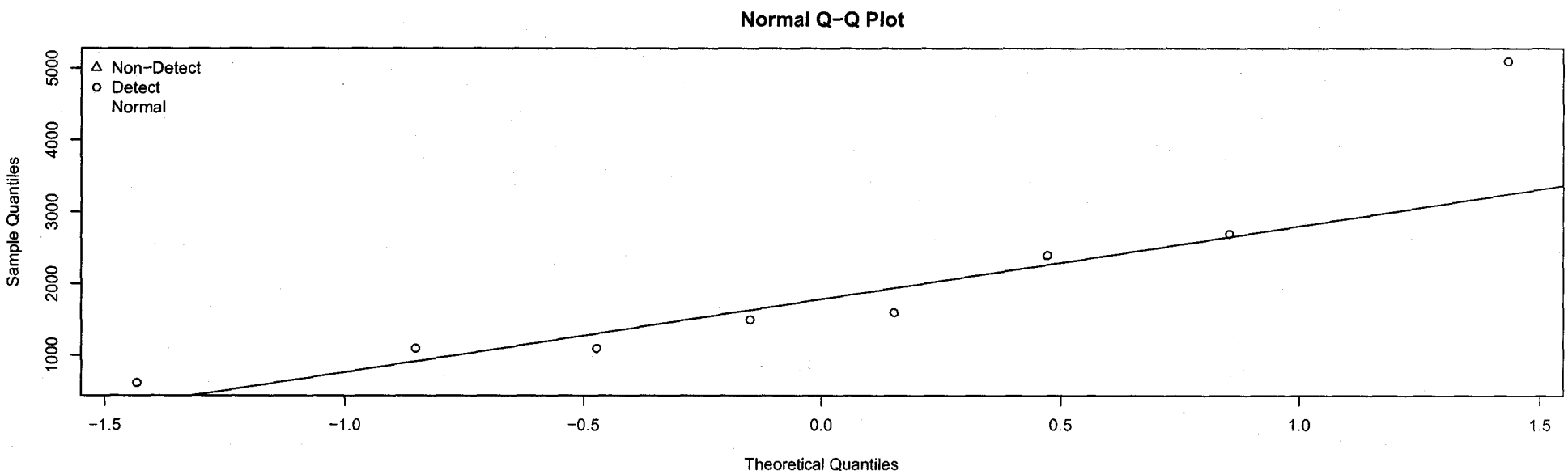
Coffins Ice Pond
Fall Sediment

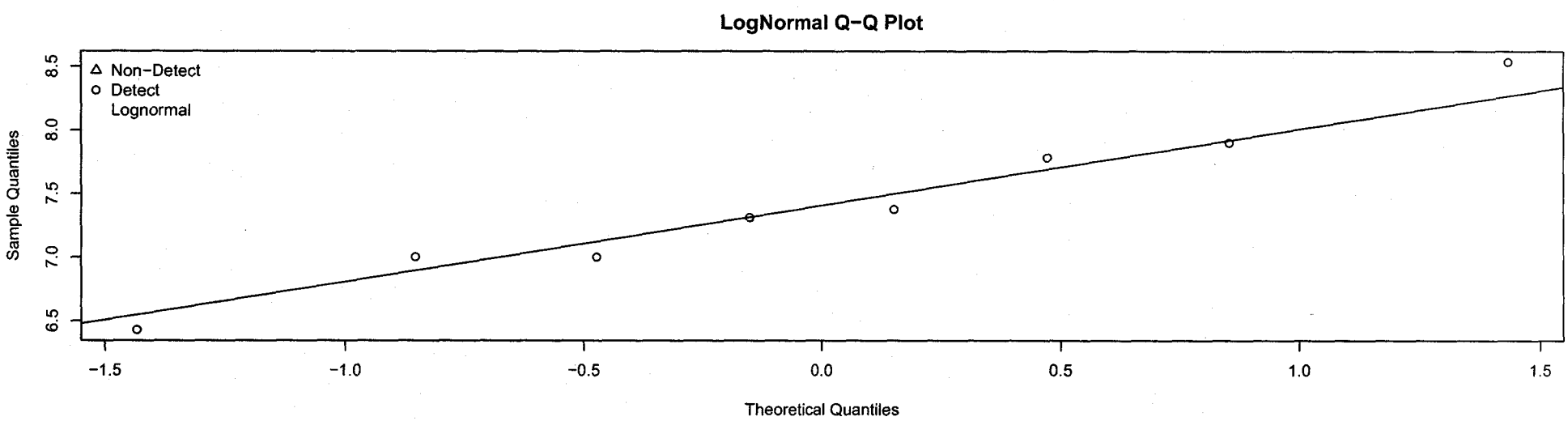
ANTHRACENE





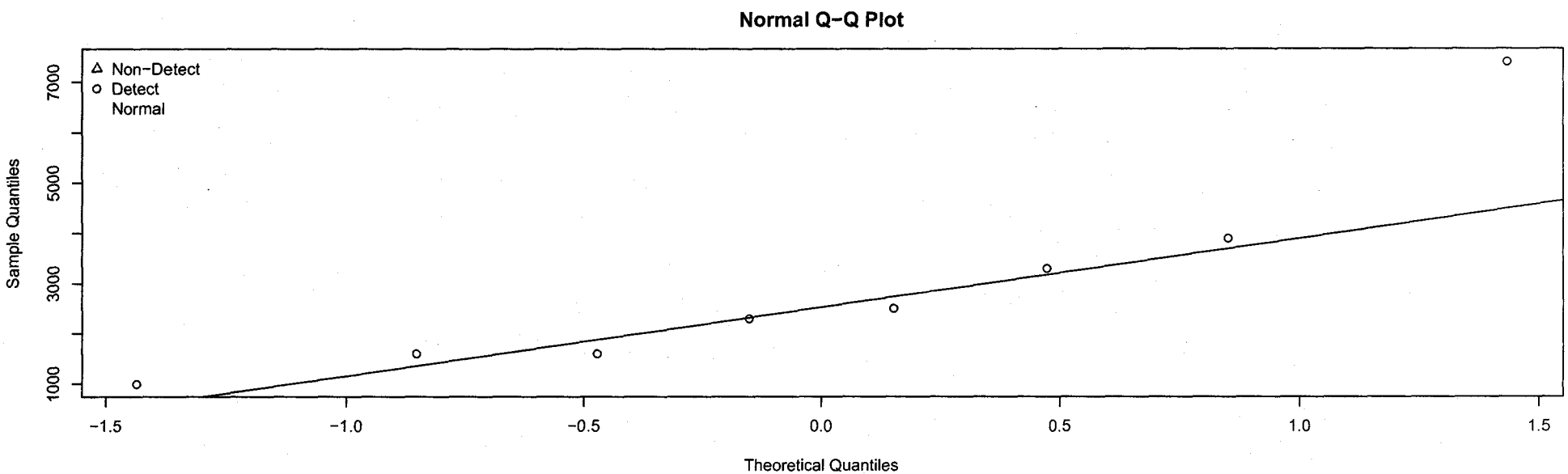
Coffins Ice Pond
Fall Sediment
BENZO(A)ANTHRACENE

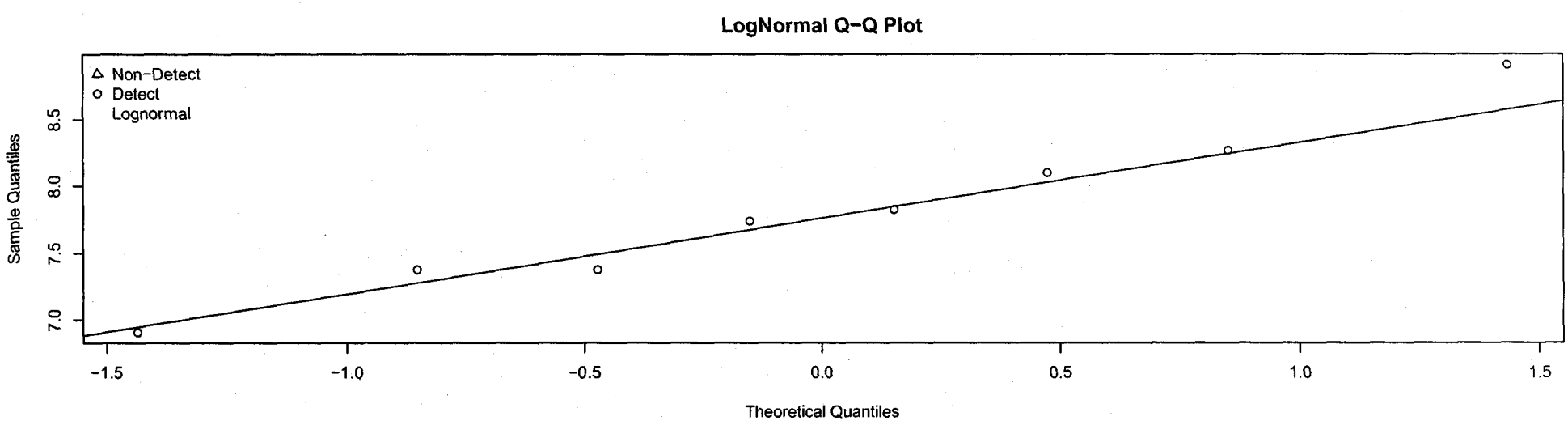




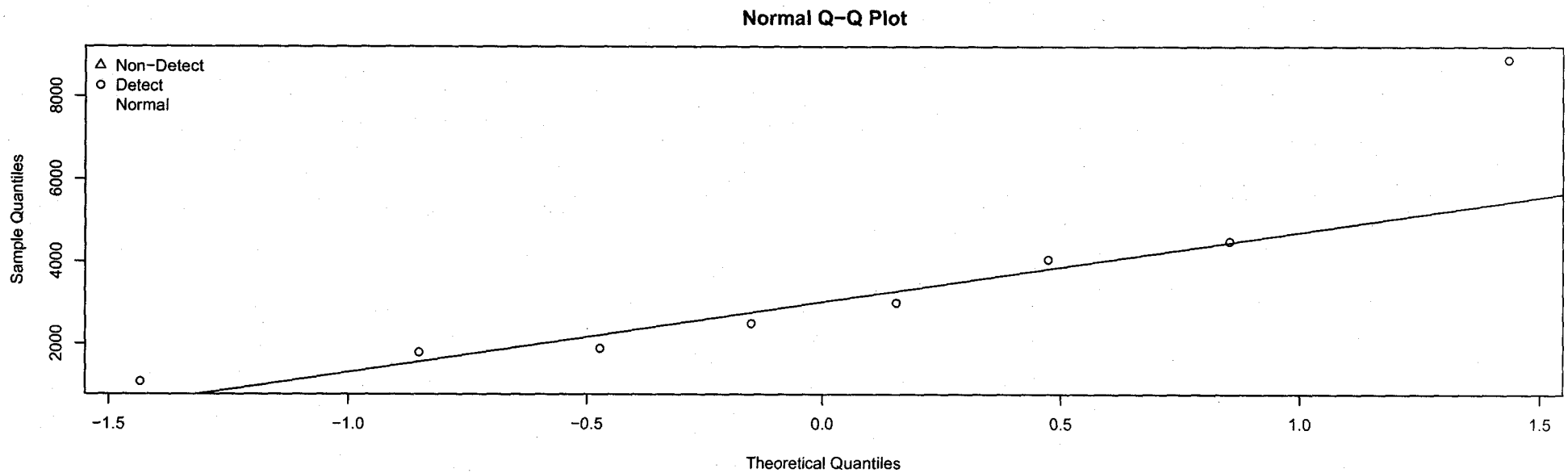
Coffins Ice Pond
Fall Sediment

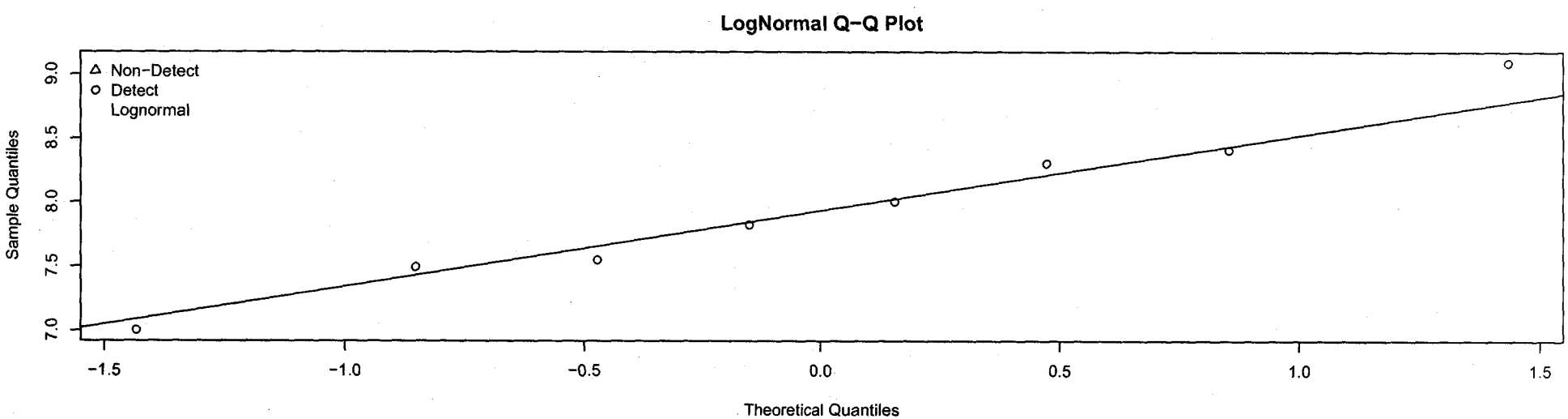
BENZO(A)PYRENE



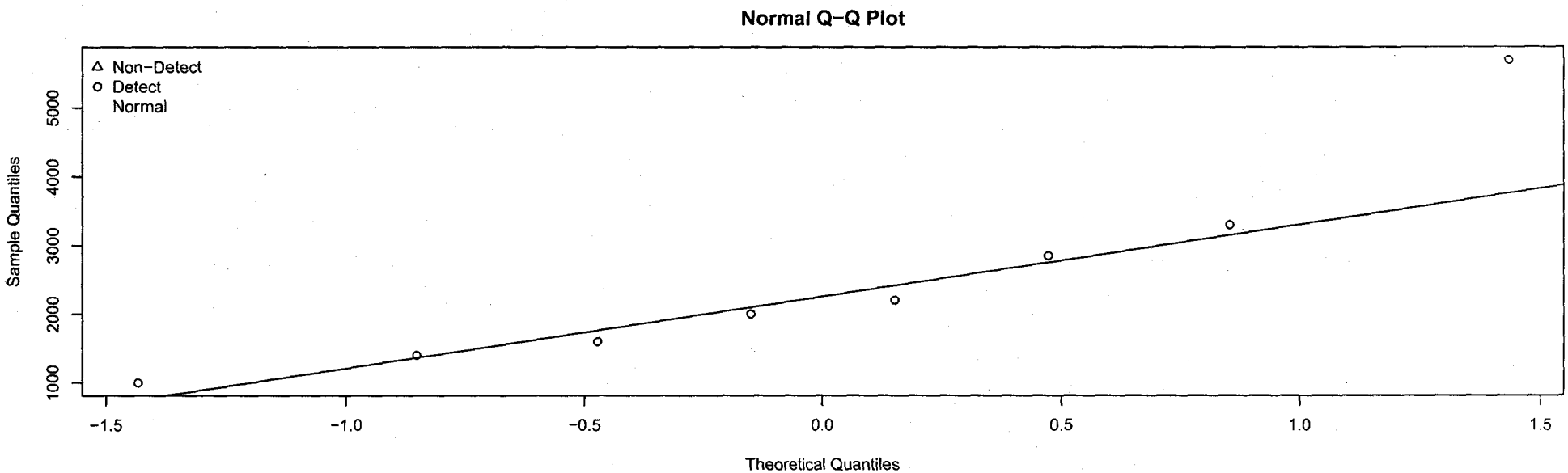


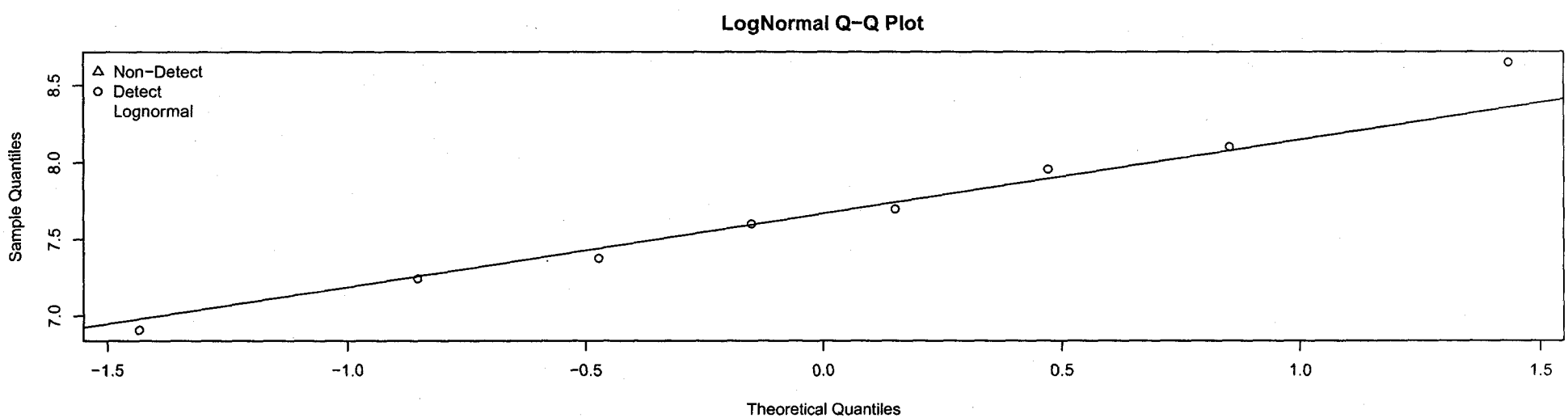
Coffins Ice Pond
Fall Sediment
BENZO(B)FLUORANTHENE



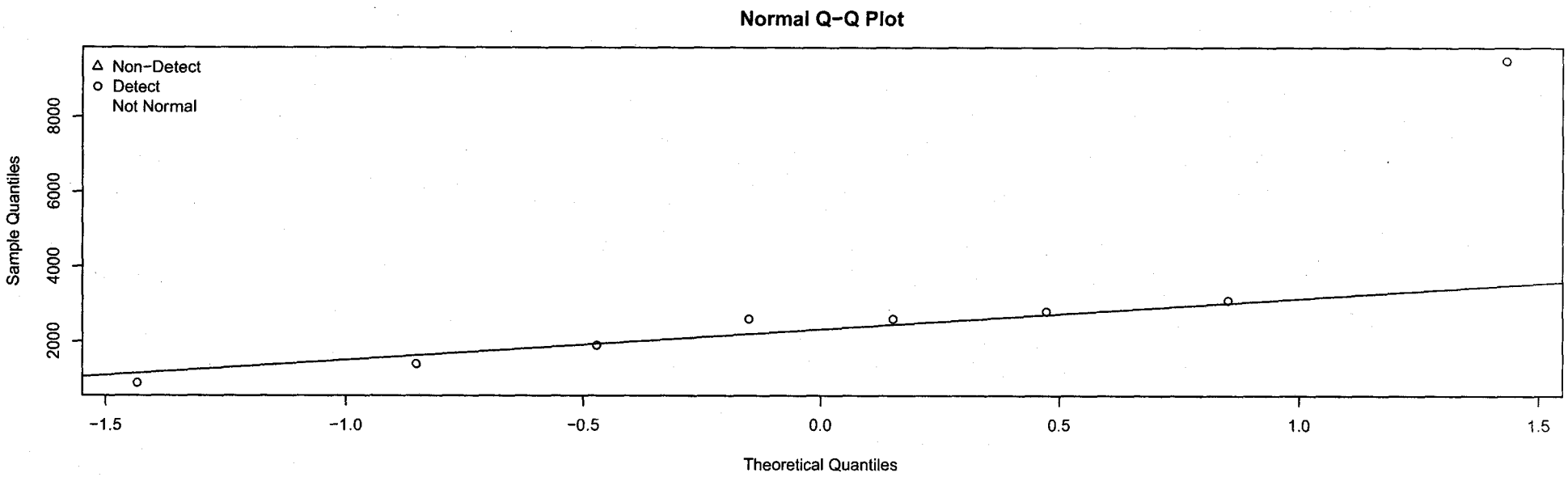


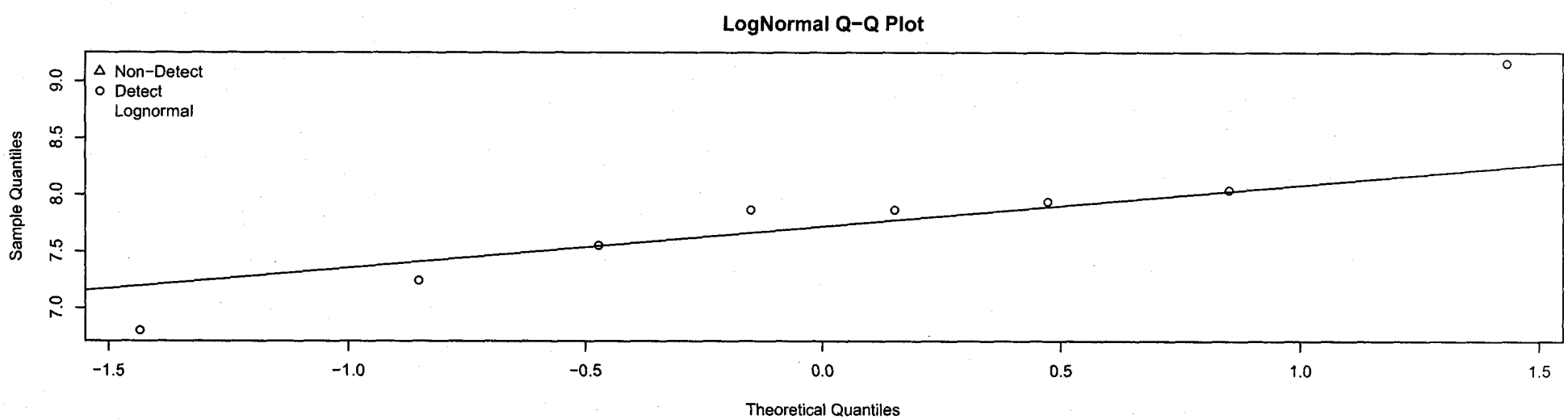
Coffins Ice Pond
Fall Sediment
BENZO(G,H,I)PERYLENE





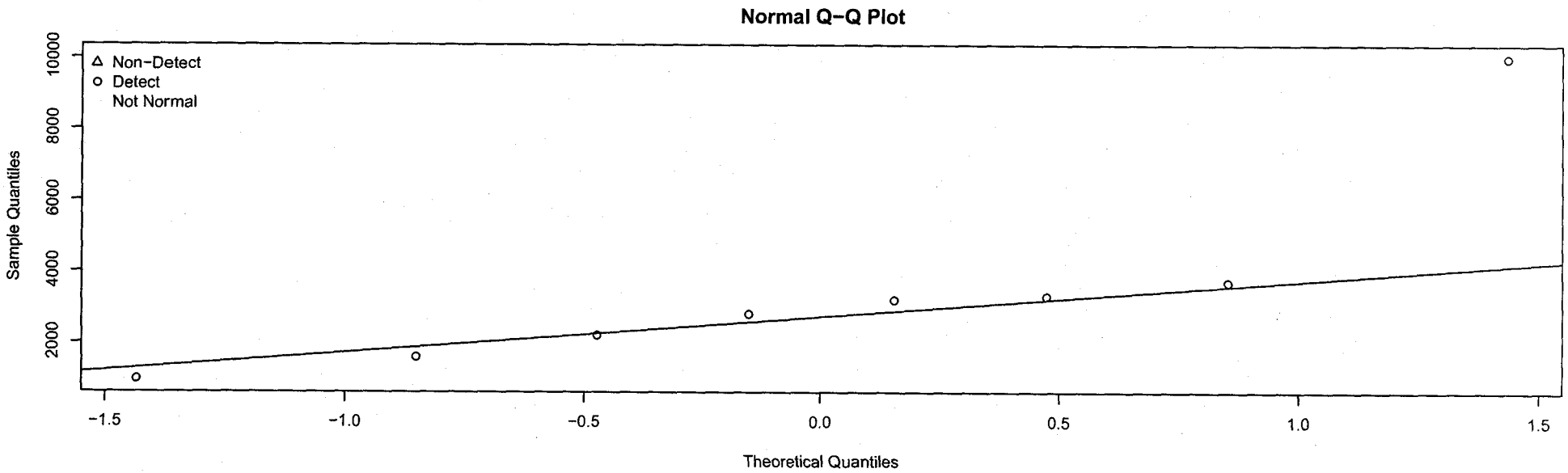
Coffins Ice Pond
Fall Sediment
BENZO(K)FLUORANTHENE

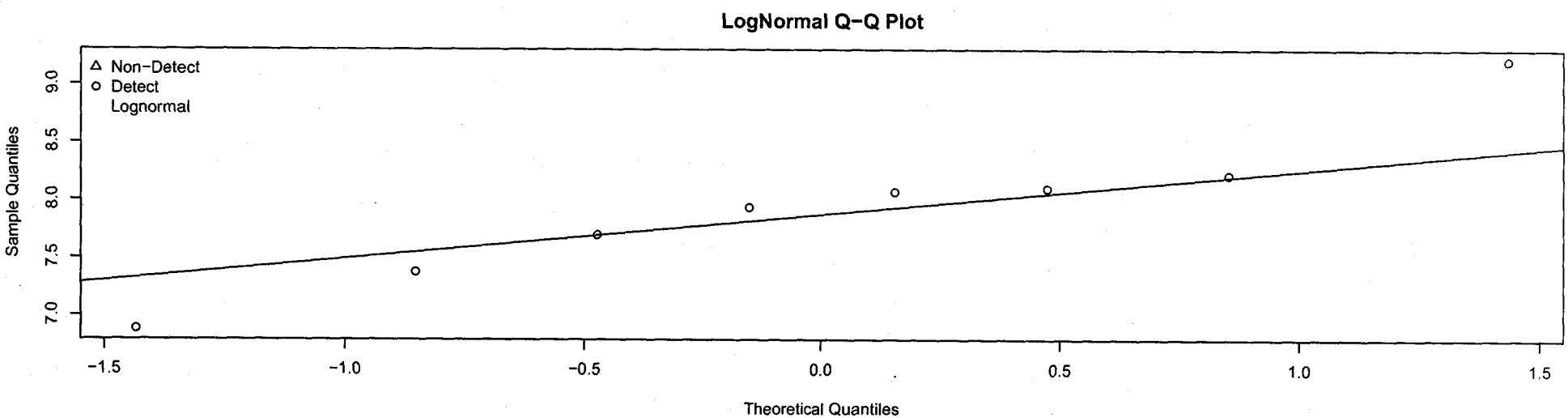




Coffins Ice Pond
Fall Sediment

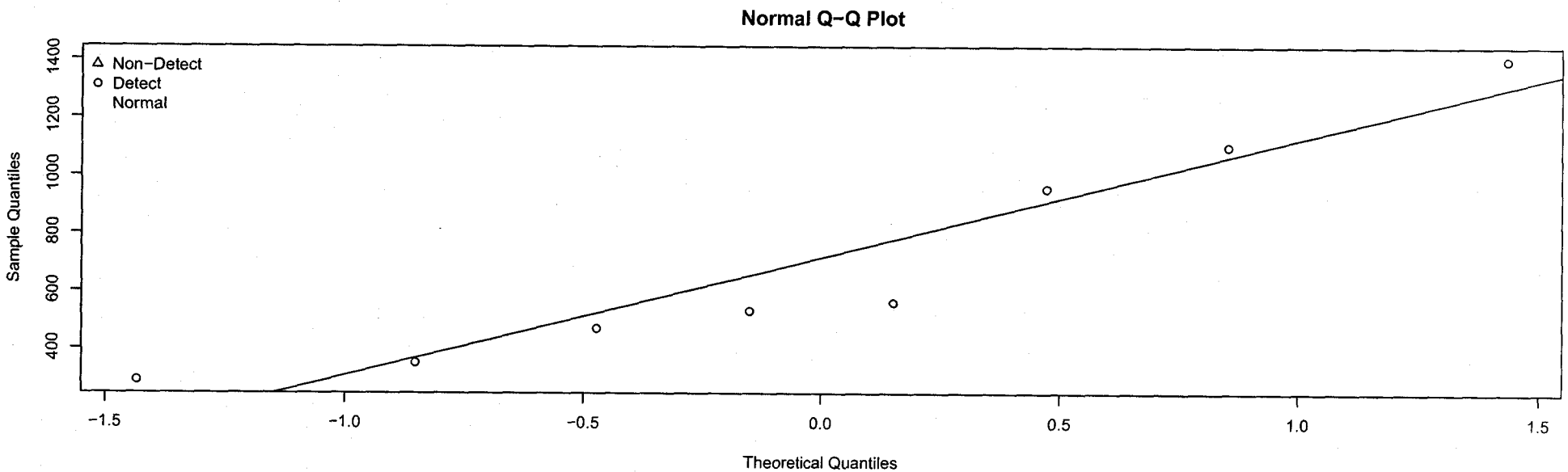
CHRYSENE

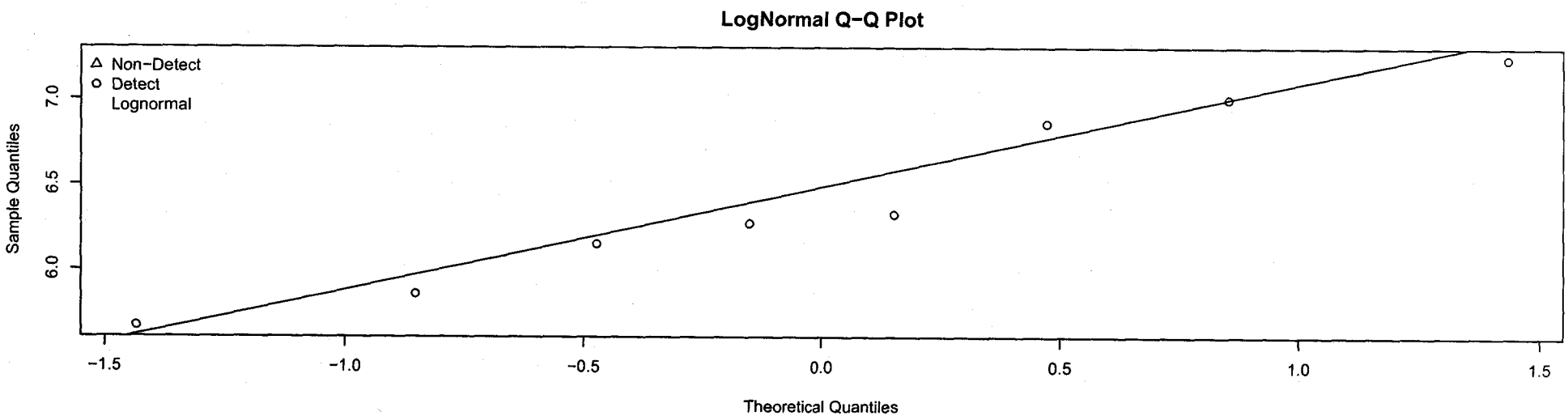




Coffins Ice Pond
Fall Sediment

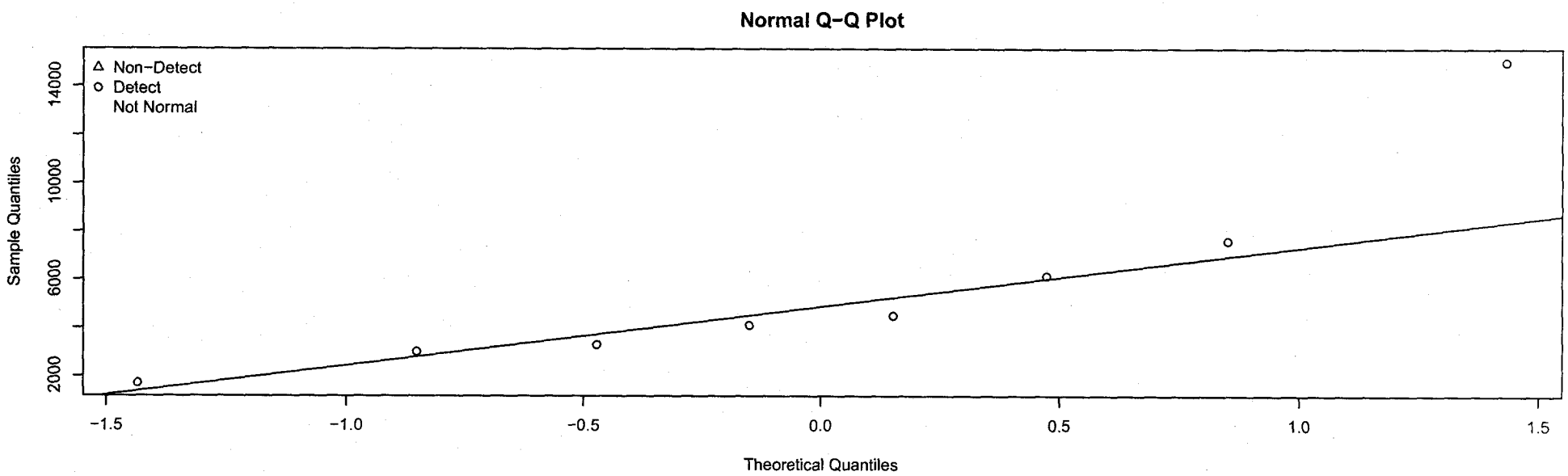
DIBENZO(A,H)ANTHRACENE

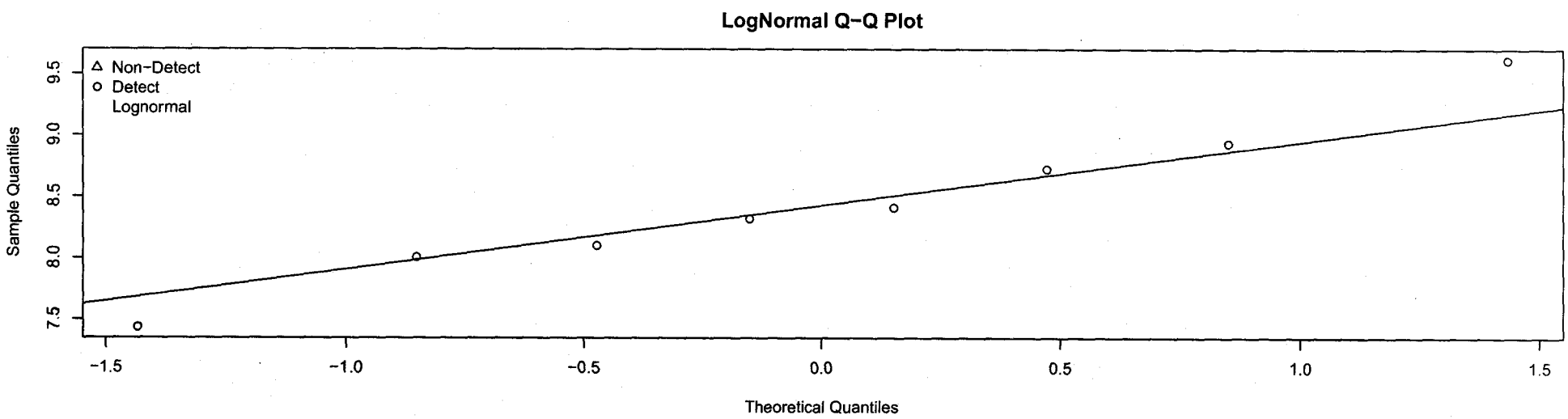




Coffins Ice Pond
Fall Sediment

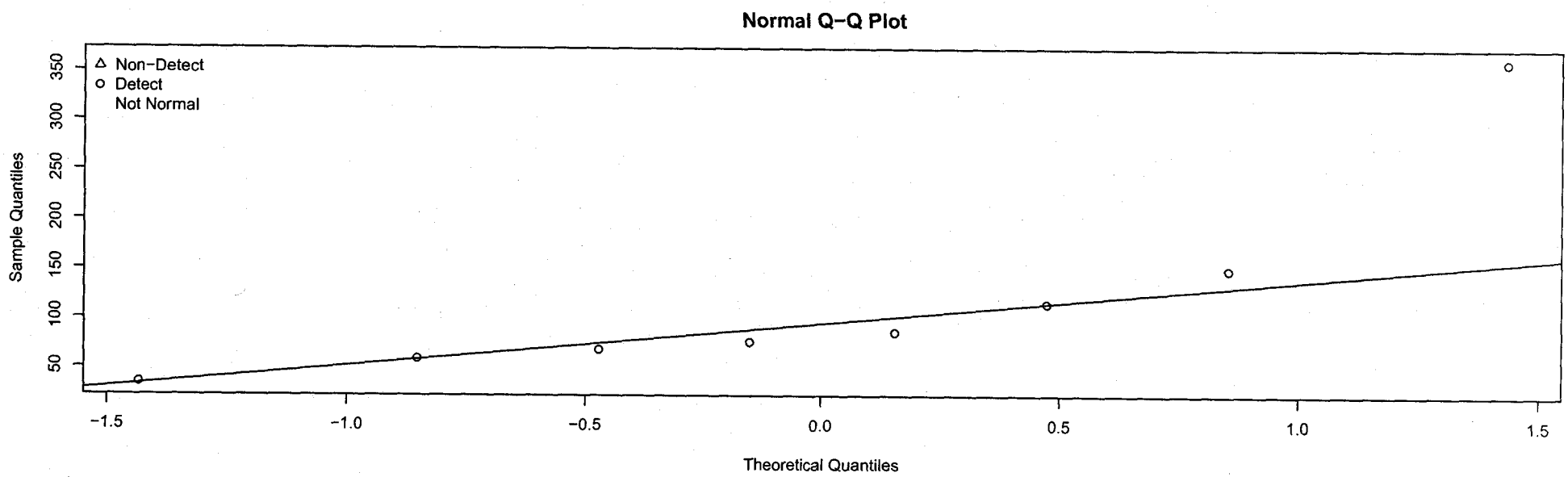
FLUORANTHENE

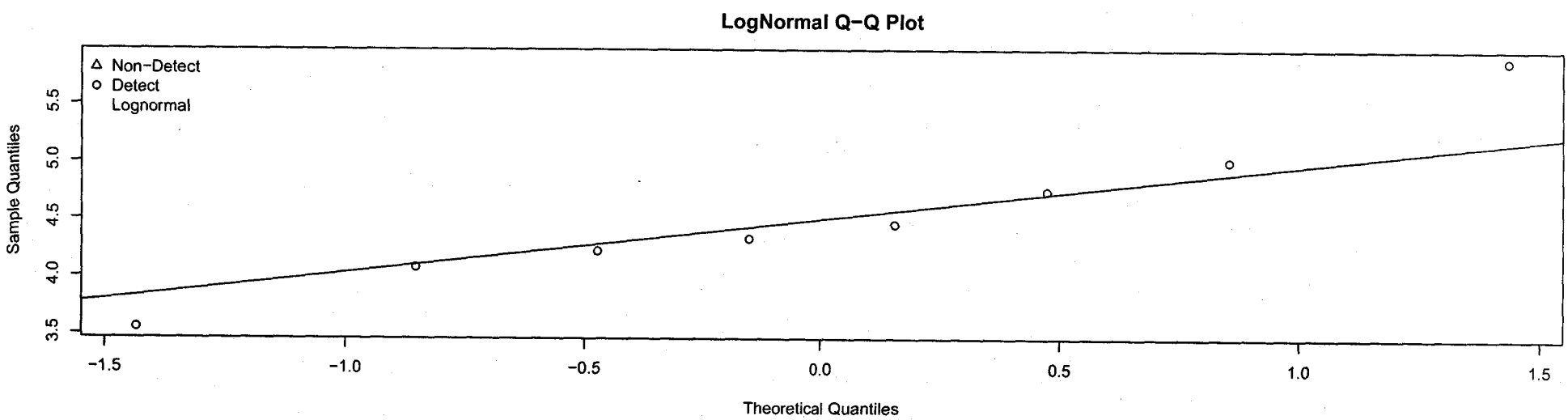




Coffins Ice Pond
Fall Sediment

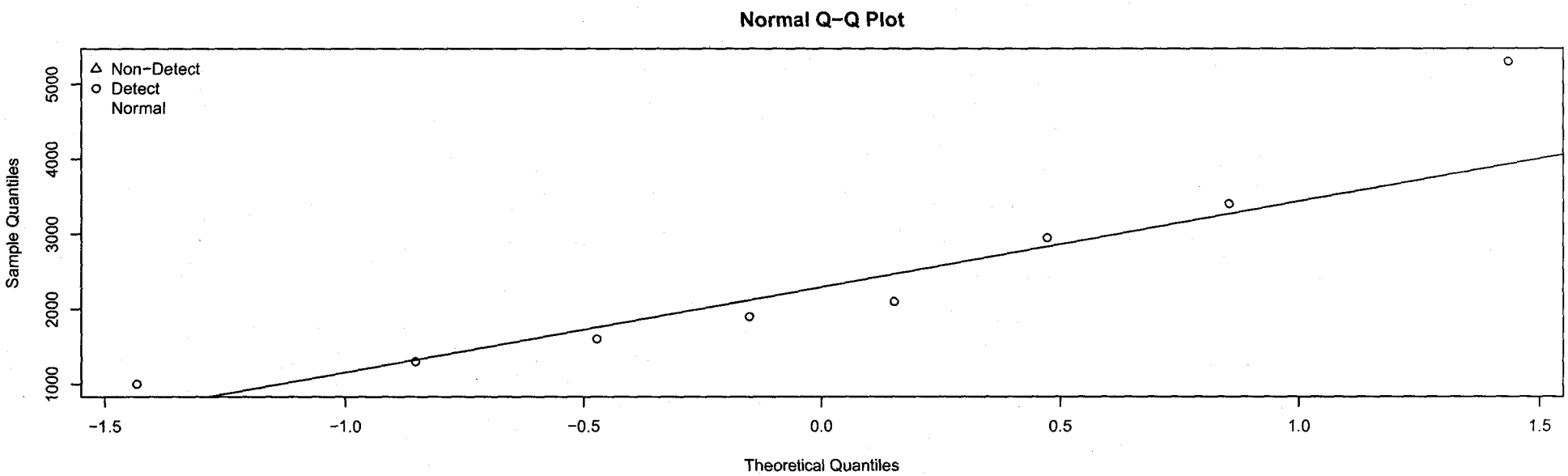
FLUORENE

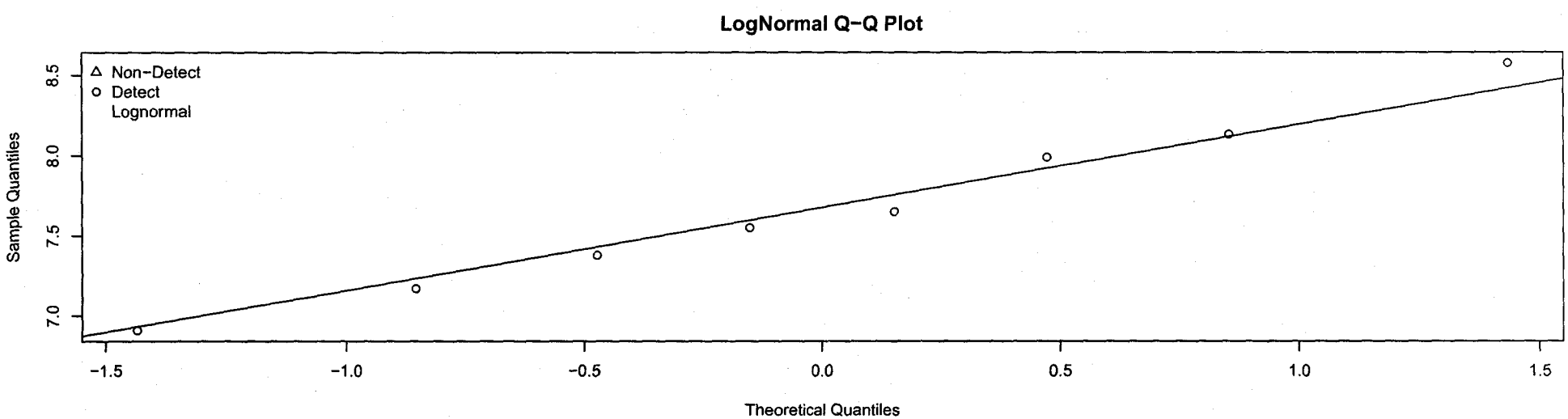




Coffins Ice Pond
Fall Sediment

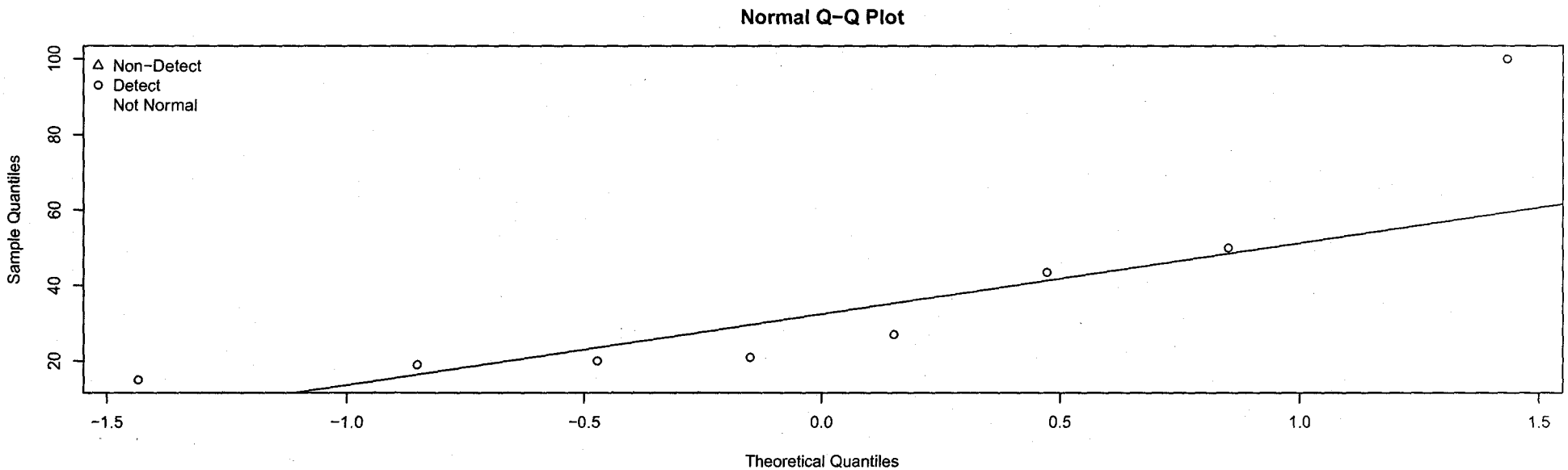
INDENO(1,2,3-CD)PYRENE

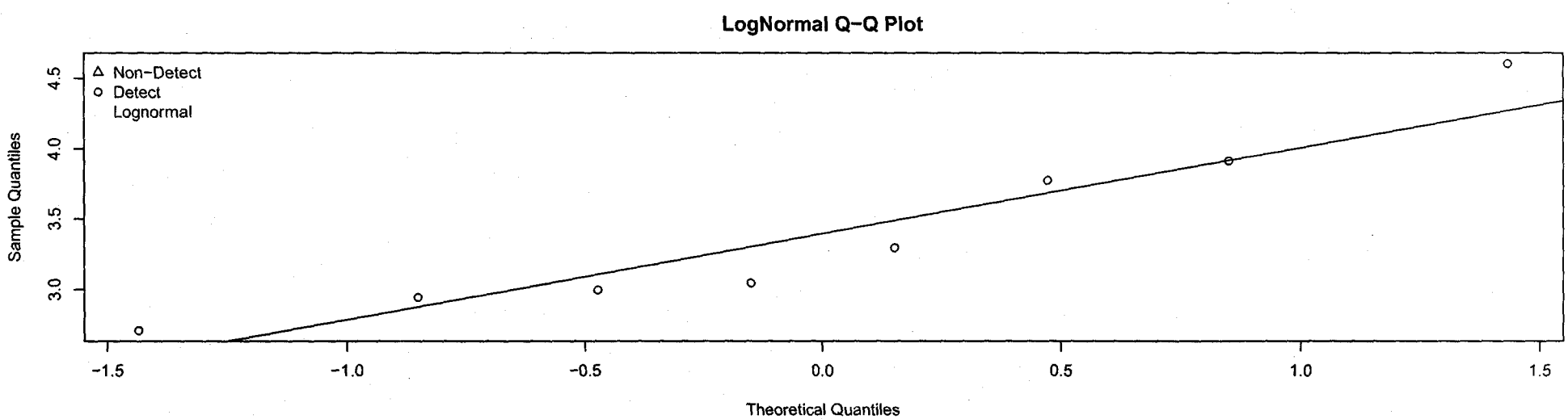




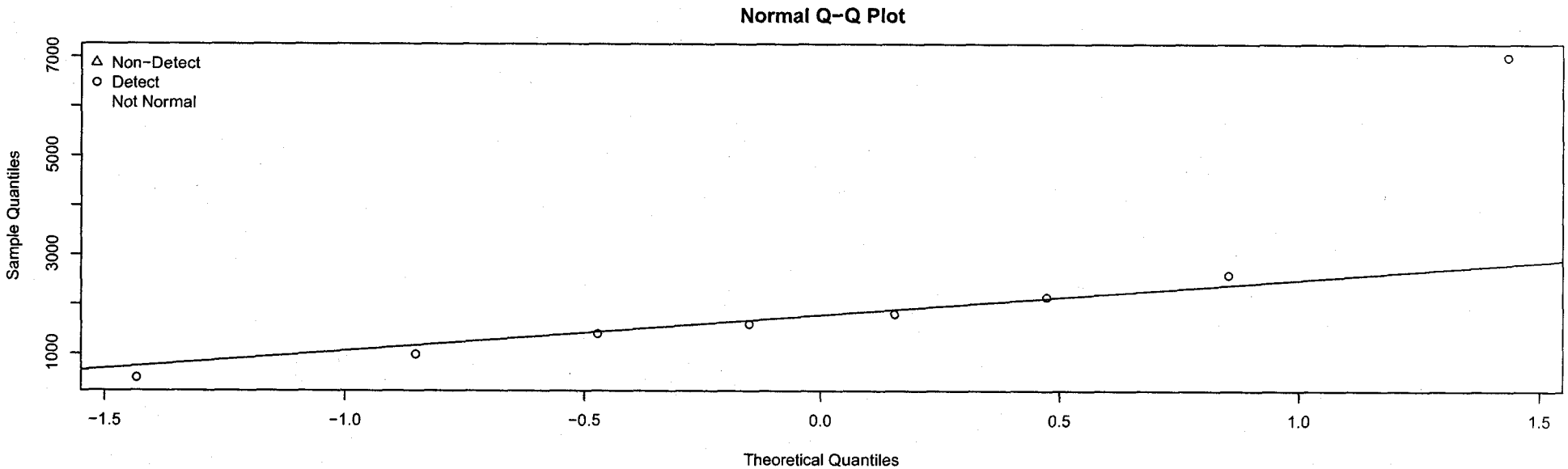
Coffins Ice Pond
Fall Sediment

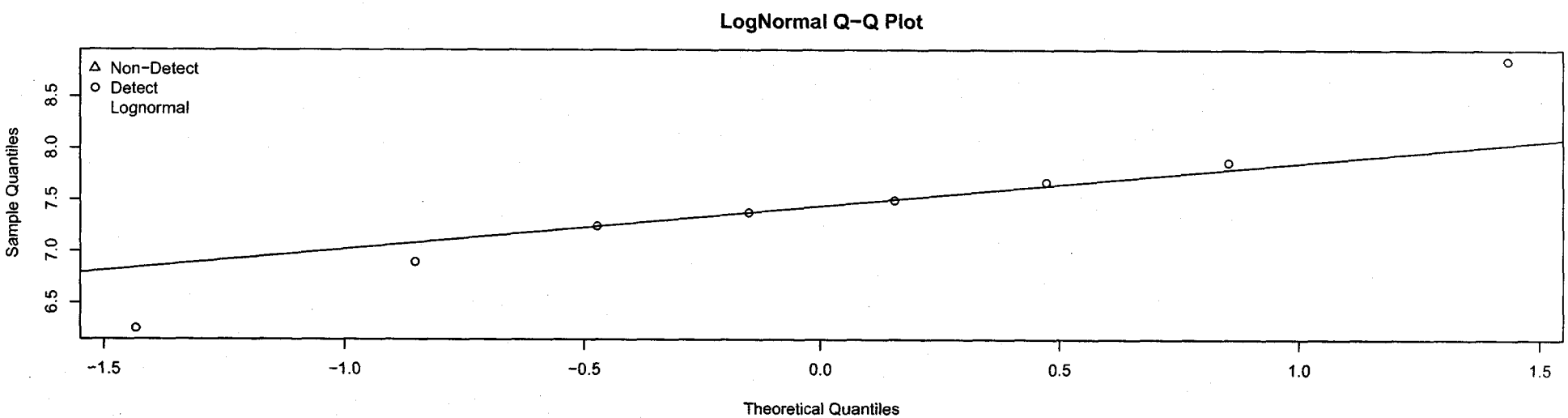
NAPHTHALENE





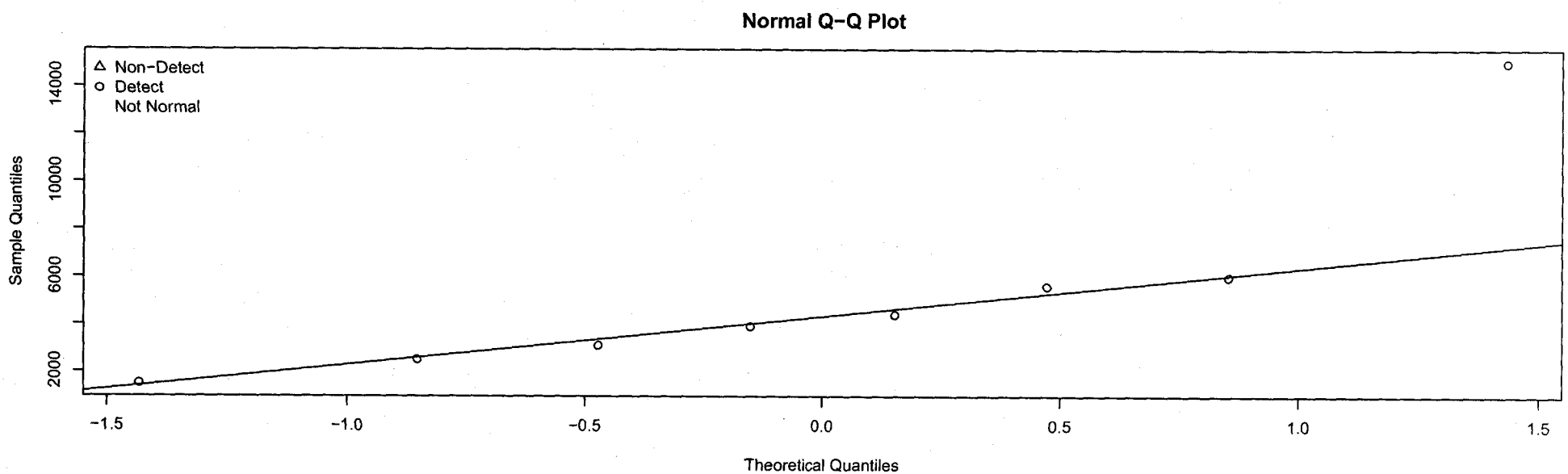
Coffins Ice Pond
Fall Sediment
PHENANTHRENE

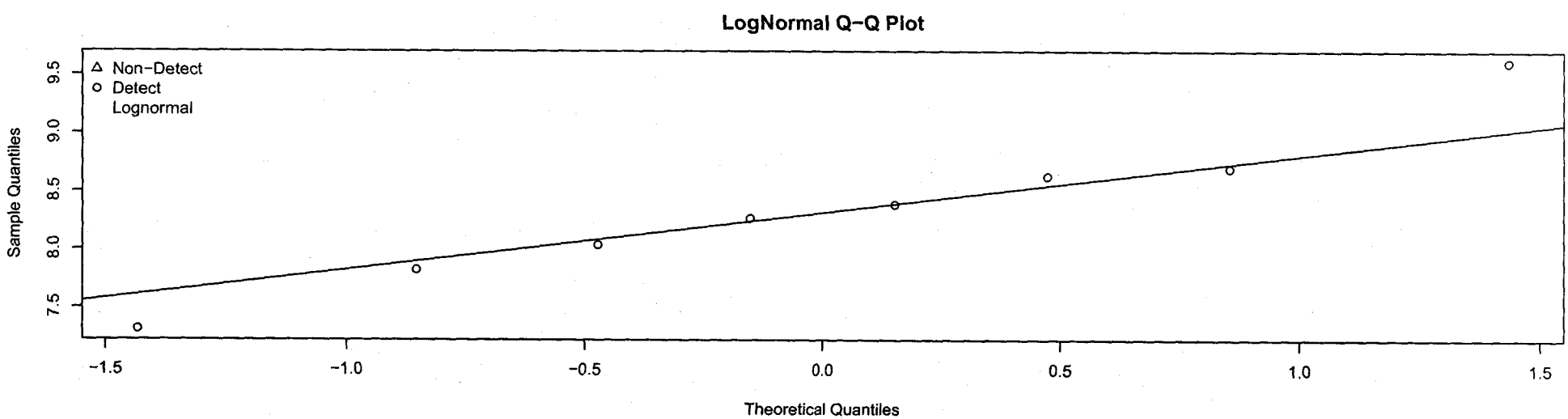




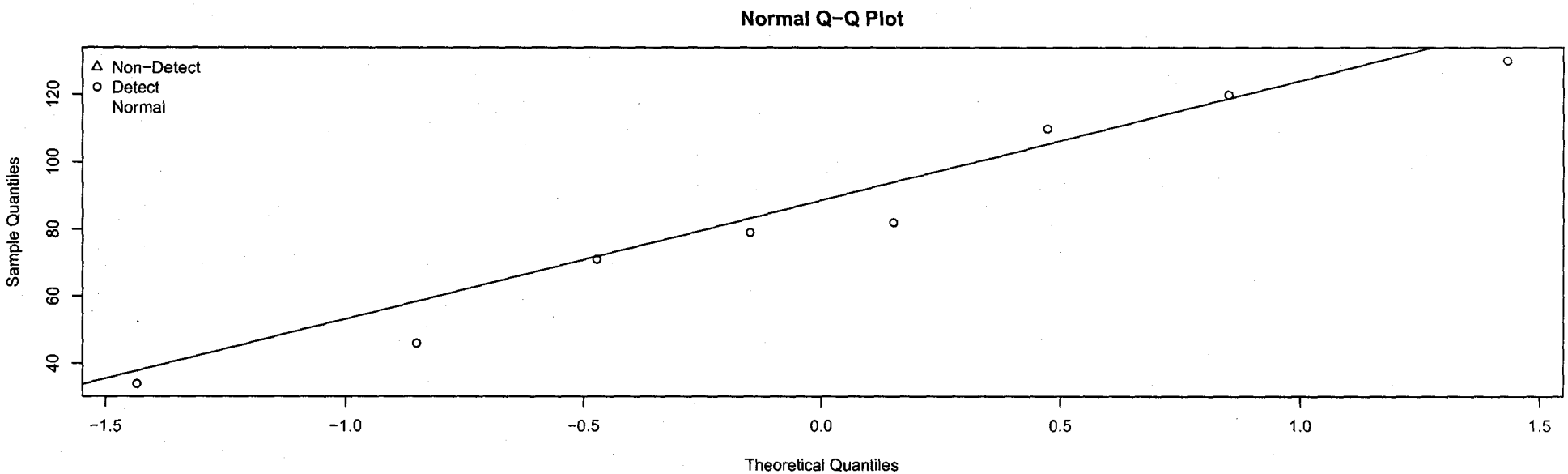
Coffins Ice Pond
Fall Sediment

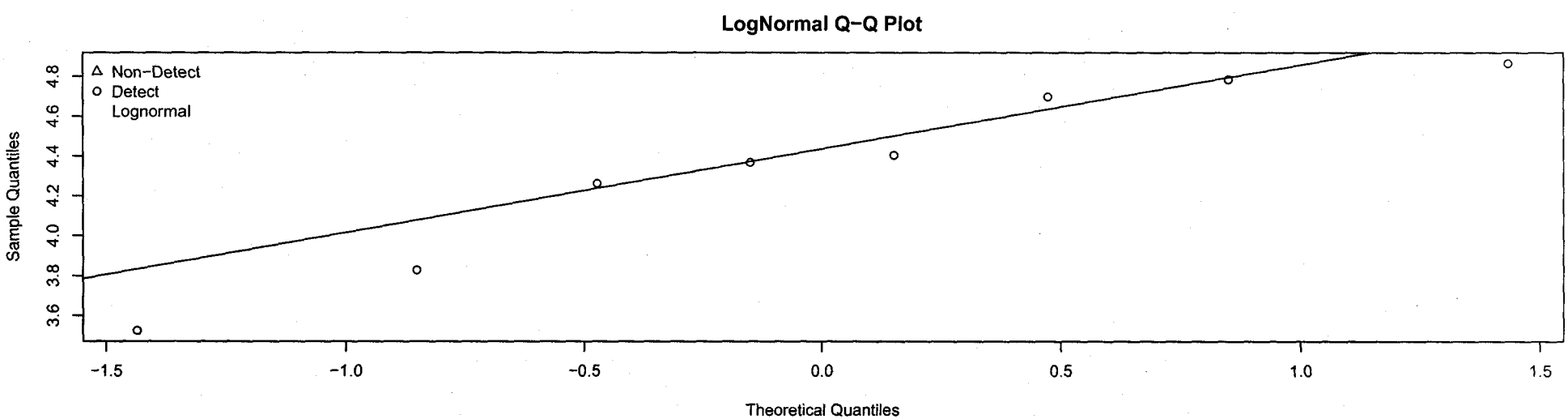
PYRENE



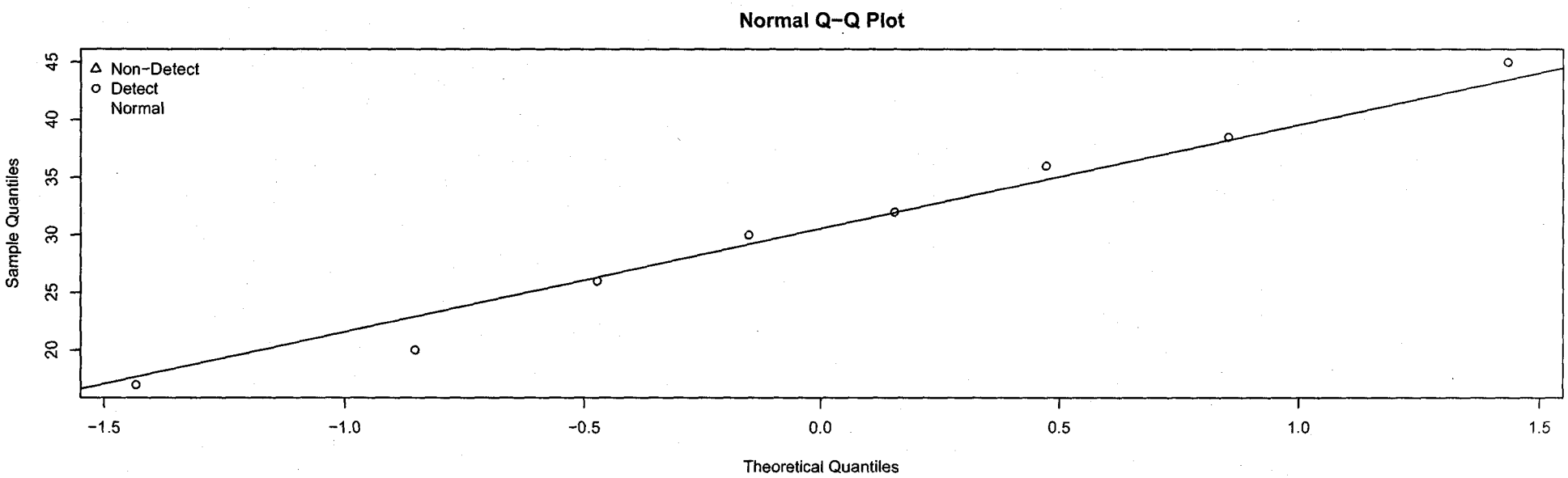


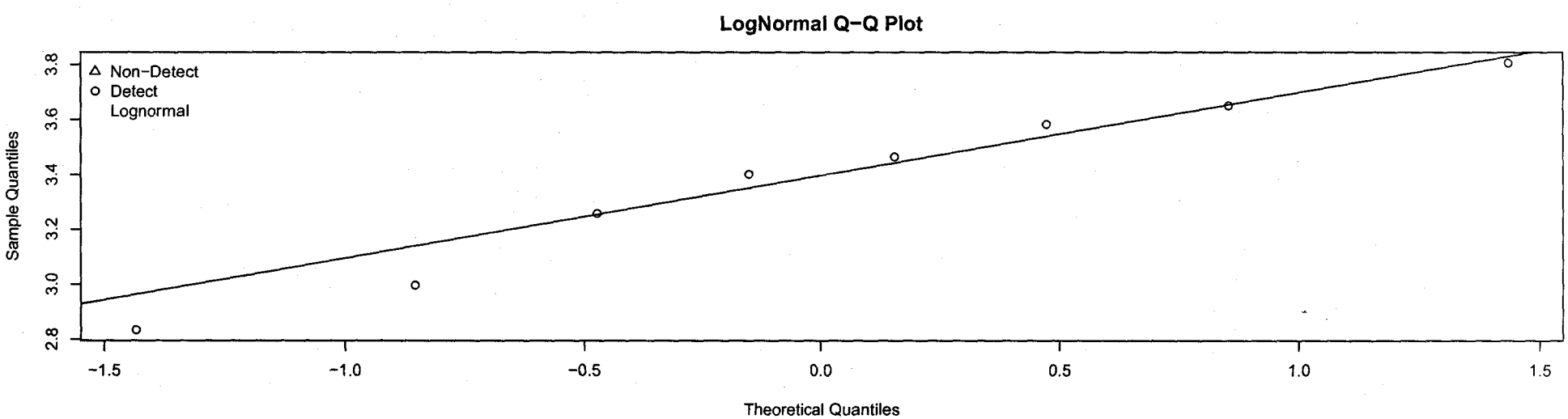
Coffins Ice Pond
Fall Sediment
4,4'-DDD



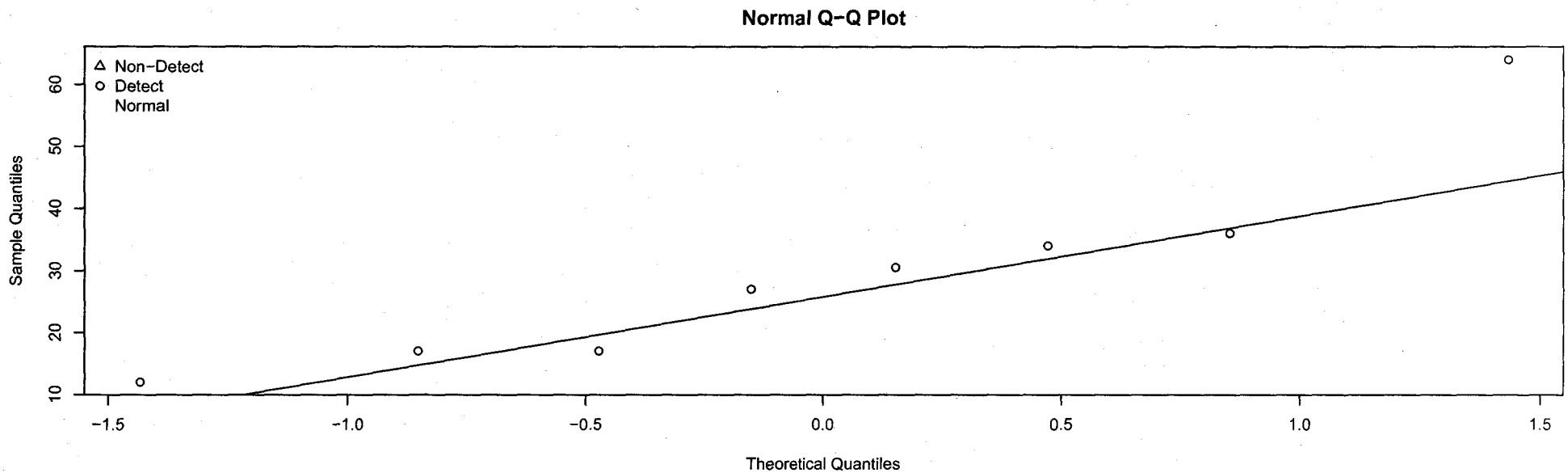


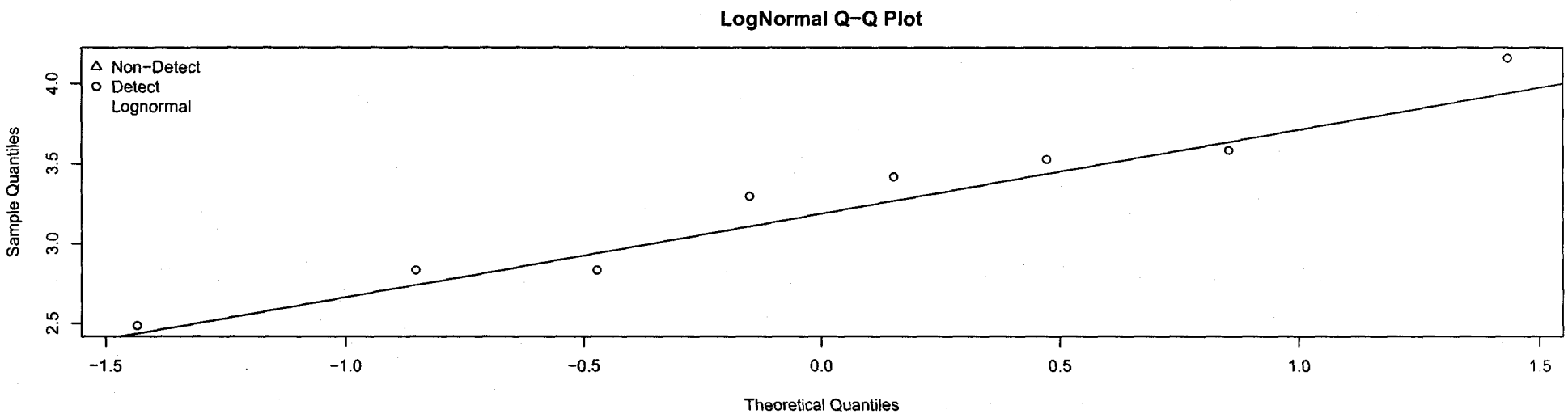
Coffins Ice Pond
Fall Sediment
4,4'-DDE



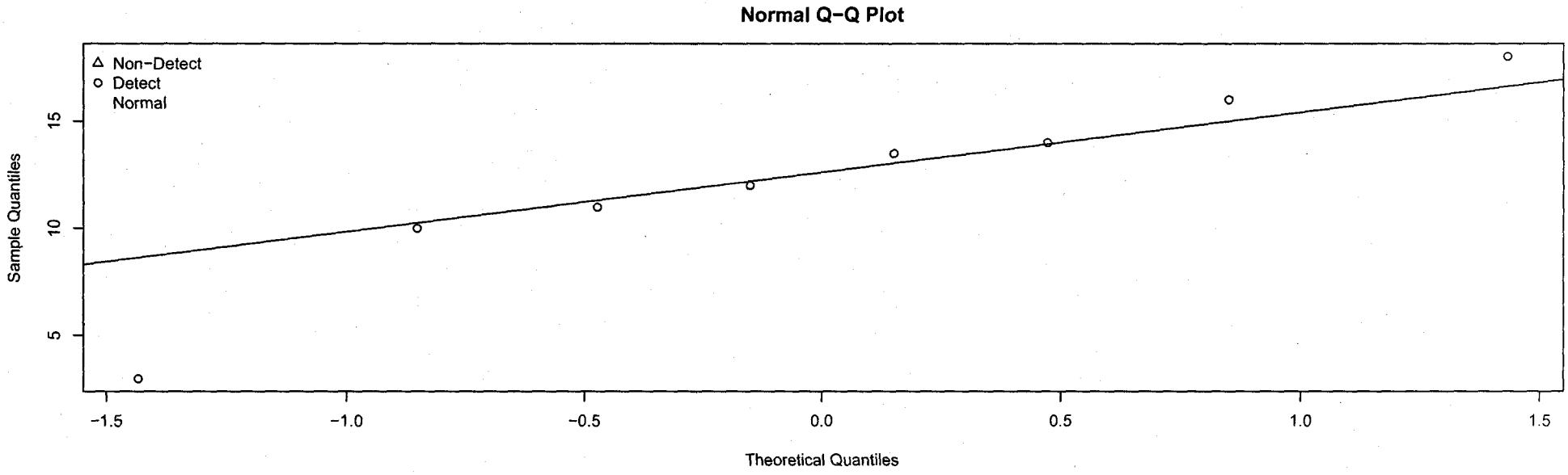


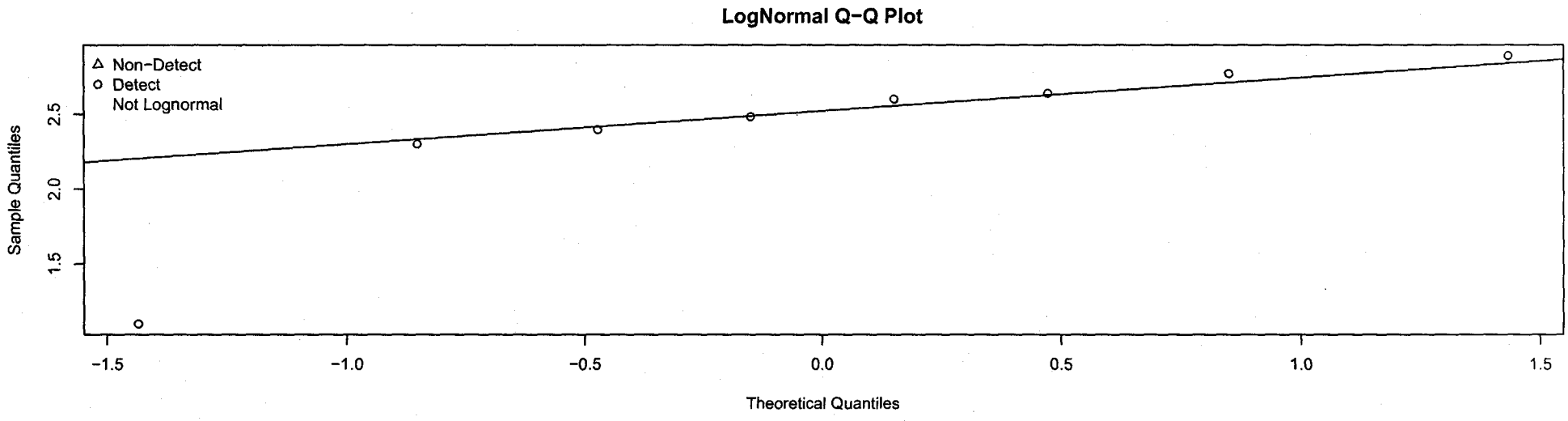
Coffins Ice Pond
Fall Sediment
4,4'-DDT





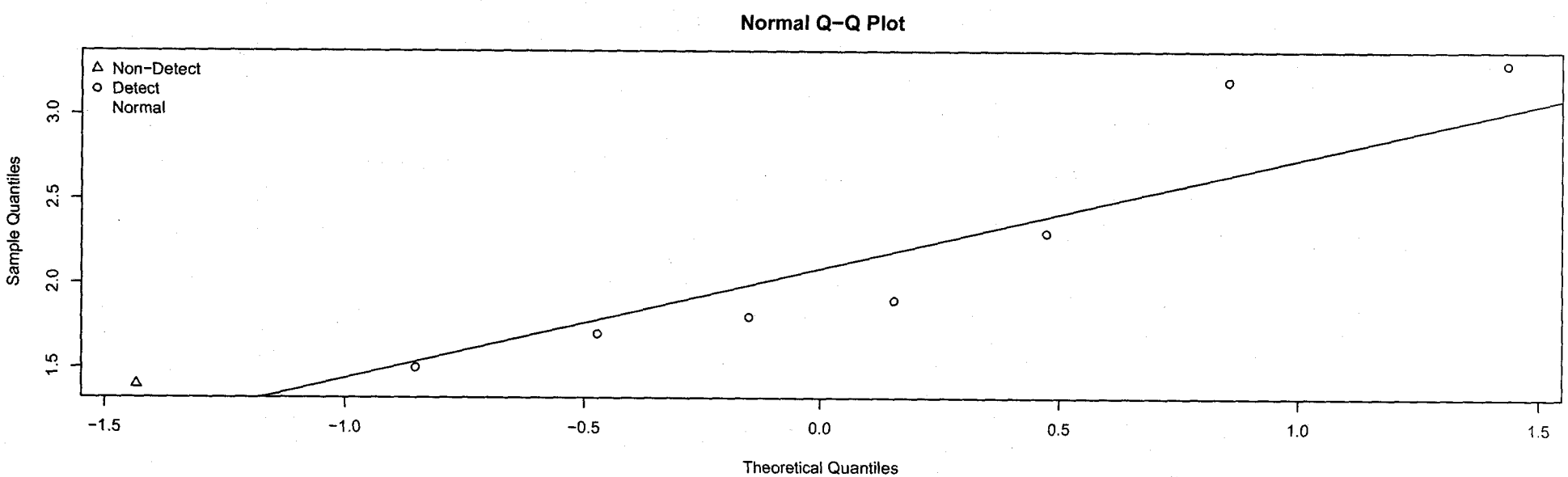
Coffins Ice Pond
Fall Sediment
ALPHA-CHLORDANE

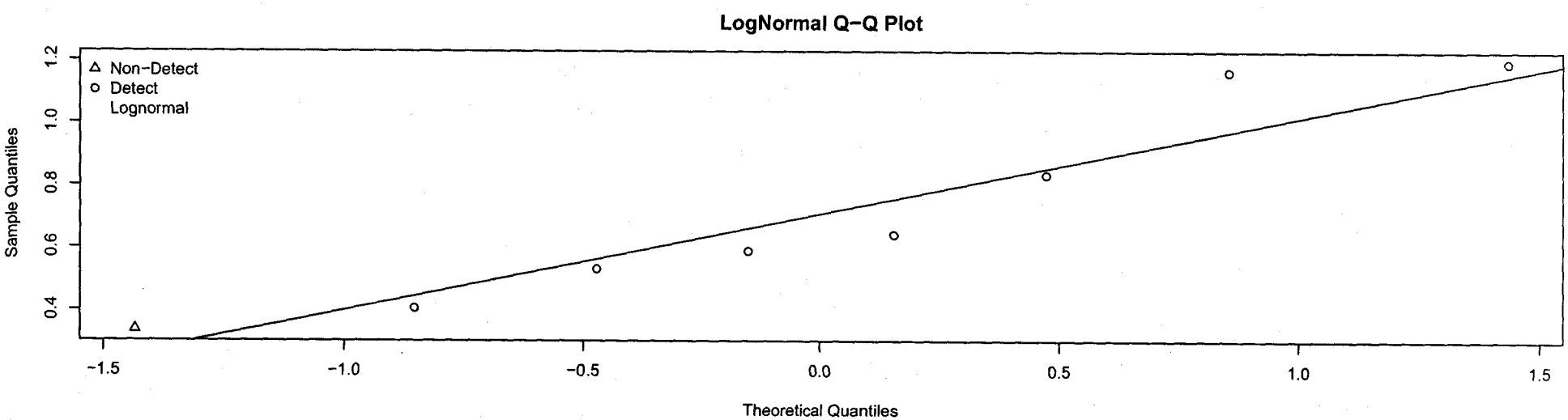




Coffins Ice Pond
Fall Sediment

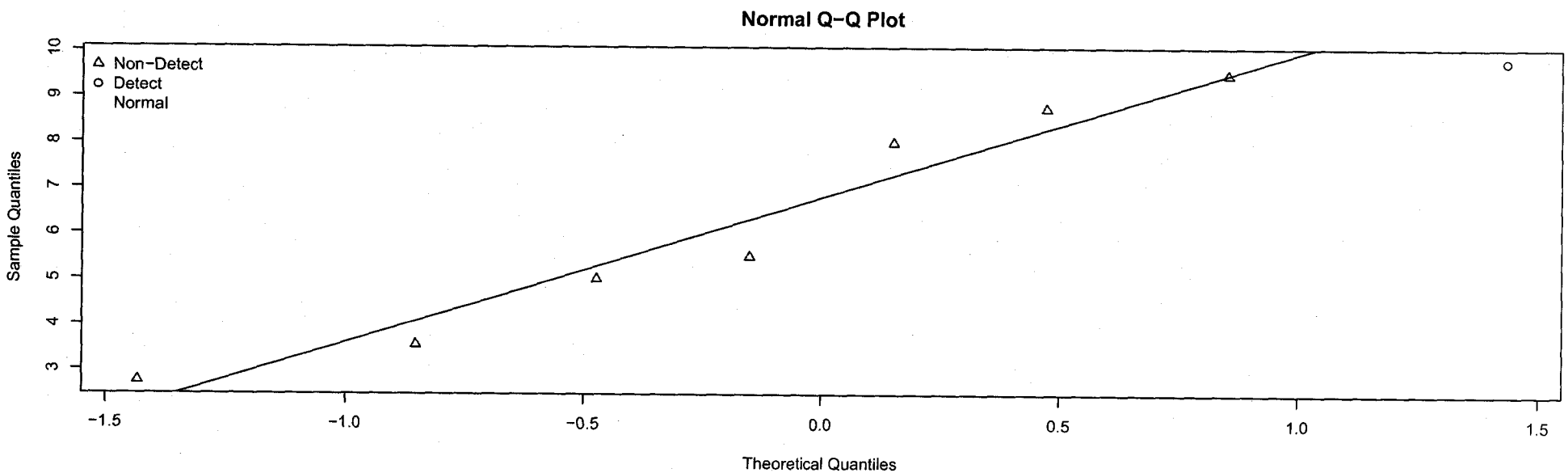
DELTA-BHC

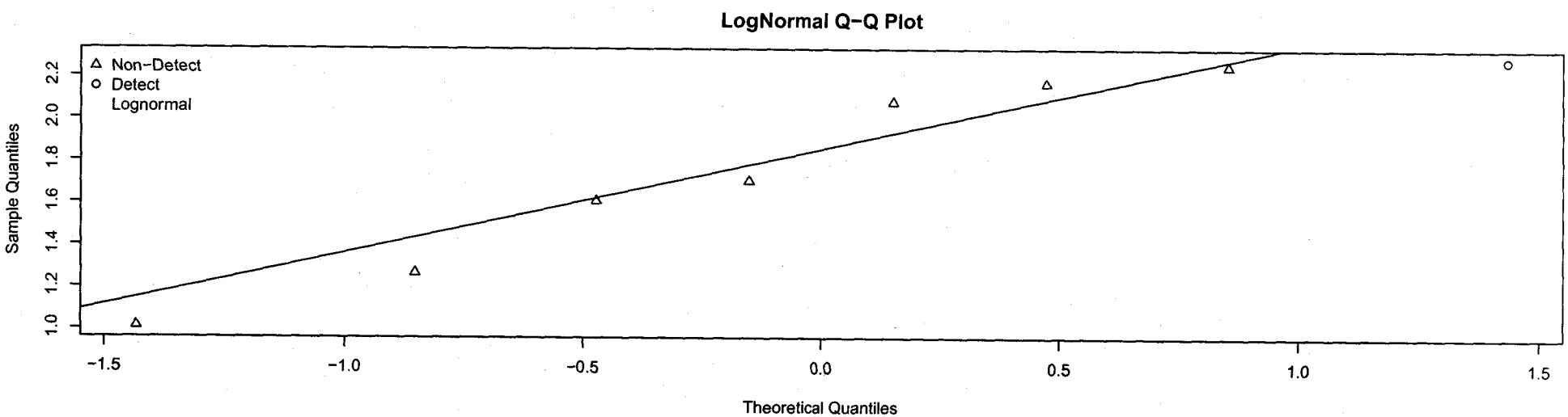




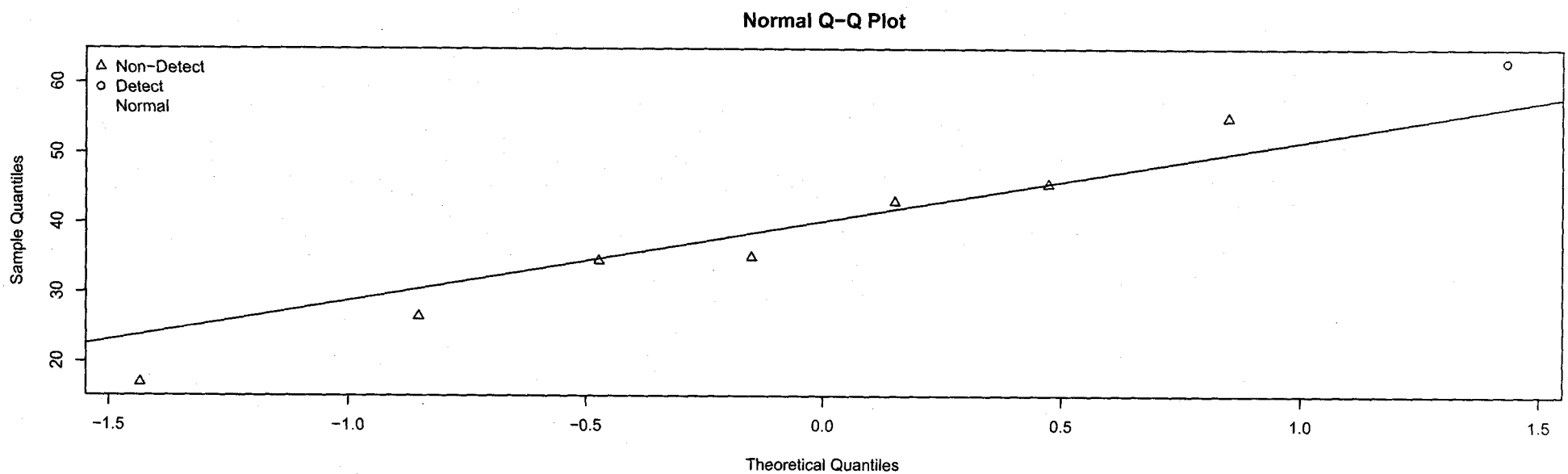
Coffins Ice Pond
Fall Sediment

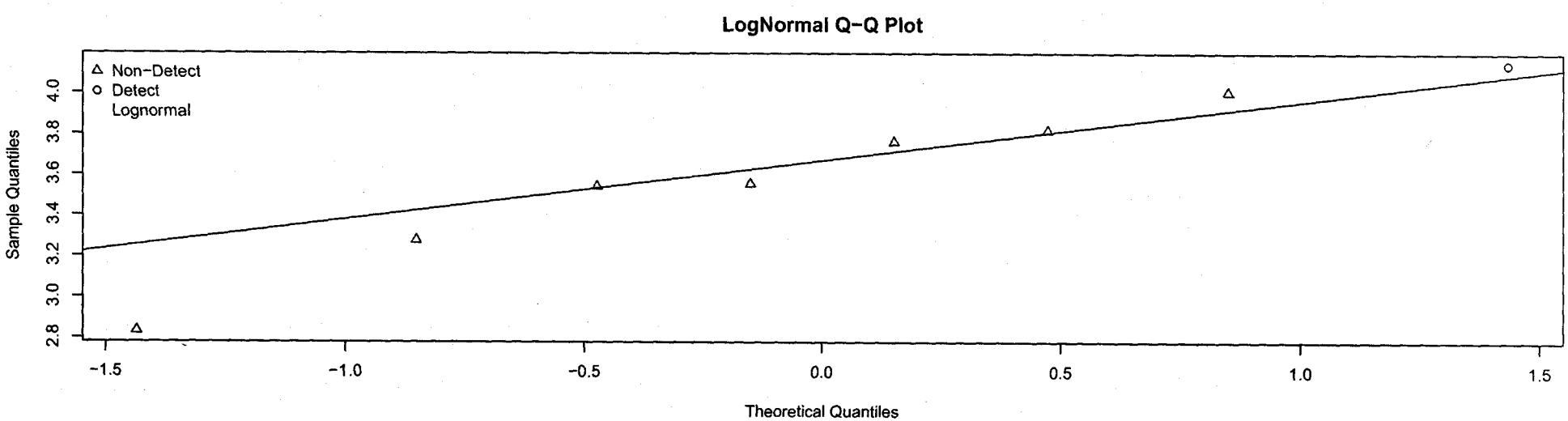
ENDOSULFAN II



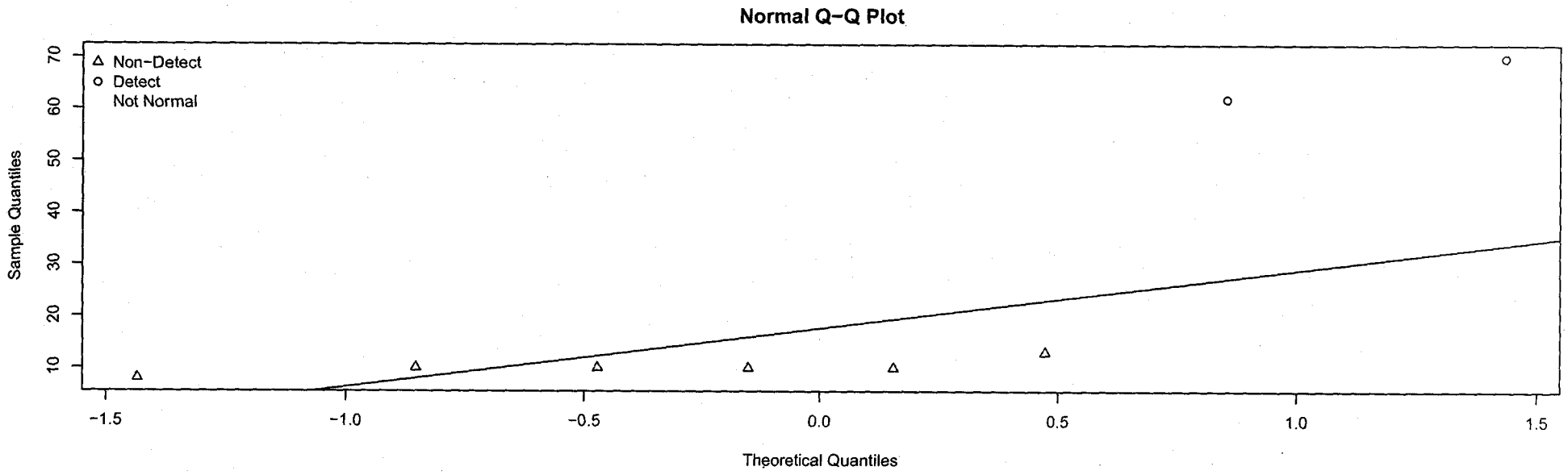


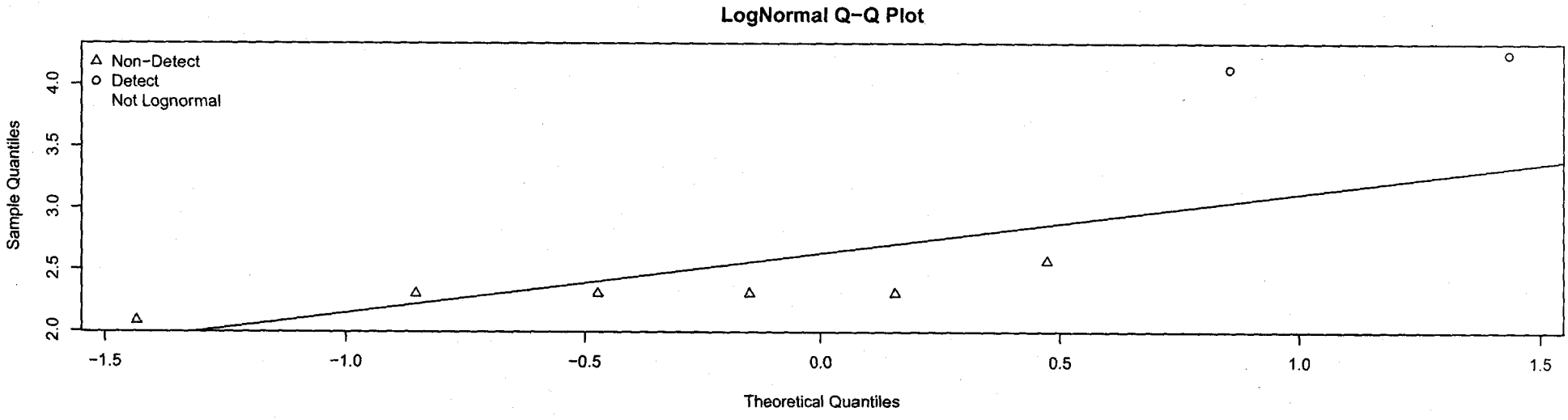
Coffins Ice Pond
Fall Sediment
GAMMA-CHLORDANE



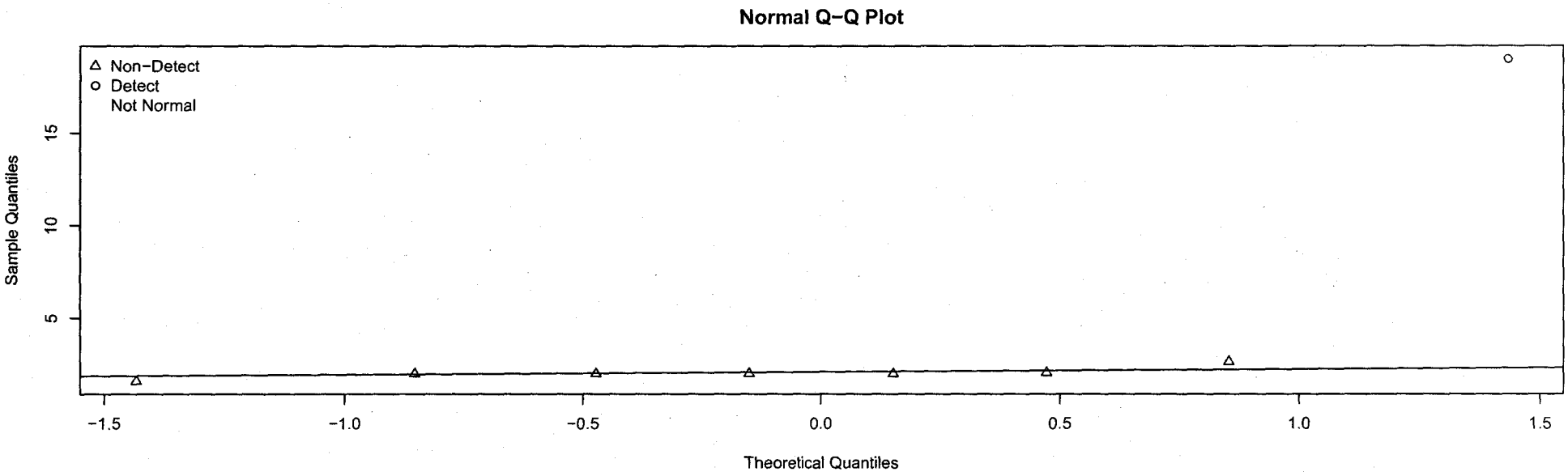


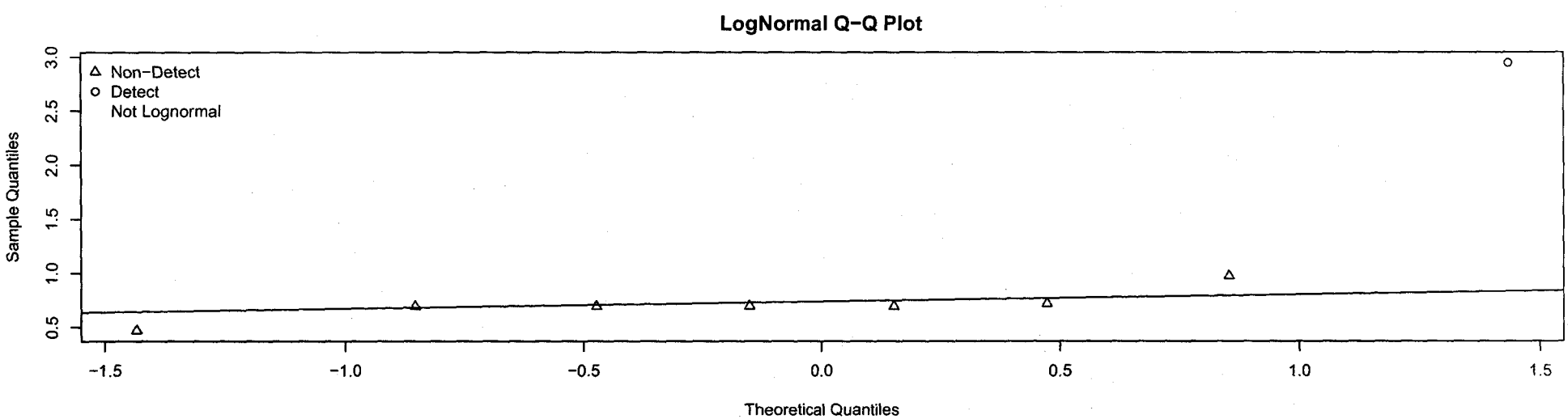
Coffins Ice Pond
Fall Sediment
2,4,5-TP (SILVEX)





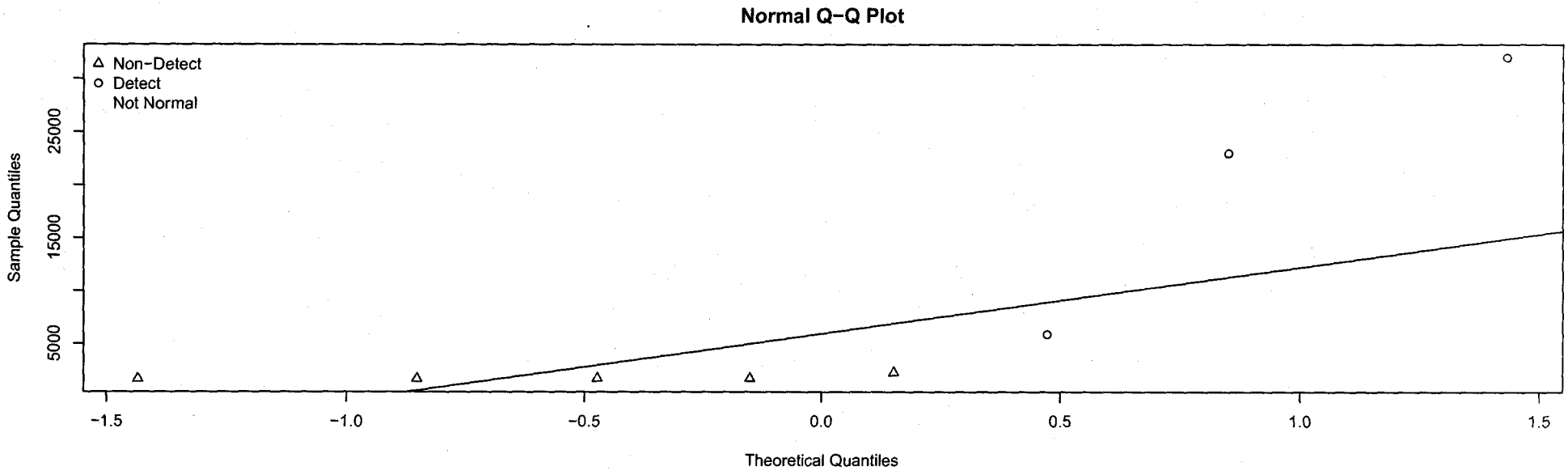
Coffins Ice Pond
Fall Sediment
DINOSEB

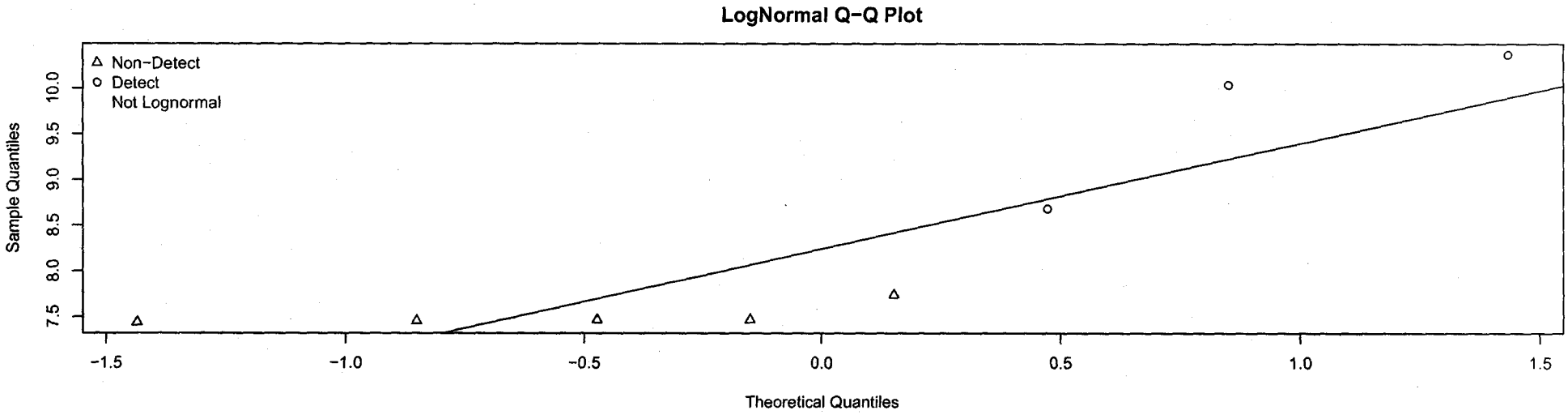




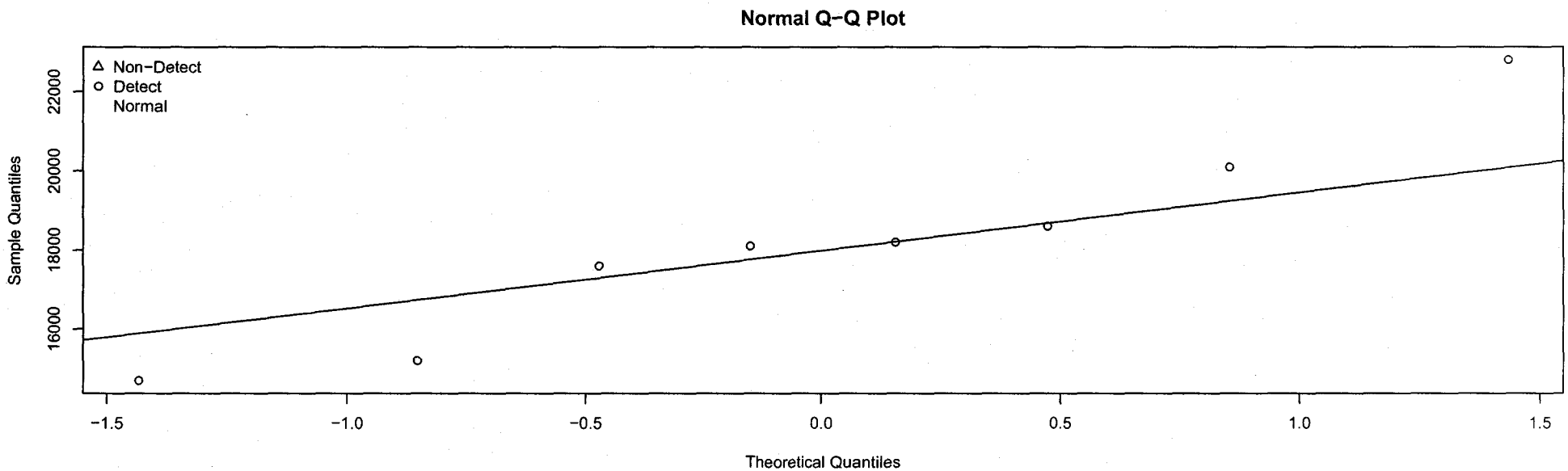
Coffins Ice Pond
Fall Sediment

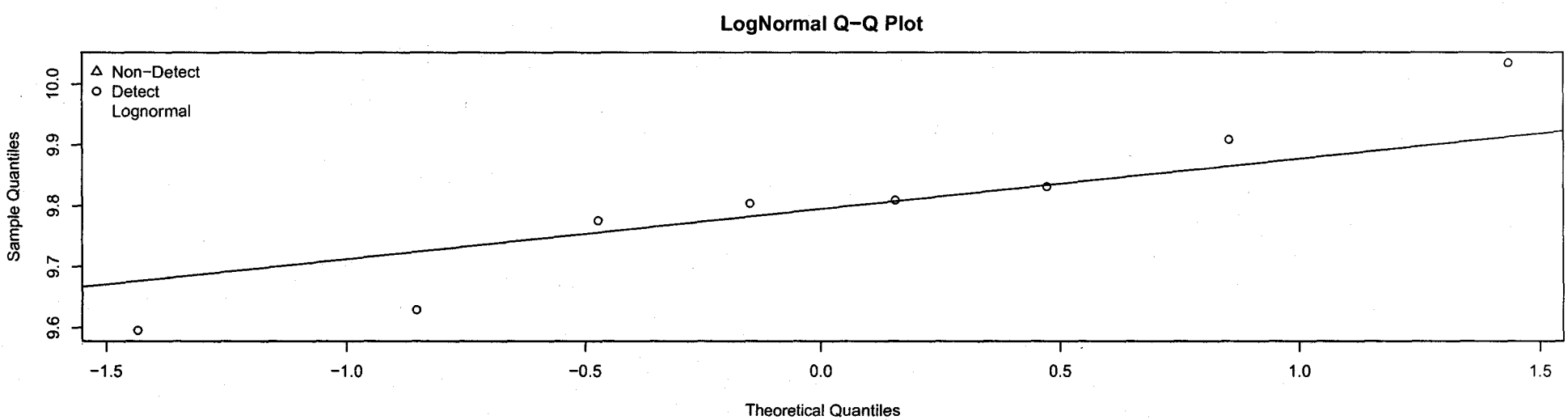
MCPP





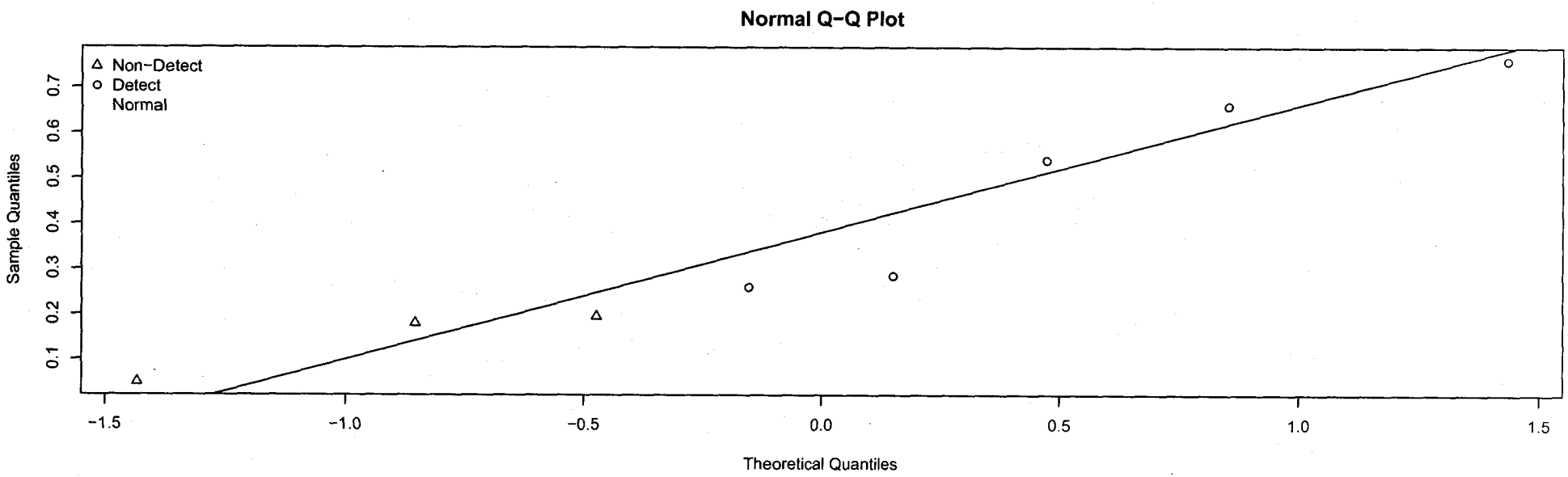
Coffins Ice Pond
Fall Sediment
ALUMINUM

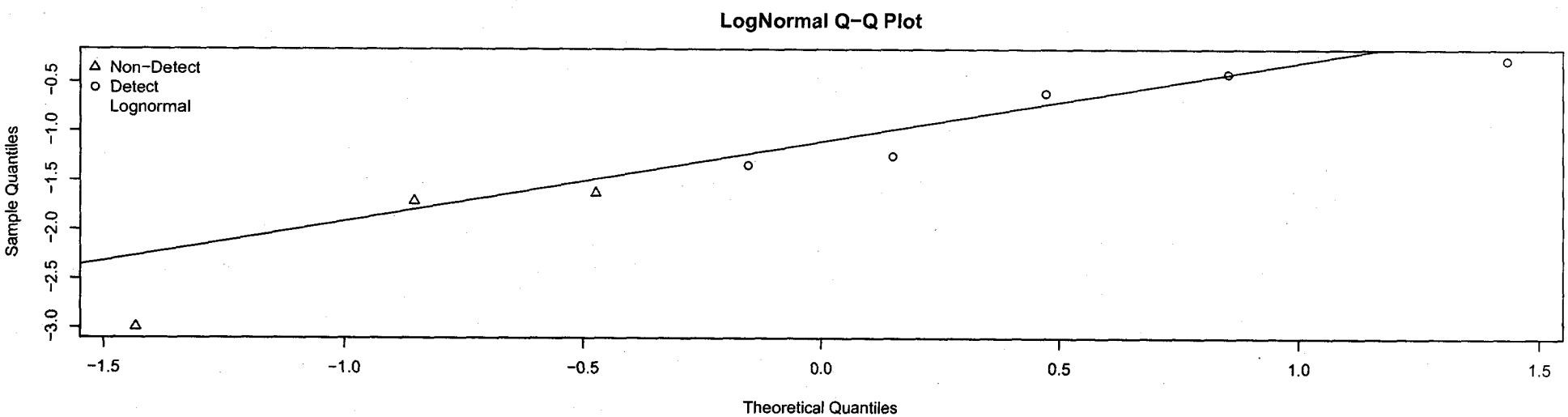




Coffins Ice Pond
Fall Sediment

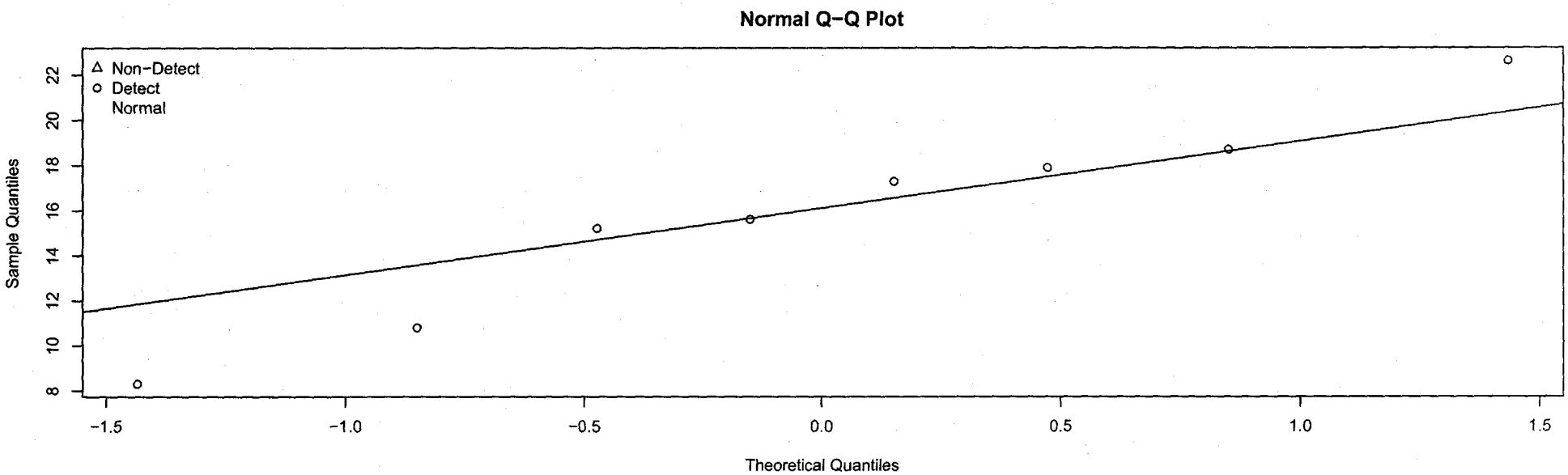
ANTIMONY

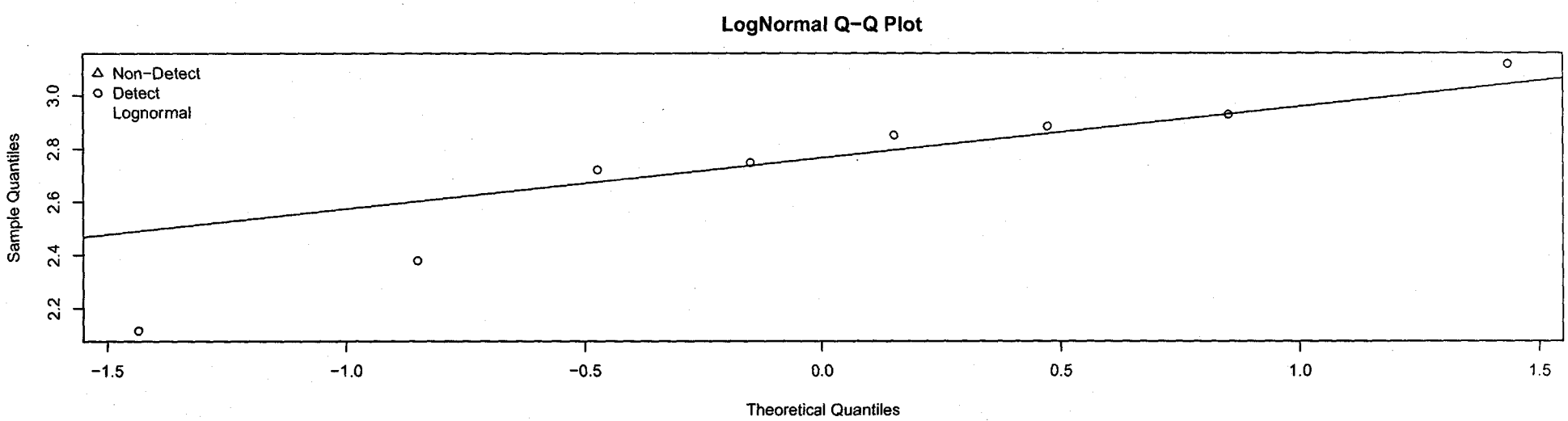




Coffins Ice Pond
Fall Sediment

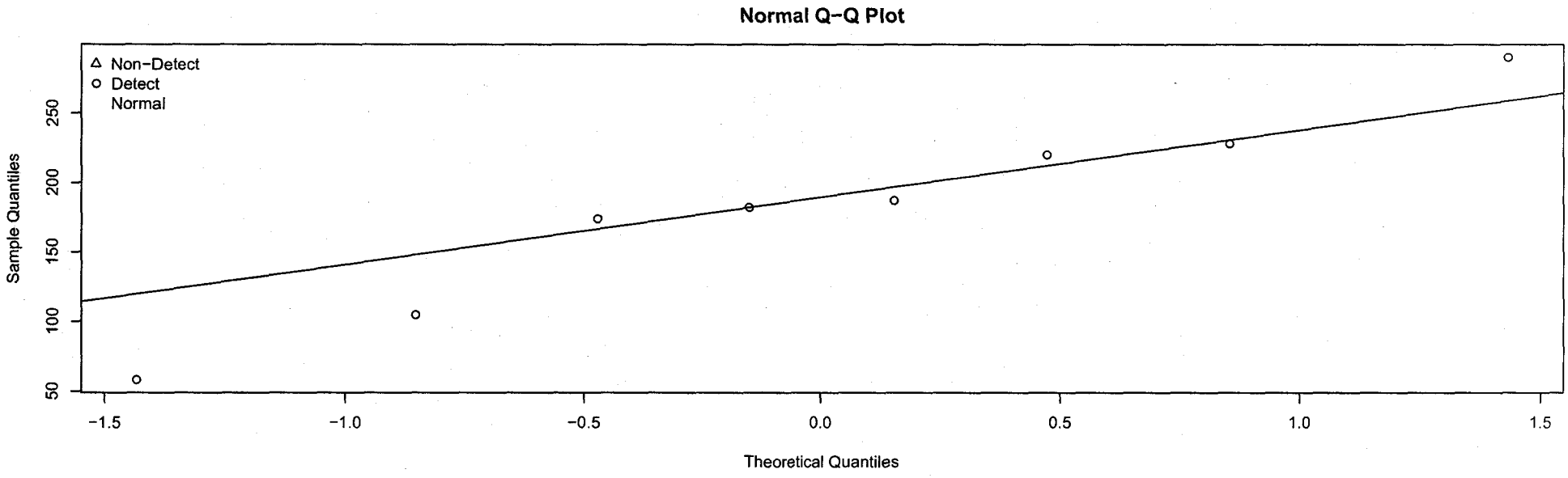
ARSENIC

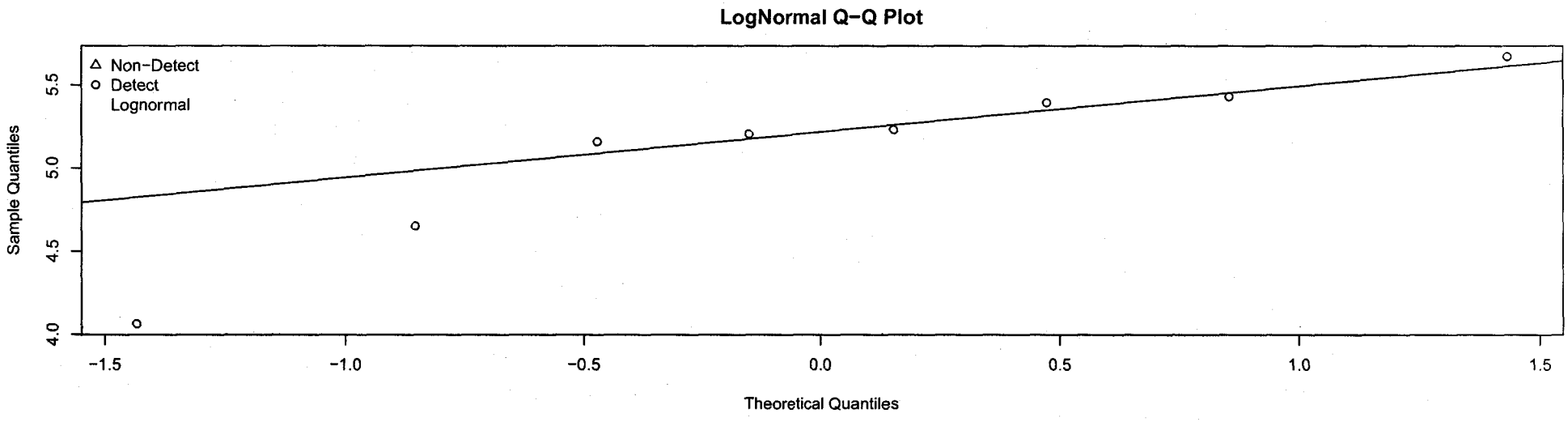




Coffins Ice Pond
Fall Sediment

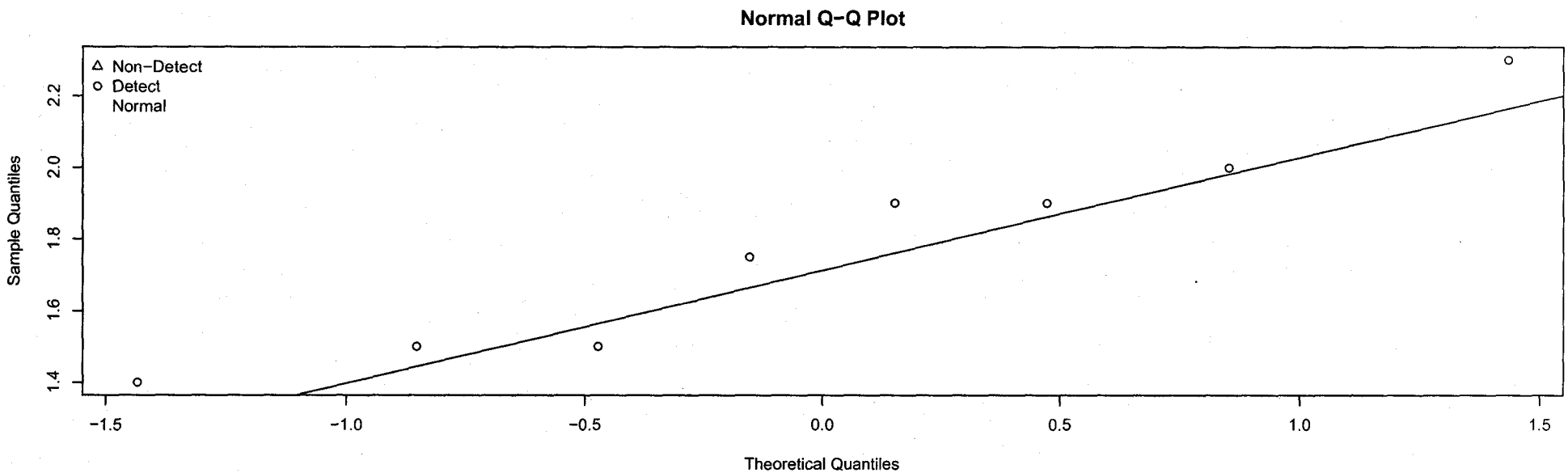
BARIUM

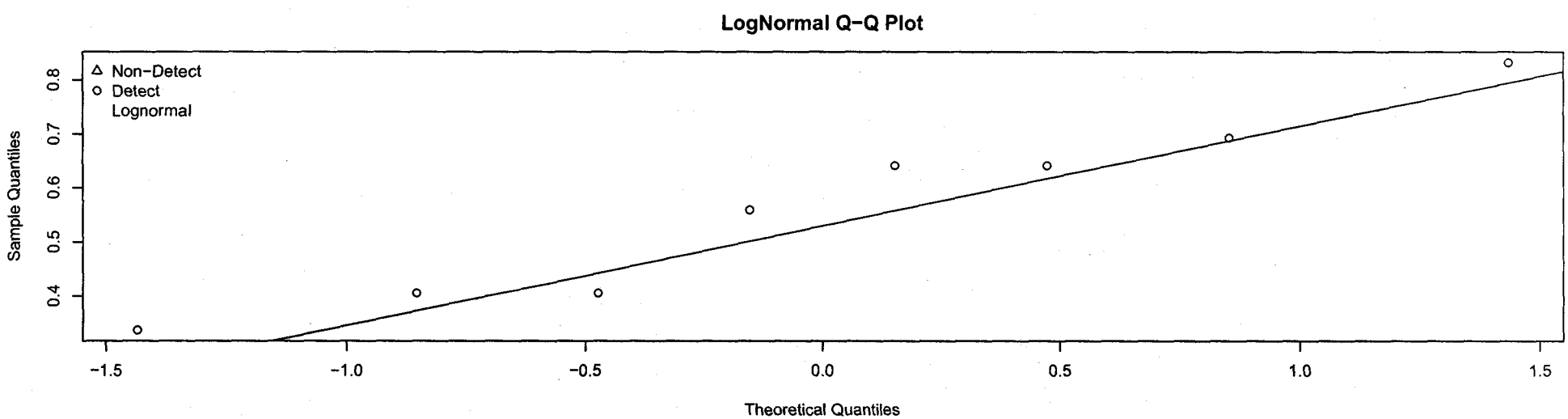




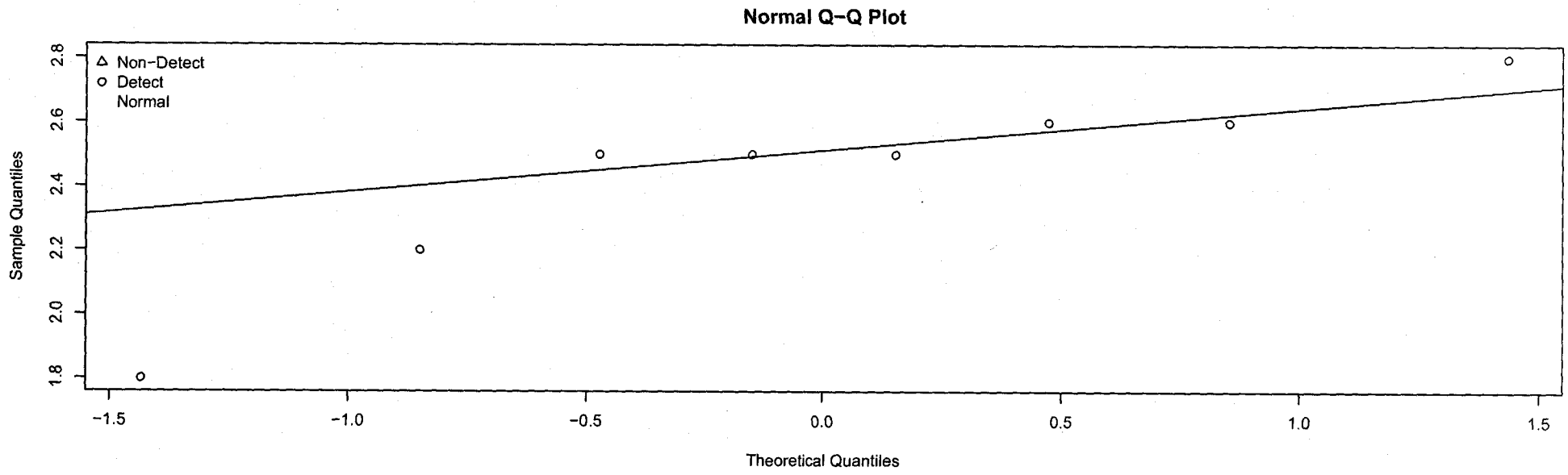
Coffins Ice Pond
Fall Sediment

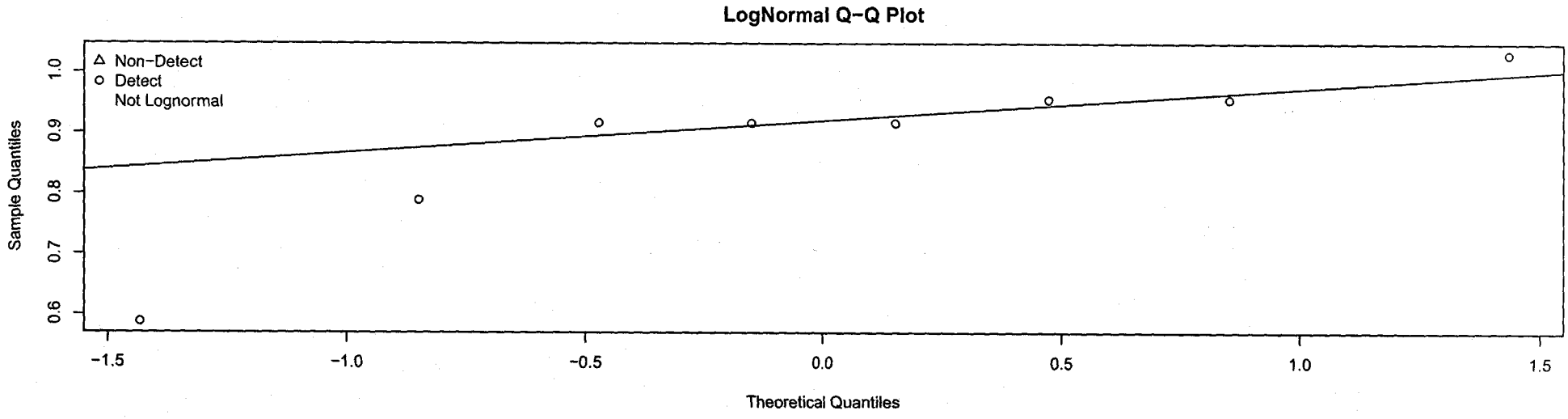
BERYLLIUM



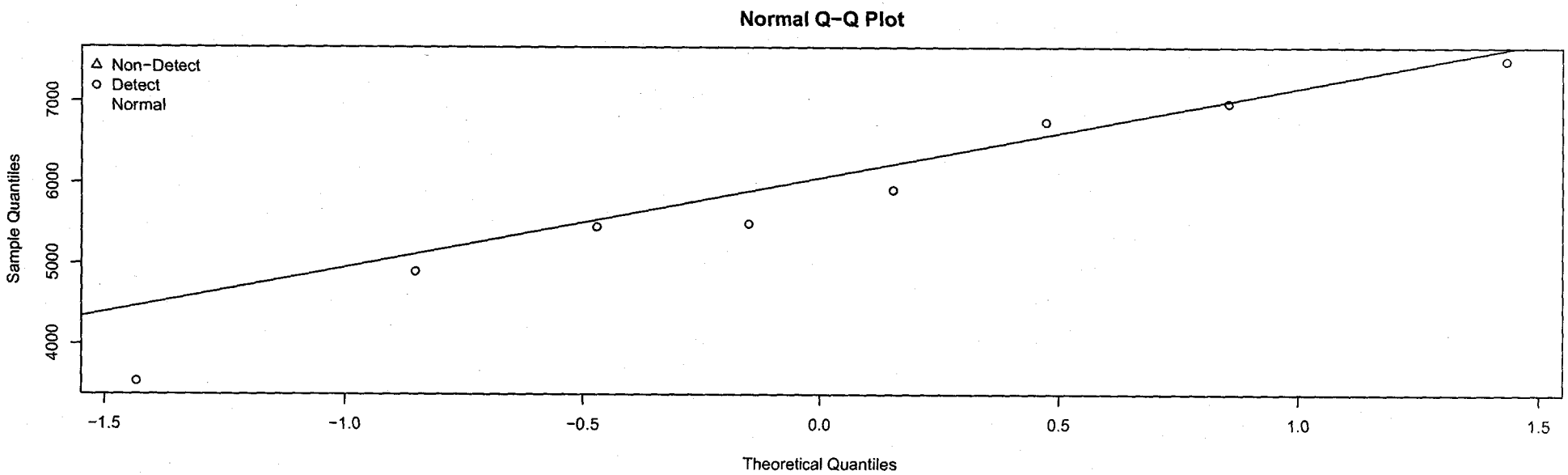


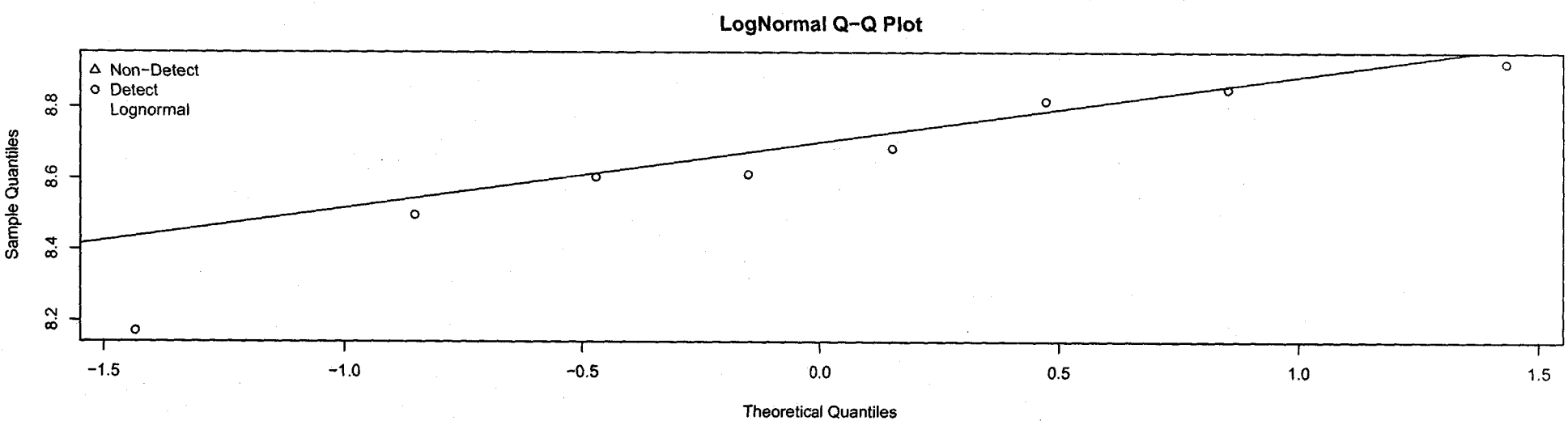
Coffins Ice Pond
Fall Sediment
CADMIUM





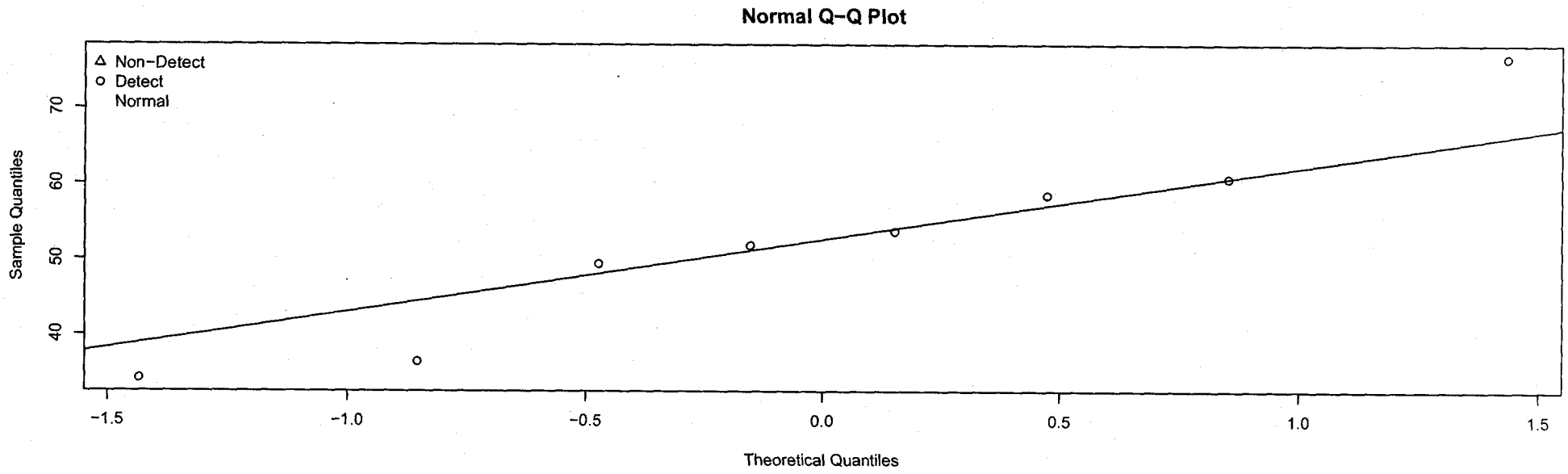
Coffins Ice Pond
Fall Sediment
CALCIUM

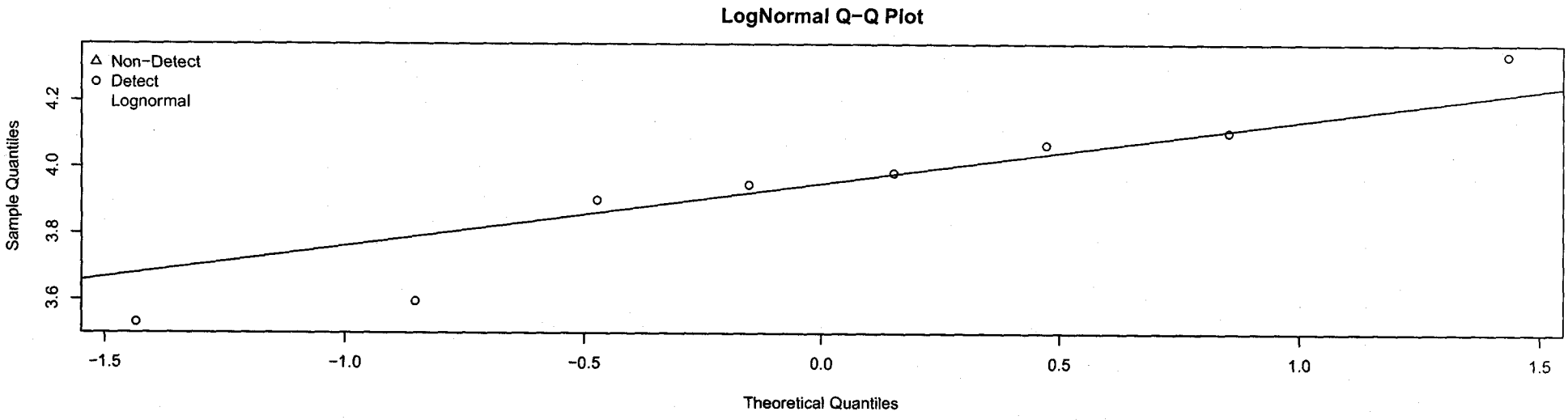




Coffins Ice Pond
Fall Sediment

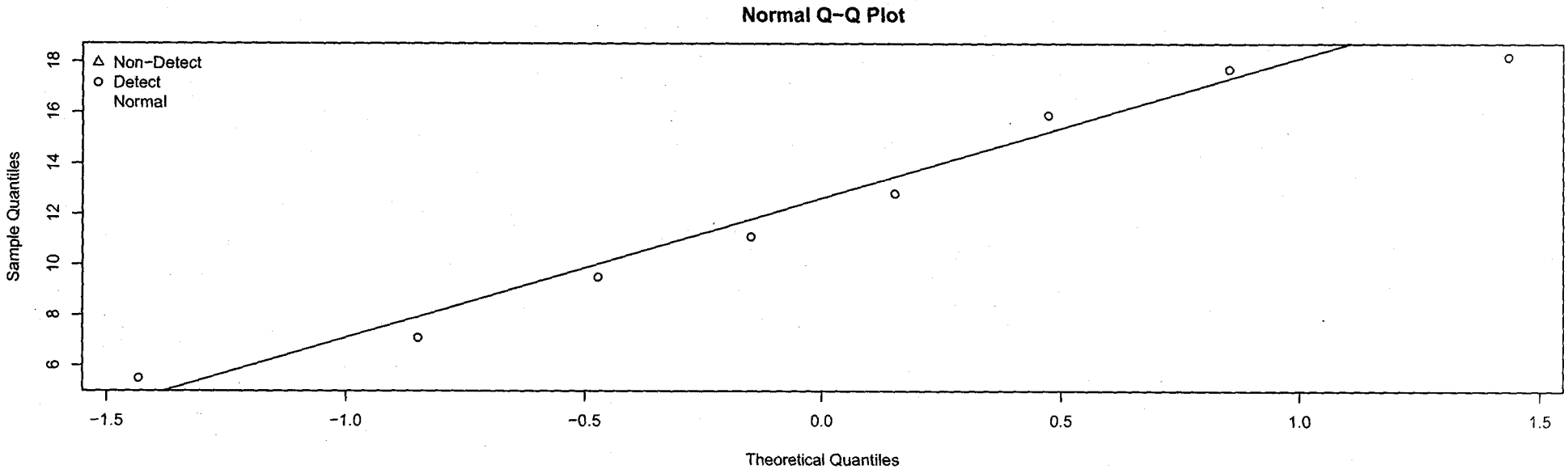
CHROMIUM

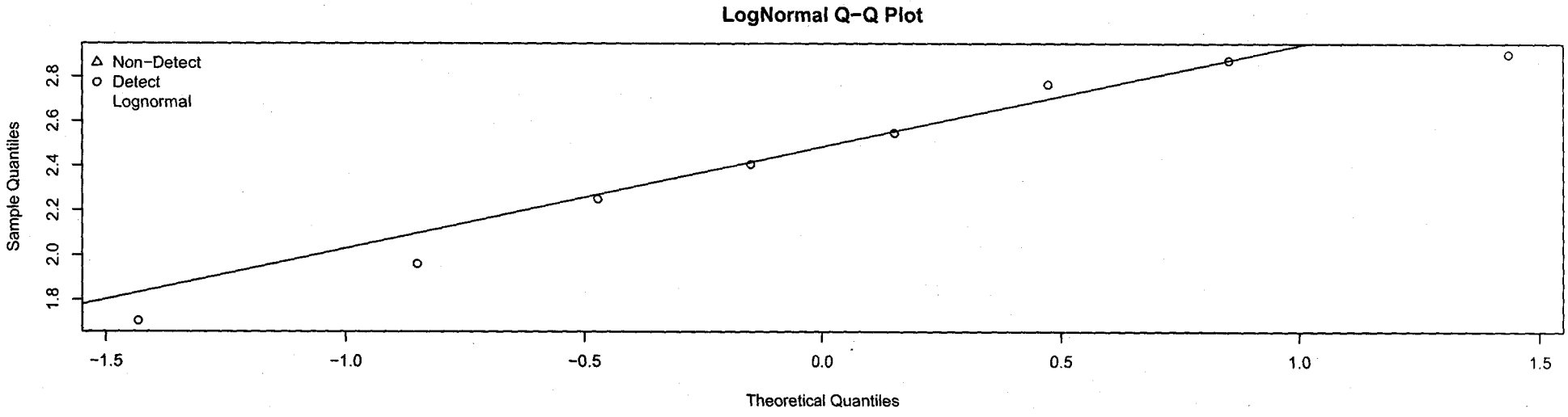




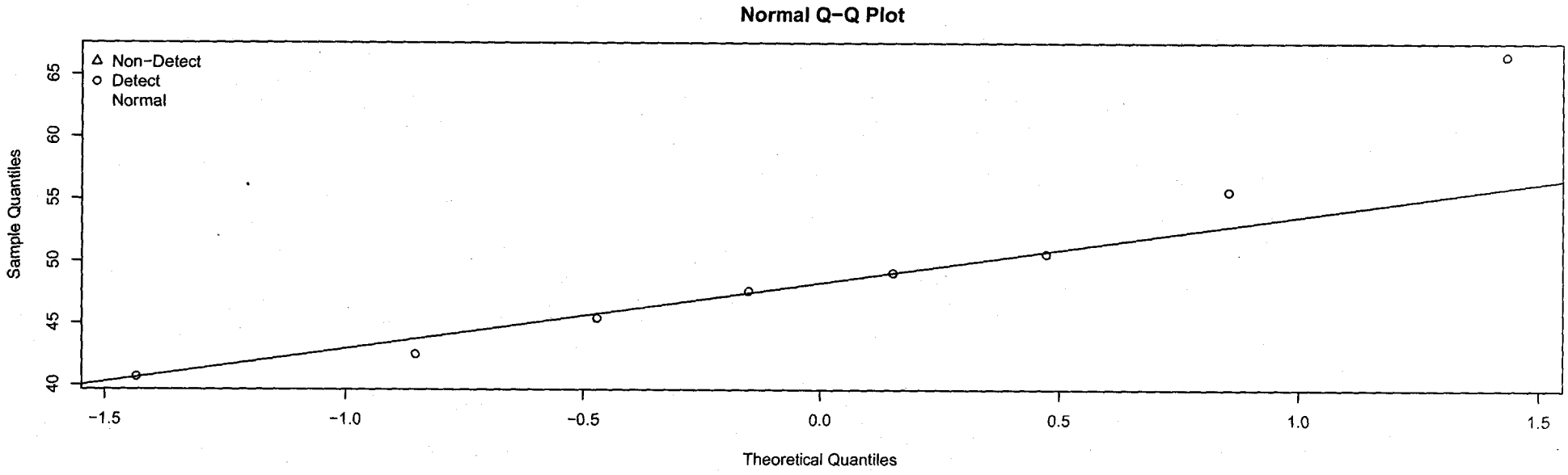
Coffins Ice Pond
Fall Sediment

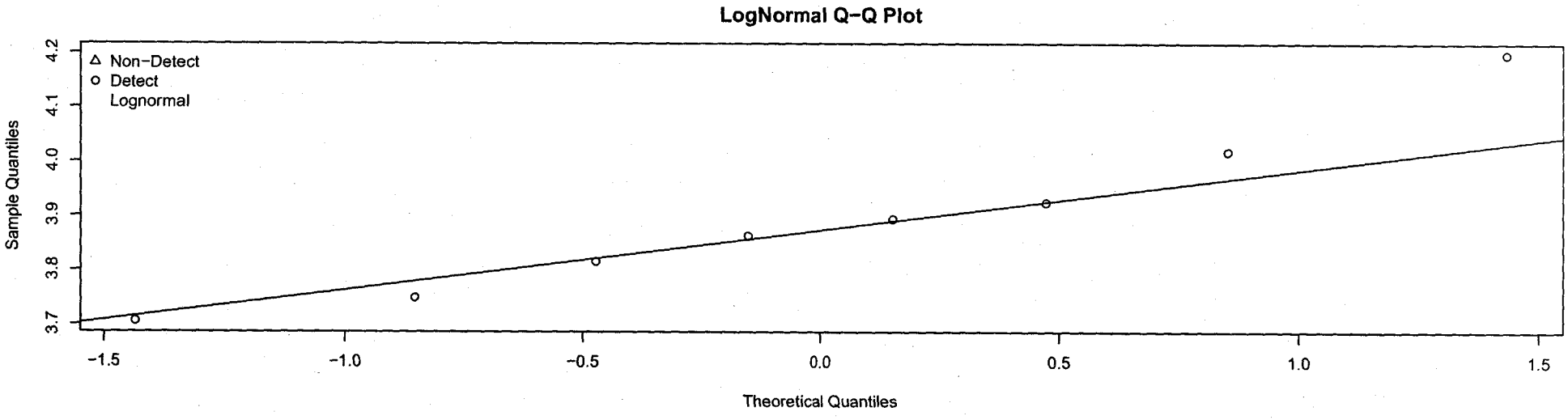
COBALT





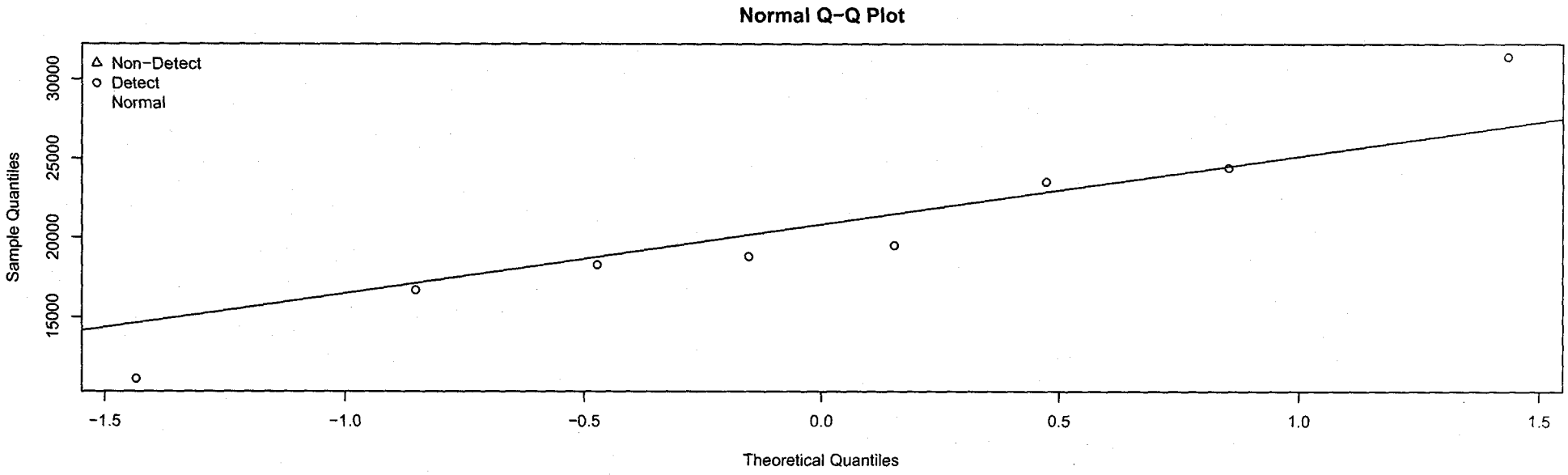
Coffins Ice Pond
Fall Sediment
COPPER

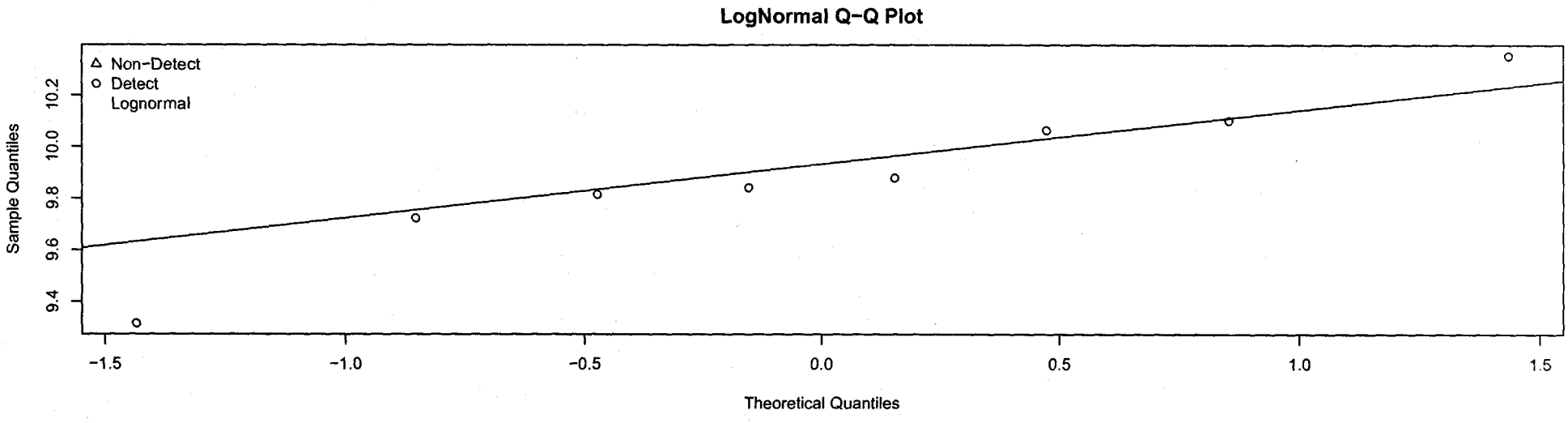




Coffins Ice Pond
Fall Sediment

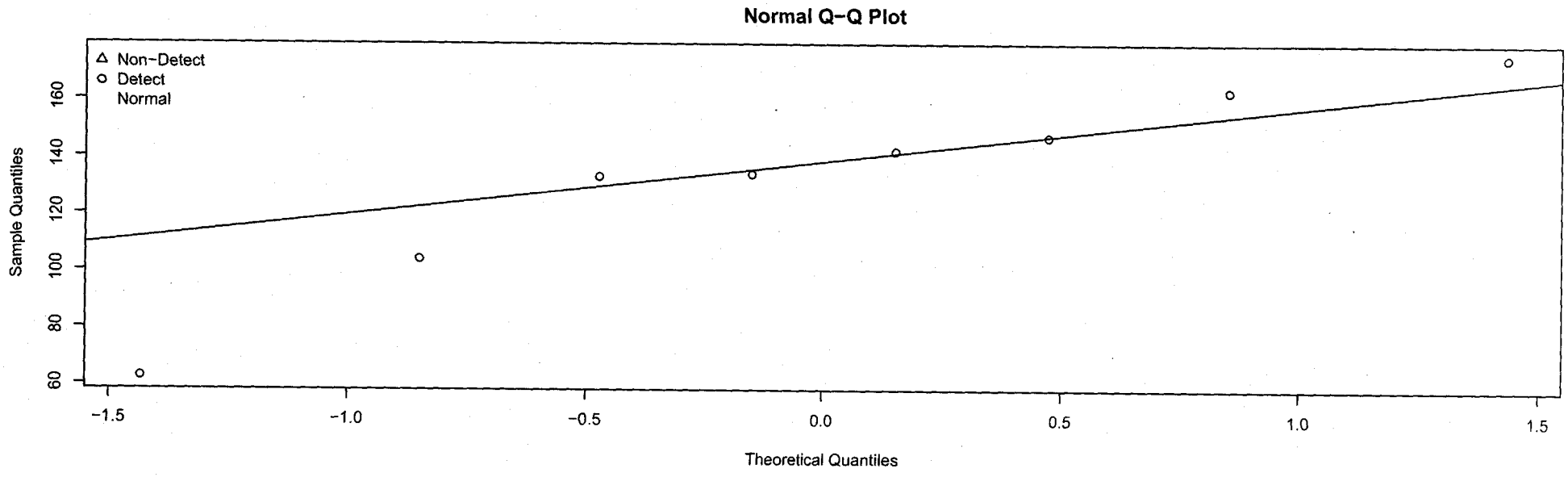
IRON

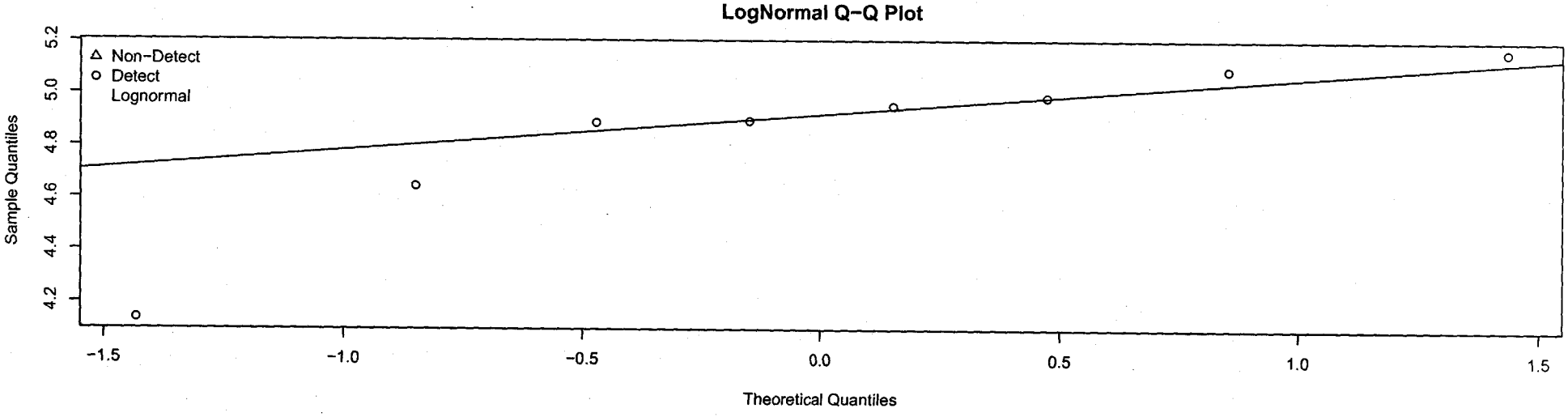




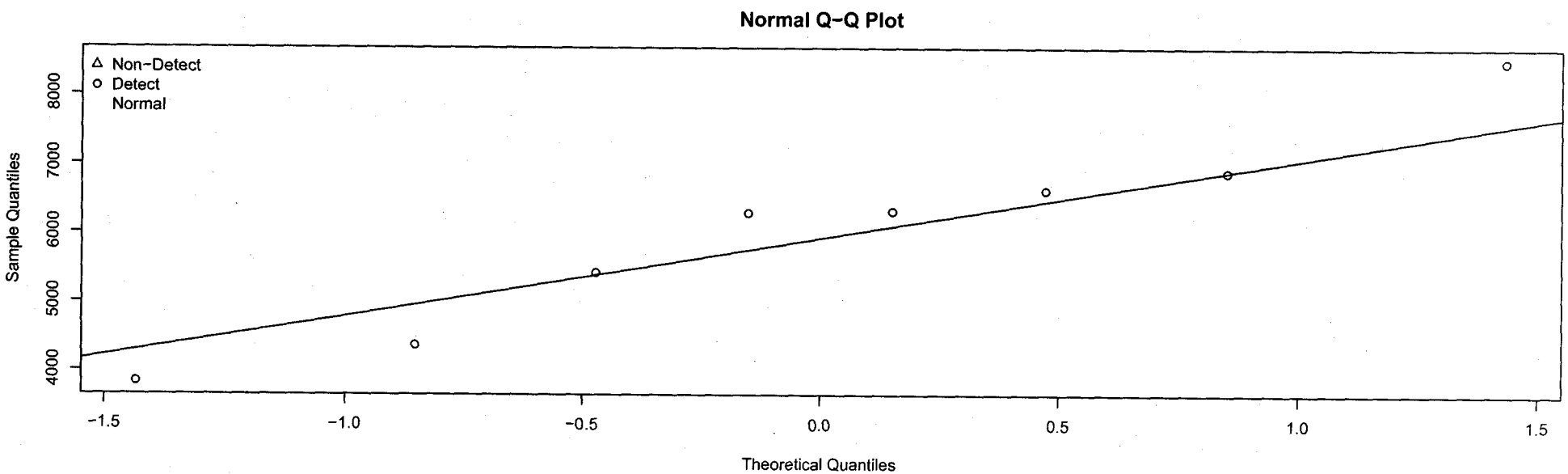
Coffins Ice Pond
Fall Sediment

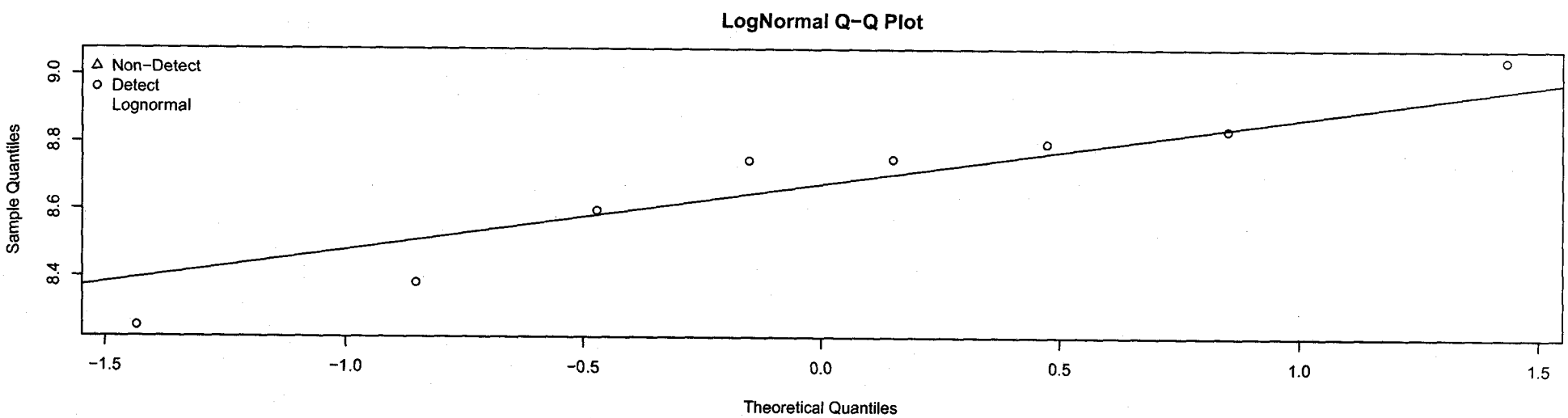
LEAD



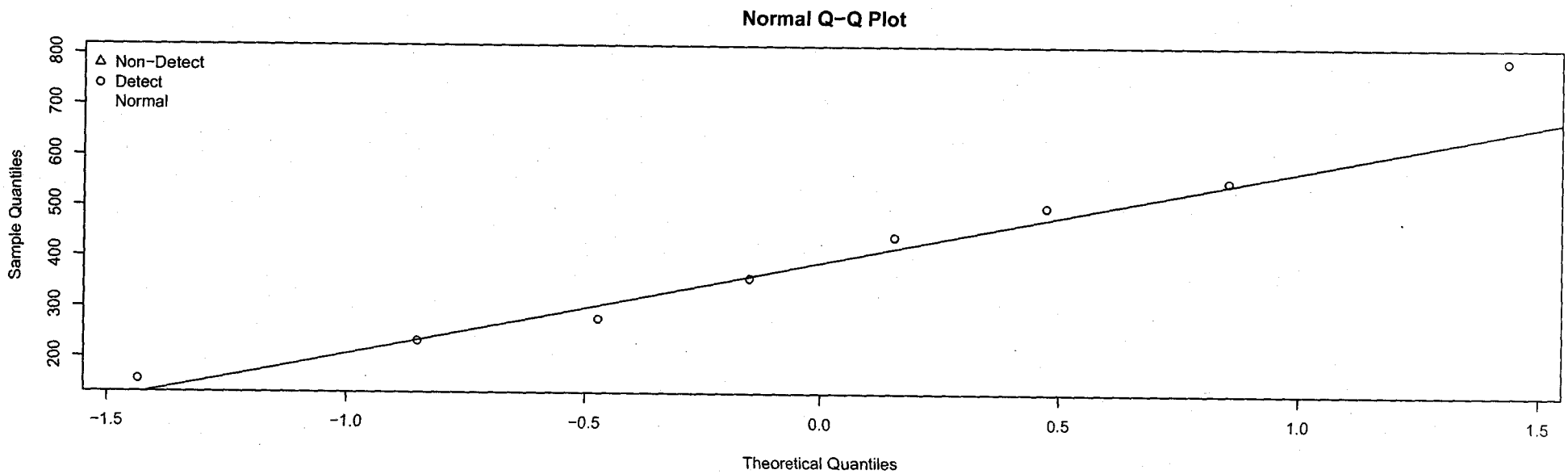


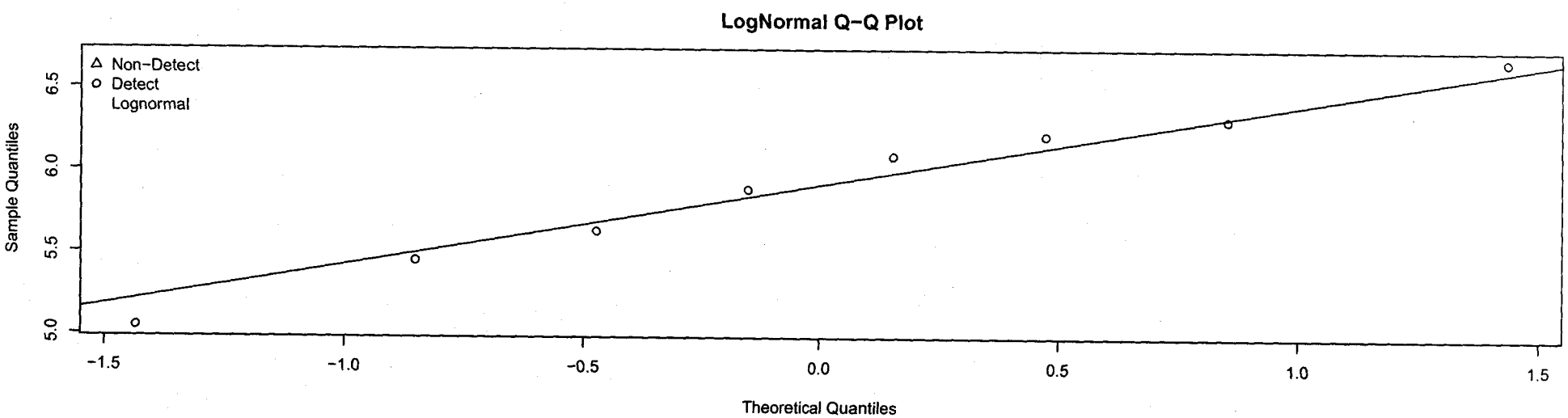
Coffins Ice Pond
Fall Sediment
MAGNESIUM





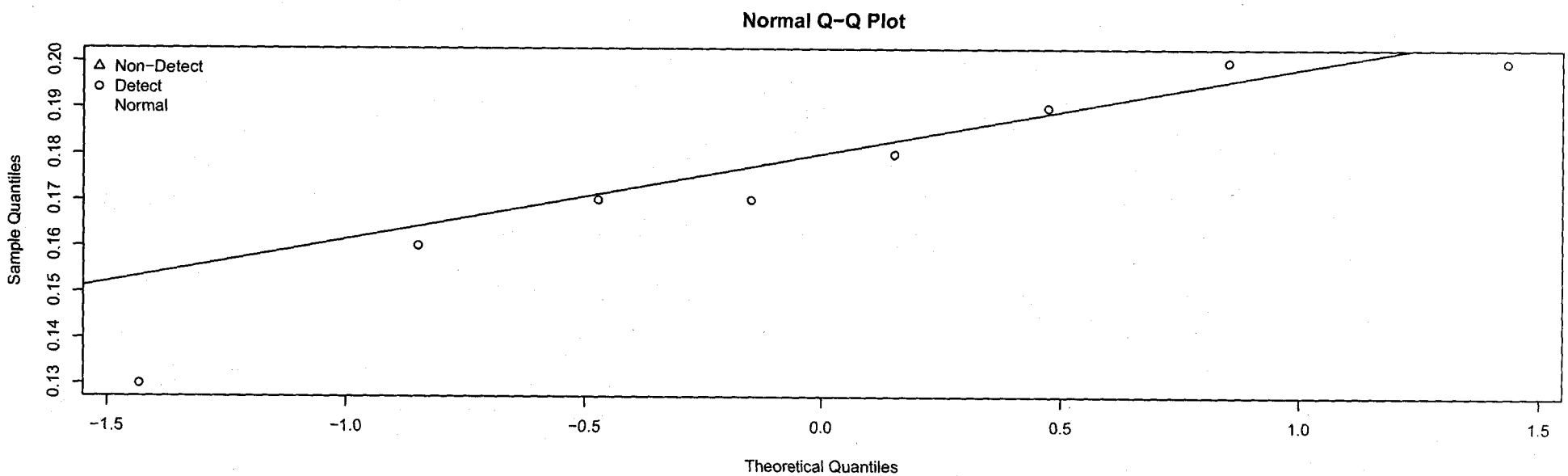
Coffins Ice Pond
Fall Sediment
MANGANESE

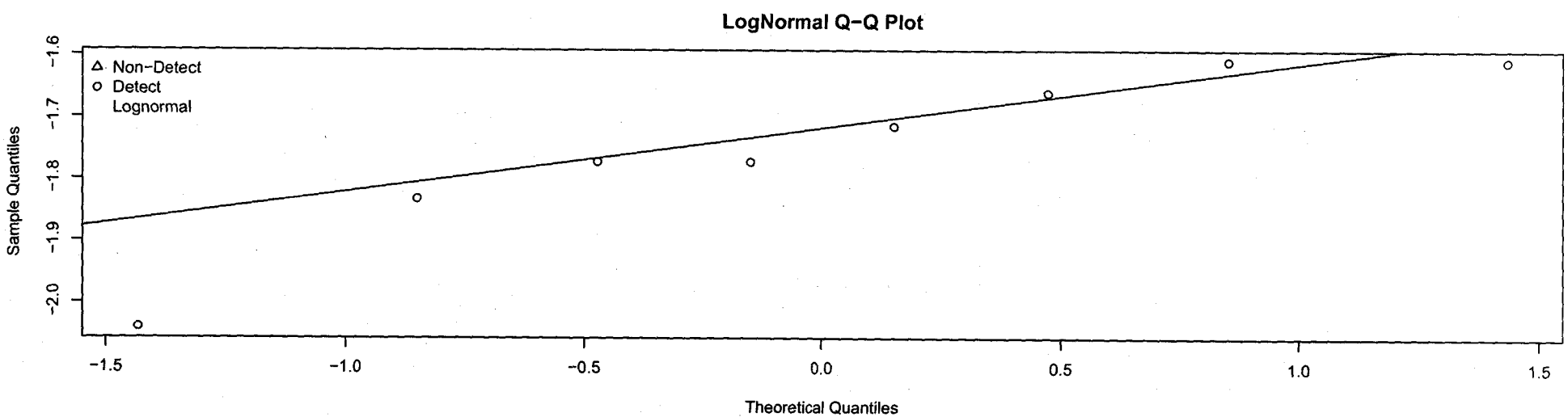




Coffins Ice Pond
Fall Sediment

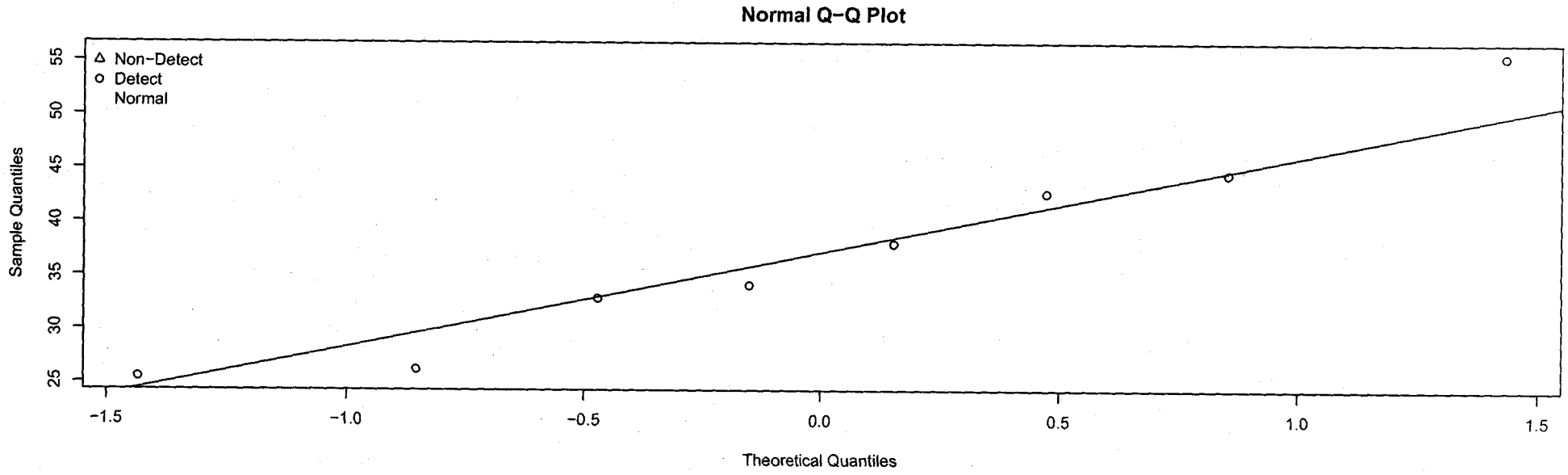
MERCURY

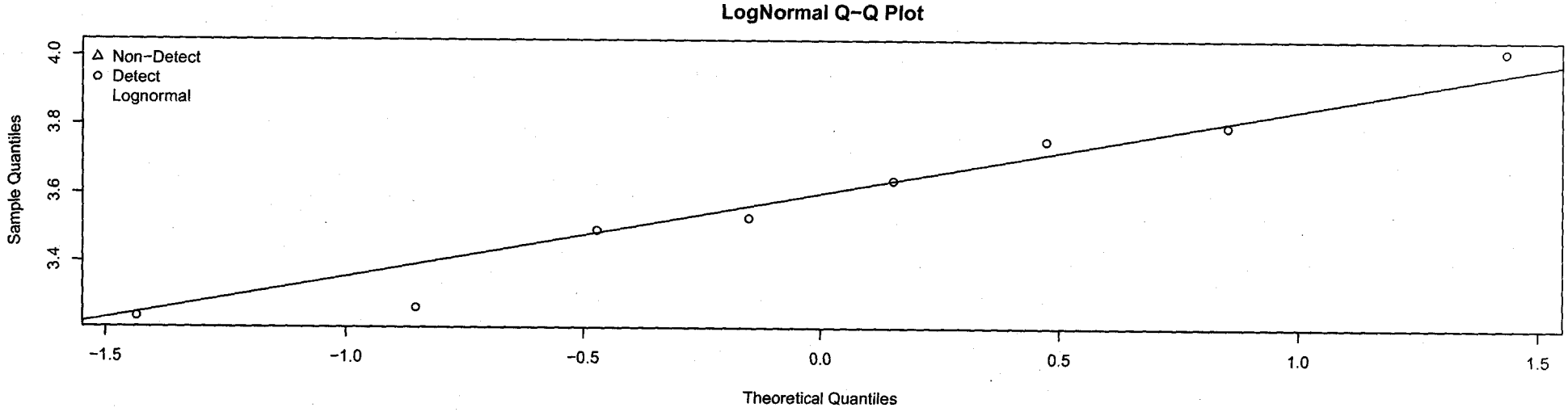




Coffins Ice Pond
Fall Sediment

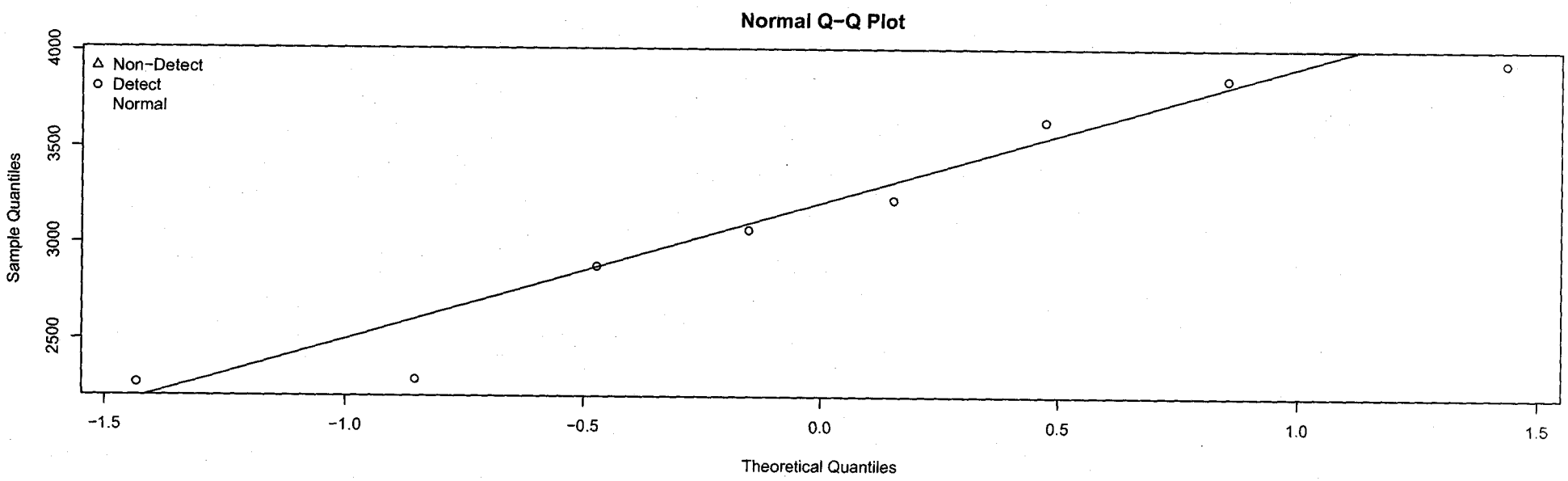
NICKEL

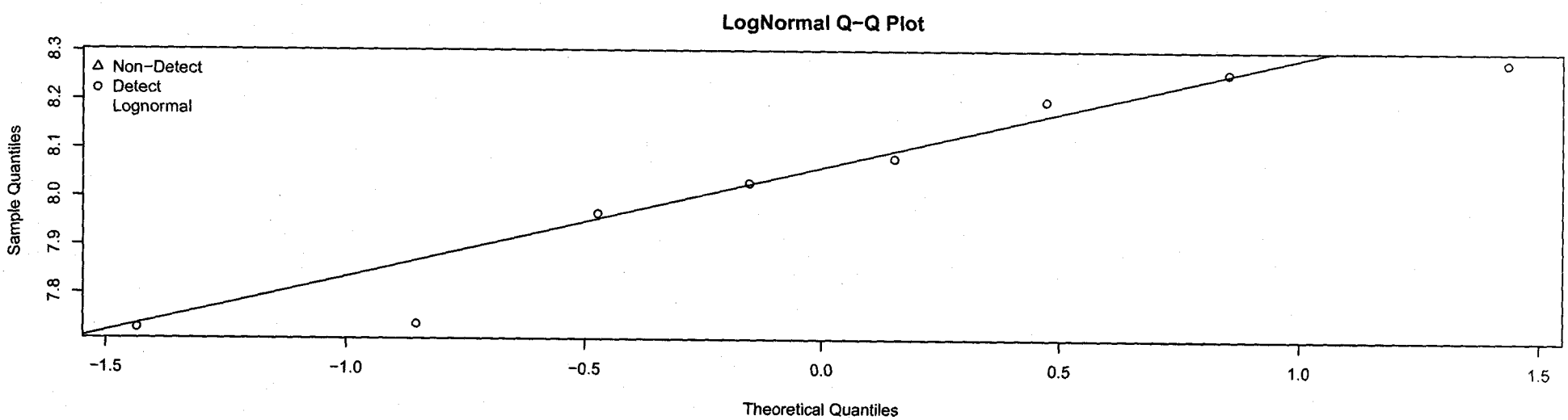




Coffins Ice Pond
Fall Sediment

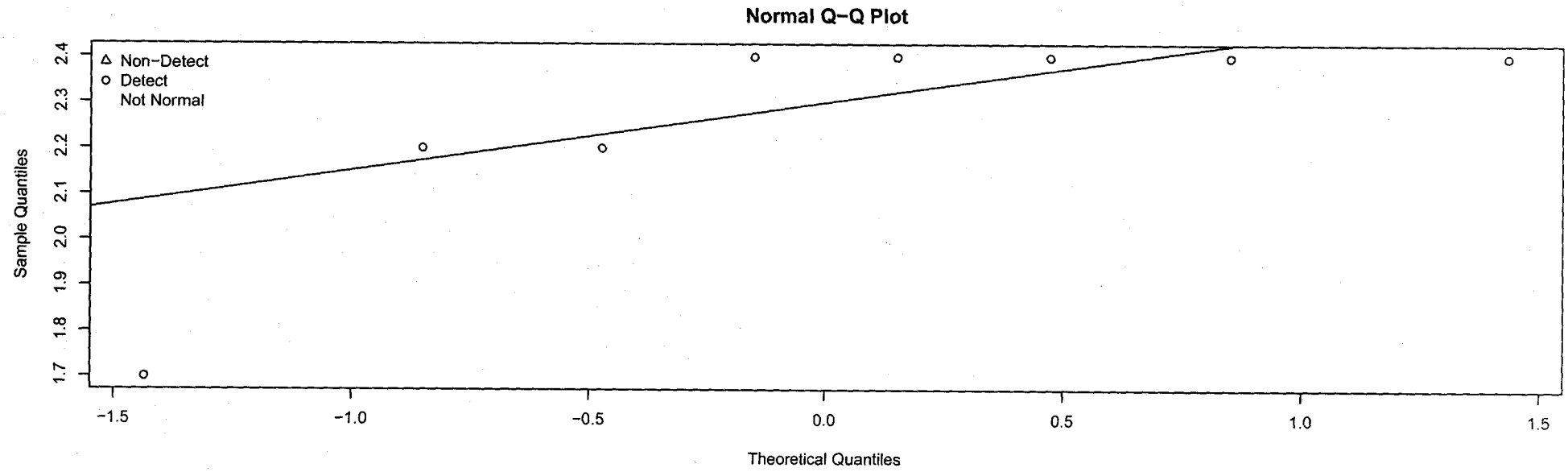
POTASSIUM

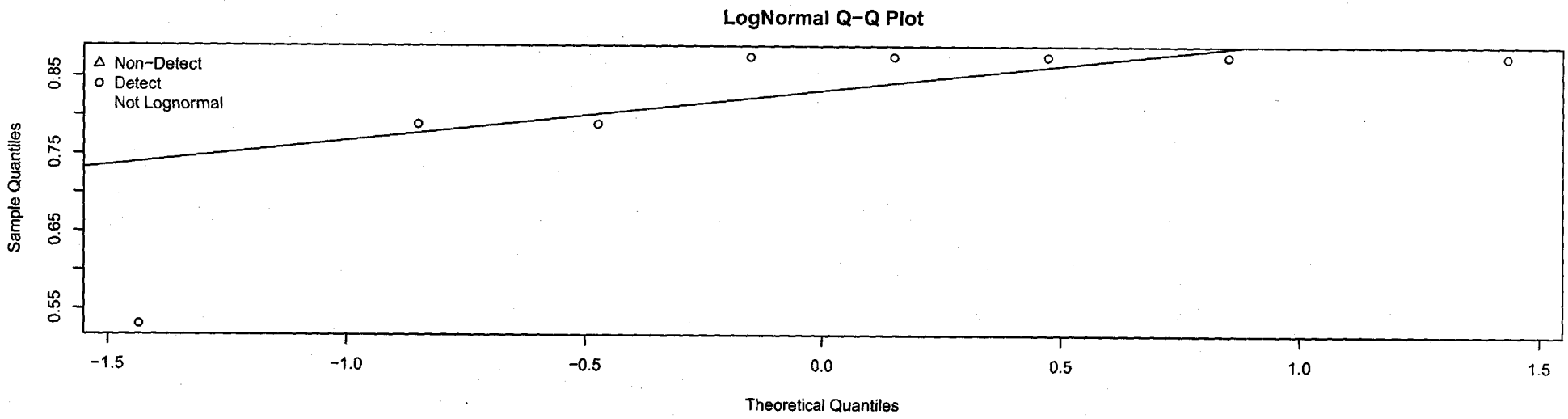




Coffins Ice Pond
Fall Sediment

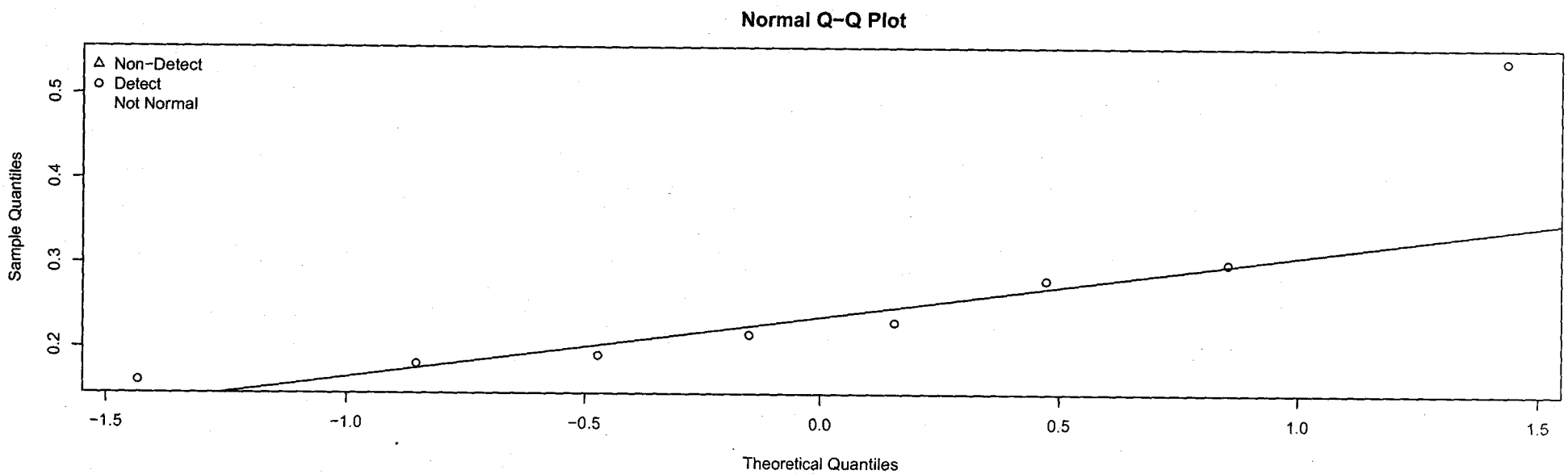
SELENIUM

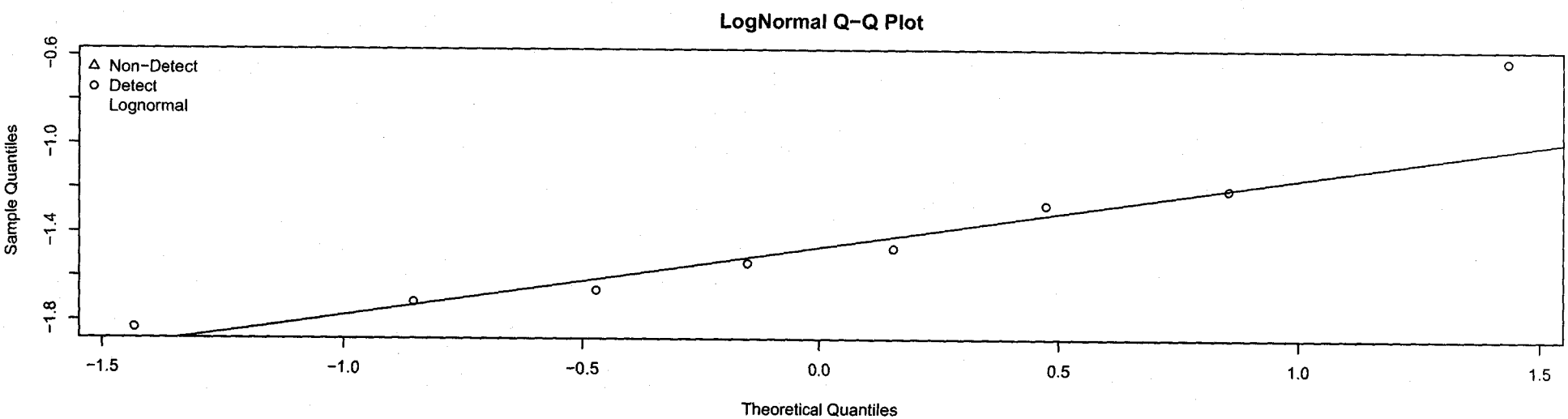




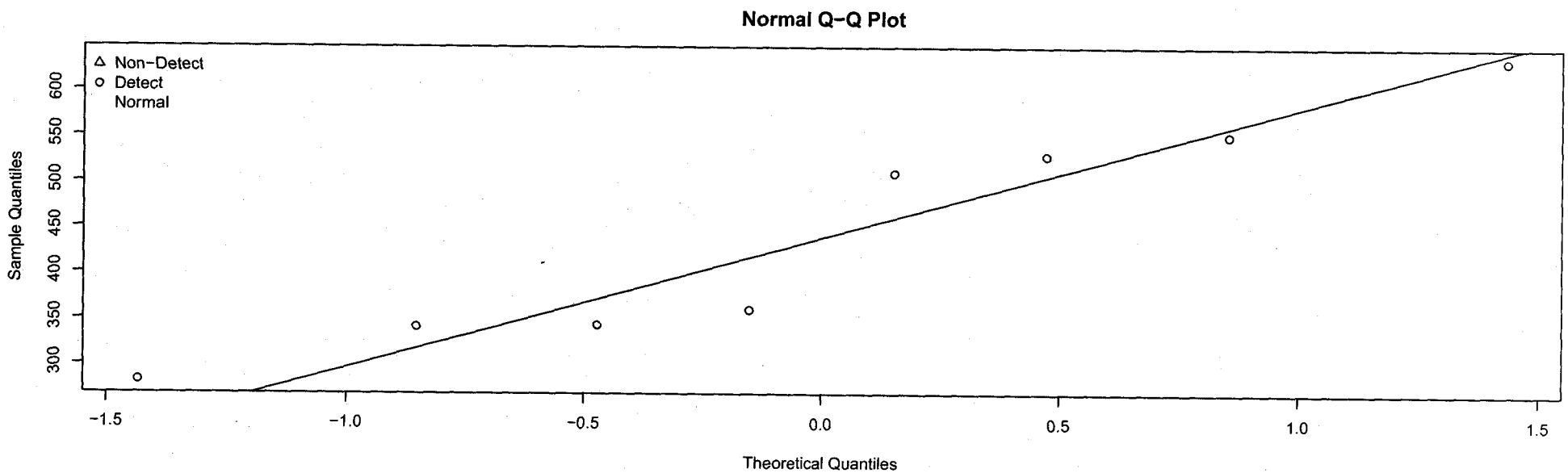
Coffins Ice Pond
Fall Sediment

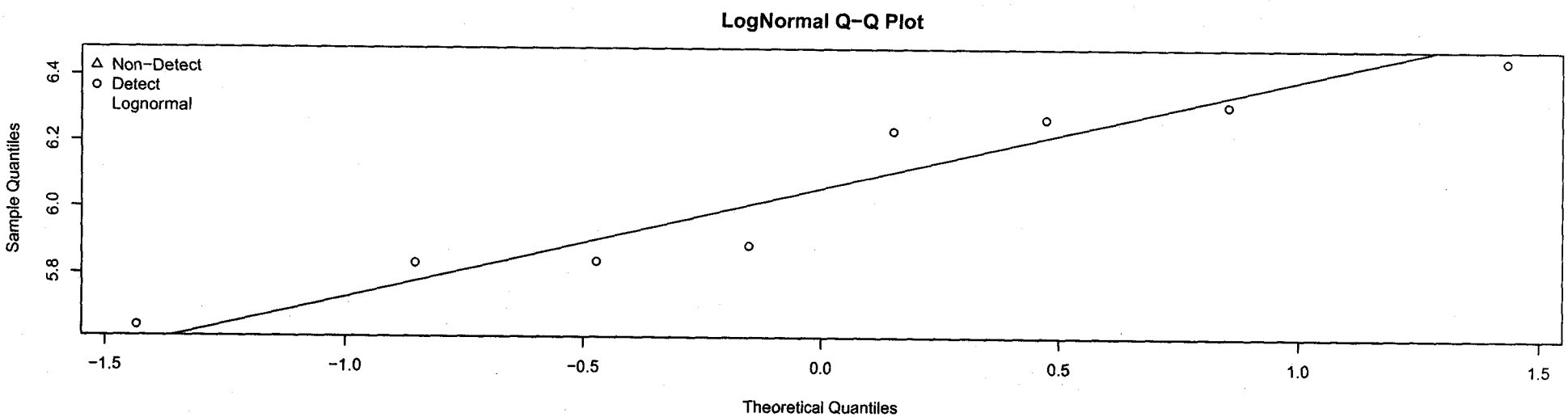
SILVER





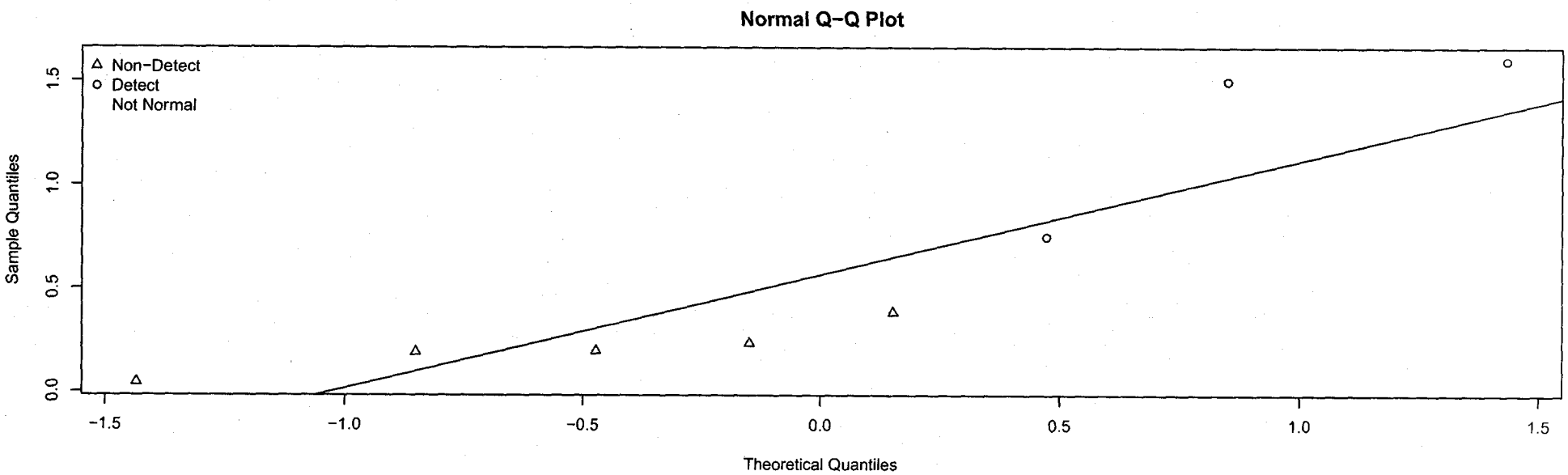
Coffins Ice Pond
Fall Sediment
SODIUM

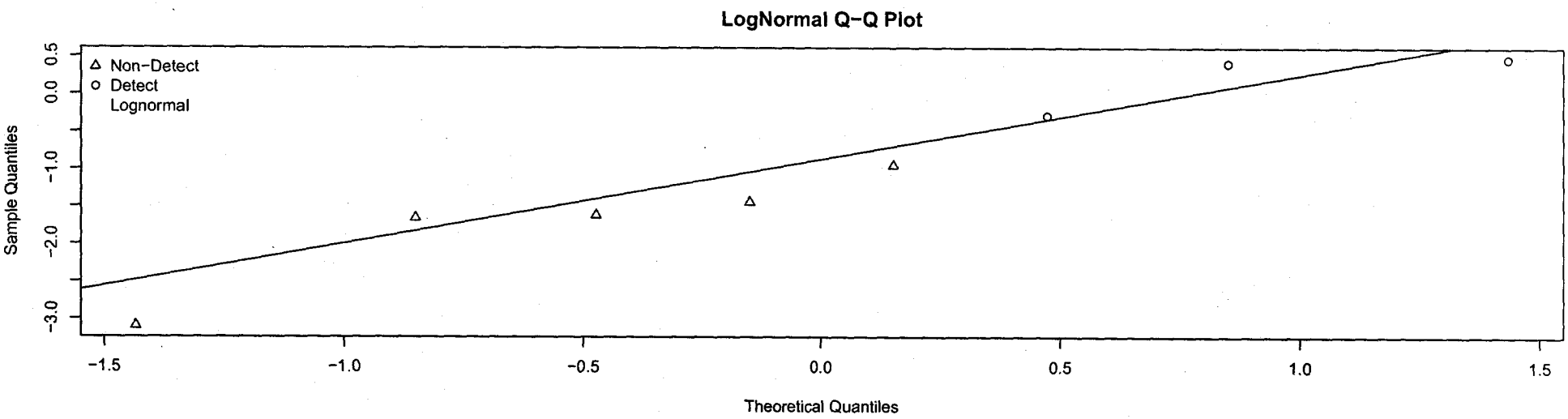




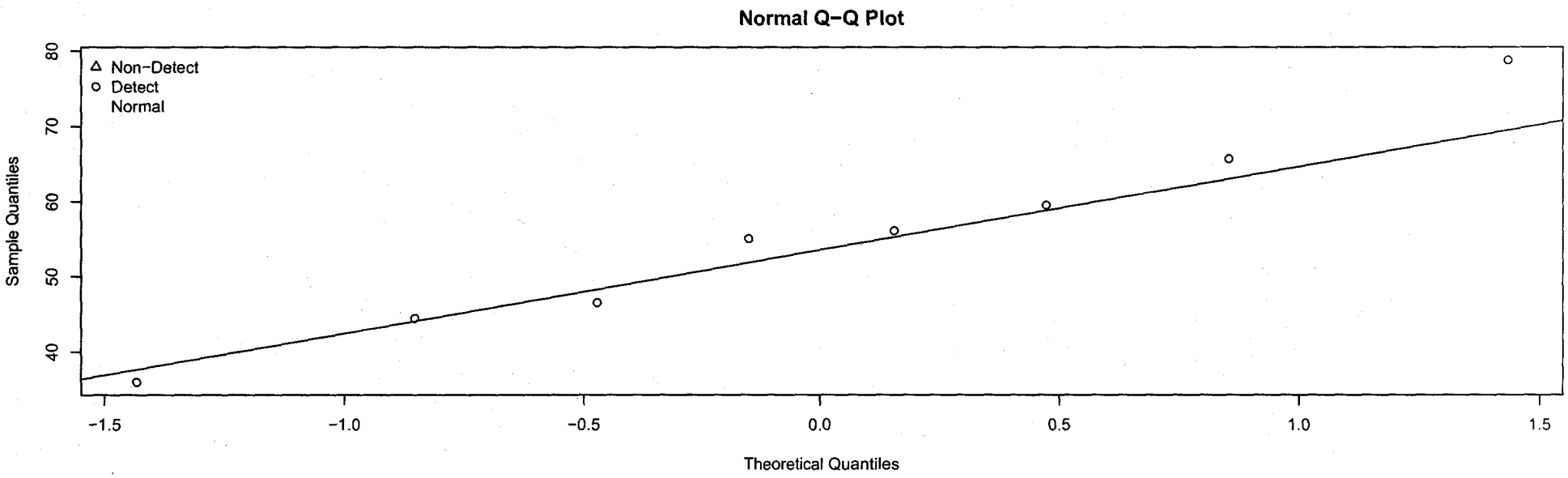
Coffins Ice Pond
Fall Sediment

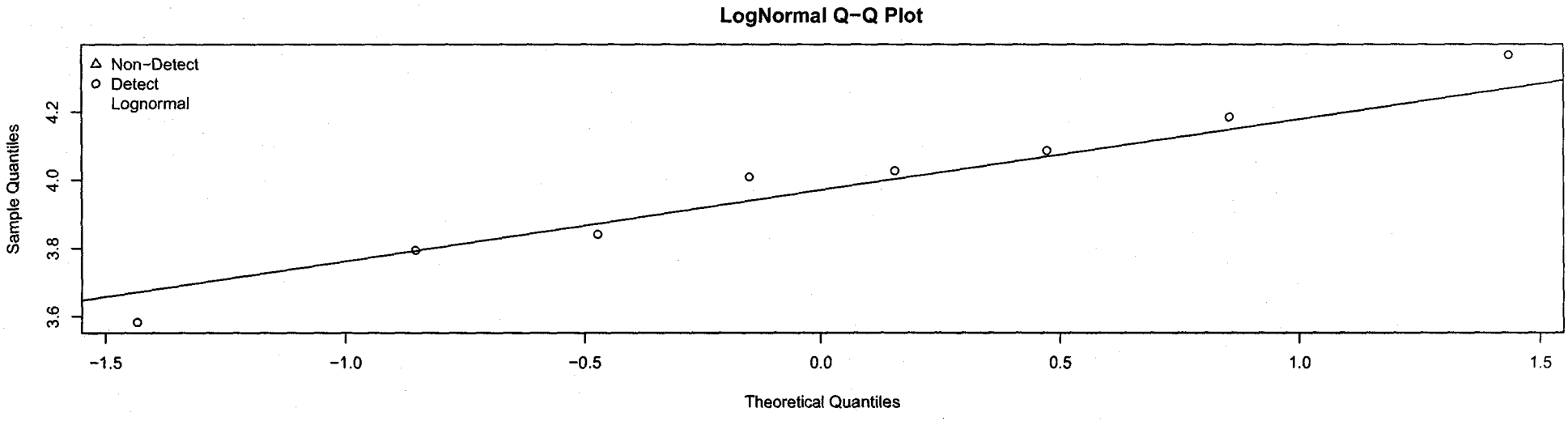
THALLIUM





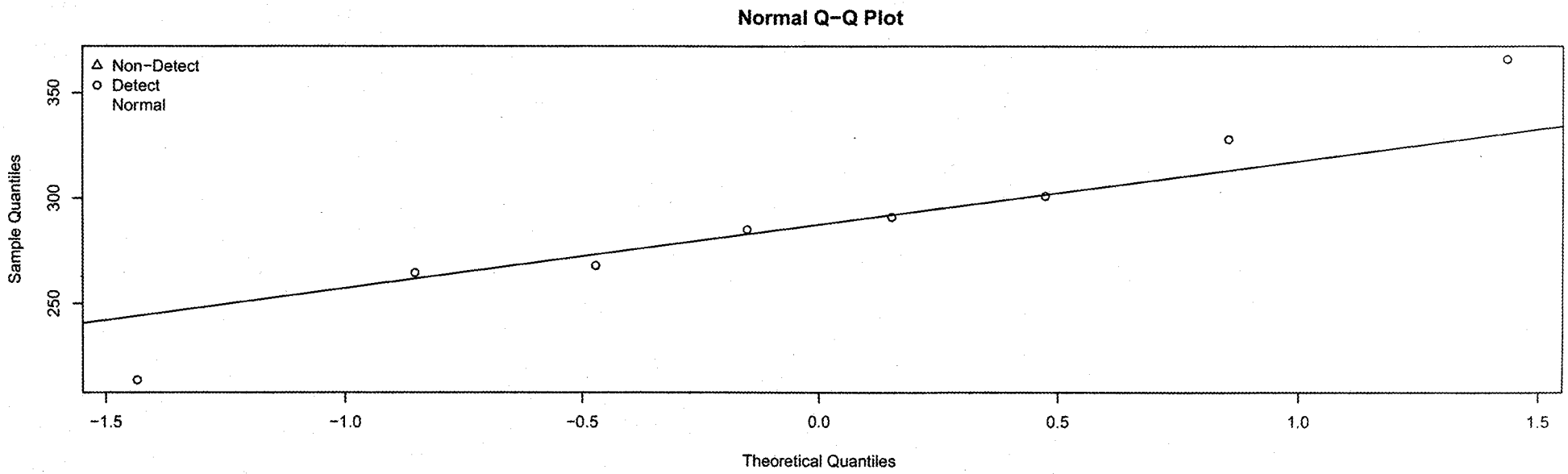
Coffins Ice Pond
Fall Sediment
VANADIUM

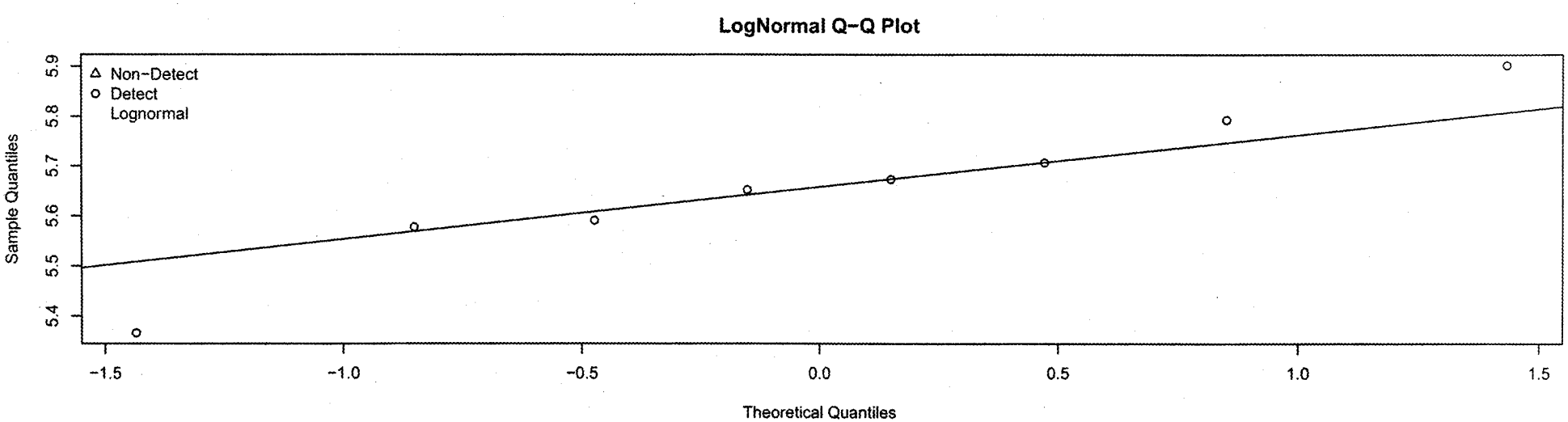




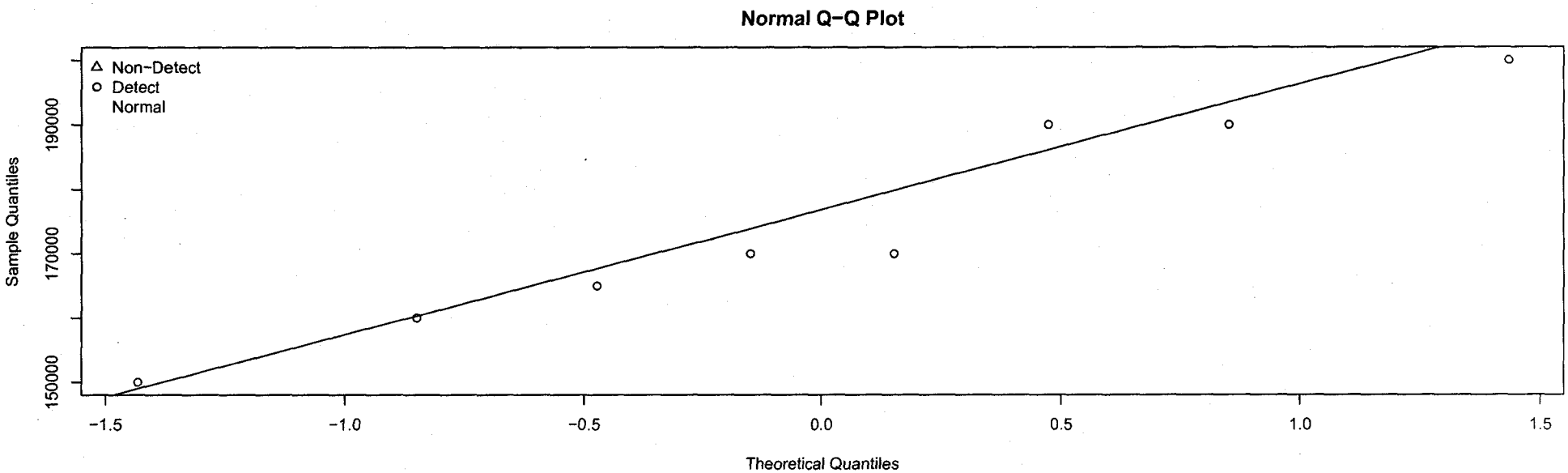
Coffins Ice Pond
Fall Sediment

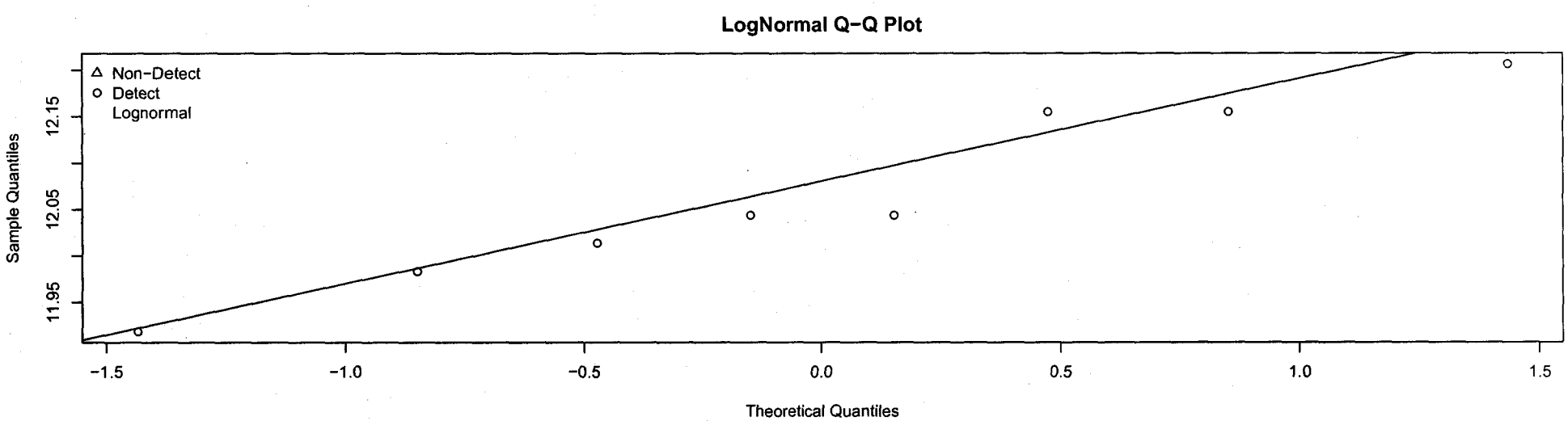
ZINC



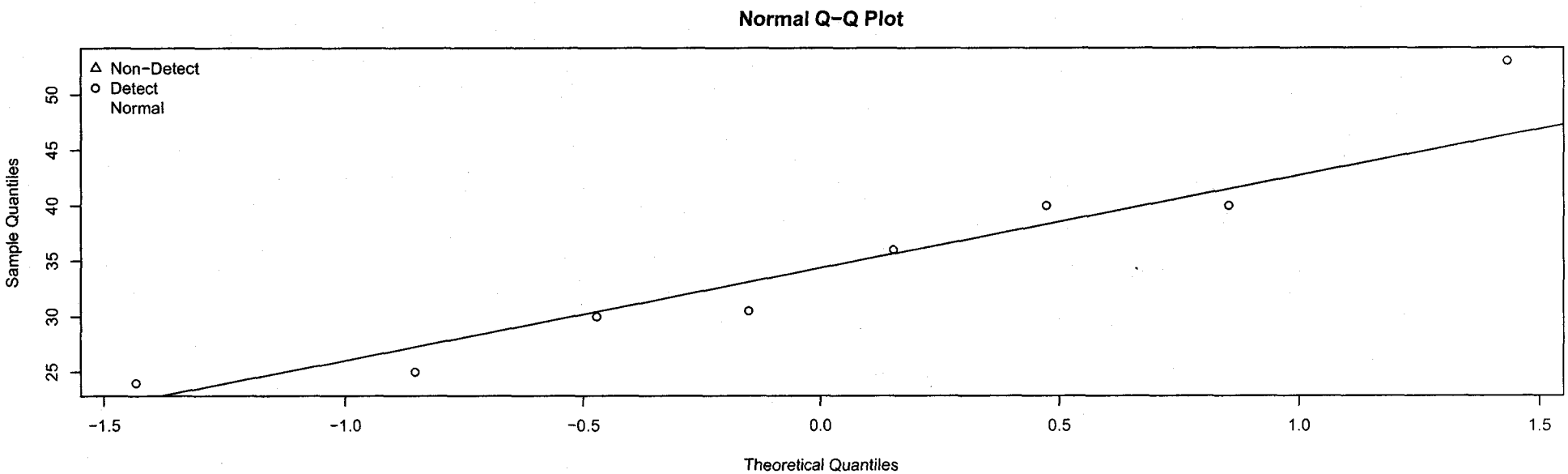


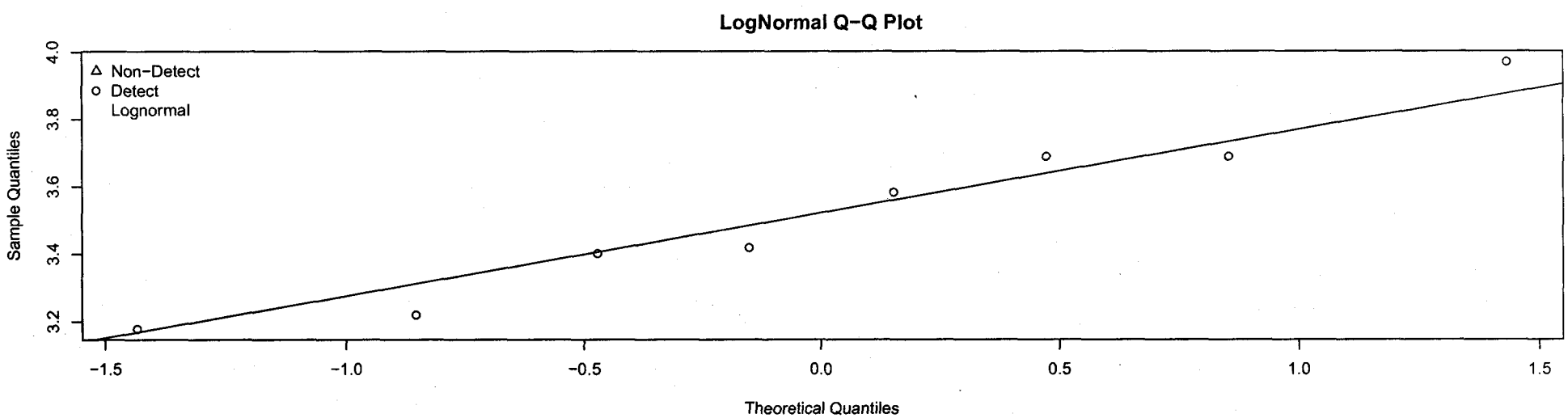
Coffins Ice Pond
Fall Sediment
TOTAL ORGANIC CARBON



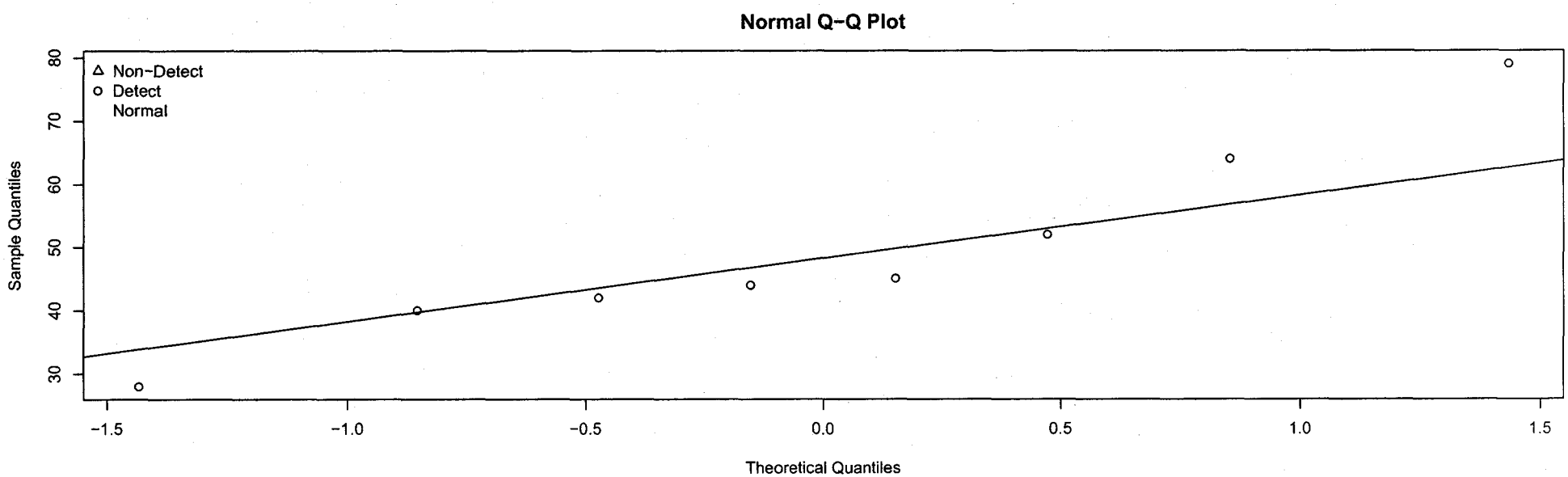


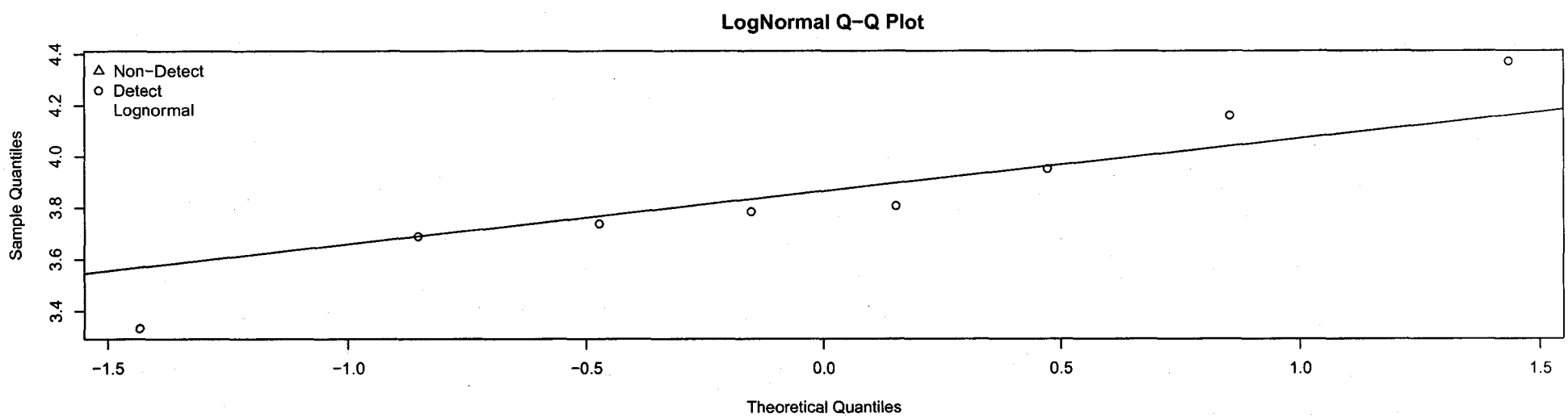
Coffins Ice Pond
Spring Sediment
2-METHYLNAPHTHALENE



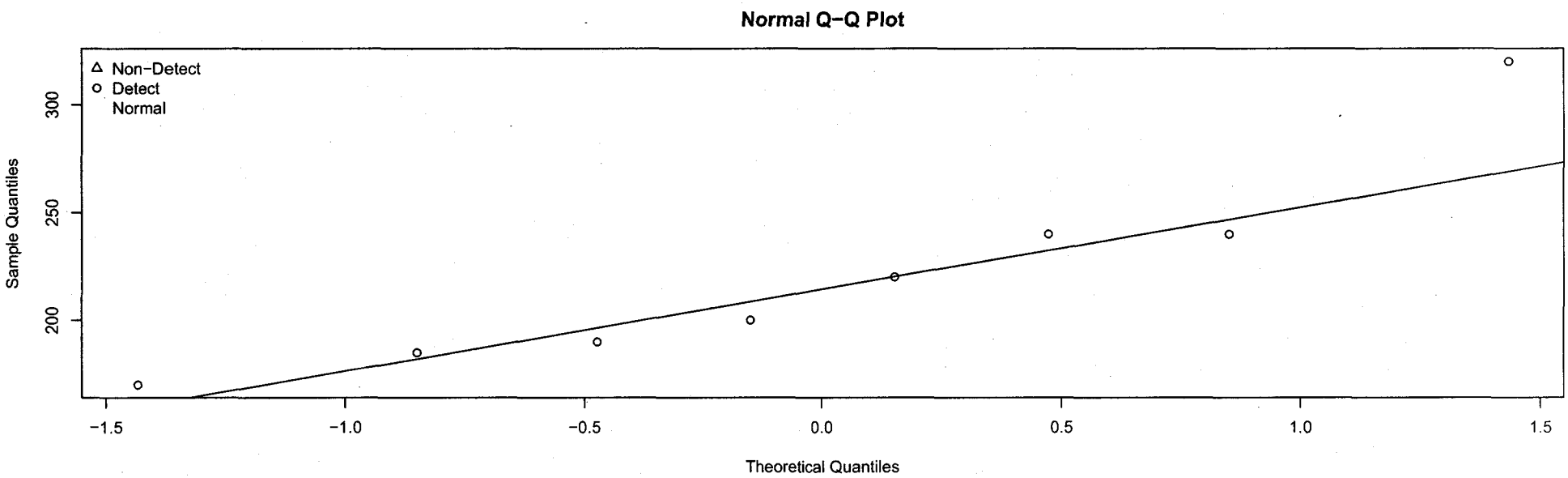


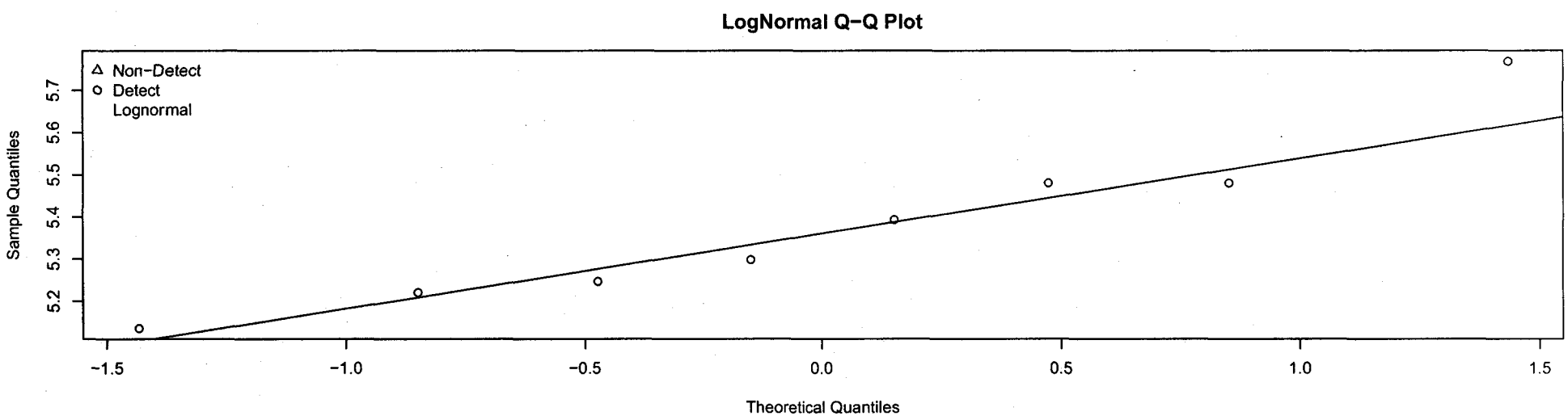
Coffins Ice Pond
Spring Sediment
ACENAPHTHENE



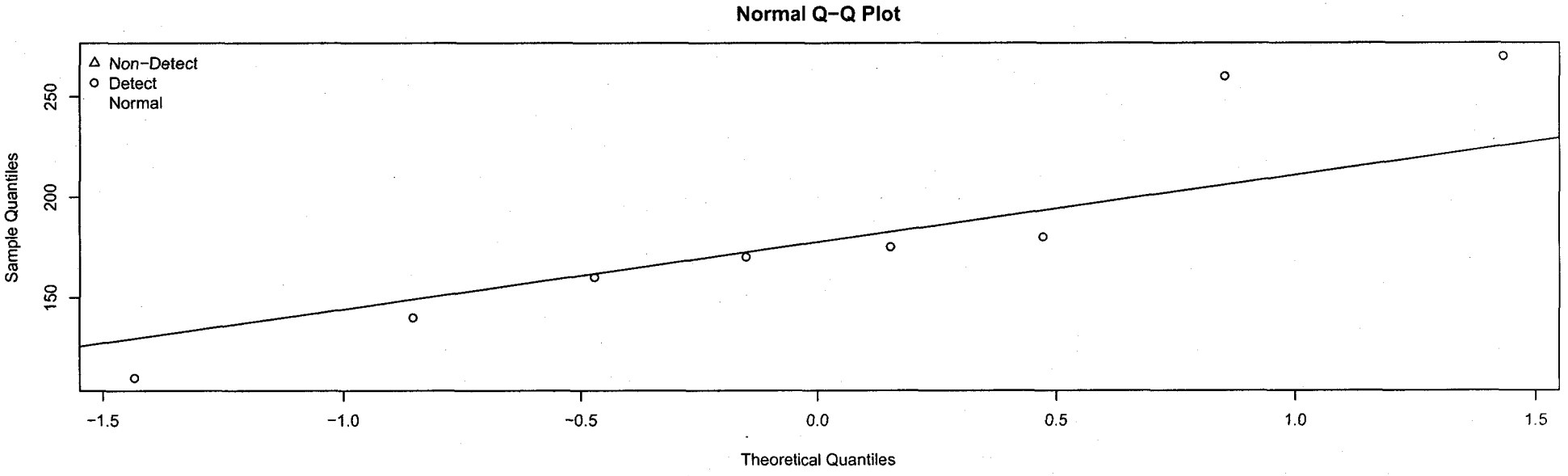


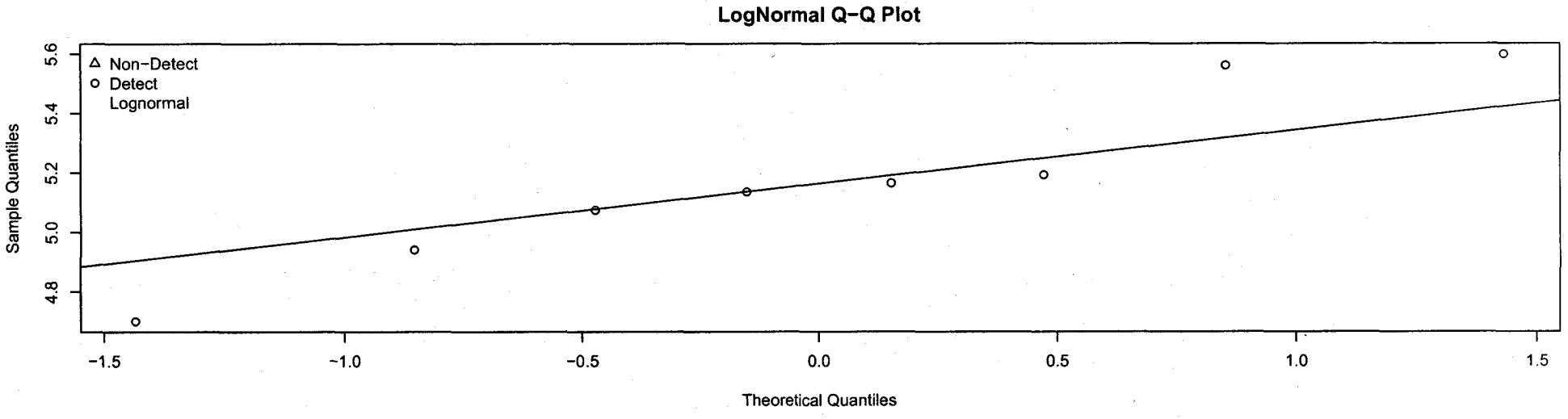
Coffins Ice Pond
Spring Sediment
ACENAPHTHYLENE



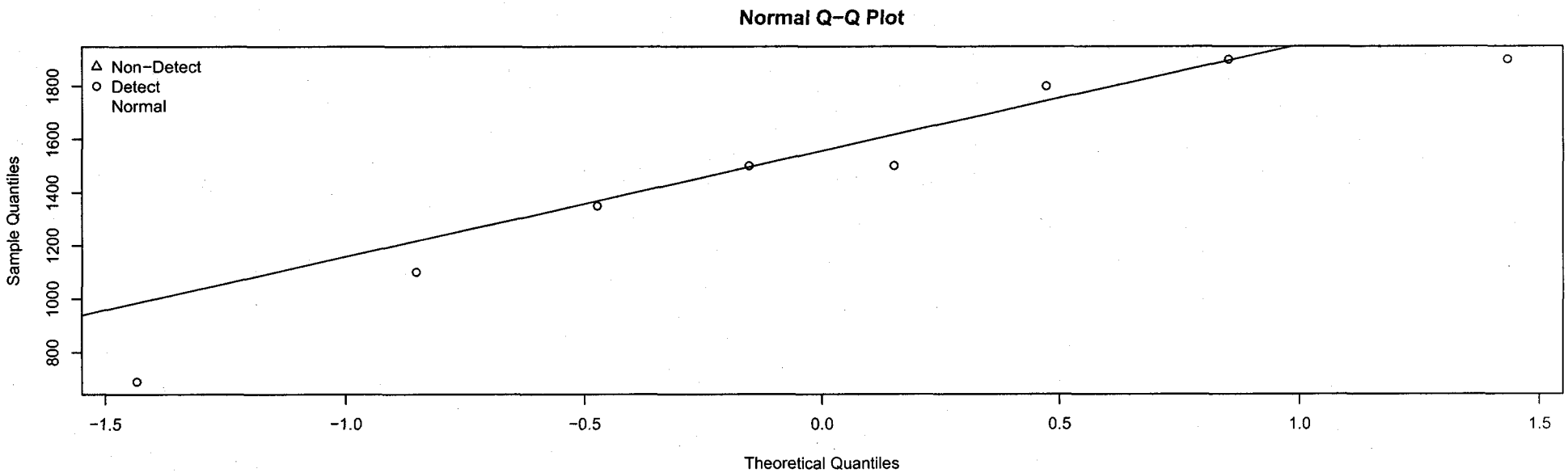


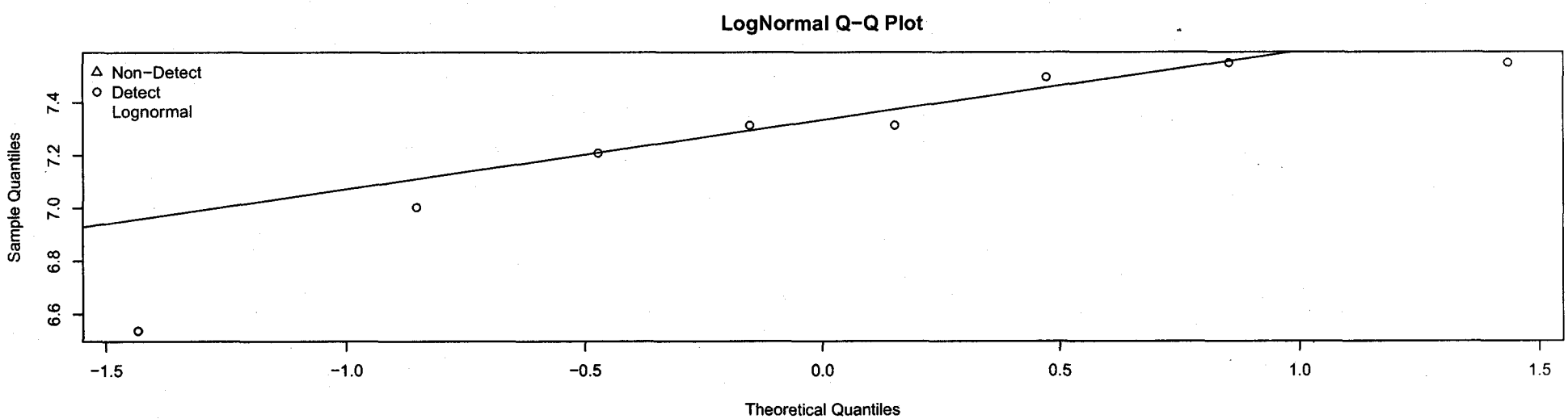
Coffins Ice Pond
Spring Sediment
ANTHRACENE



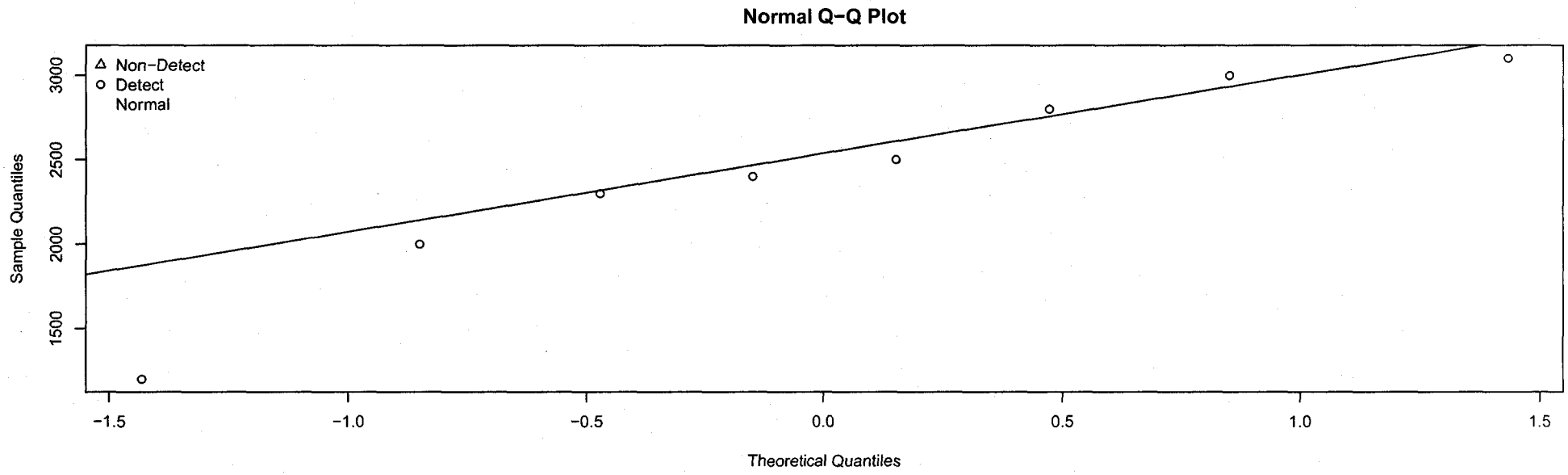


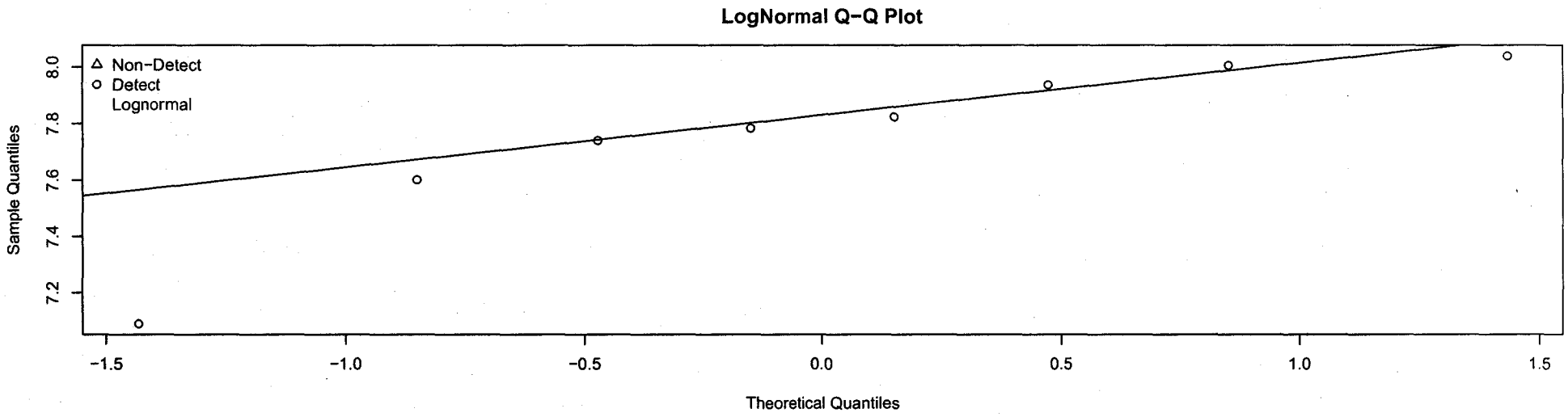
Coffins Ice Pond
Spring Sediment
BENZO(A)ANTHRACENE



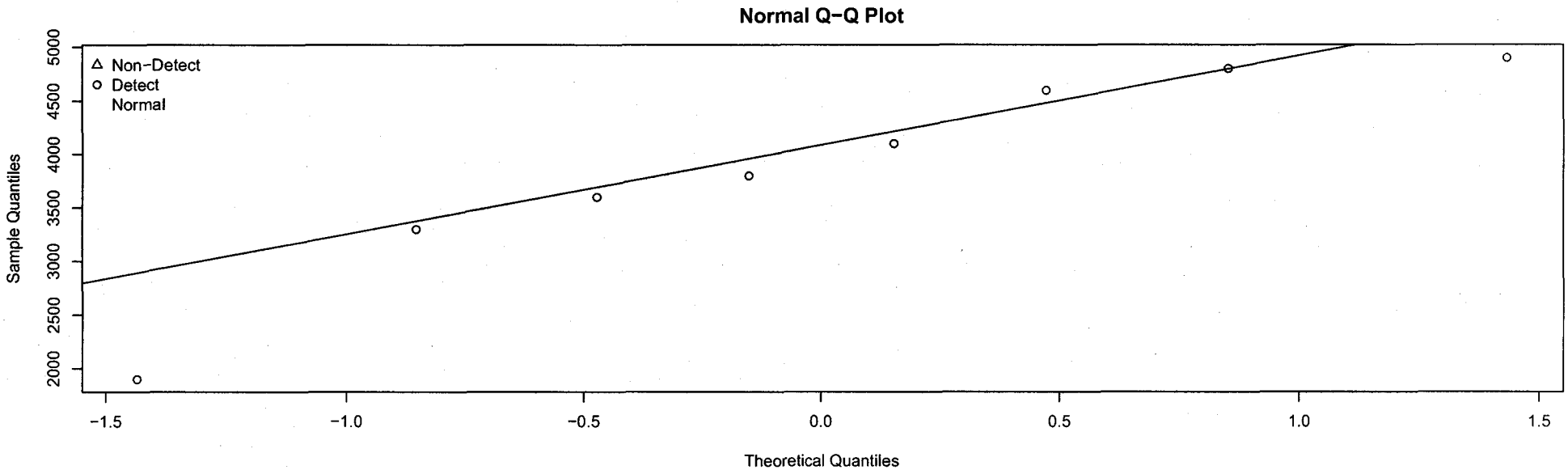


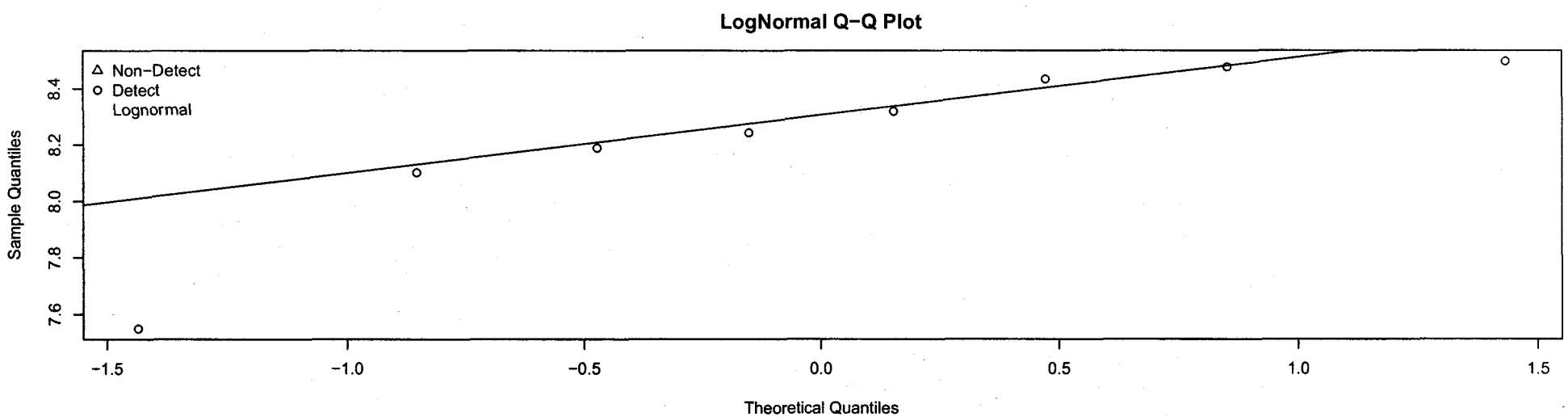
Coffins Ice Pond
Spring Sediment
BENZO(A)PYRENE



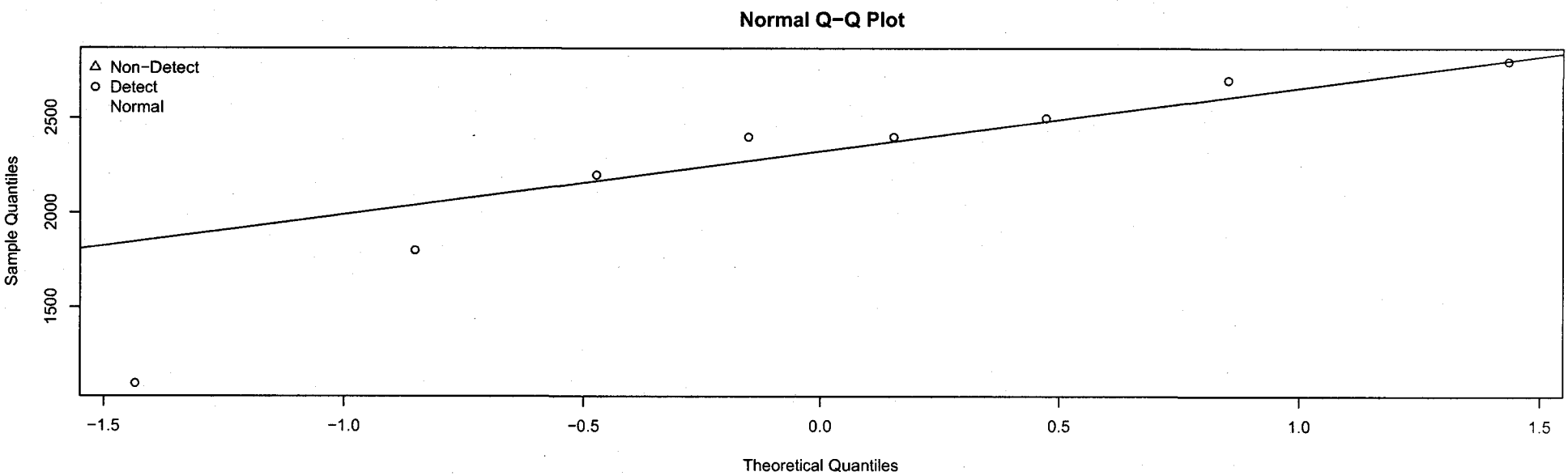


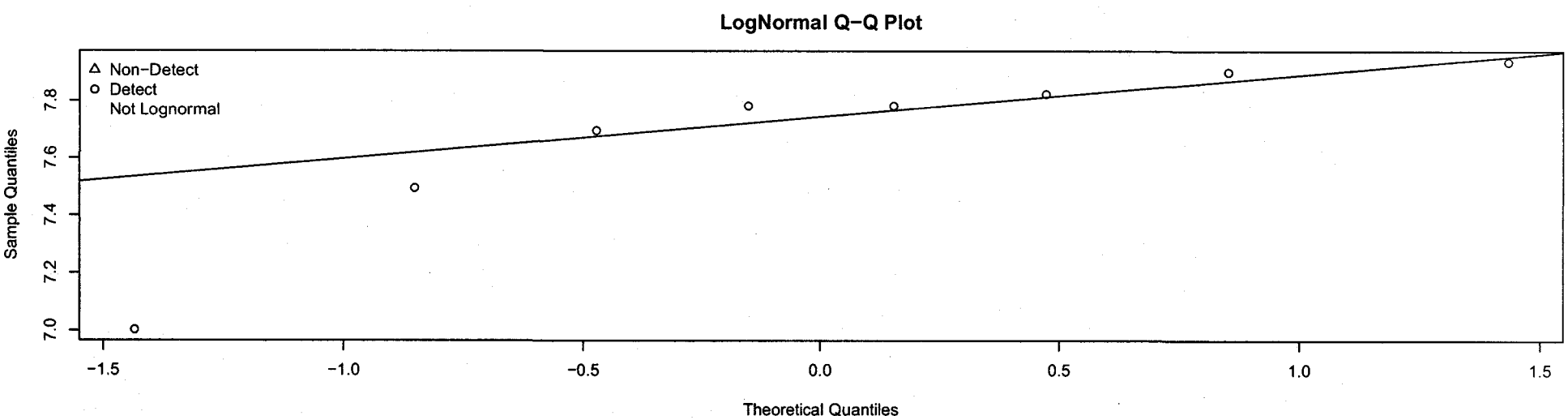
Coffins Ice Pond
Spring Sediment
BENZO(B)FLUORANTHENE



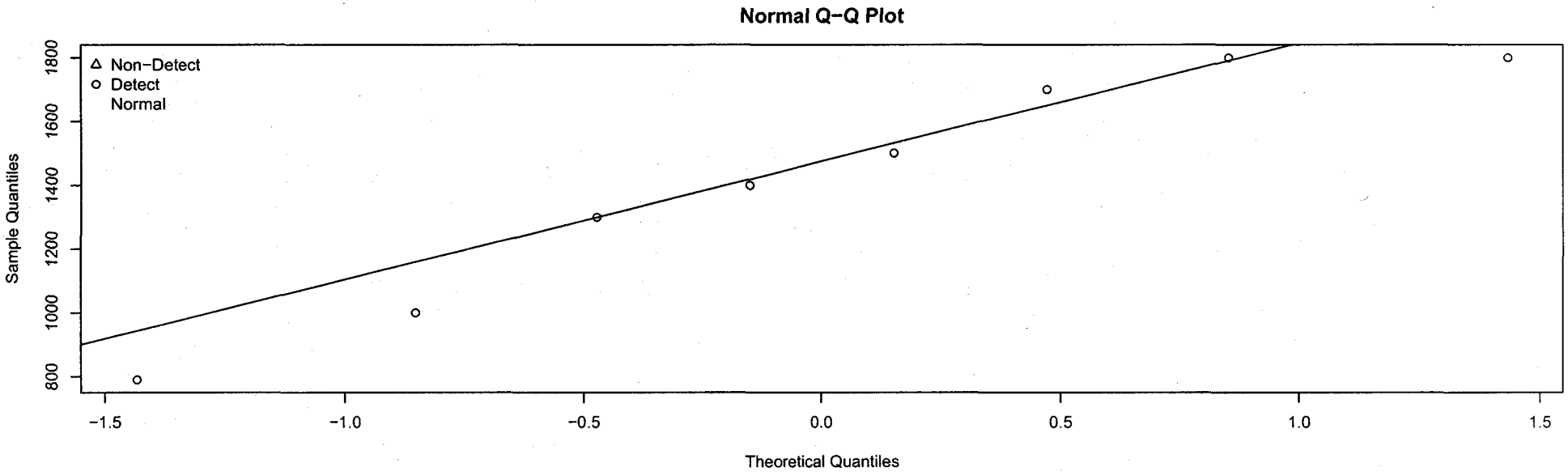


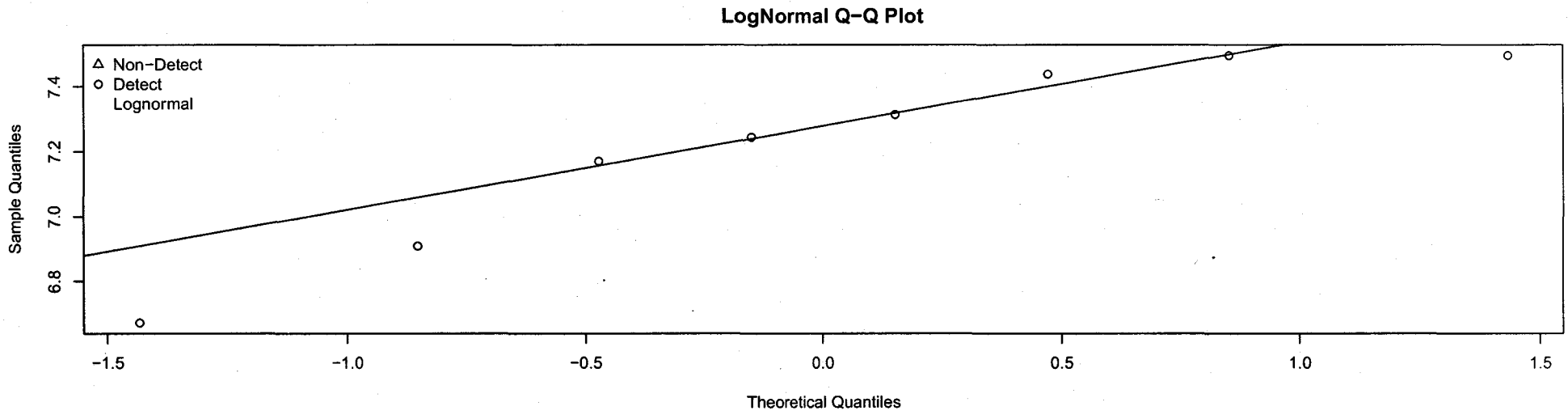
Coffins Ice Pond
Spring Sediment
BENZO(G,H,I)PERYLENE



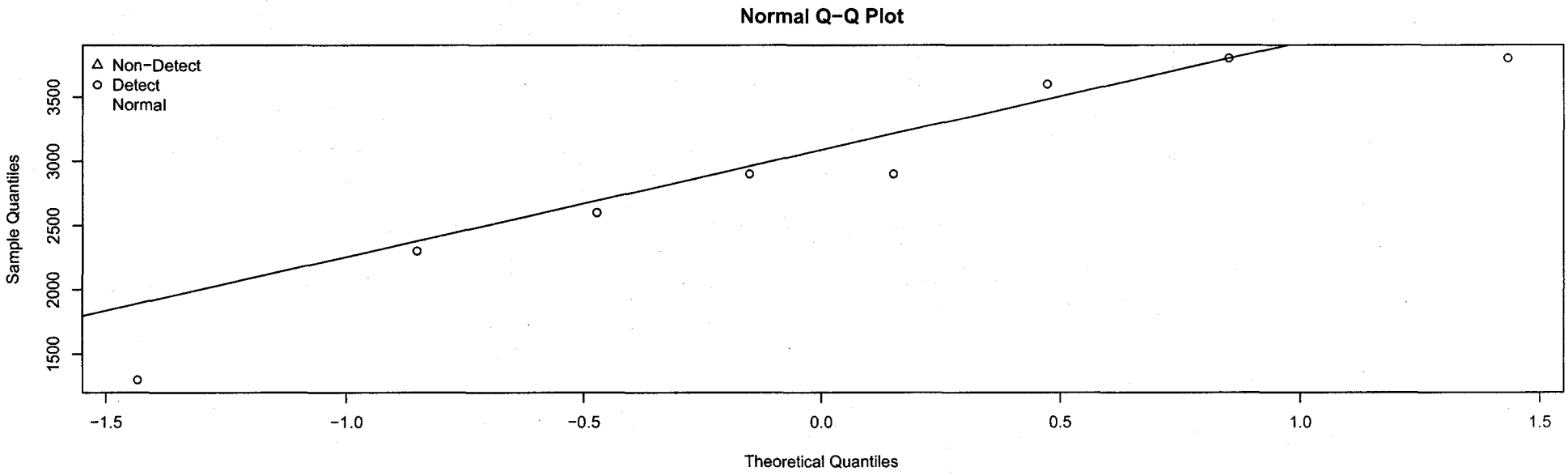


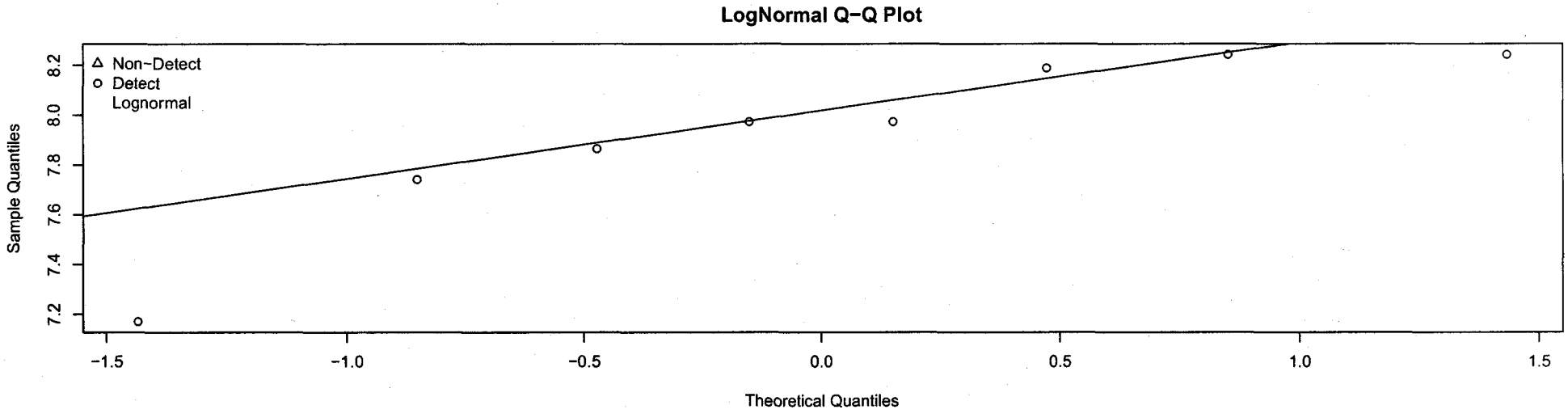
Coffins Ice Pond
Spring Sediment
BENZO(K)FLUORANTHENE



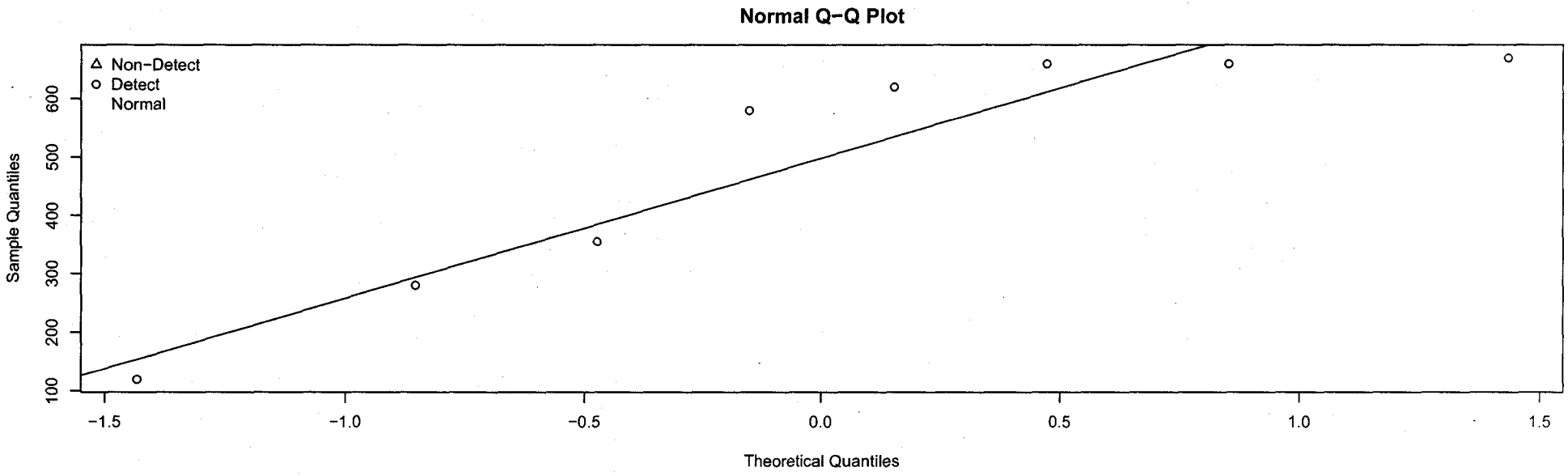


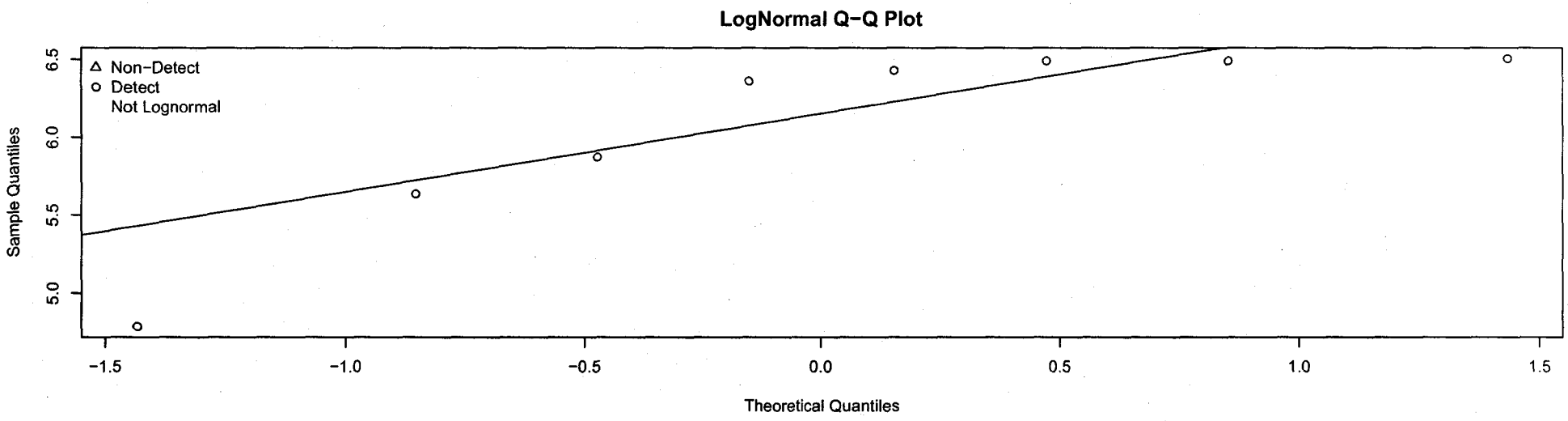
Coffins Ice Pond
Spring Sediment
CHRYSENE



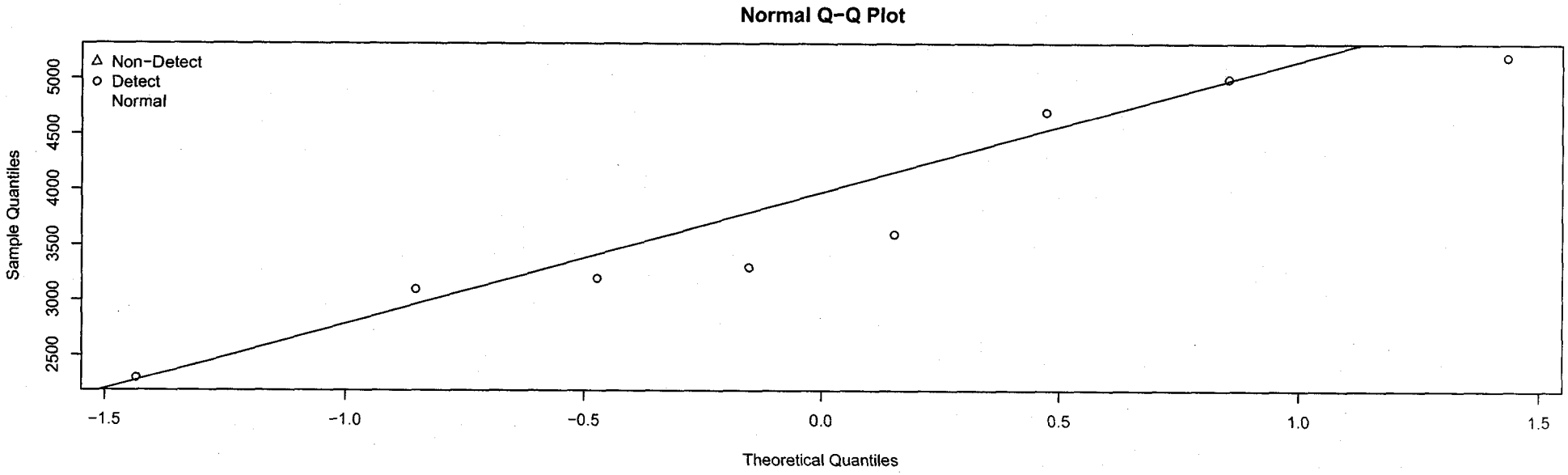


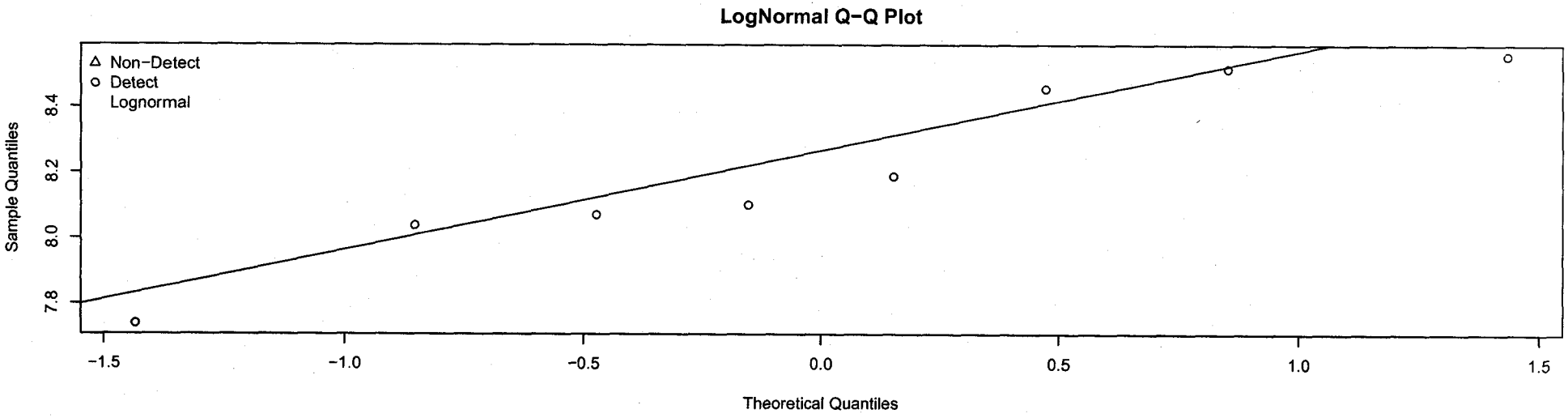
Coffins Ice Pond
Spring Sediment
DIBENZO(A,H)ANTHRACENE



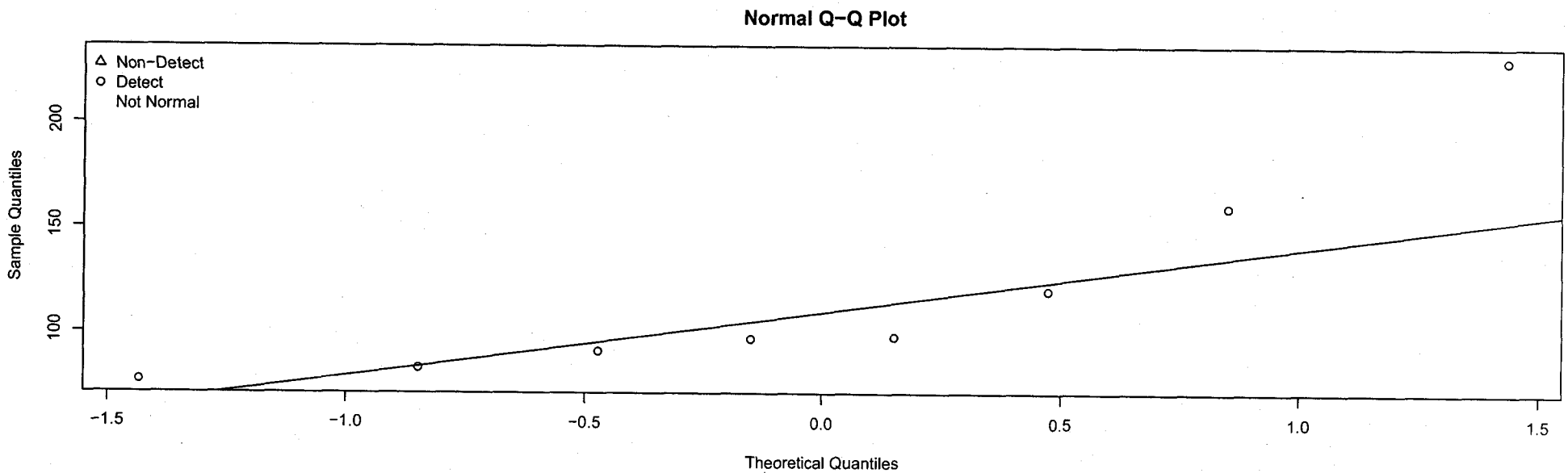


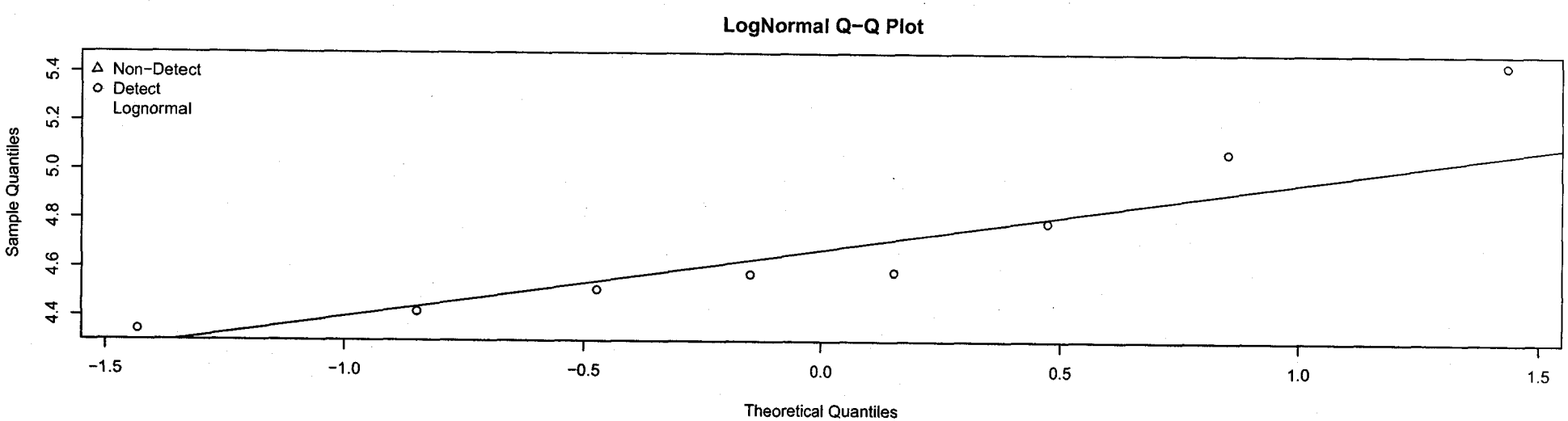
Coffins Ice Pond
Spring Sediment
FLUORANTHENE



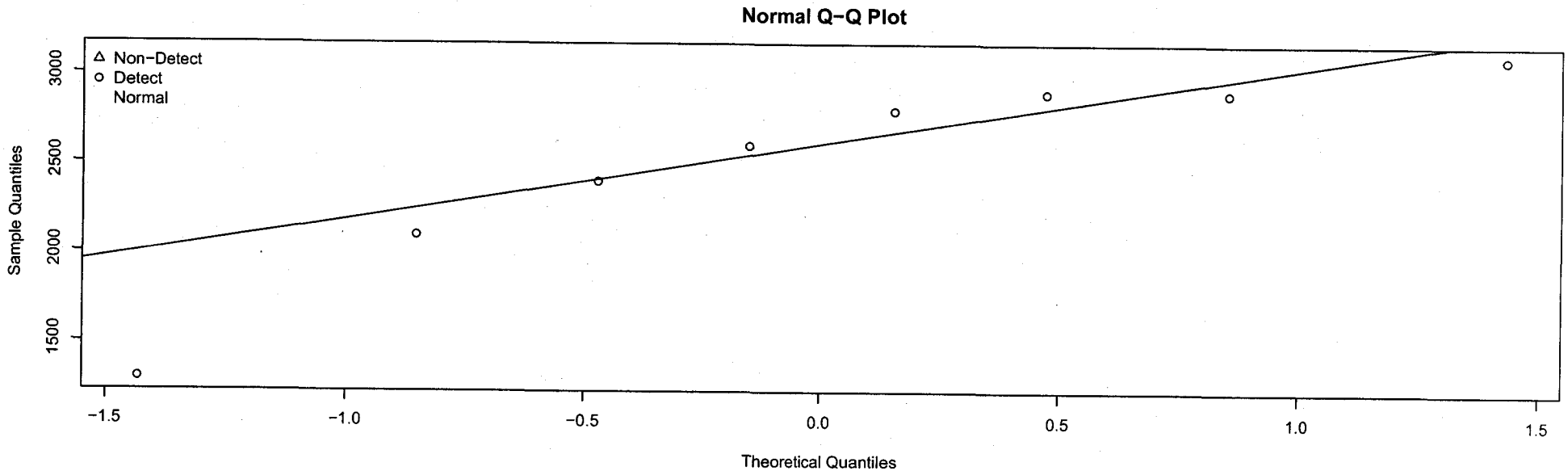


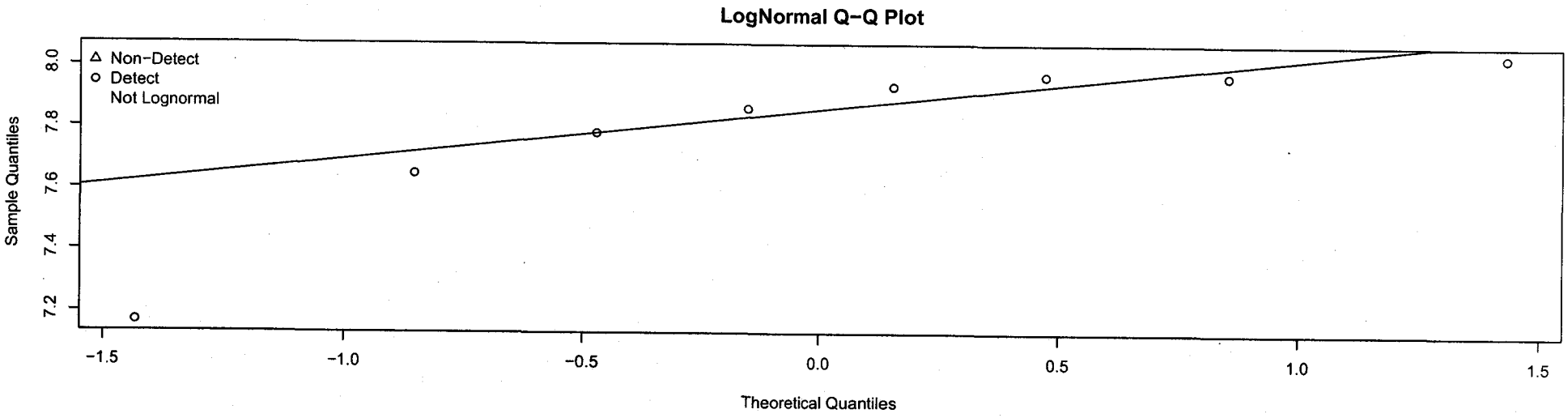
Coffins Ice Pond
Spring Sediment
FLUORENE



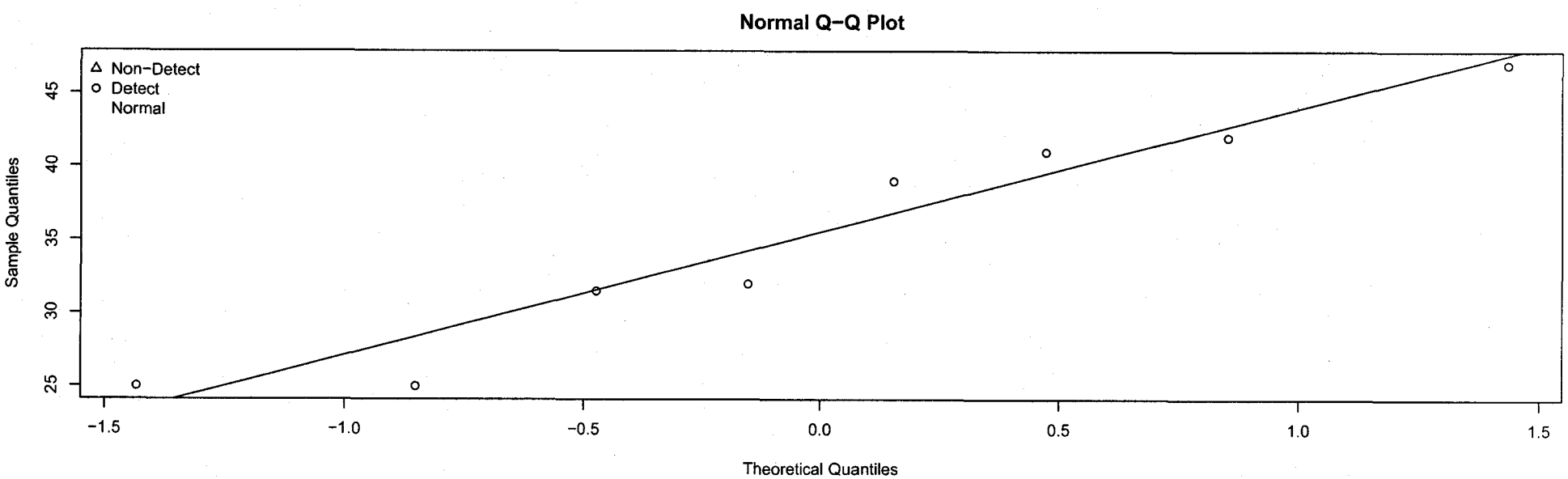


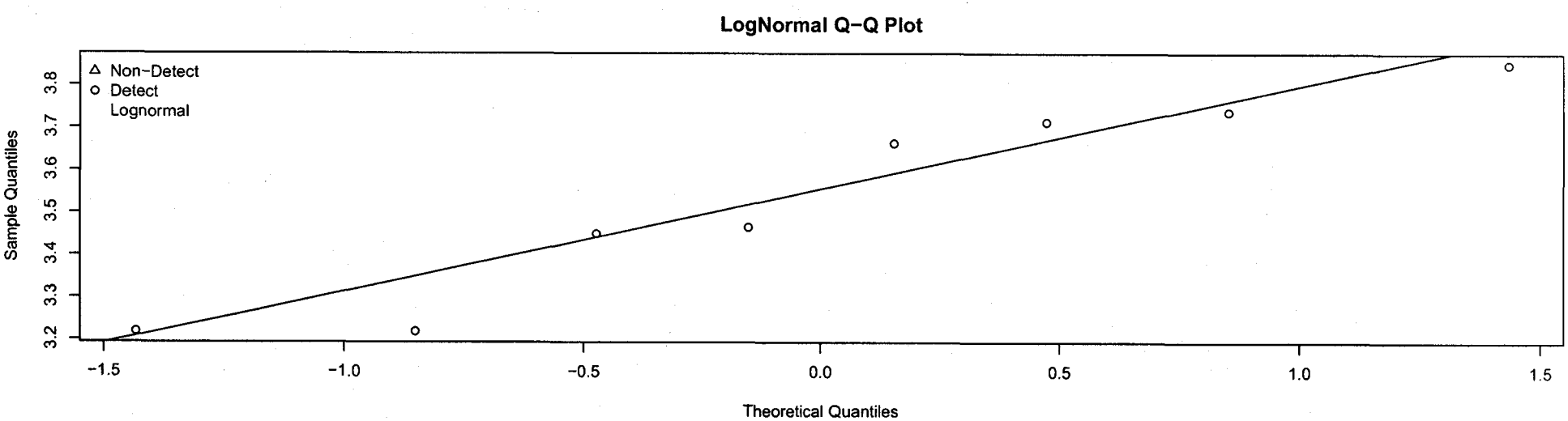
Coffins Ice Pond
Spring Sediment
INDENO(1,2,3-CD)PYRENE



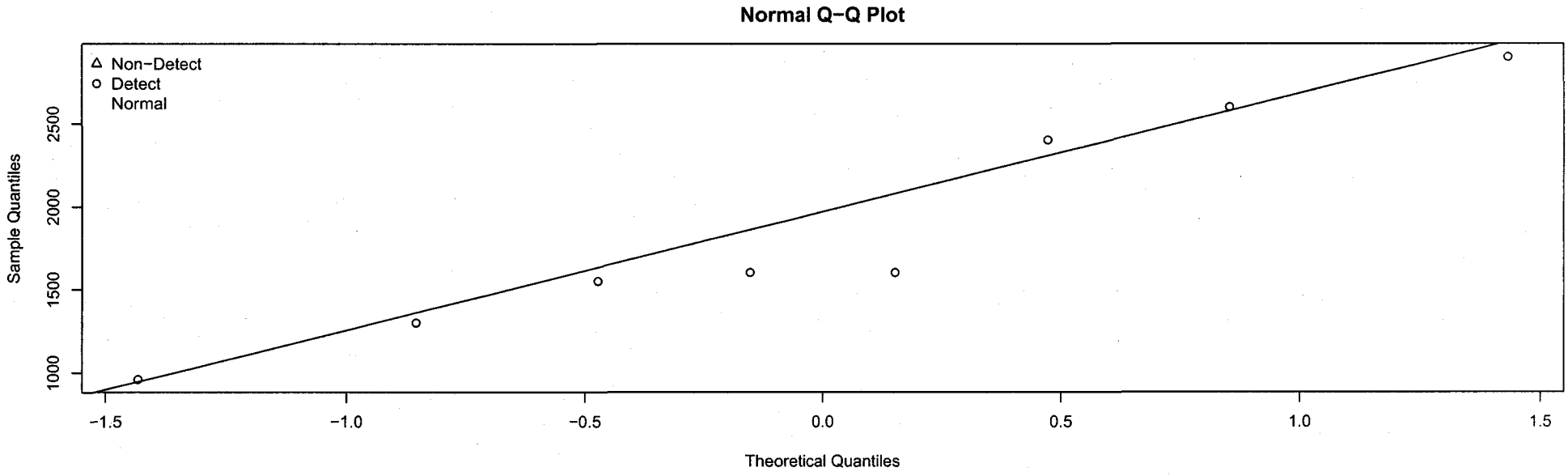


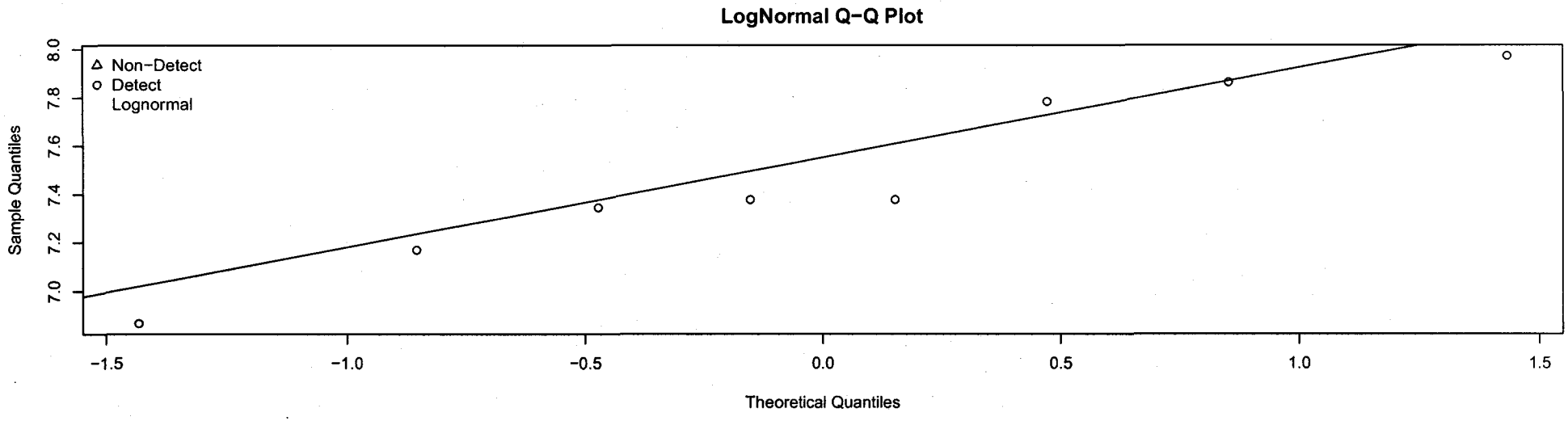
Coffins Ice Pond
Spring Sediment
NAPHTHALENE



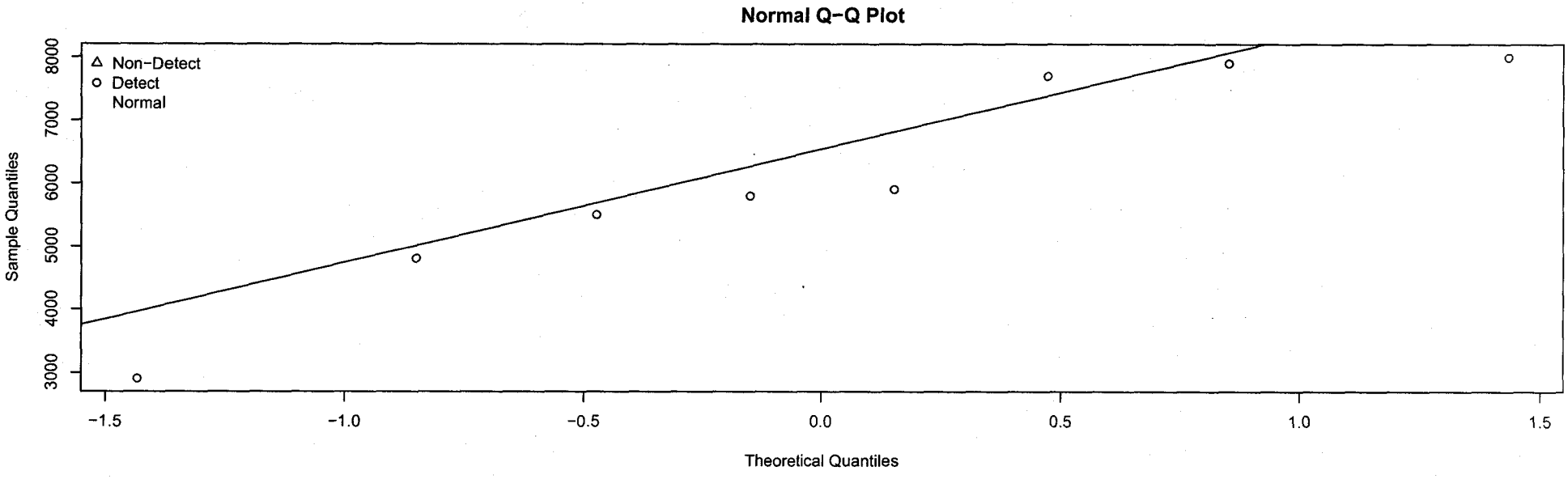


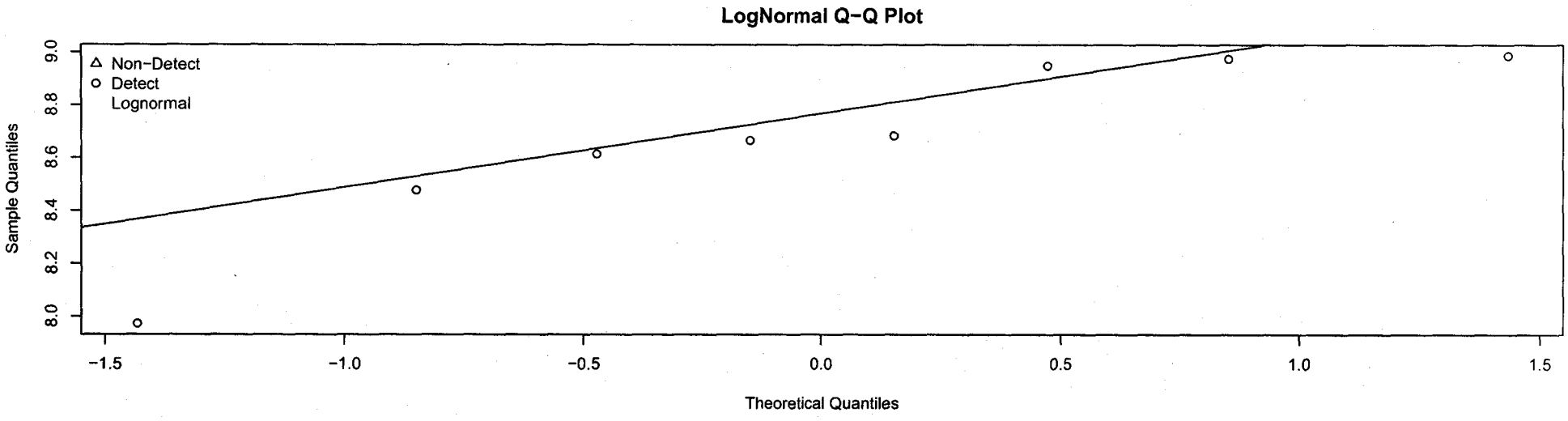
Coffins Ice Pond
Spring Sediment
PHENANTHRENE



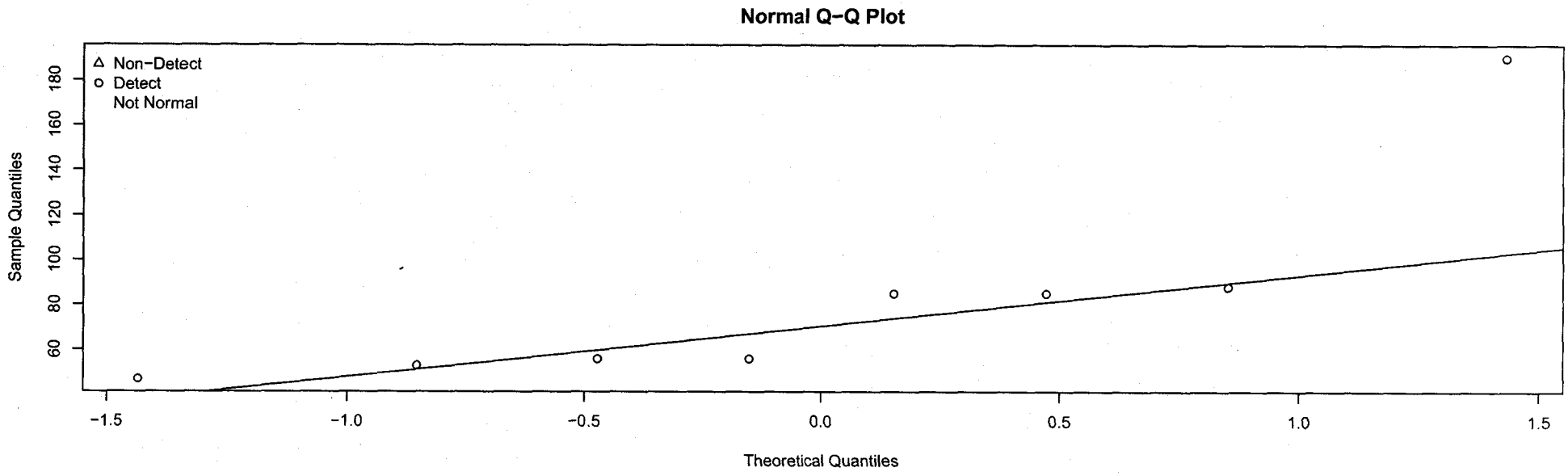


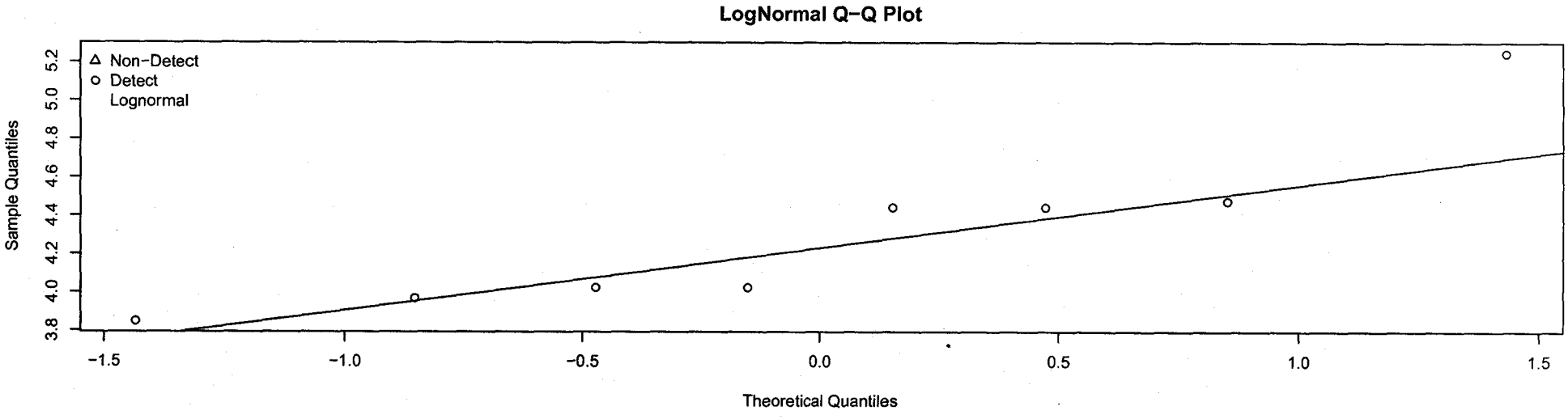
Coffins Ice Pond
Spring Sediment
PYRENE



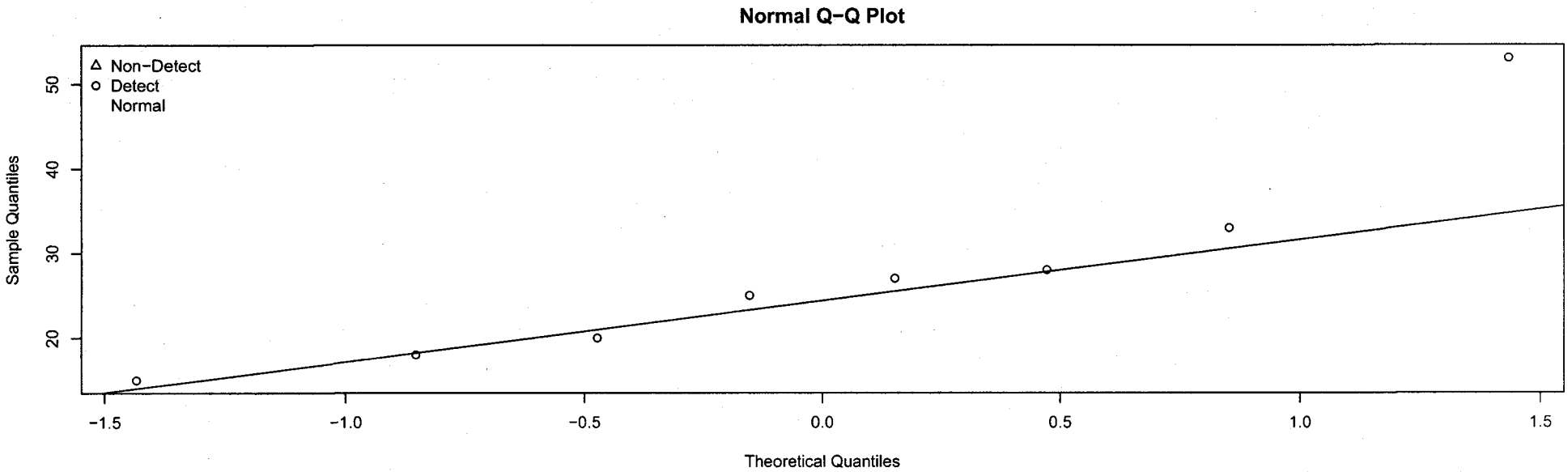


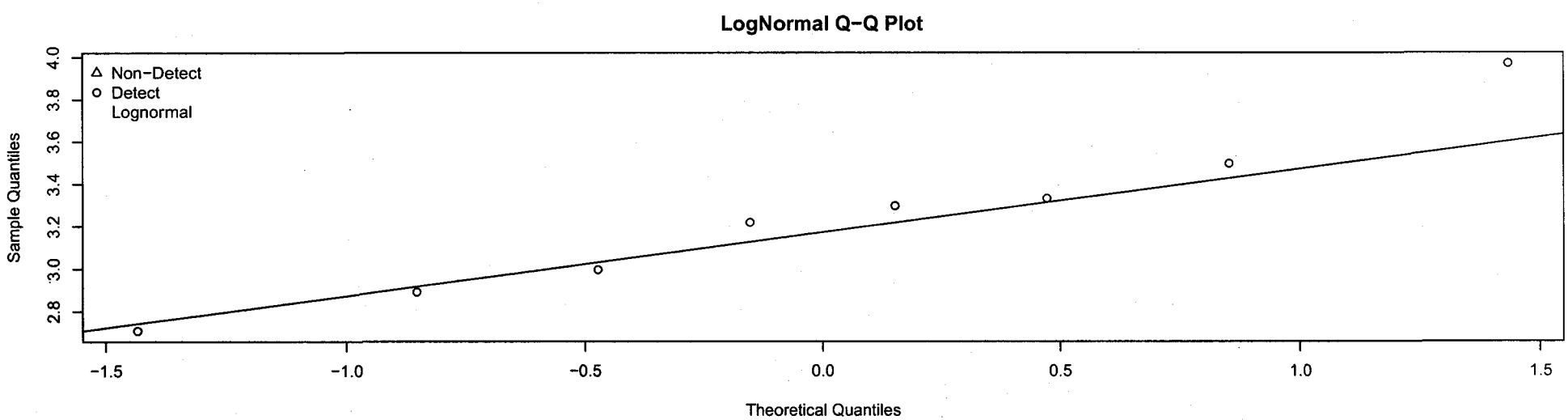
Coffins Ice Pond
Spring Sediment
4,4'-DDD



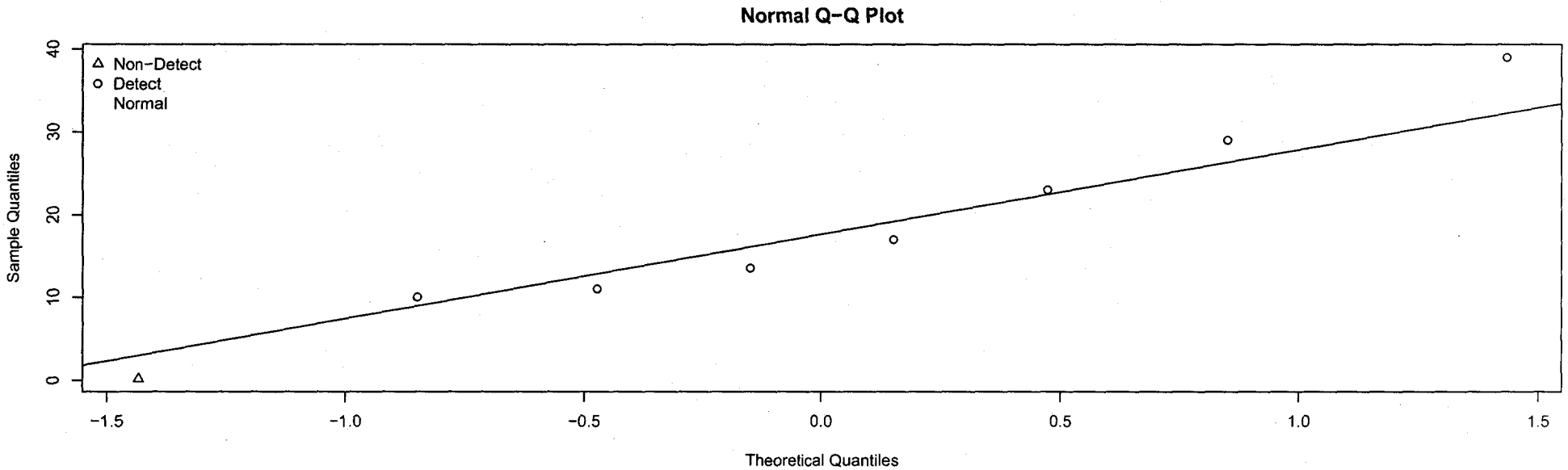


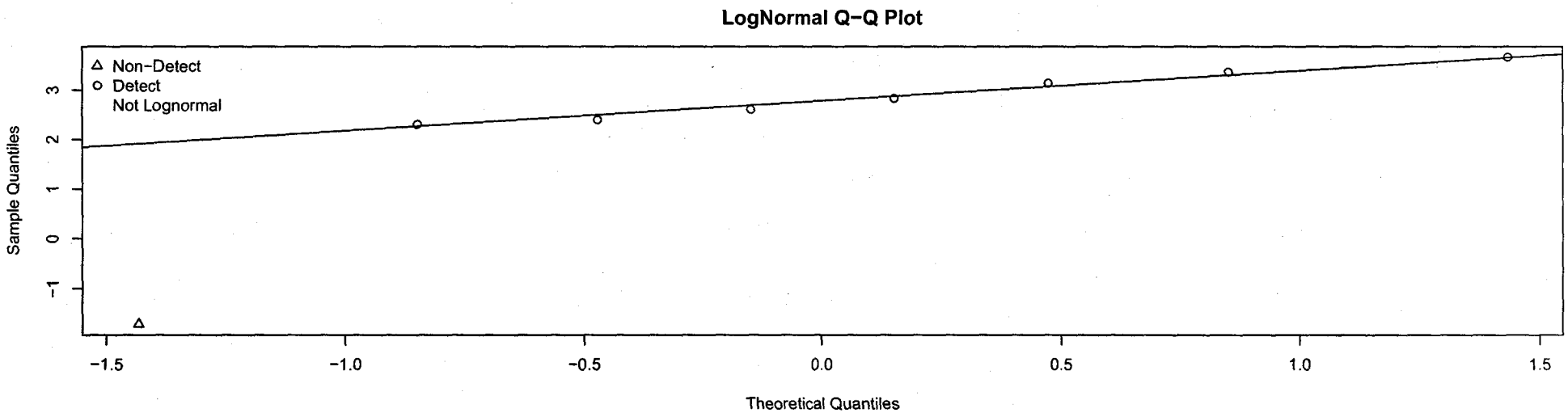
Coffins Ice Pond
Spring Sediment
4,4'-DDE



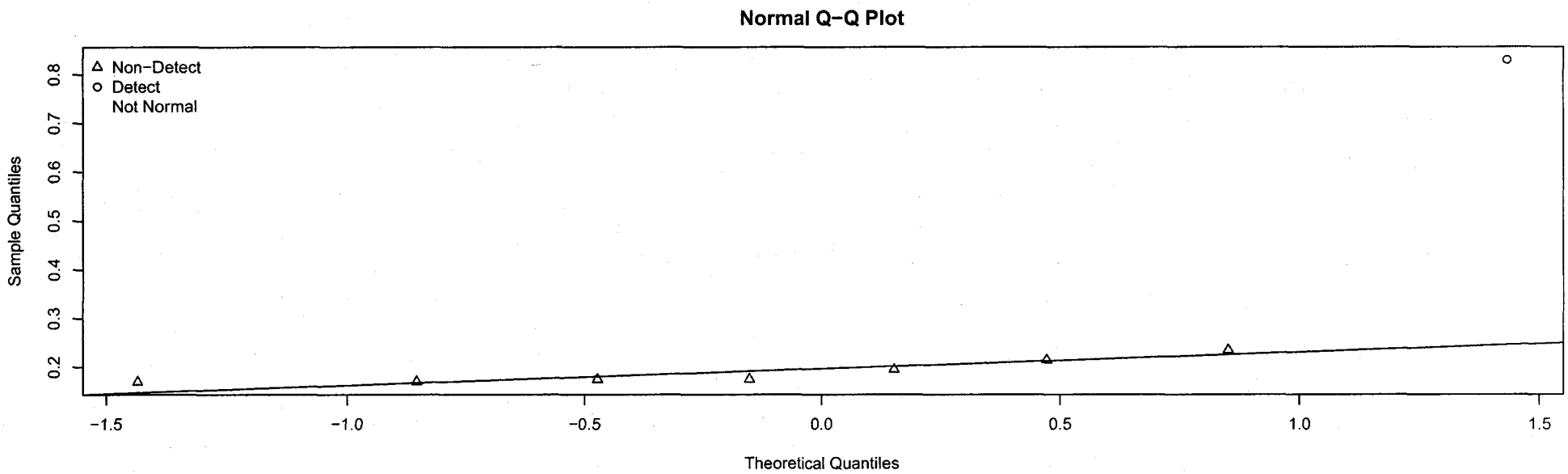


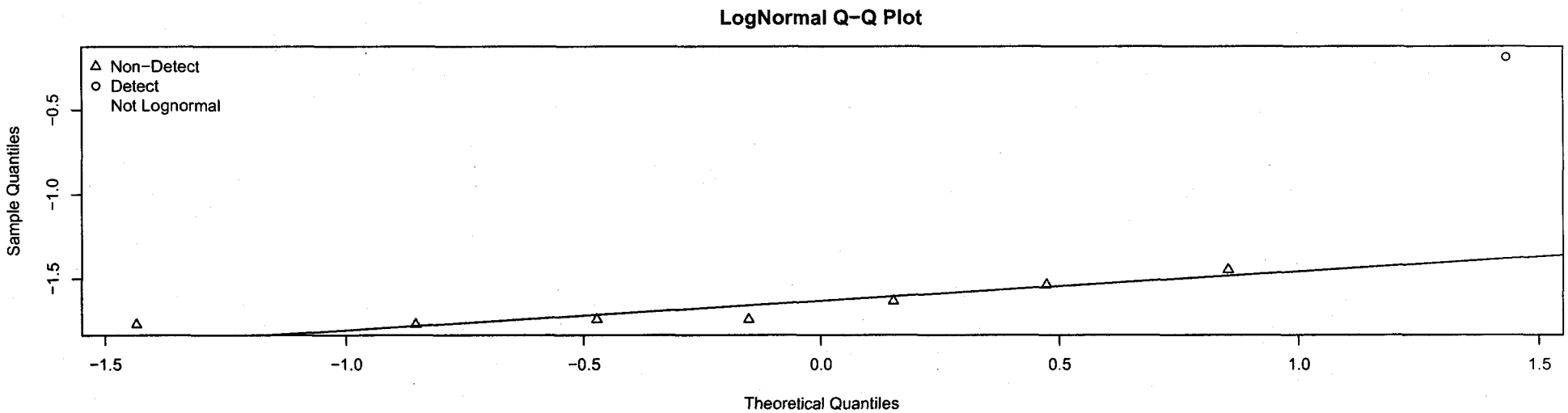
Coffins Ice Pond
Spring Sediment
4,4'-DDT



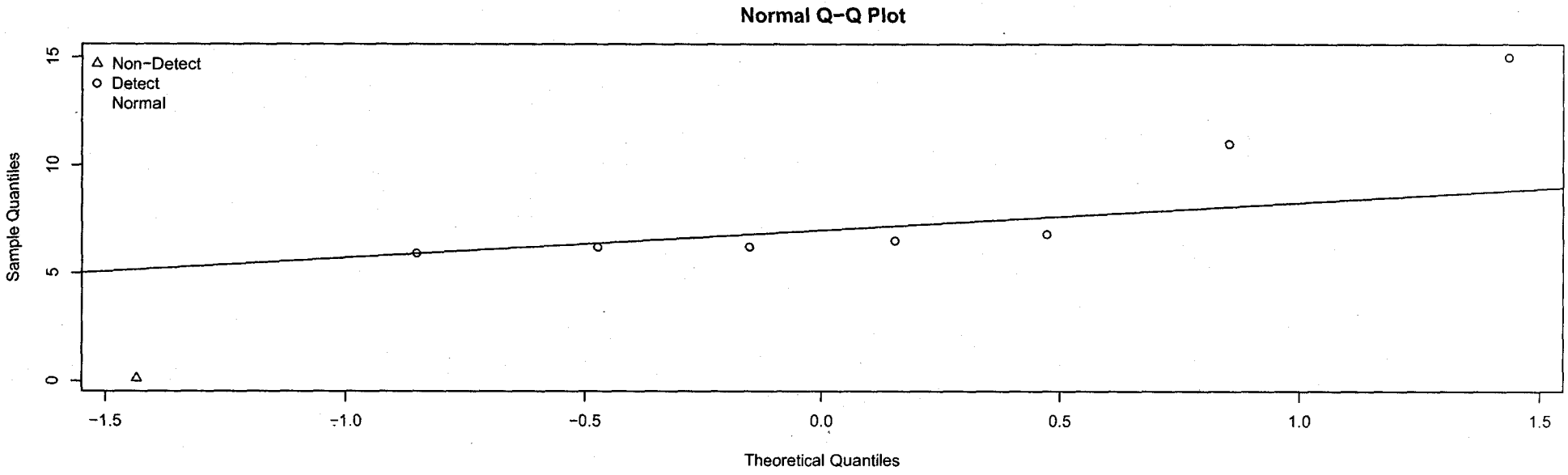


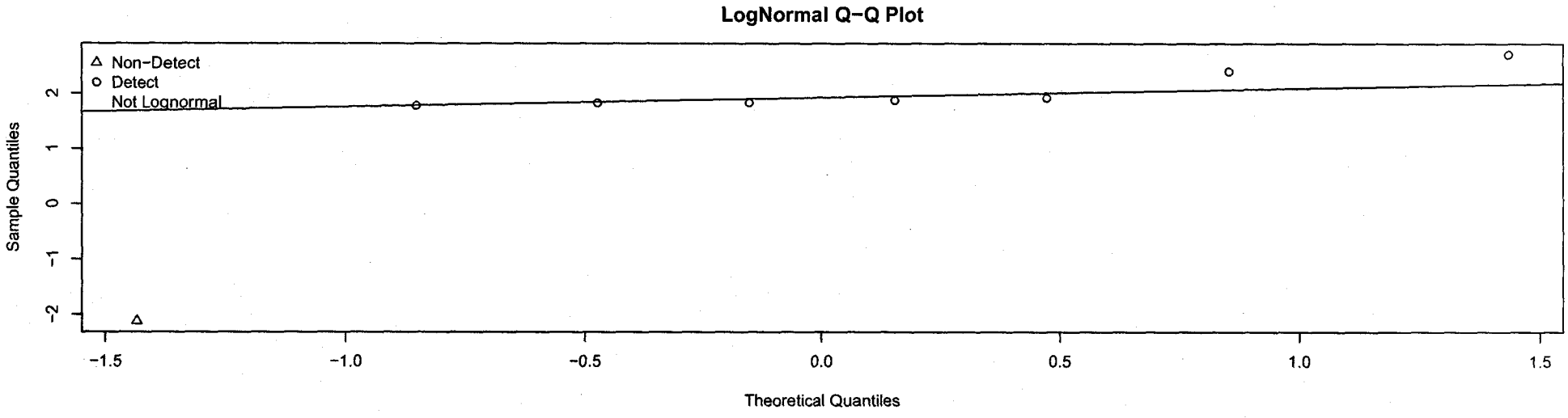
Coffins Ice Pond
Spring Sediment
ALPHA-BHC



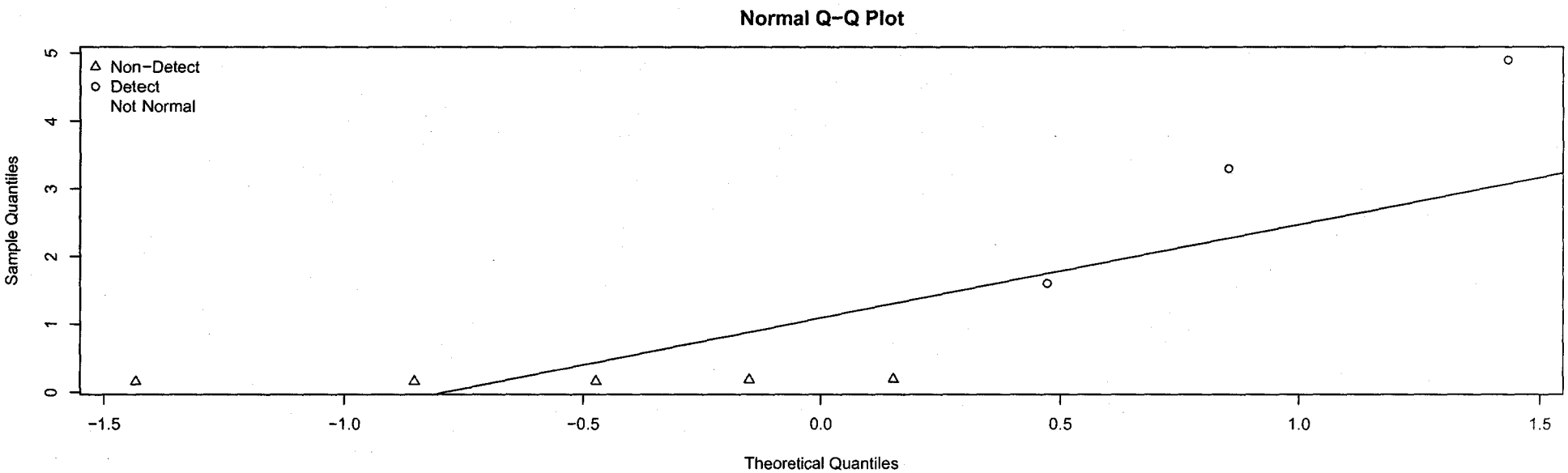


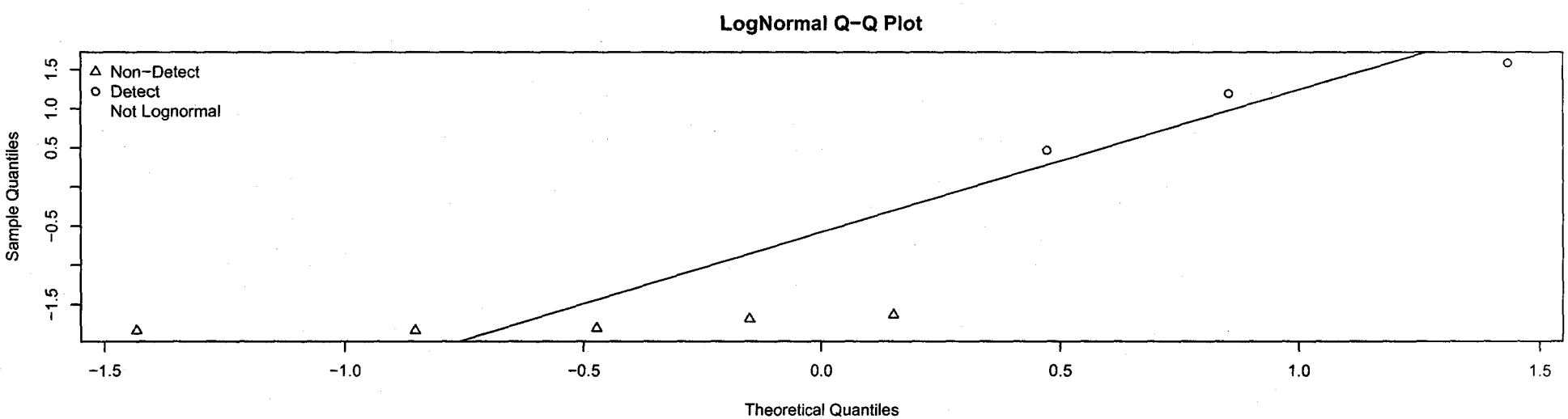
Coffins Ice Pond
Spring Sediment
ALPHA-CHLORDANE



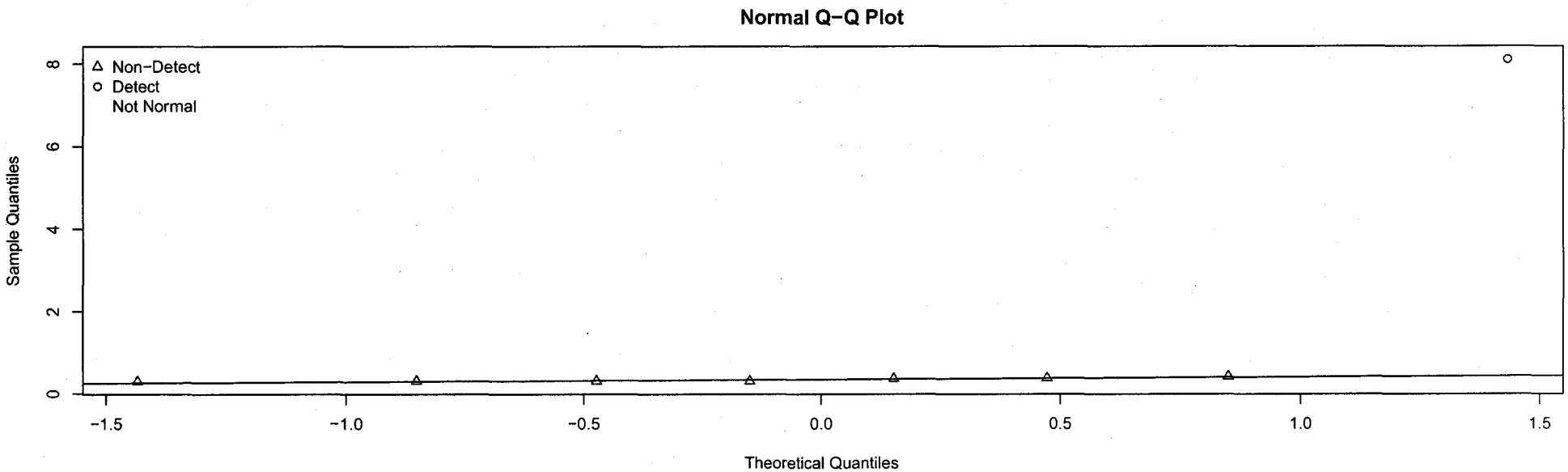


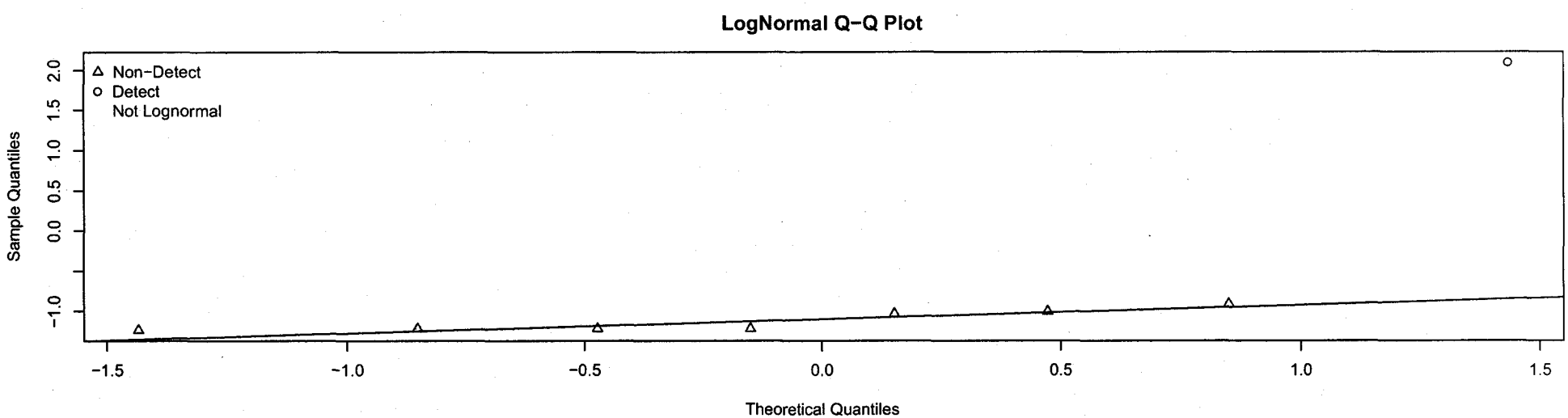
Coffins Ice Pond
Spring Sediment
DELTA-BHC



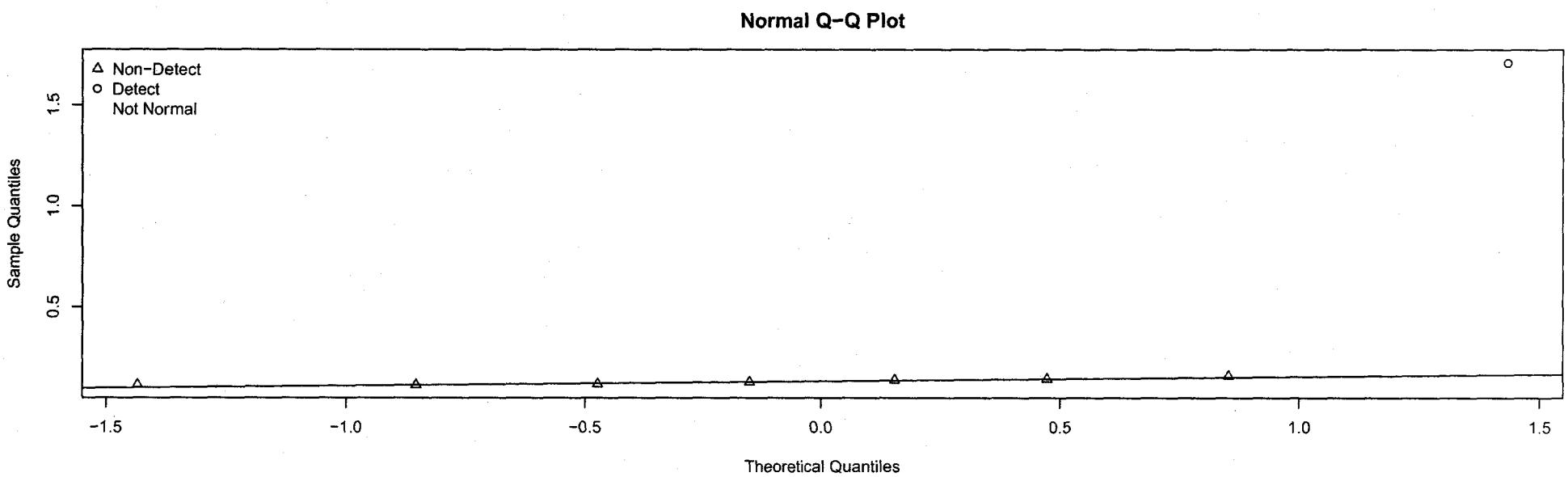


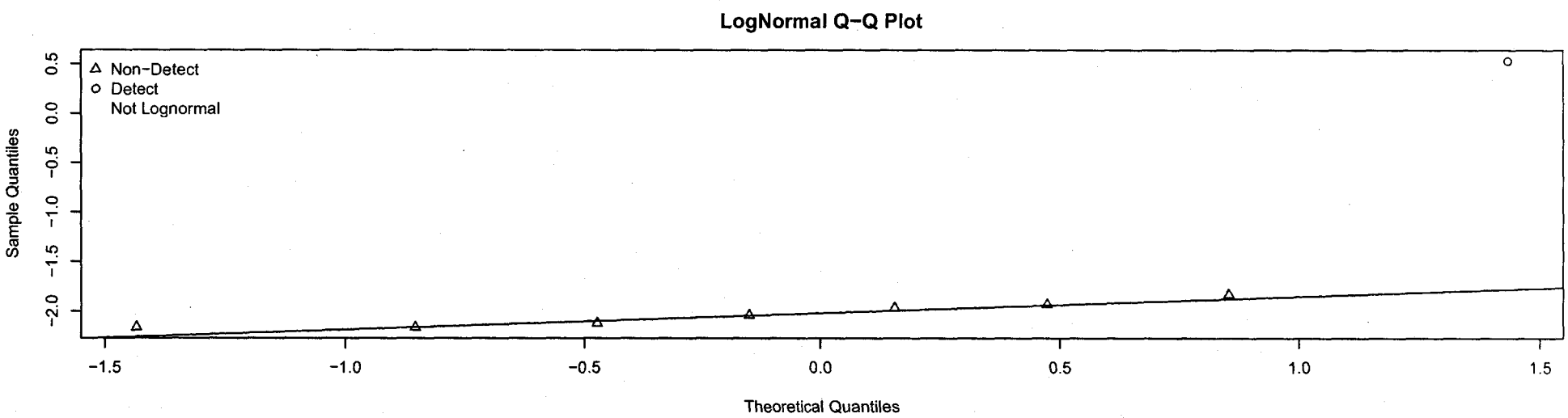
Coffins Ice Pond
Spring Sediment
ENDOSULFAN SULFATE



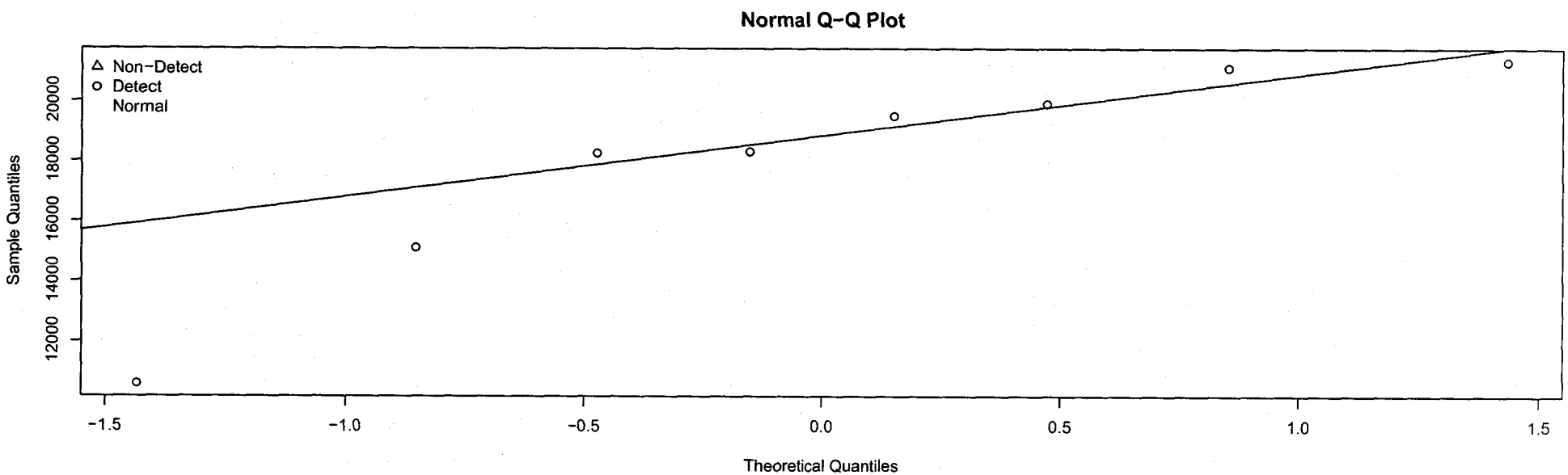


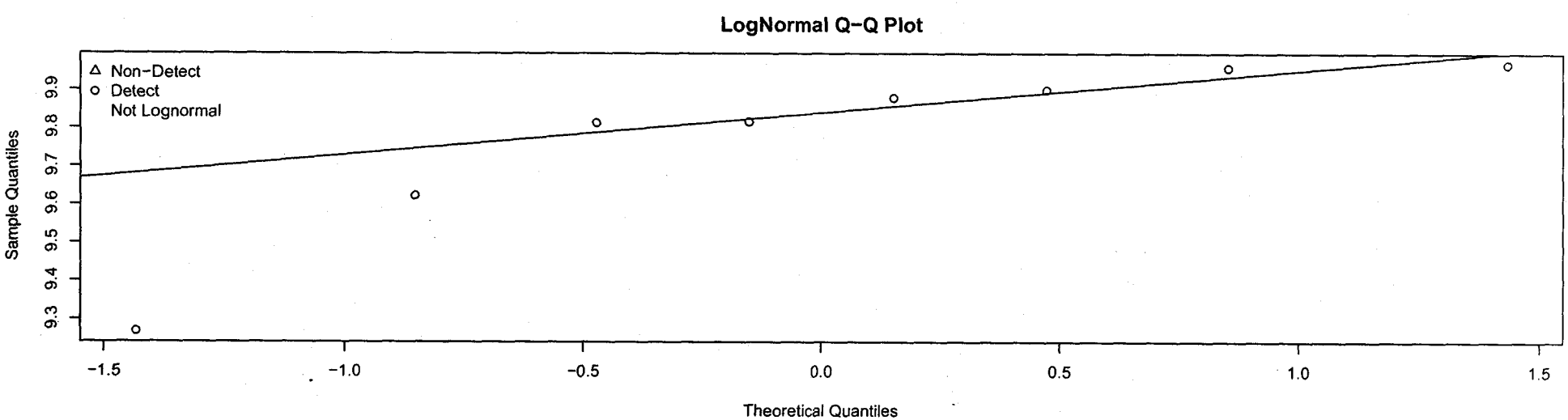
Coffins Ice Pond
Spring Sediment
GAMMA-CHLORDANE



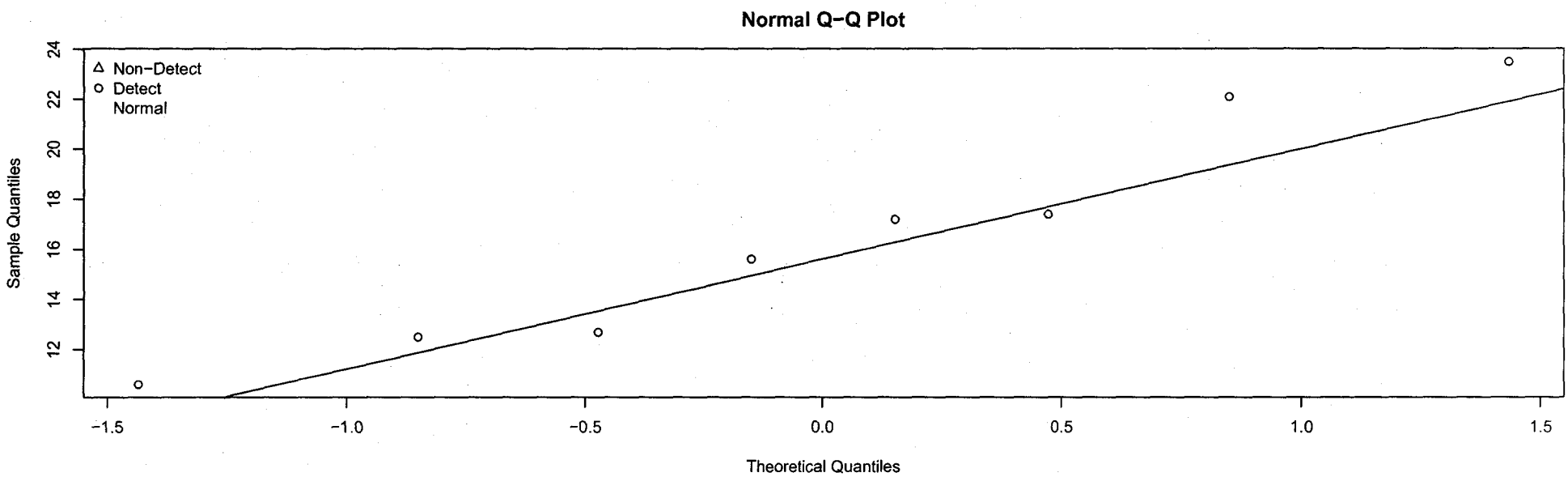


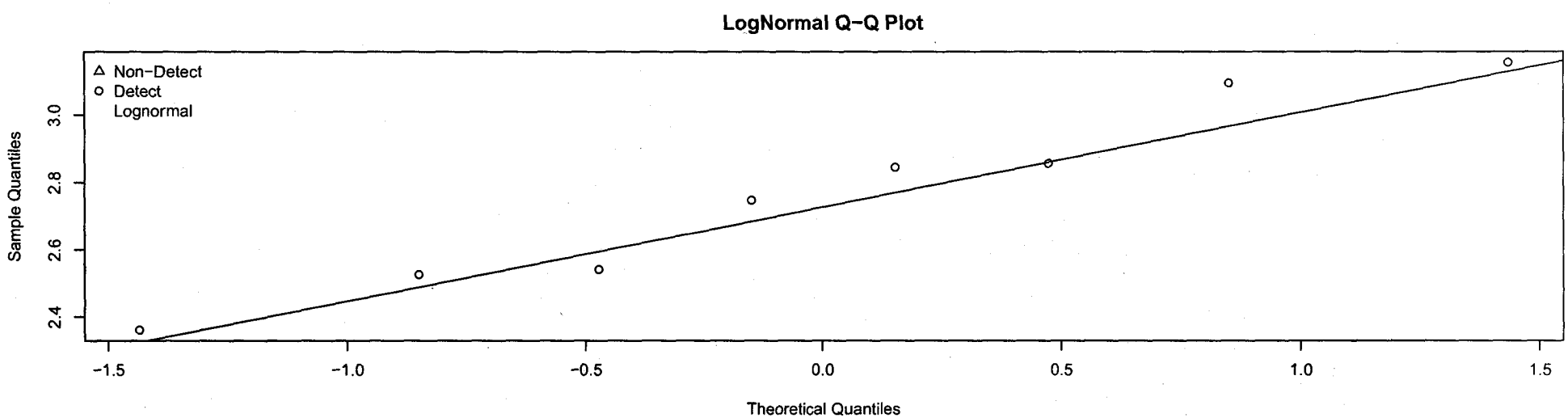
Coffins Ice Pond
Spring Sediment
ALUMINUM



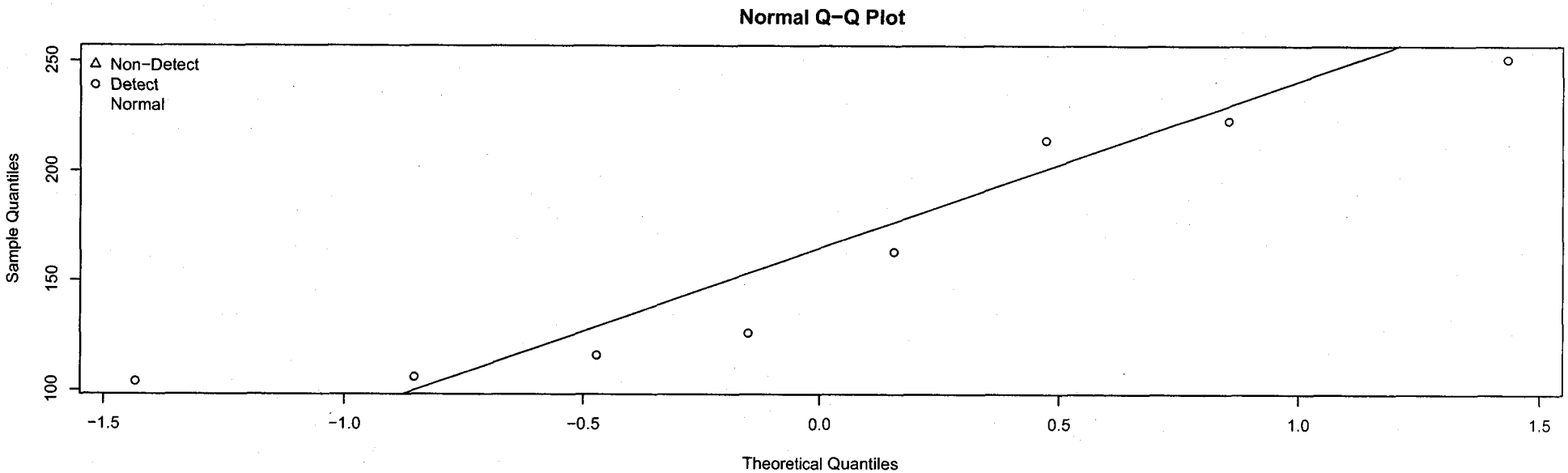


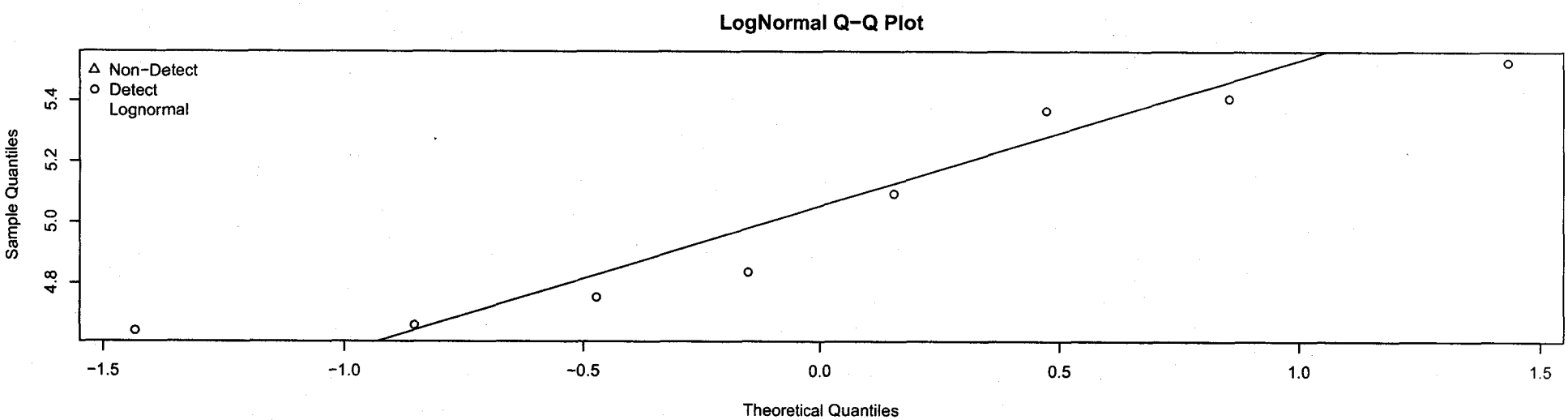
Coffins Ice Pond
Spring Sediment
ARSENIC



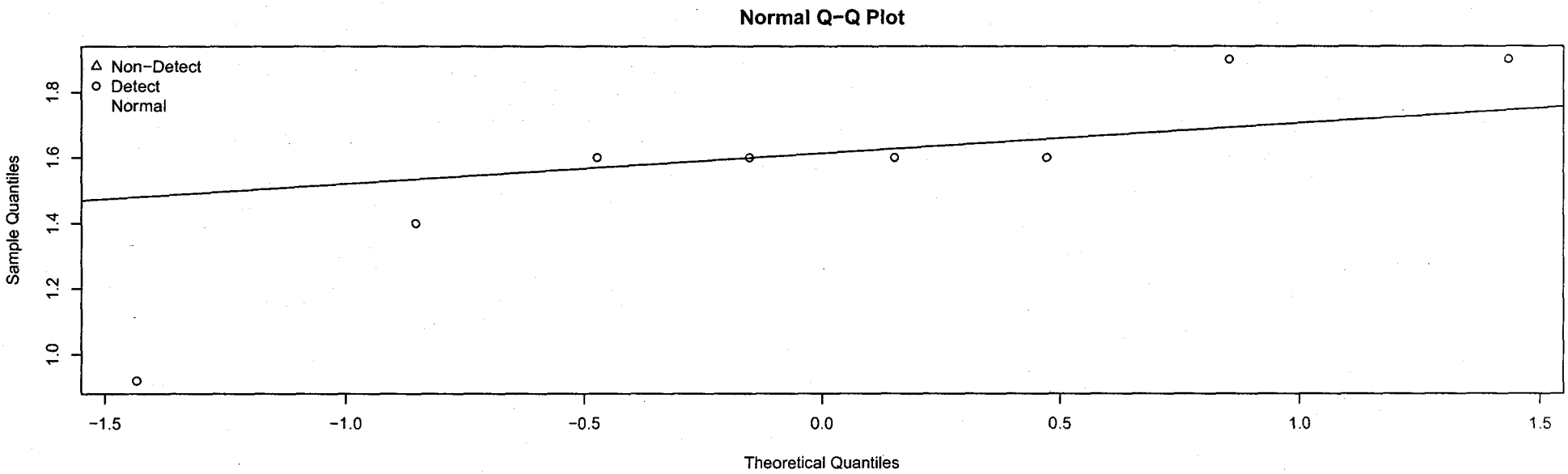


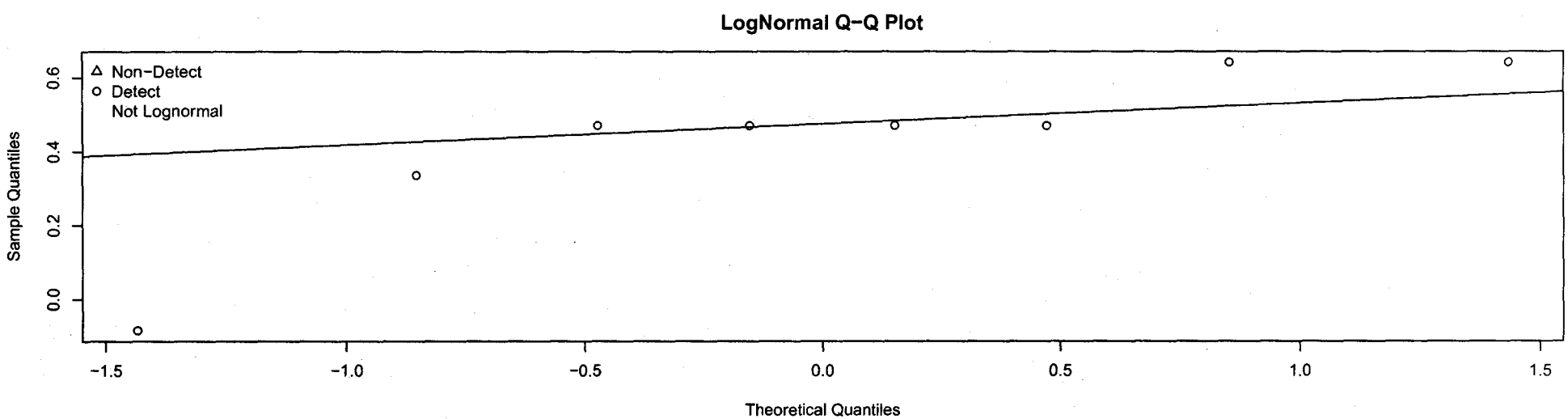
Coffins Ice Pond
Spring Sediment
BARIUM



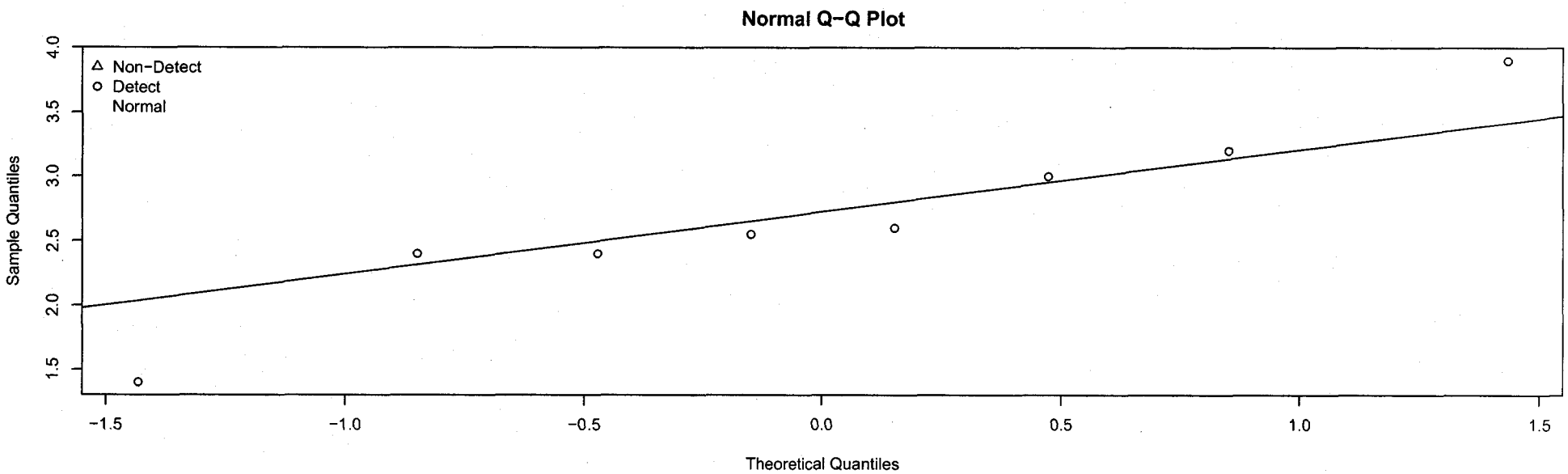


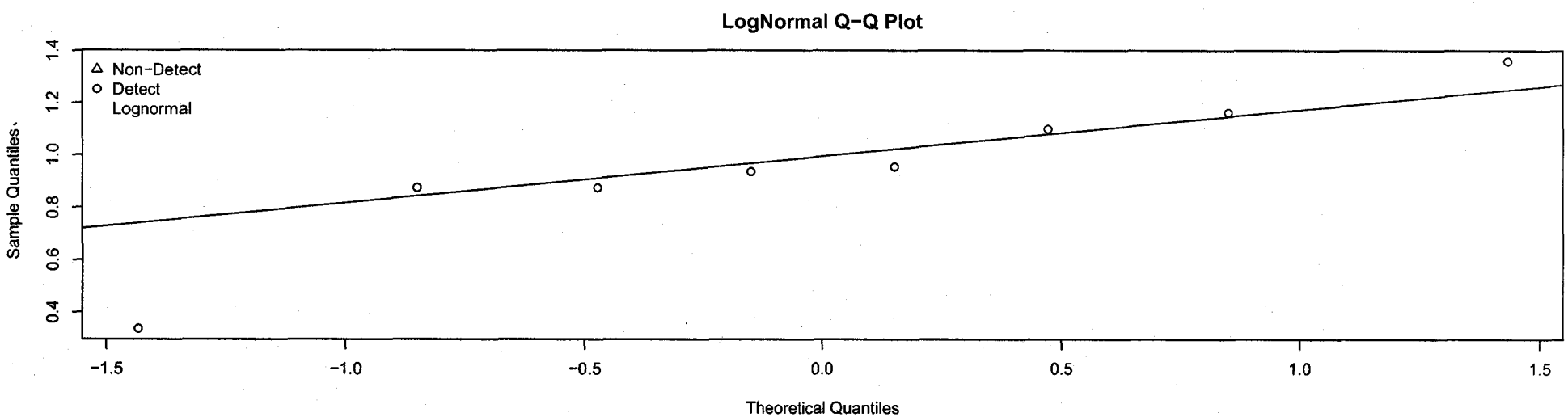
Coffins Ice Pond
Spring Sediment
BERYLLIUM



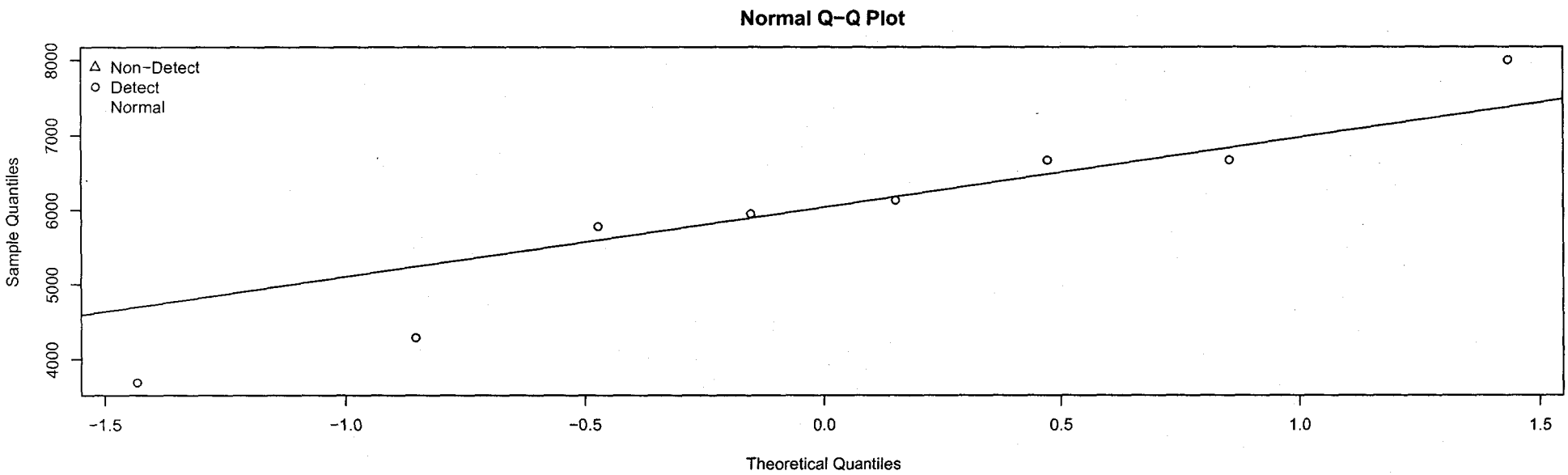


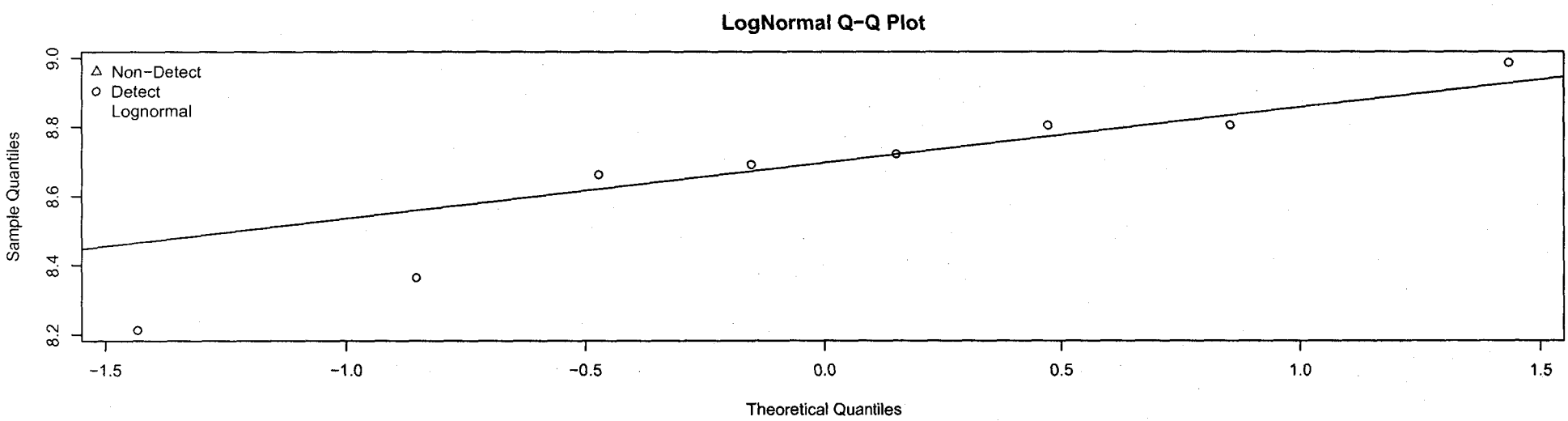
Coffins Ice Pond
Spring Sediment
CADMIUM



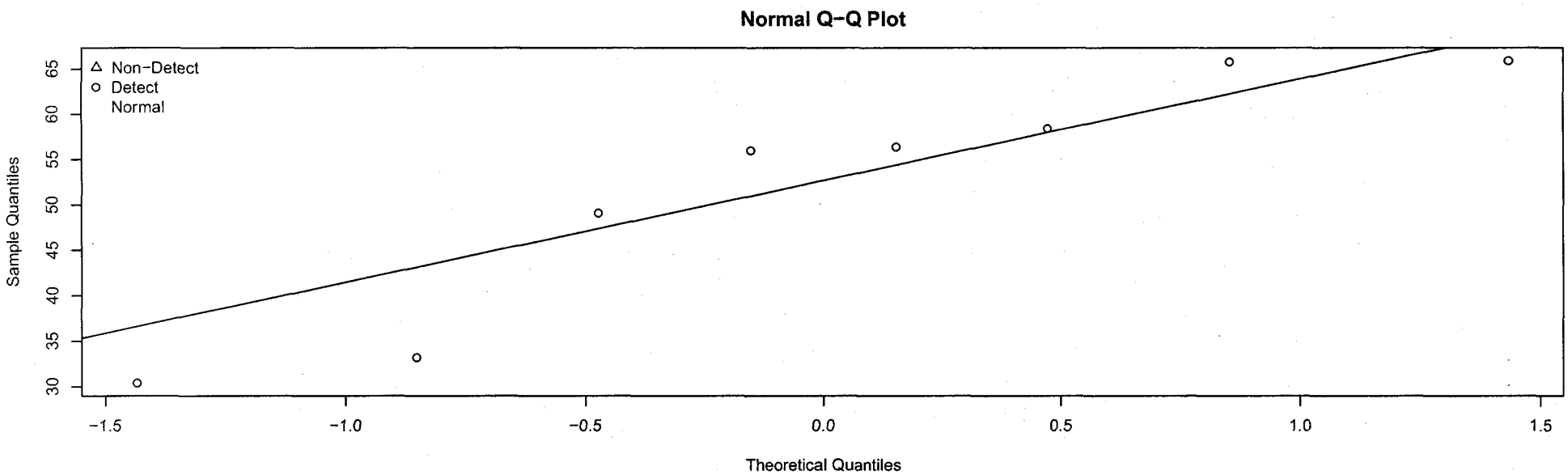


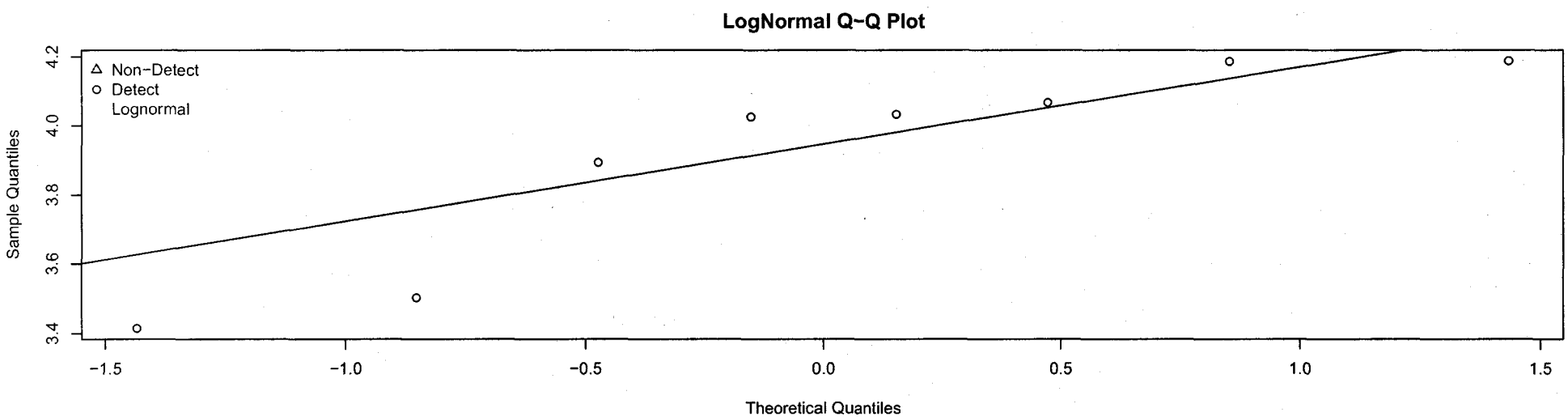
Coffins Ice Pond
Spring Sediment
CALCIUM



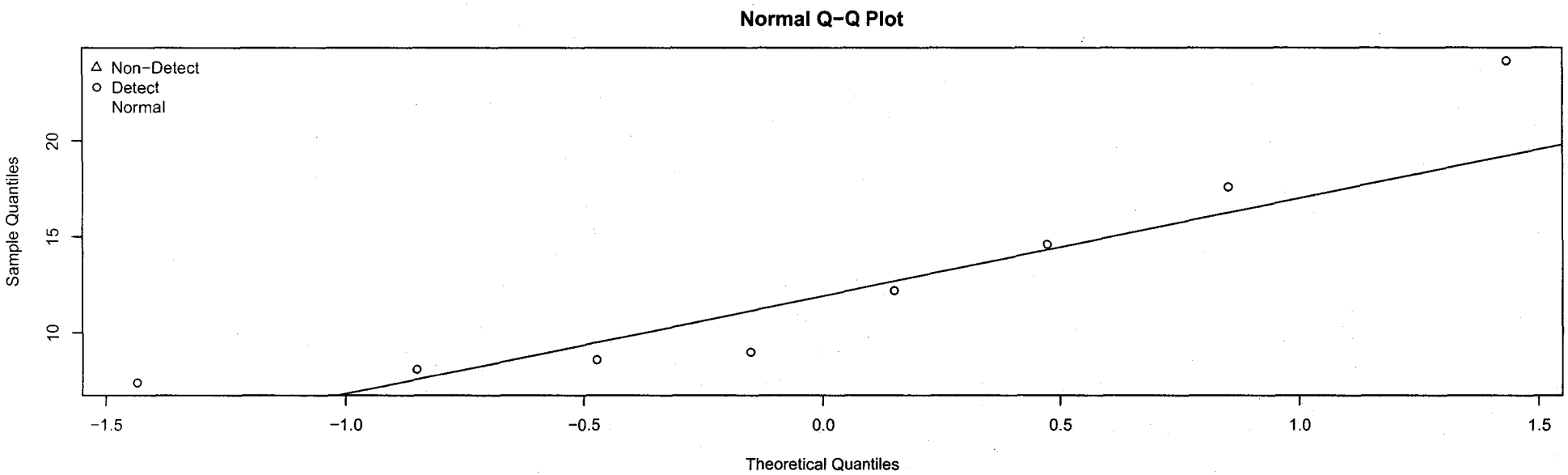


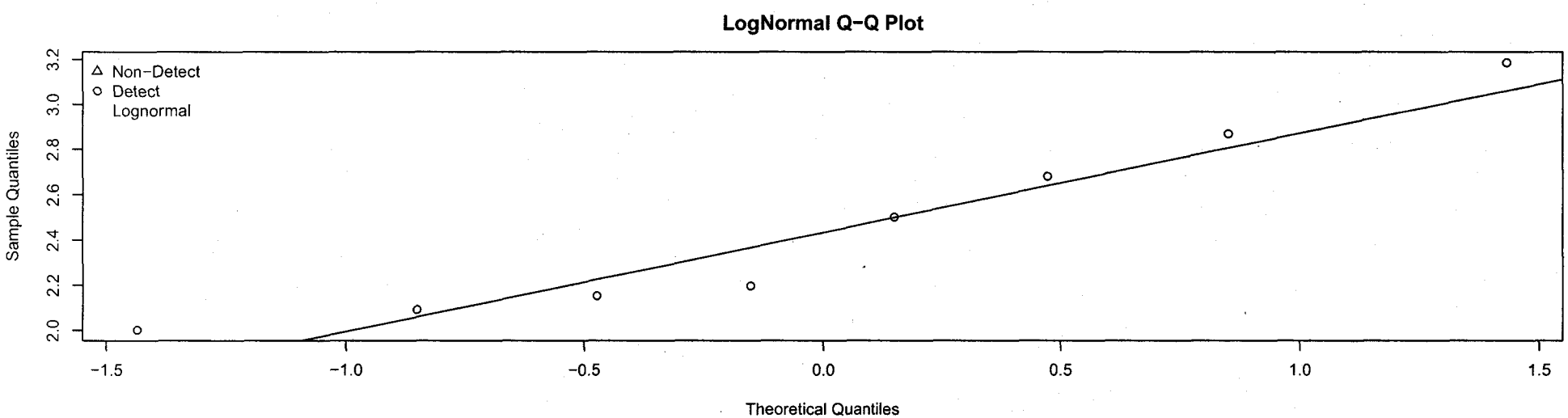
Coffins Ice Pond
Spring Sediment
CHROMIUM



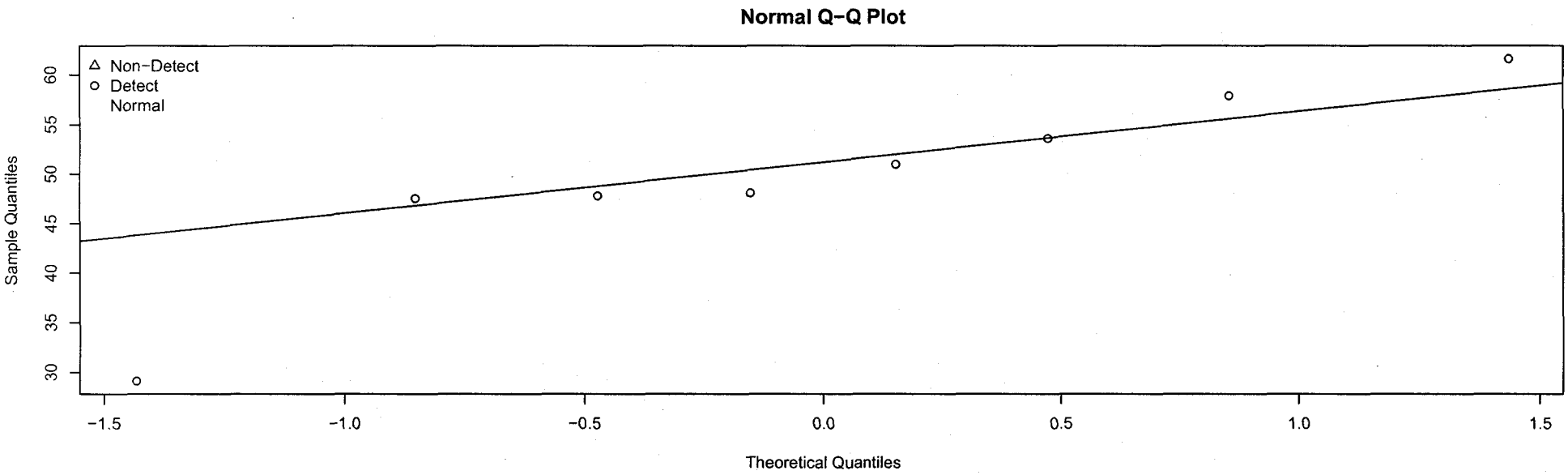


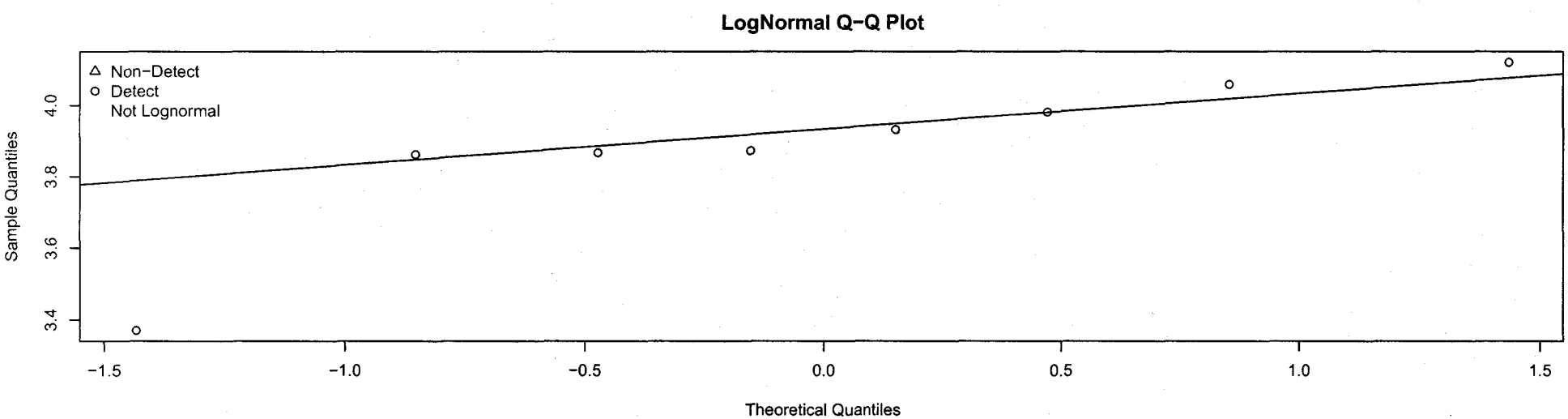
Coffins Ice Pond
Spring Sediment
COBALT



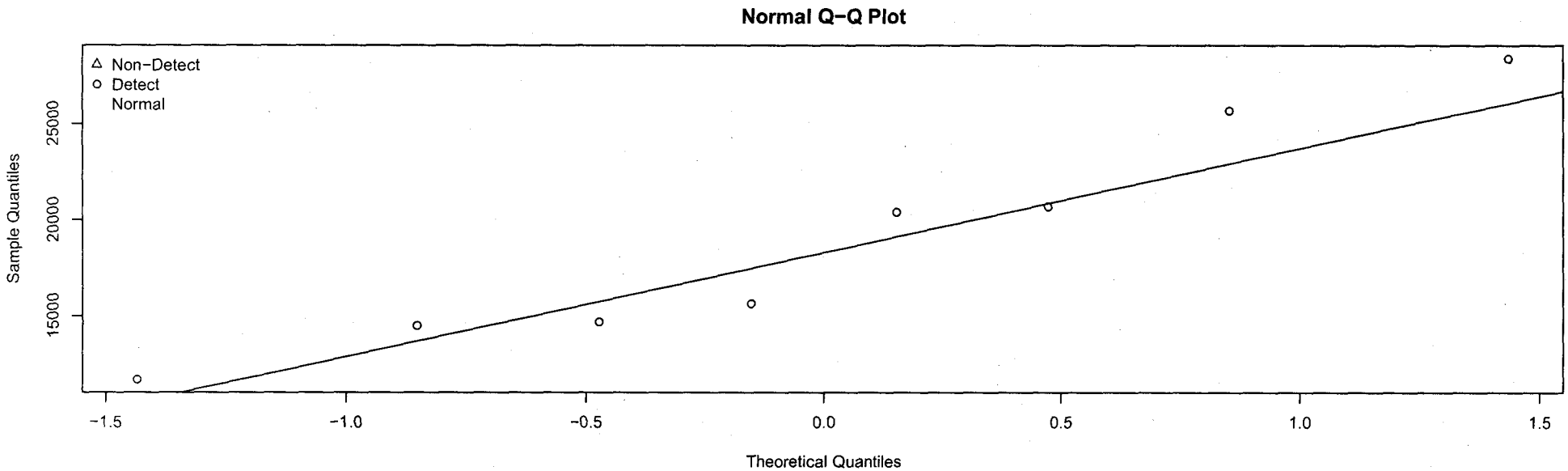


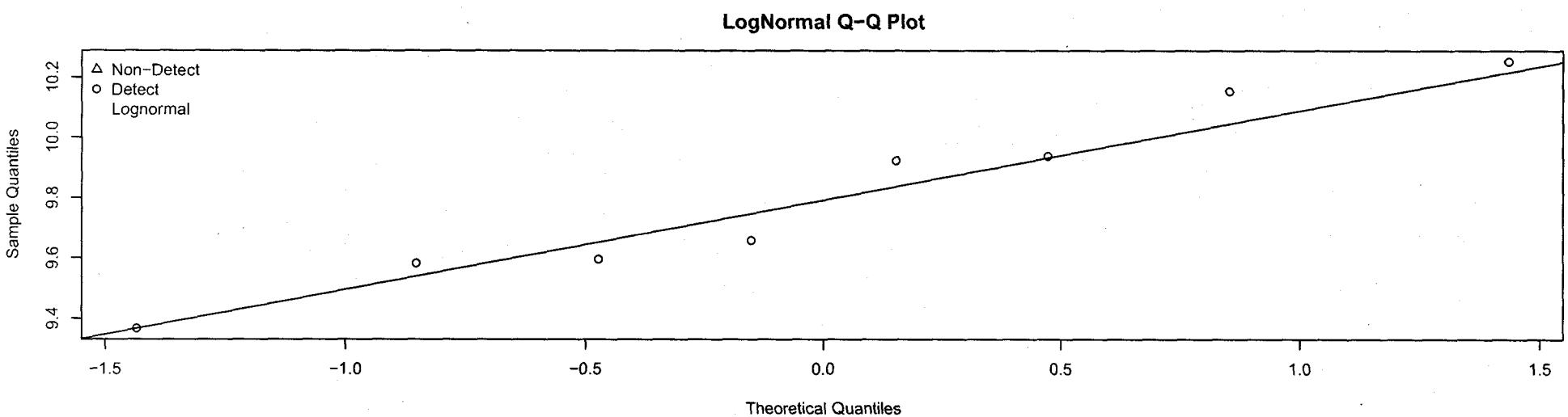
Coffins Ice Pond
Spring Sediment
COPPER



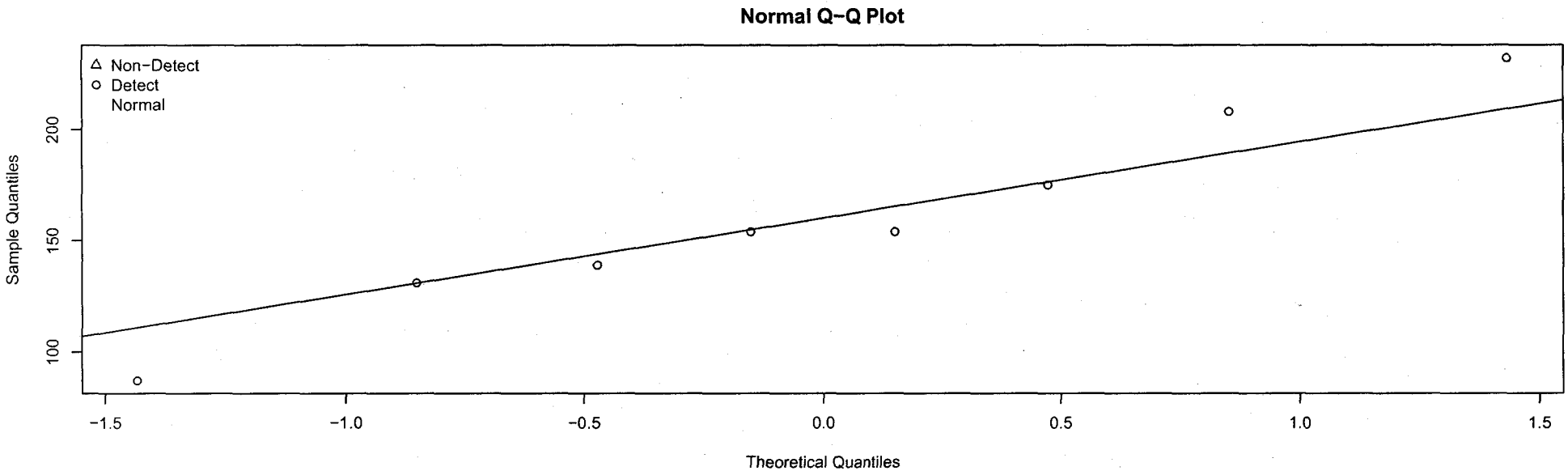


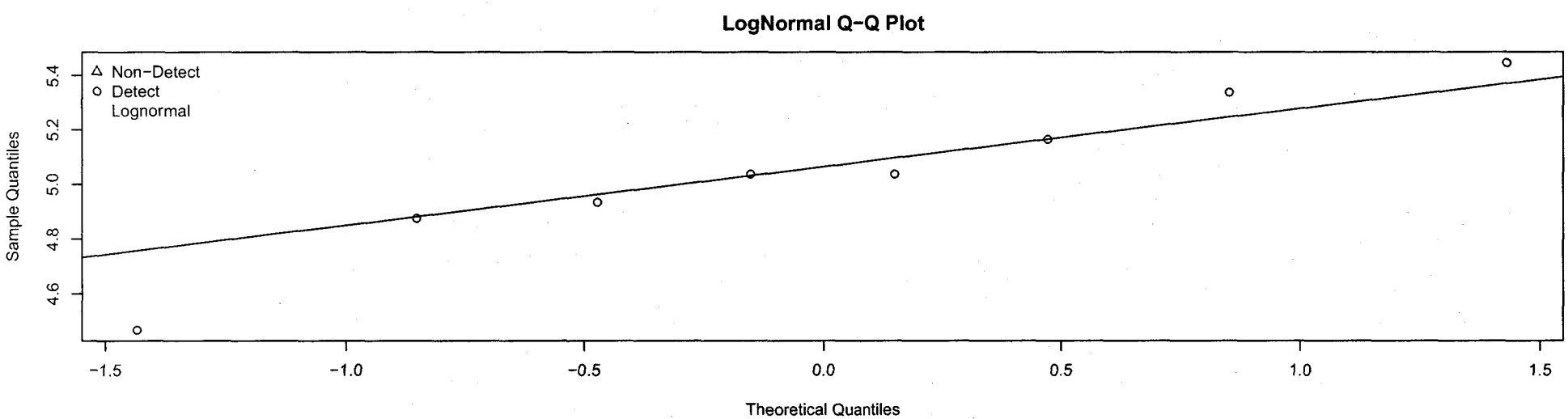
Coffins Ice Pond
Spring Sediment
IRON



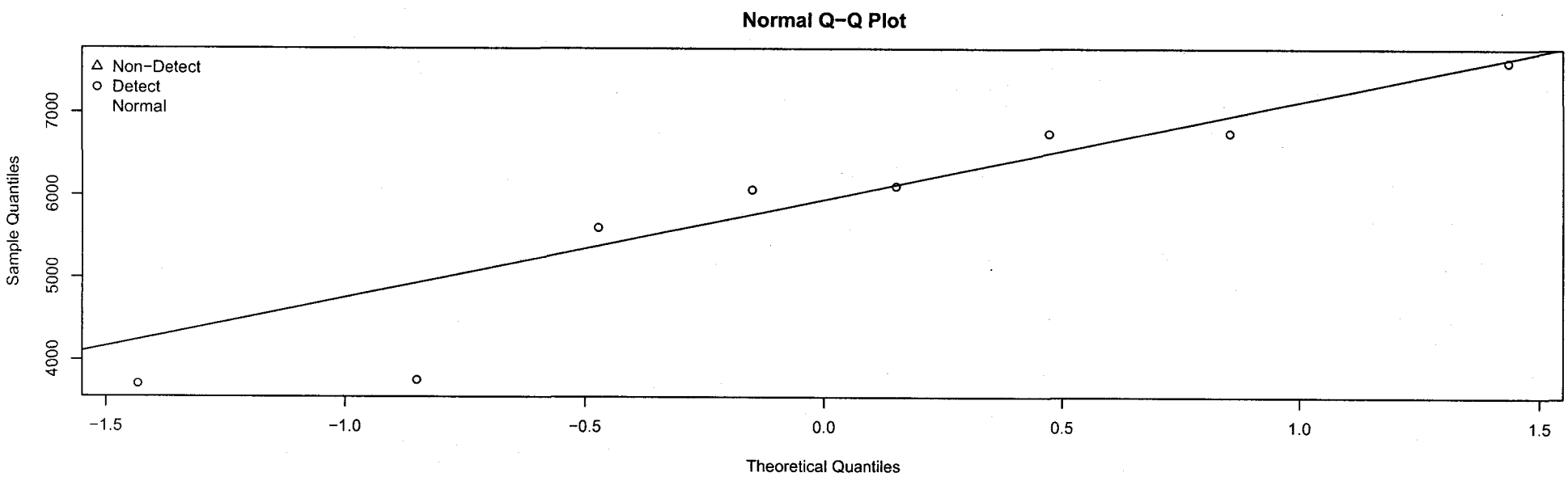


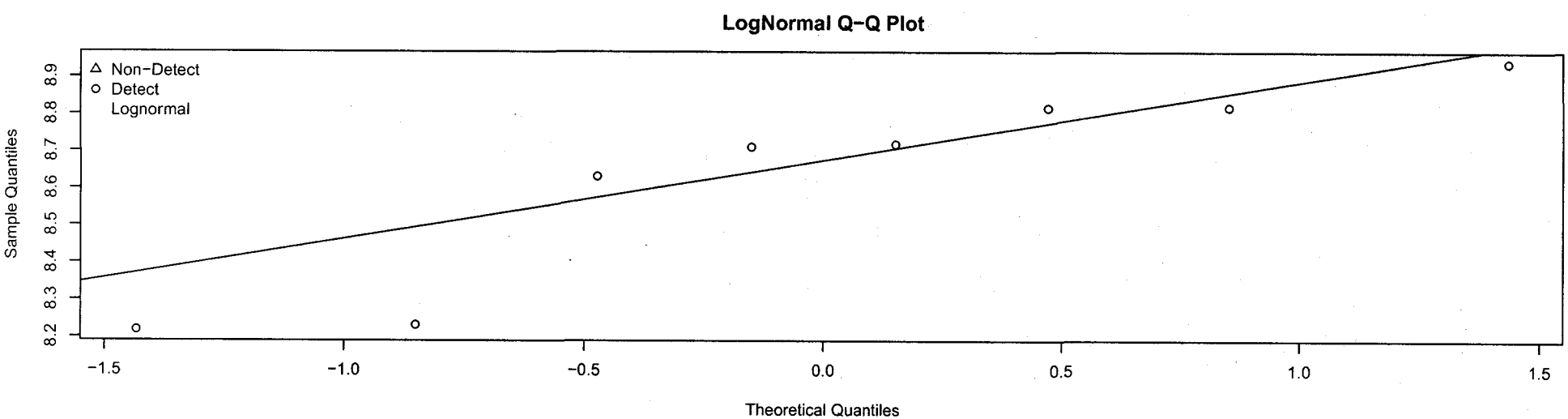
Coffins Ice Pond
Spring Sediment
LEAD



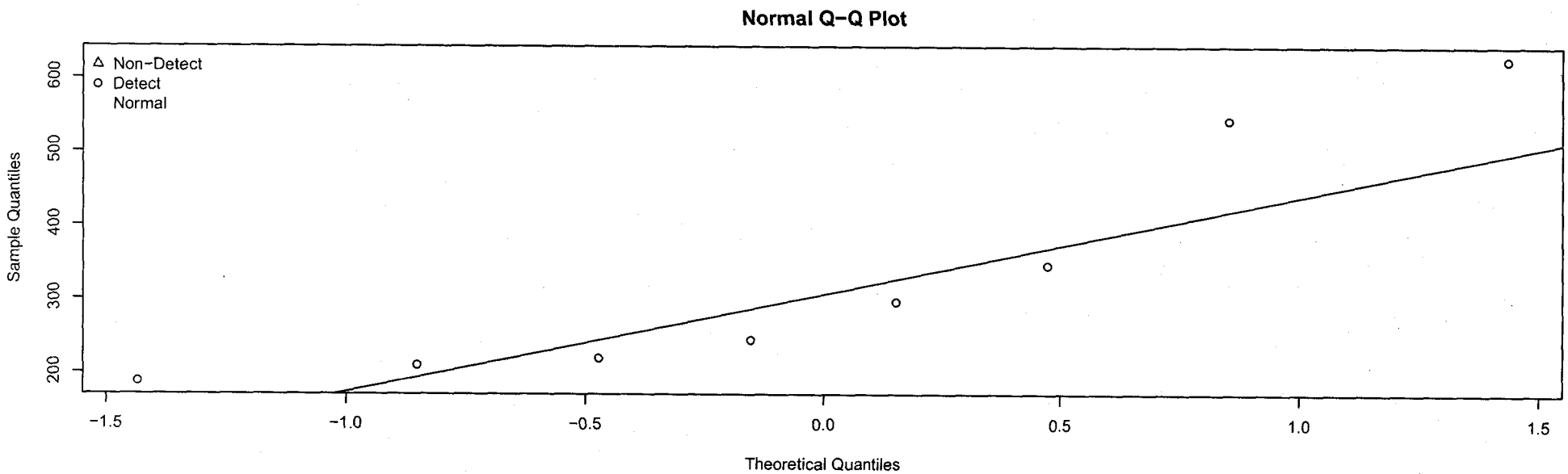


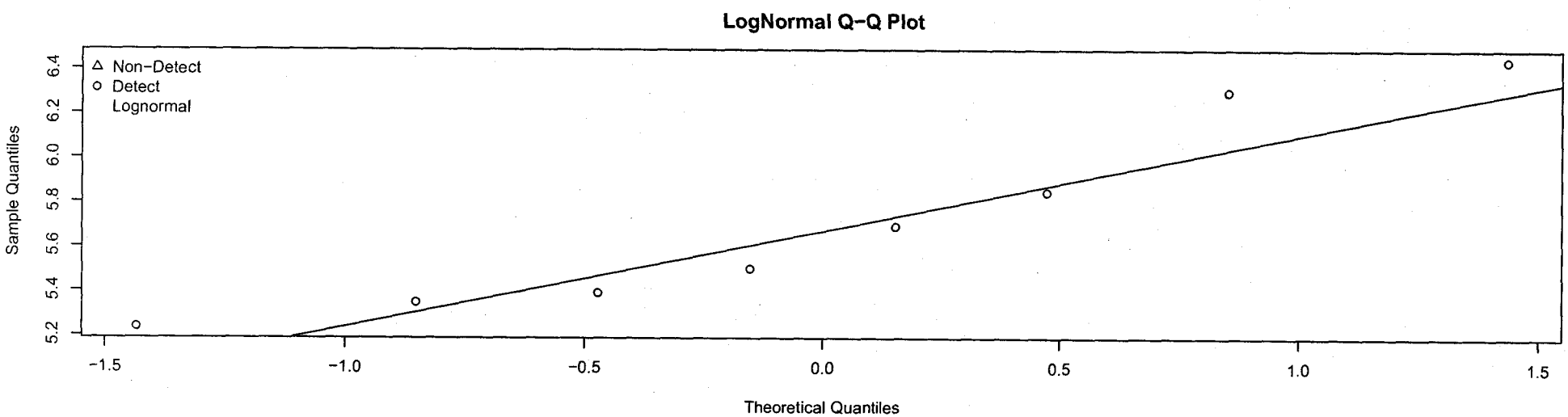
Coffins Ice Pond
Spring Sediment
MAGNESIUM



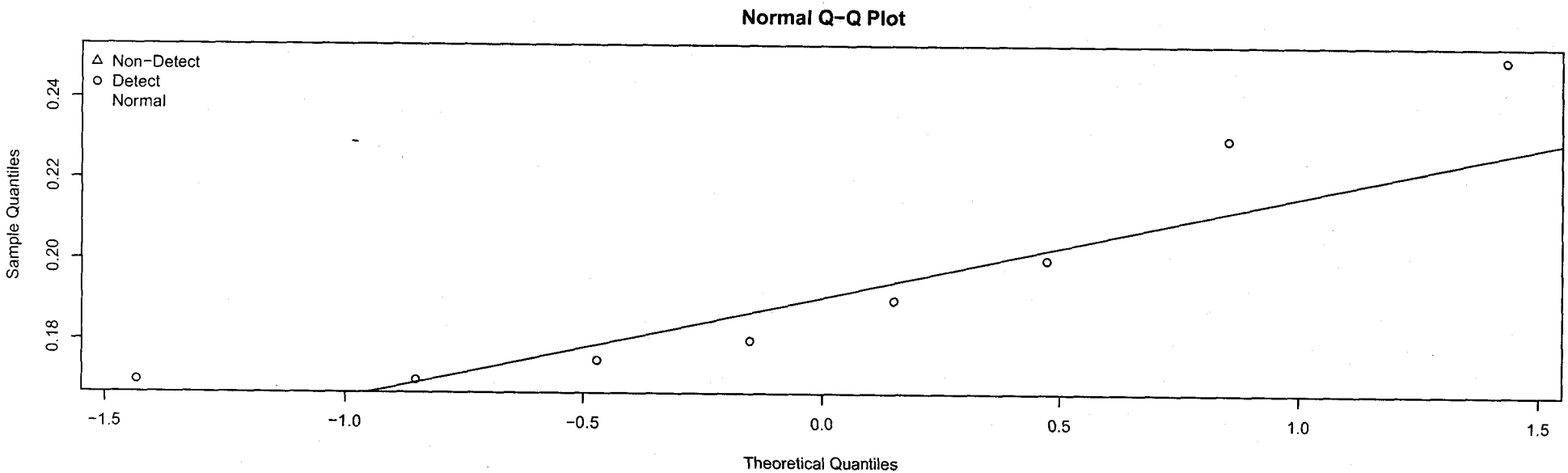


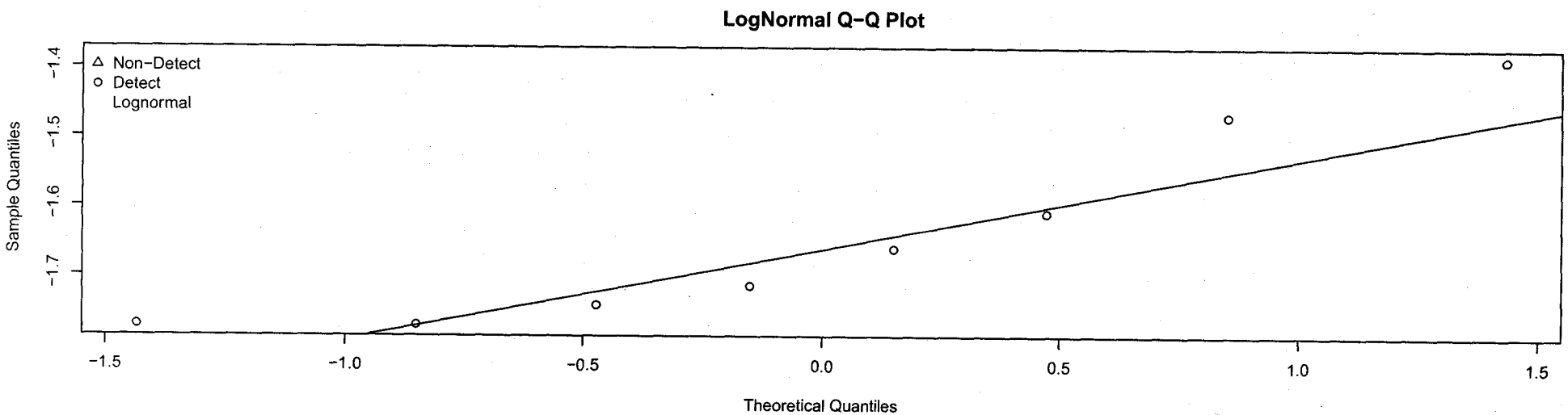
Coffins Ice Pond
Spring Sediment
MANGANESE



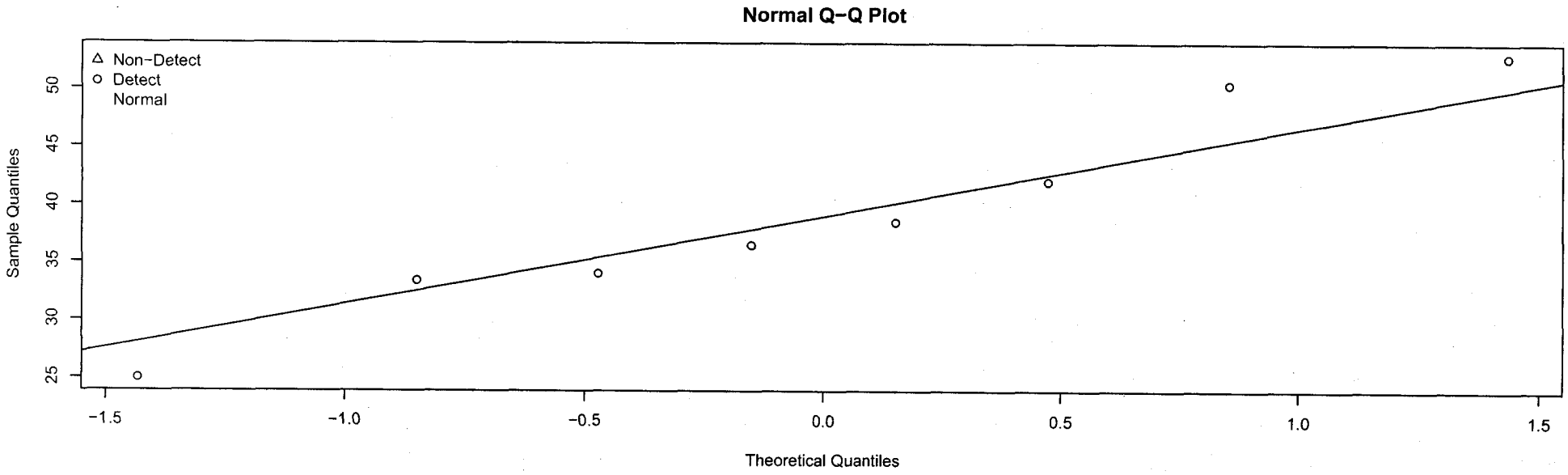


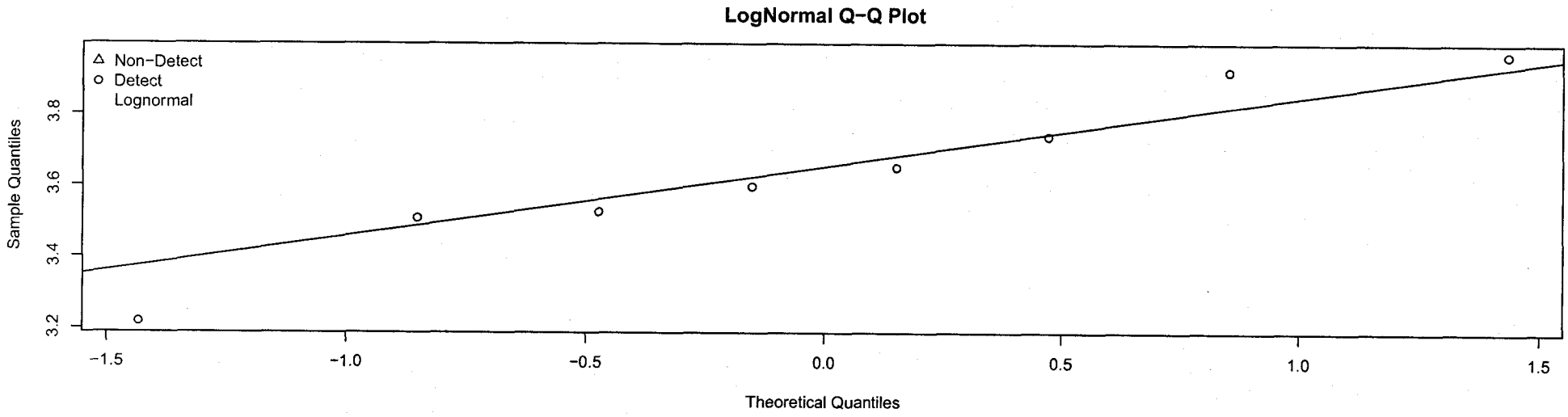
Coffins Ice Pond
Spring Sediment
MERCURY



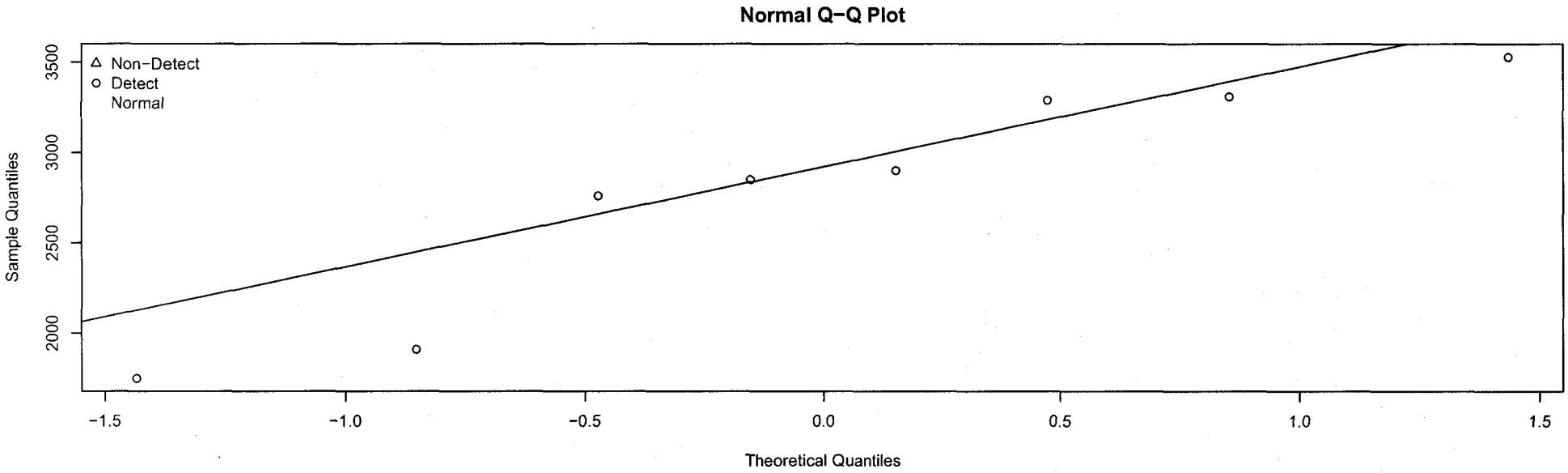


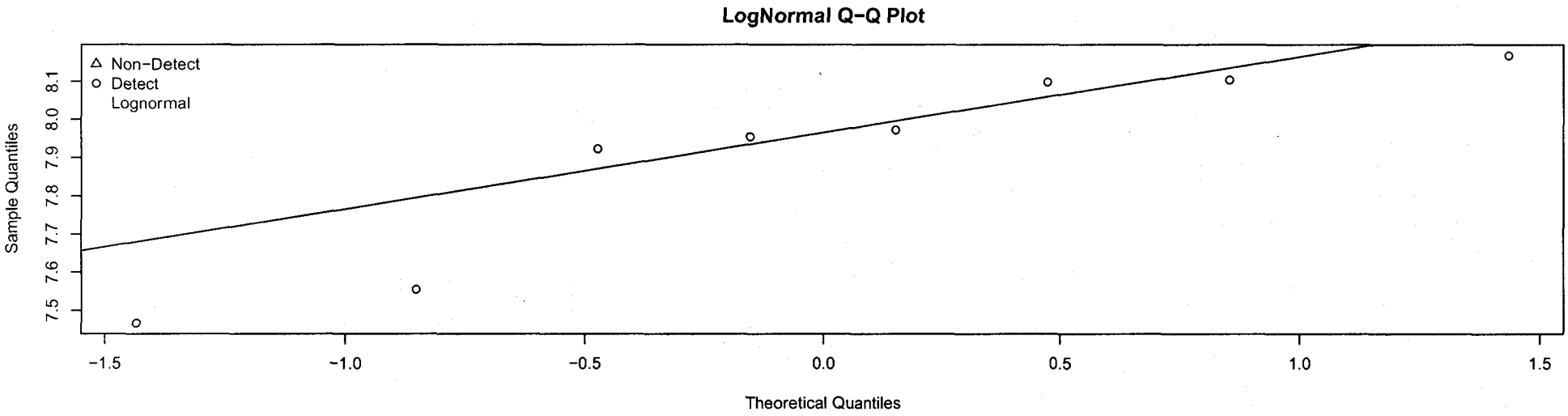
Coffins Ice Pond
Spring Sediment
NICKEL



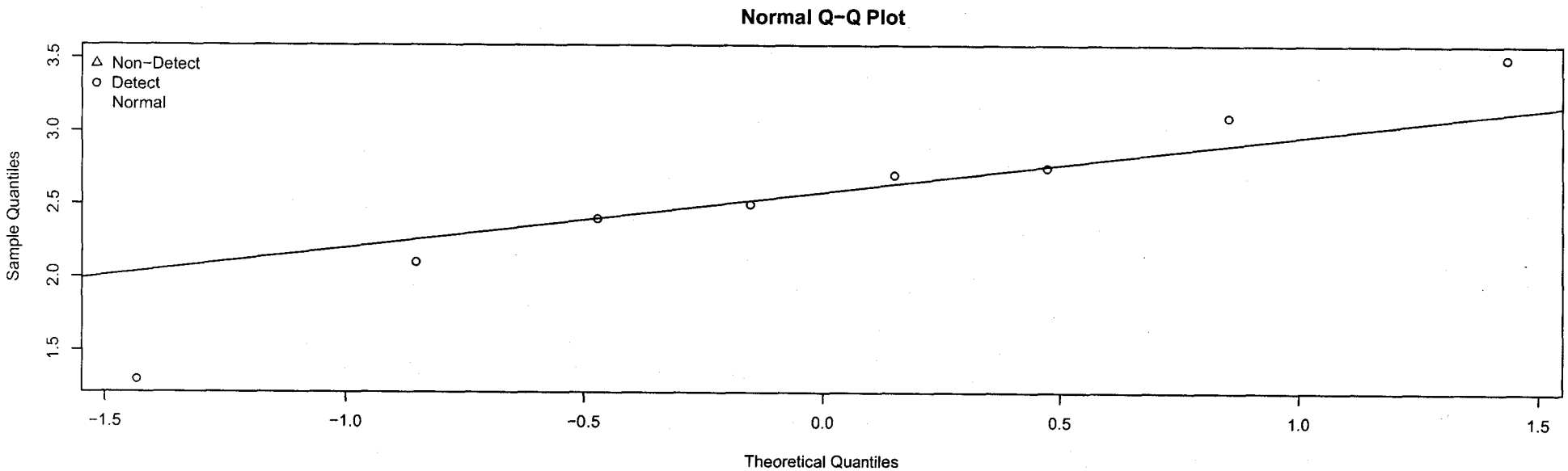


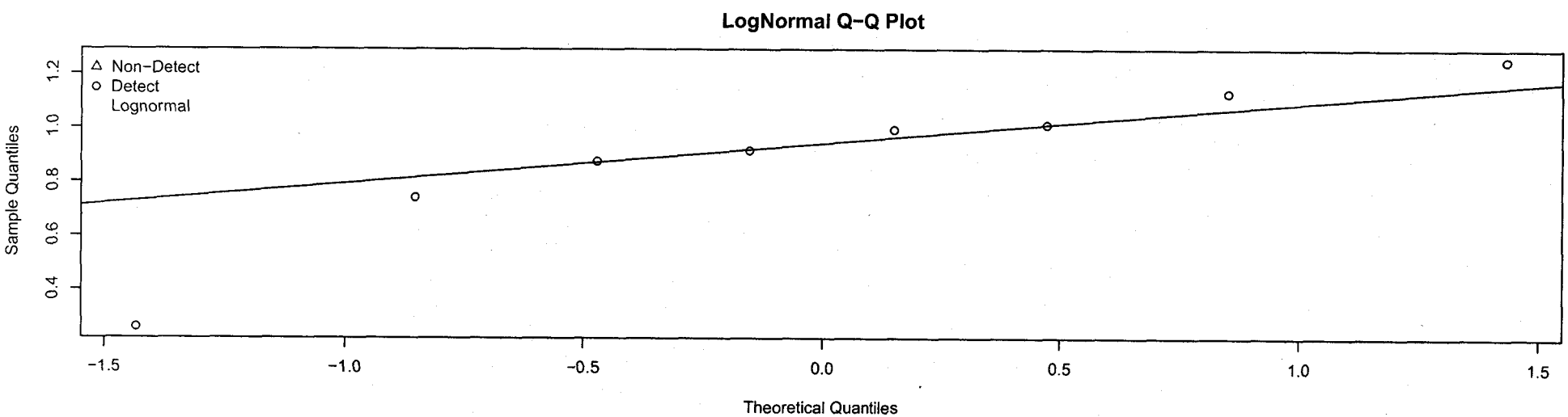
Coffins Ice Pond
Spring Sediment
POTASSIUM



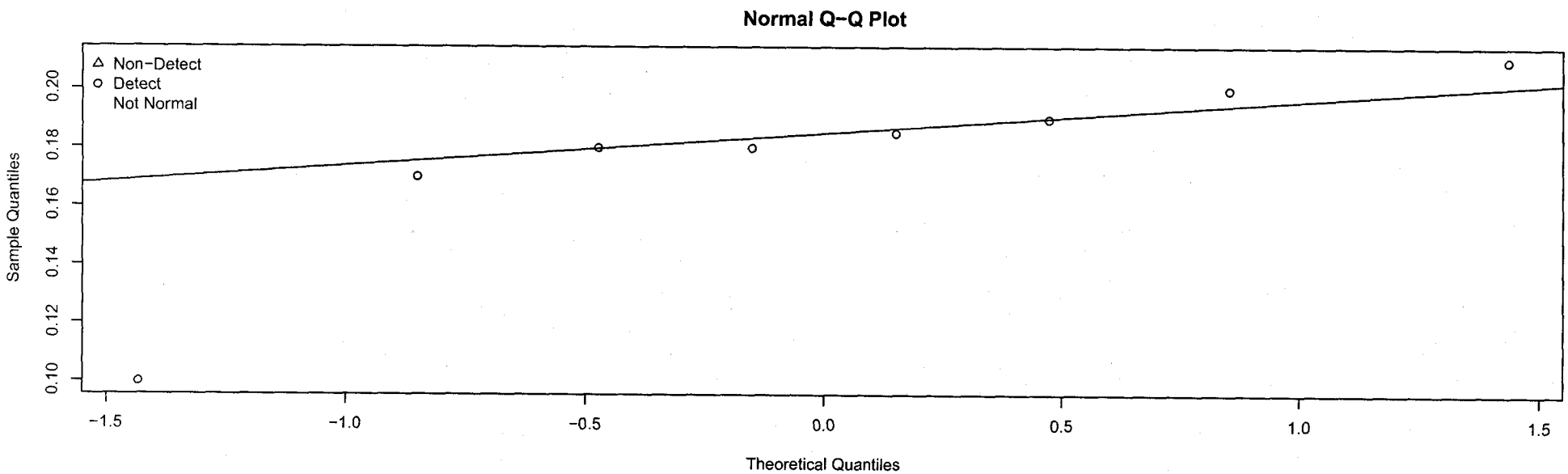


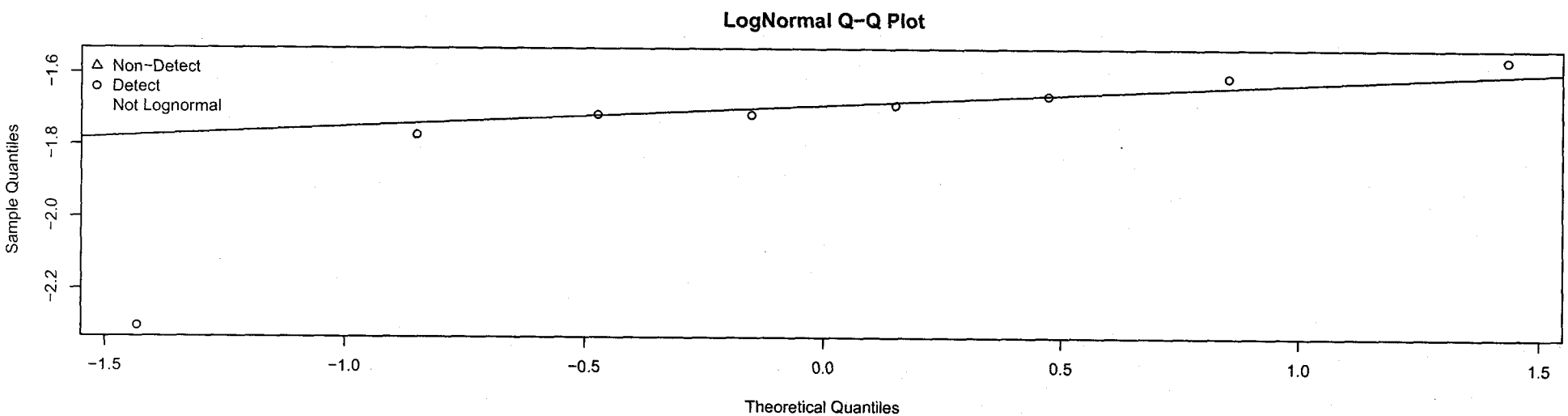
Coffins Ice Pond
Spring Sediment
SELENIUM



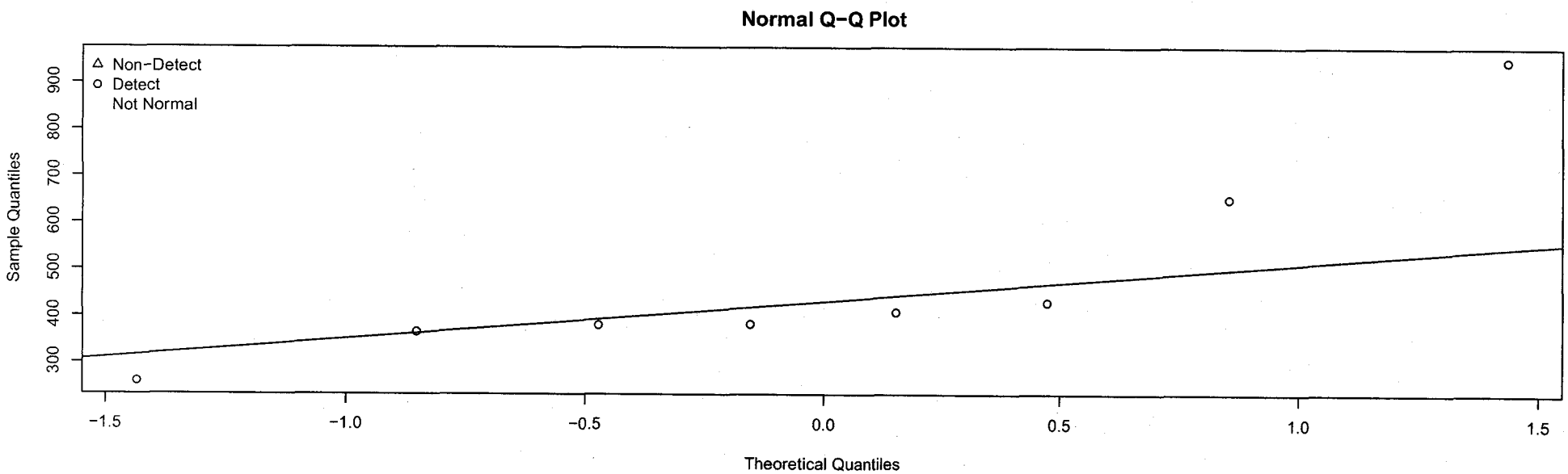


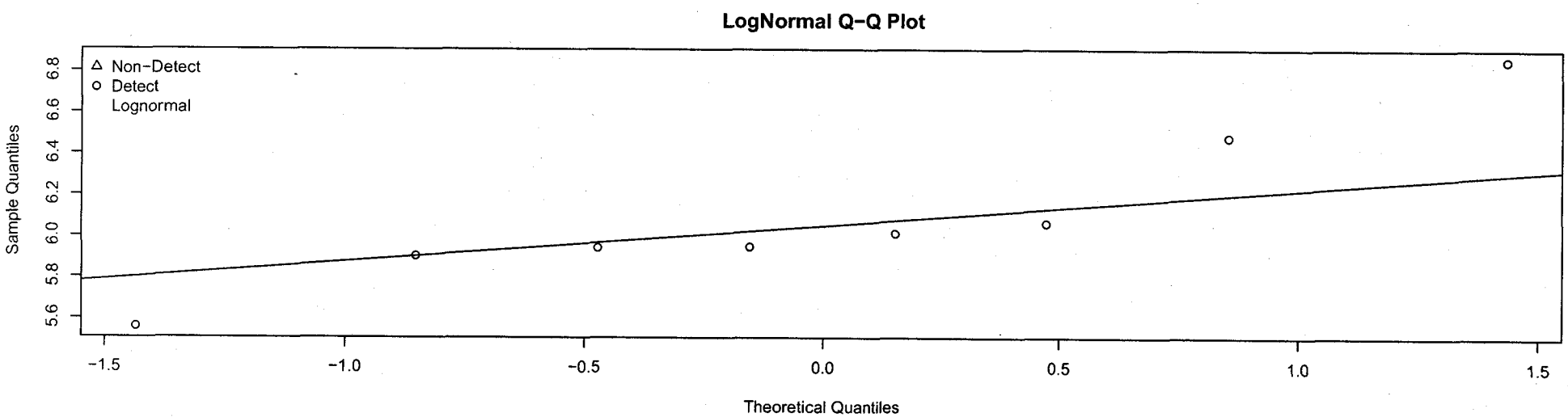
Coffins Ice Pond
Spring Sediment
SILVER



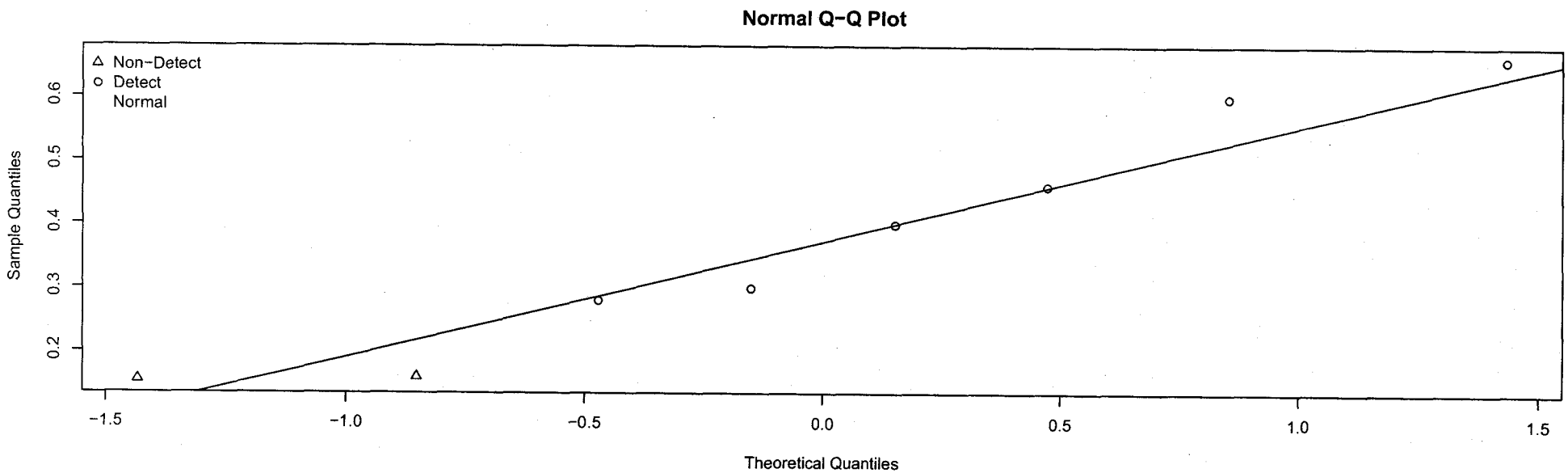


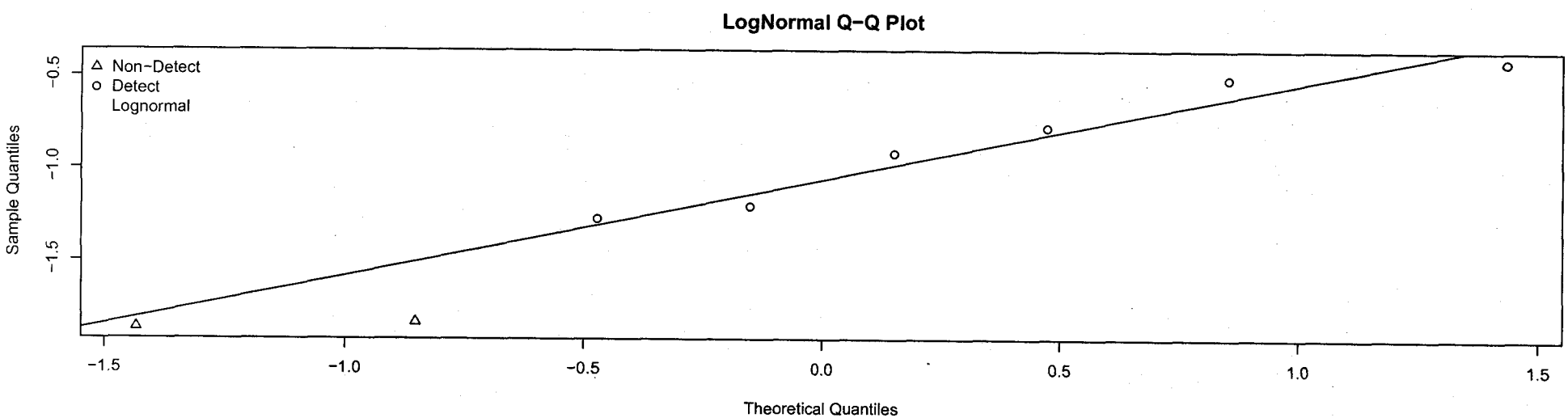
Coffins Ice Pond
Spring Sediment
SODIUM



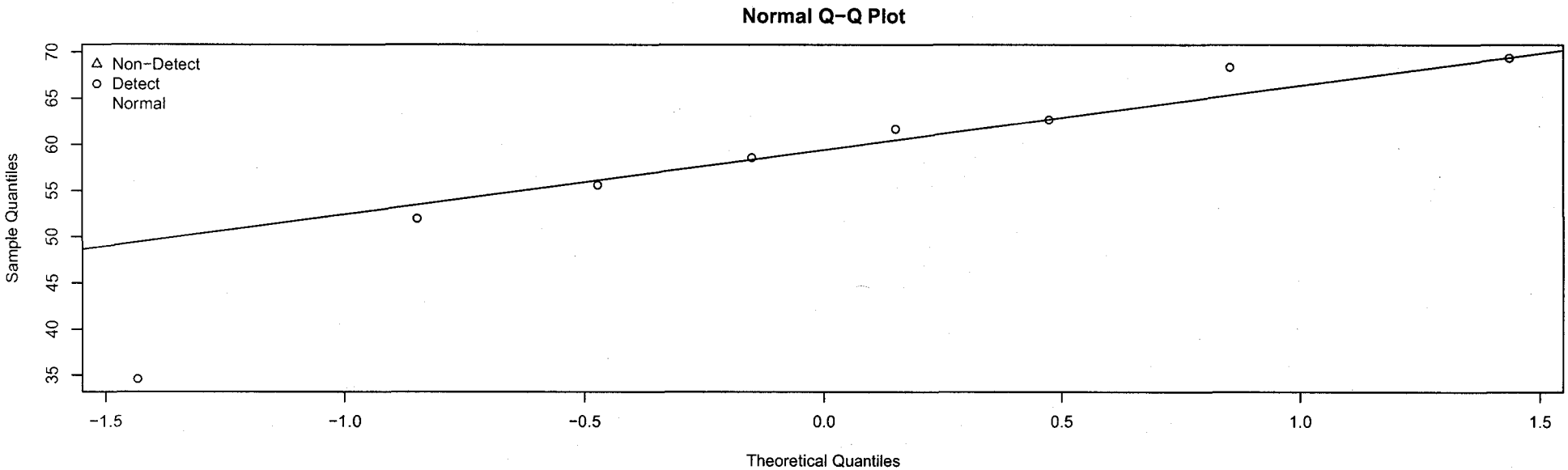


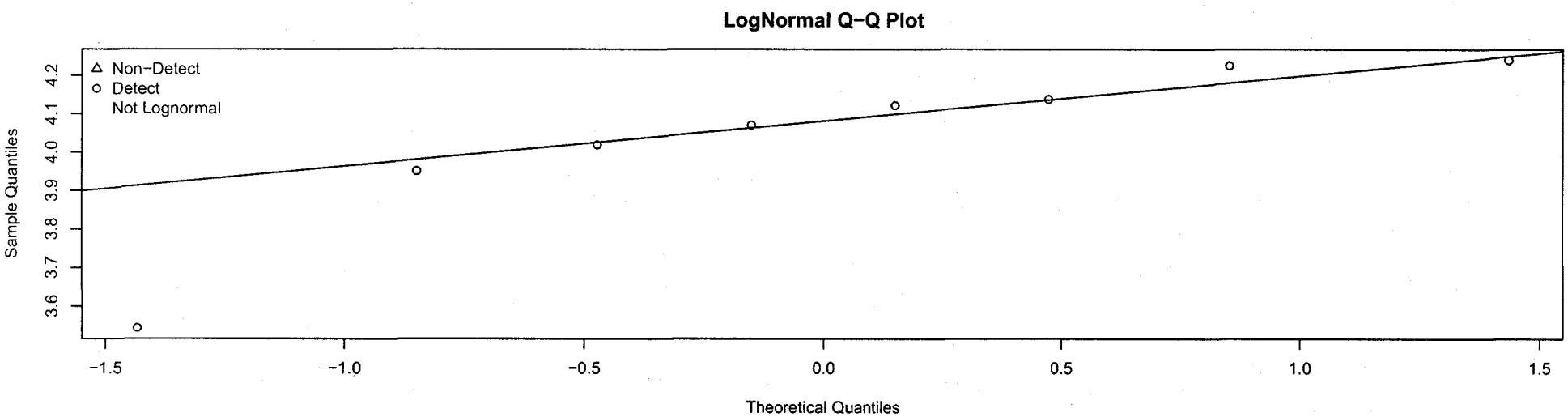
Coffins Ice Pond
Spring Sediment
THALLIUM



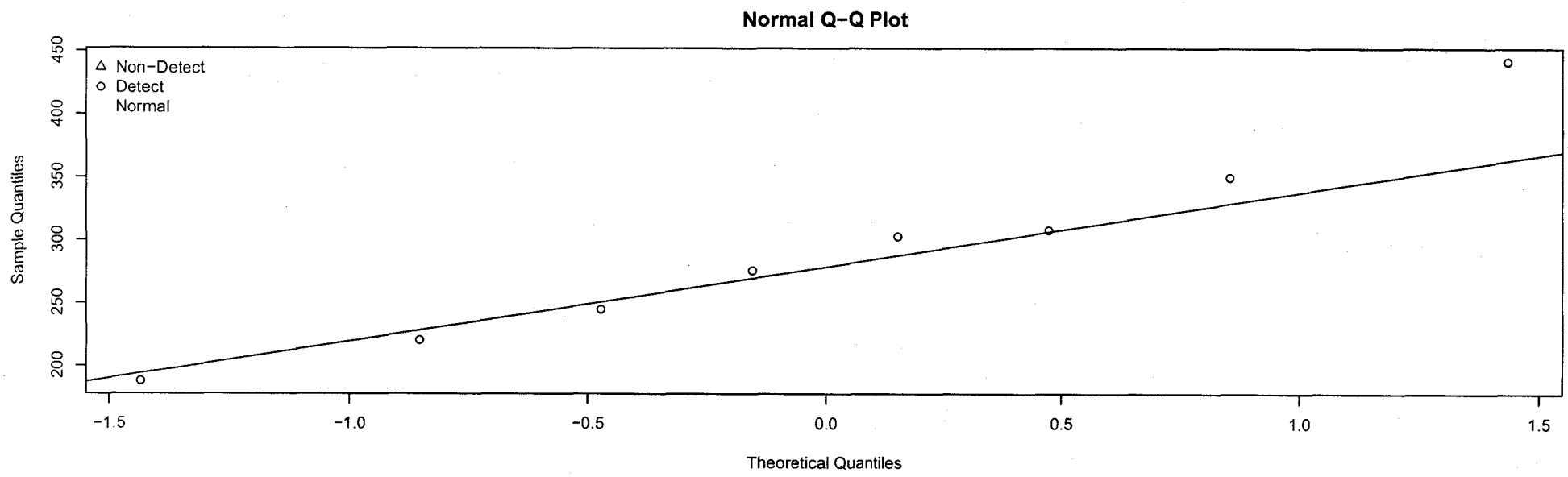


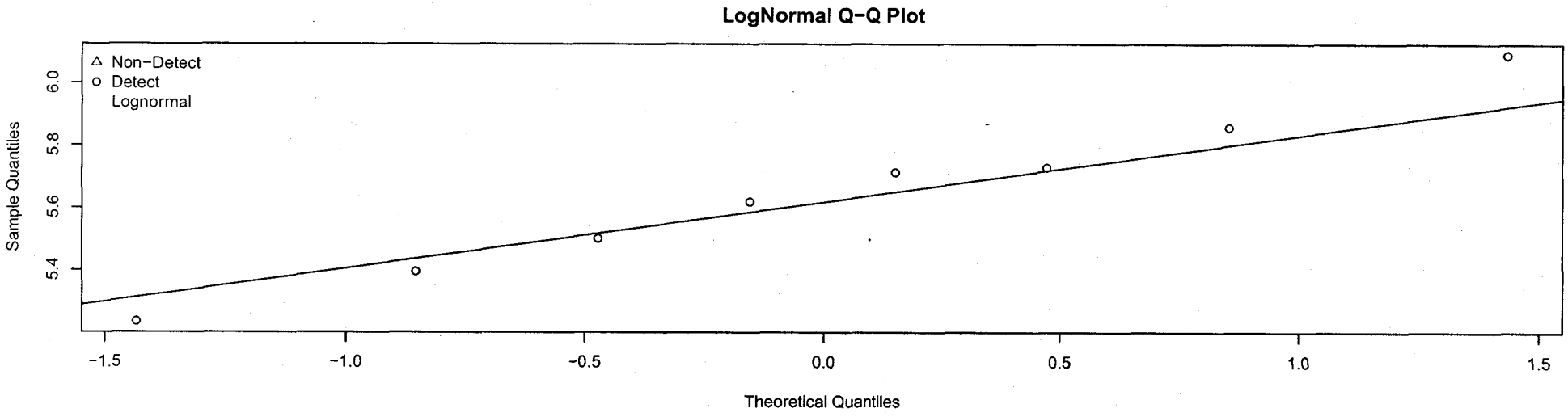
Coffins Ice Pond
Spring Sediment
VANADIUM



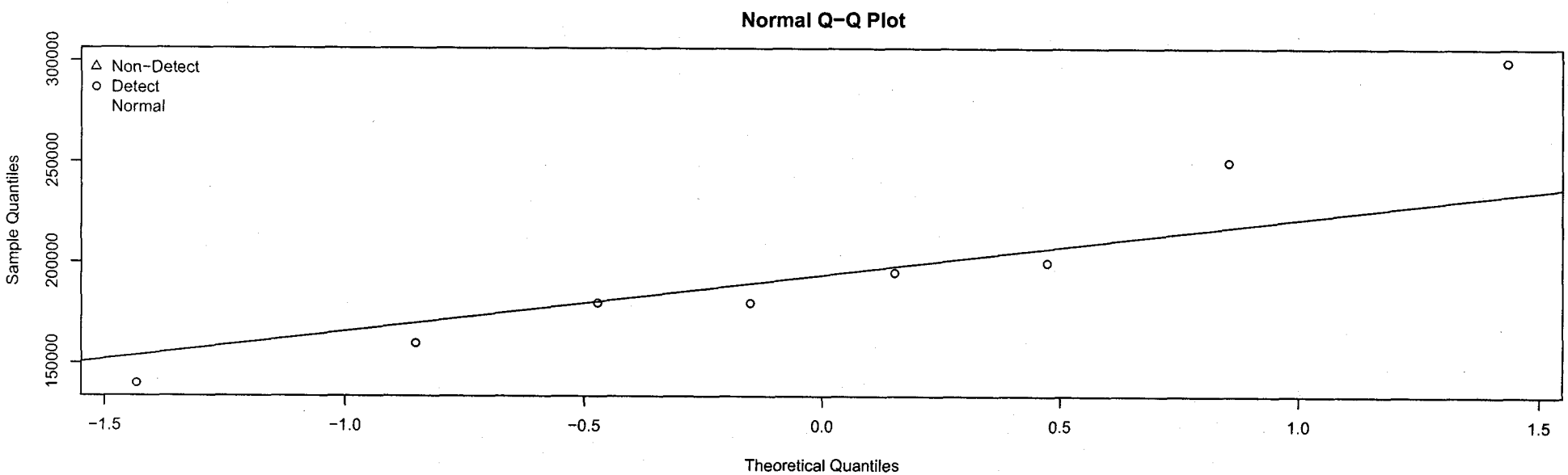


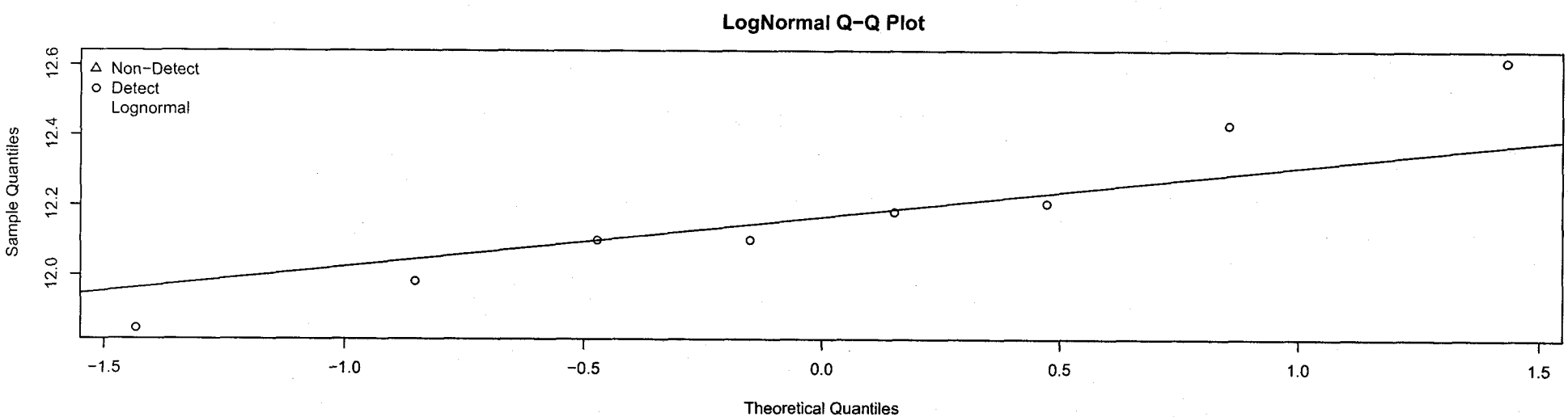
Coffins Ice Pond
Spring Sediment
ZINC



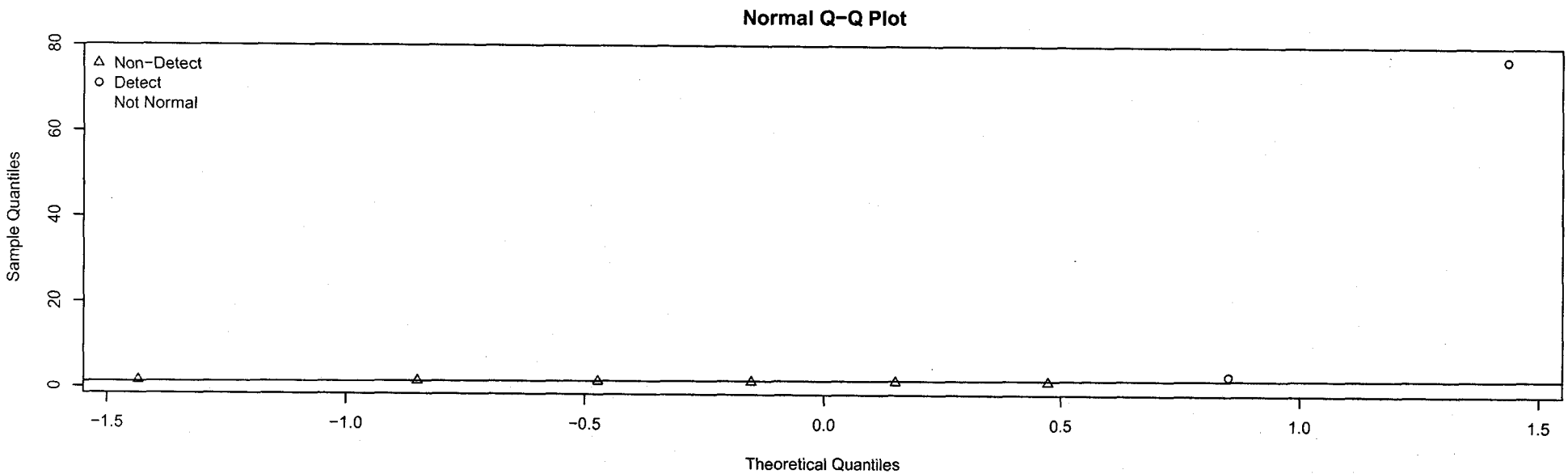


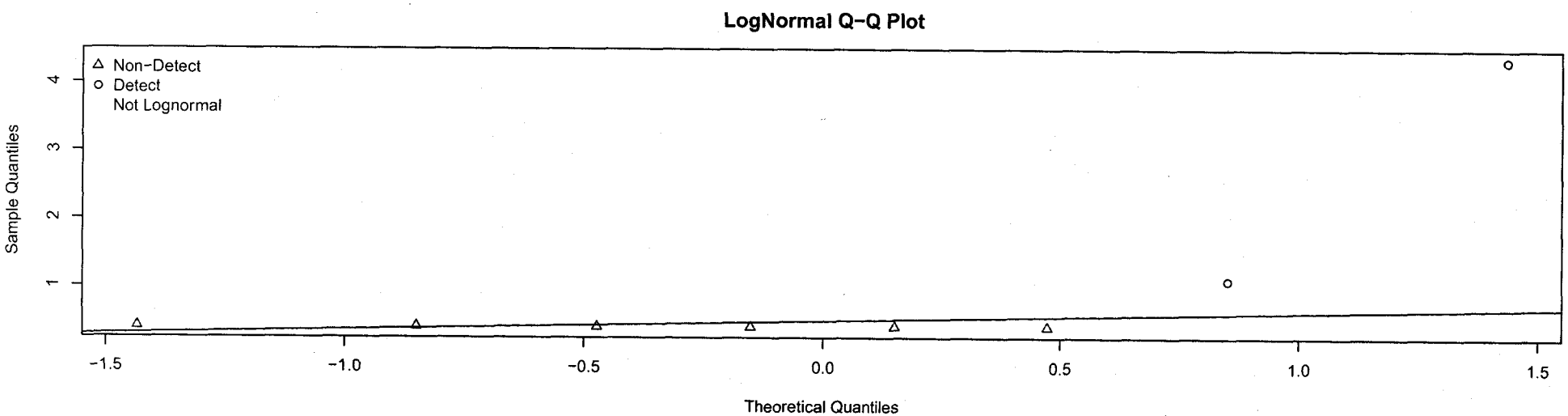
Coffins Ice Pond
Spring Sediment
TOTAL ORGANIC CARBON



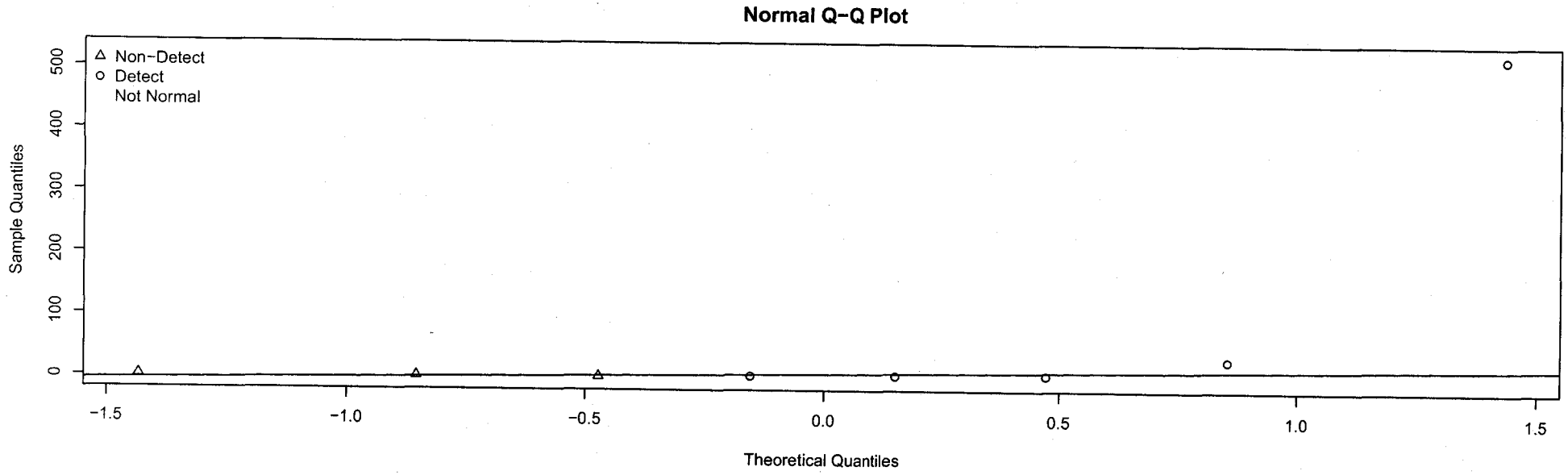


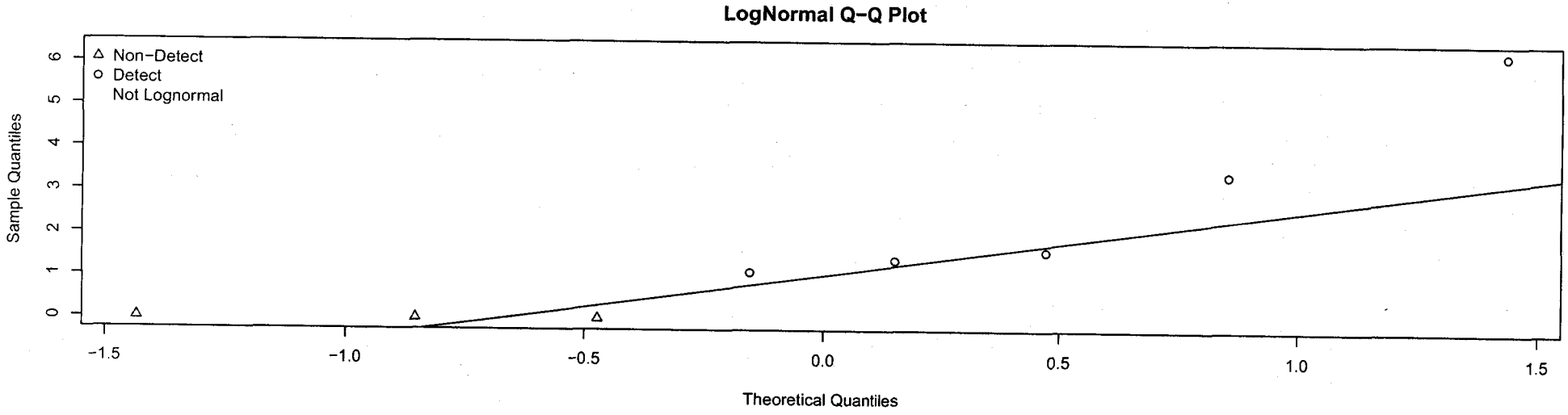
Mere Brook
Fall Sediment
2-METHYLNAPHTHALENE



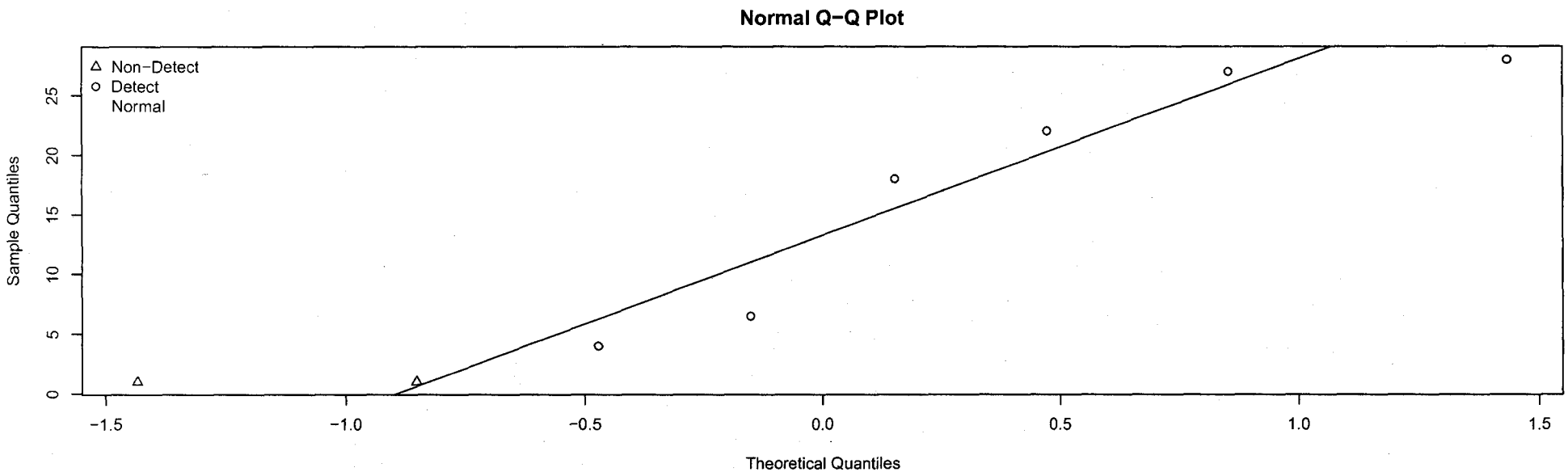


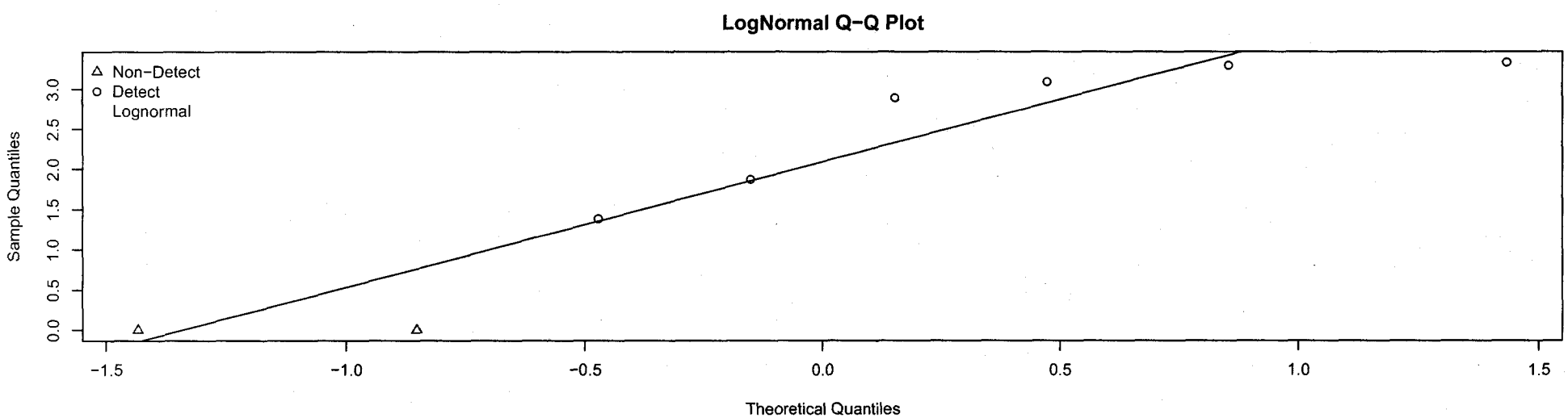
Mere Brook
Fall Sediment
ACENAPHTHENE





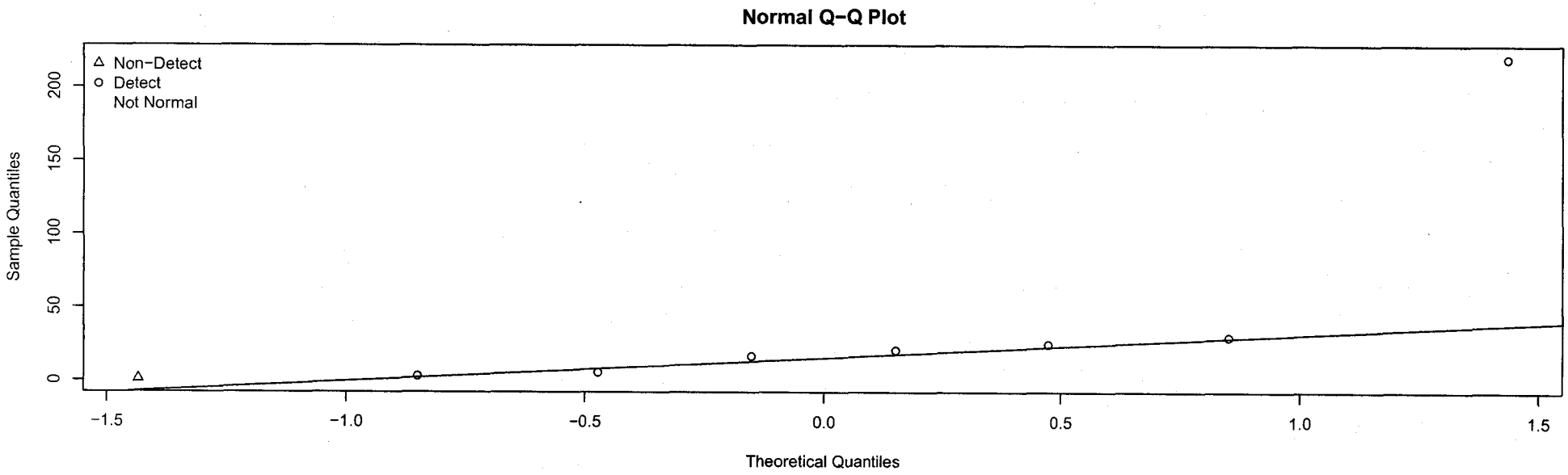
Mere Brook
Fall Sediment
ACENAPHTHYLENE

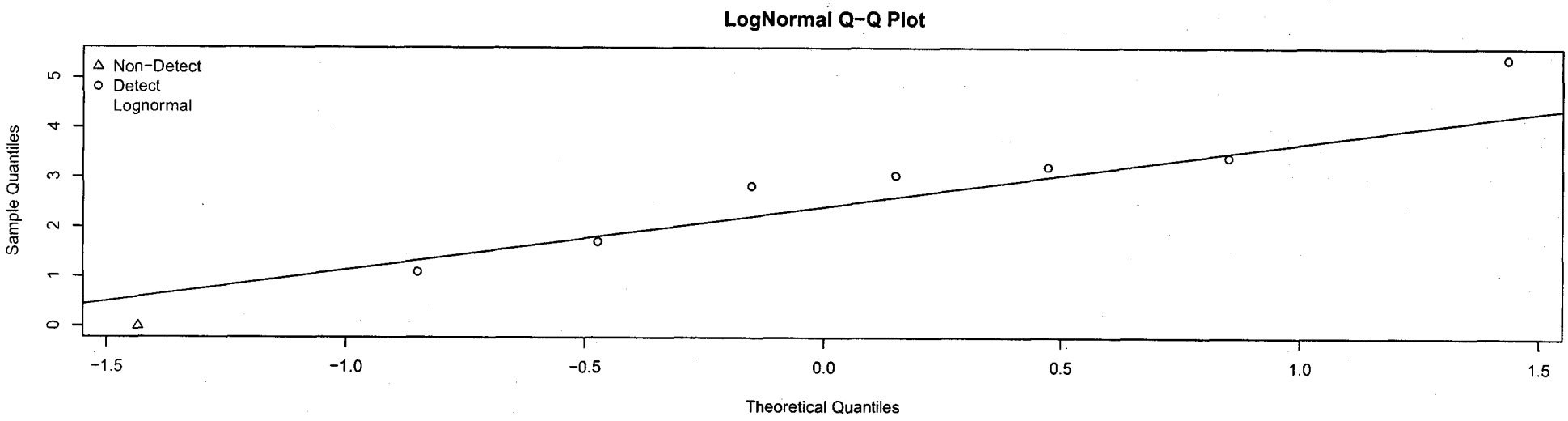




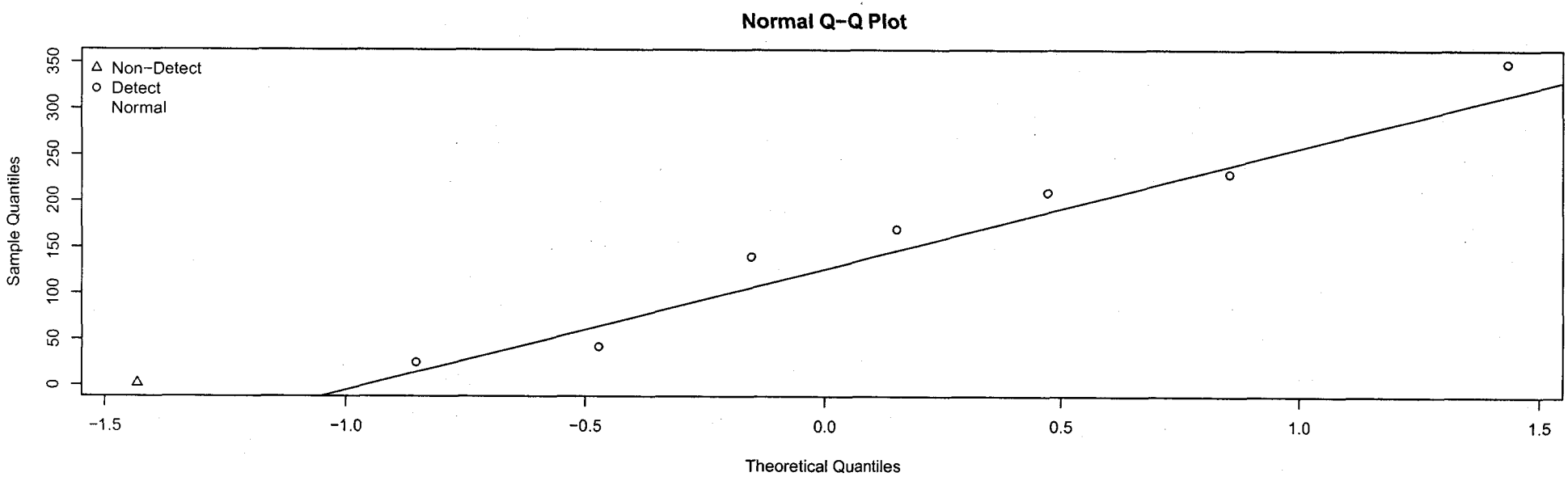
Mere Brook
Fall Sediment

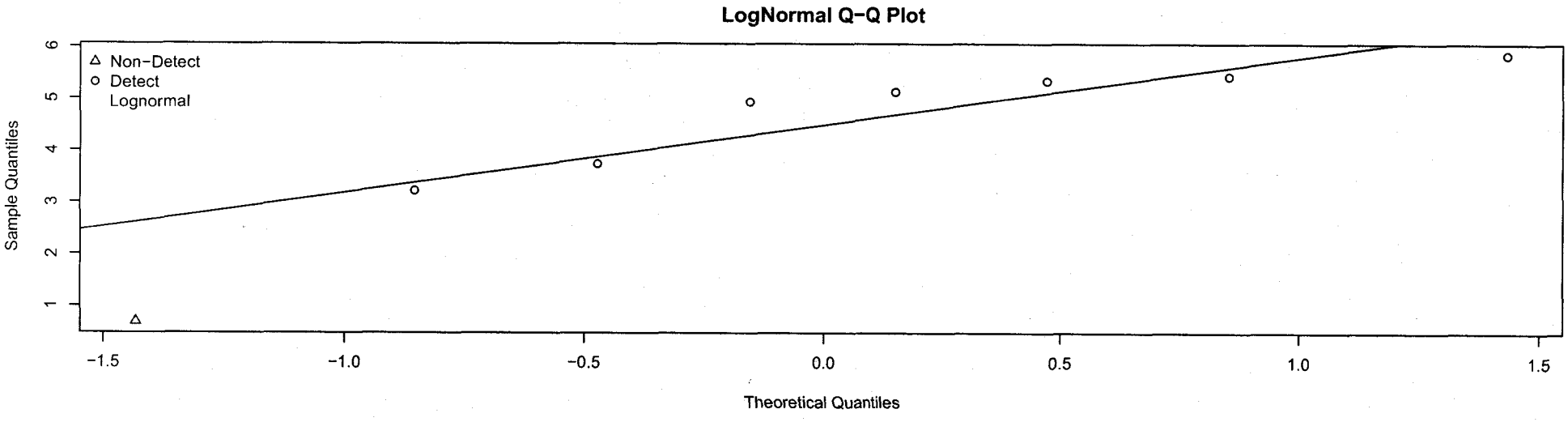
ANTHRACENE



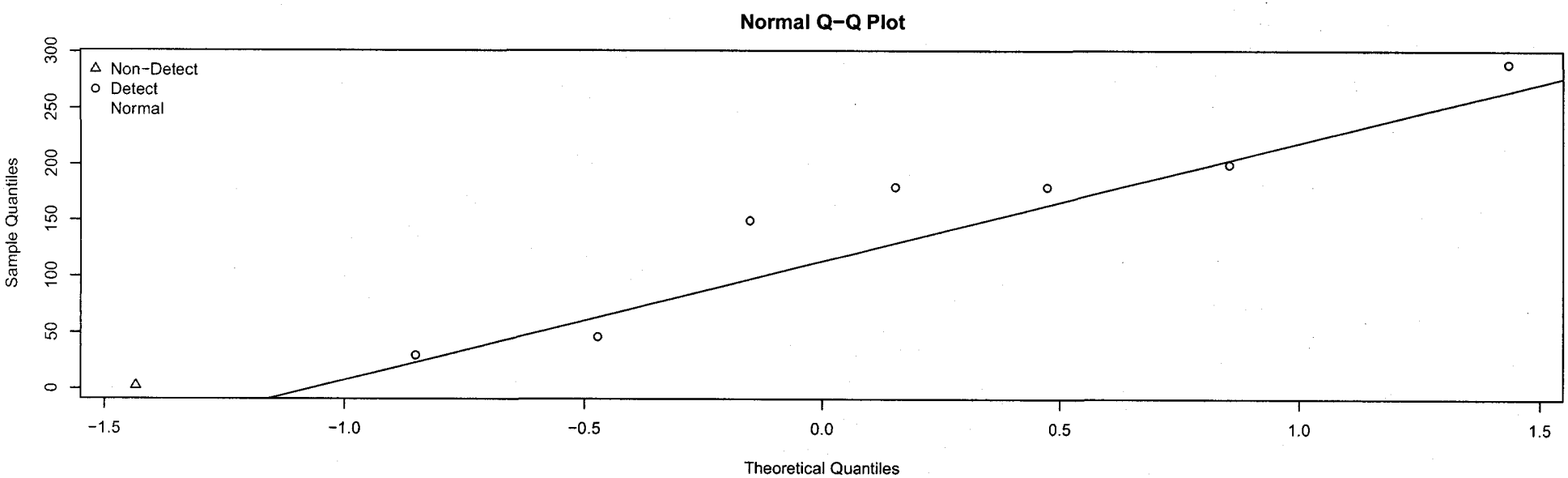


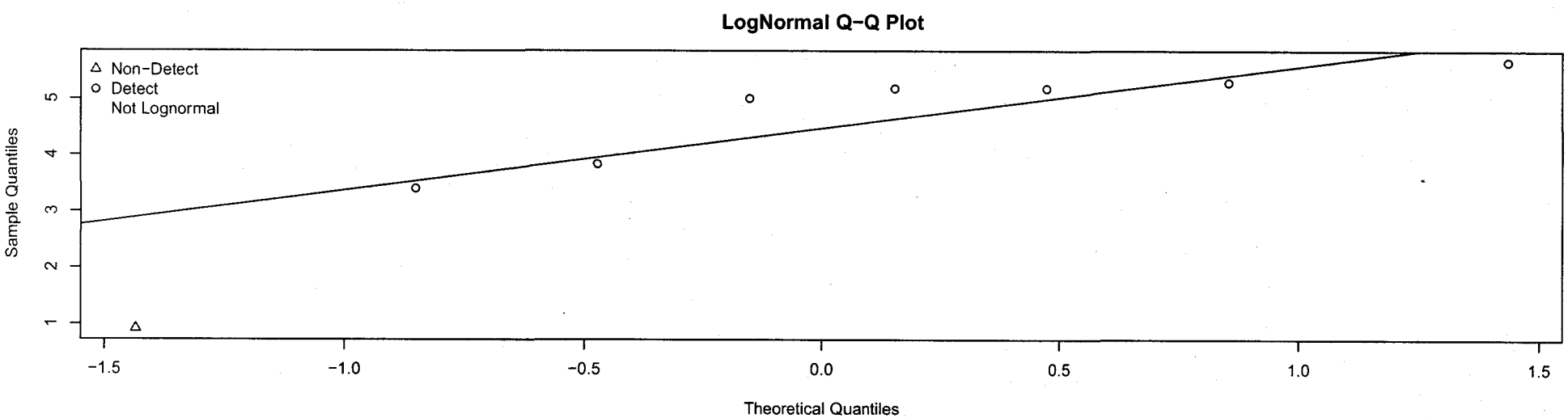
Mere Brook
Fall Sediment
BENZO(A)ANTHRACENE





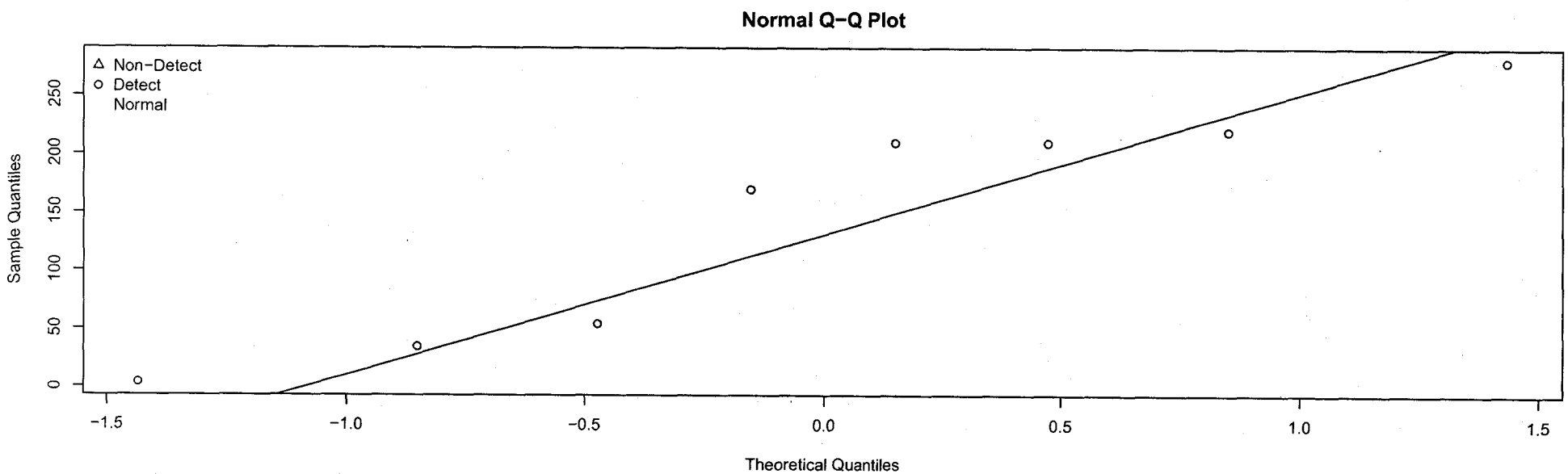
Mere Brook
Fall Sediment
BENZO(A)PYRENE

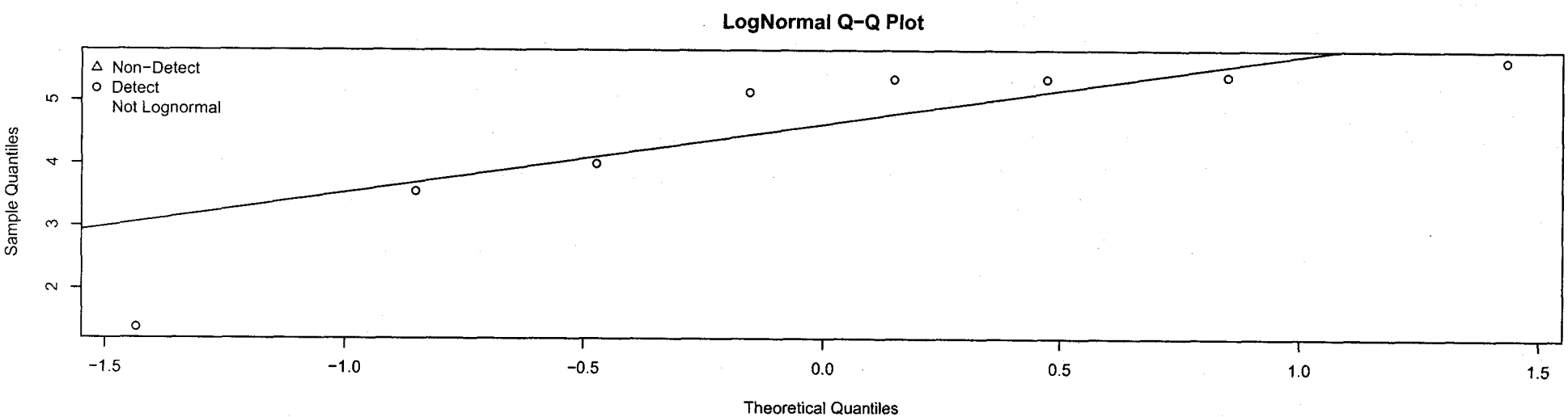




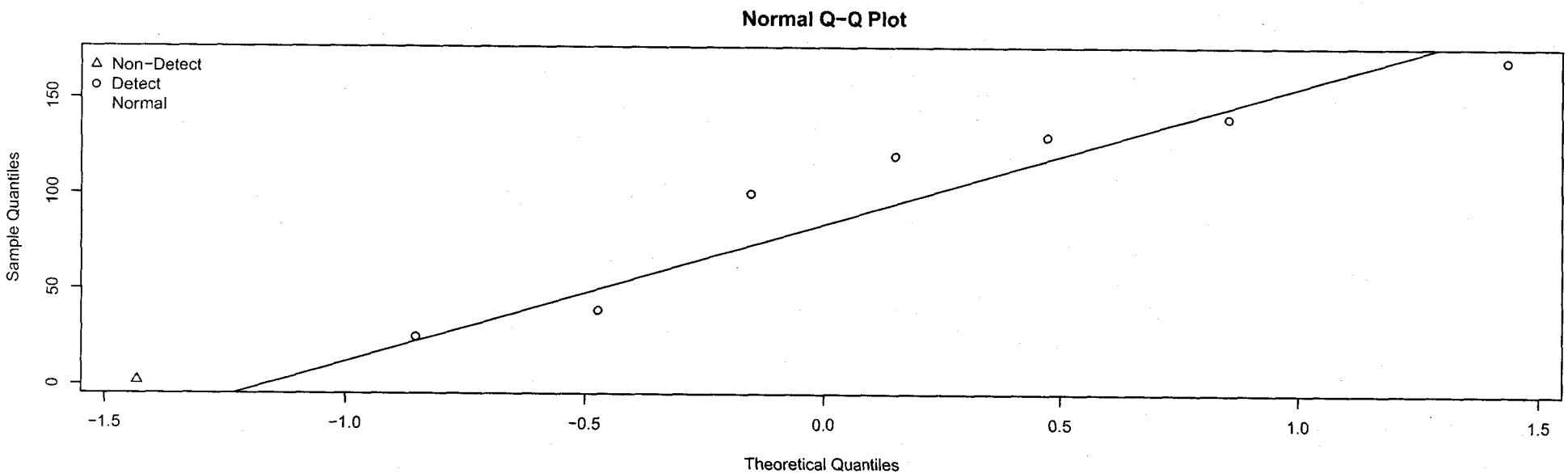
Mere Brook
Fall Sediment

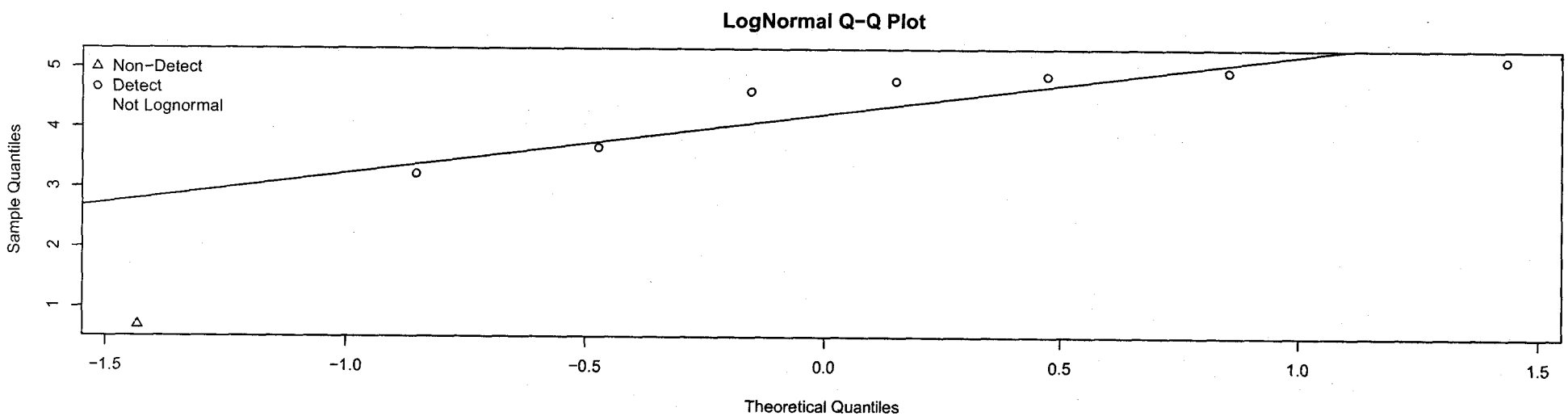
BENZO(B)FLUORANTHENE



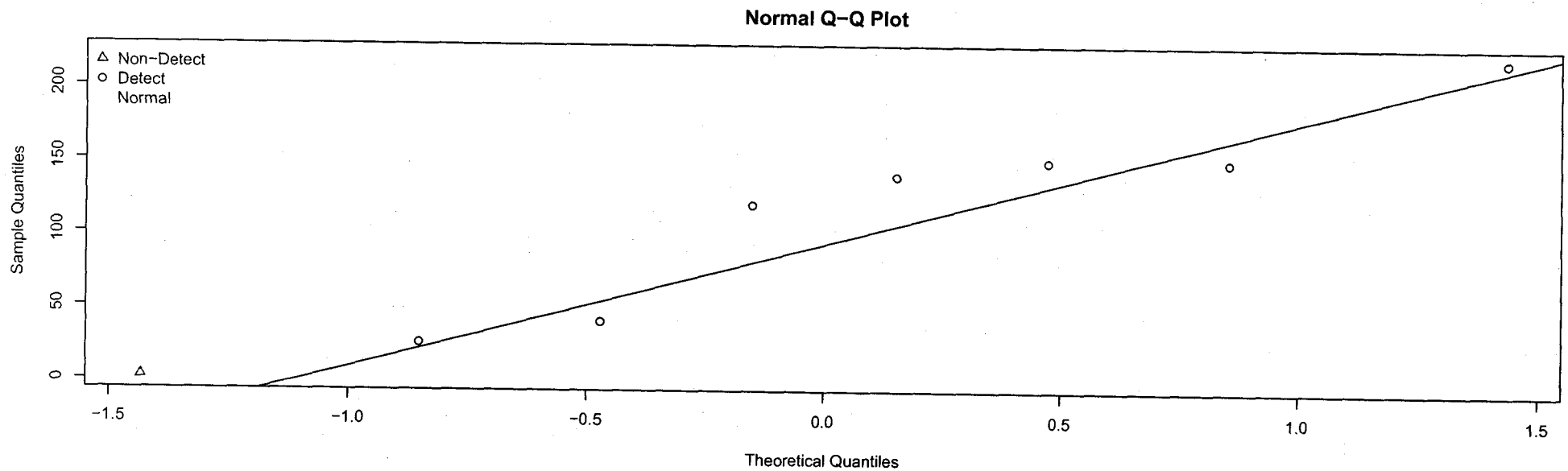


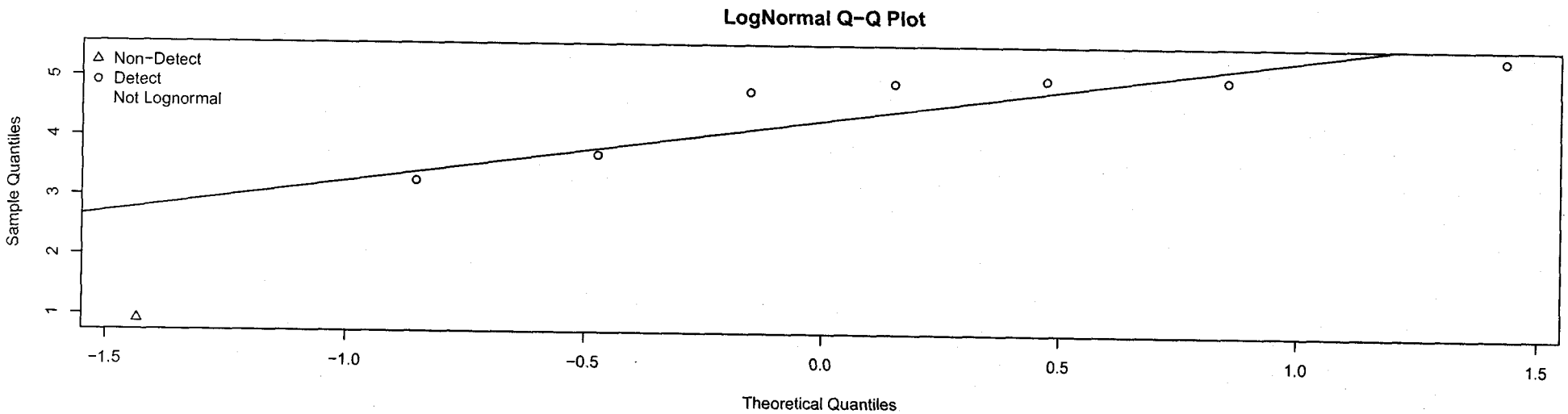
Mere Brook
Fall Sediment
BENZO(G,H,I)PERYLENE



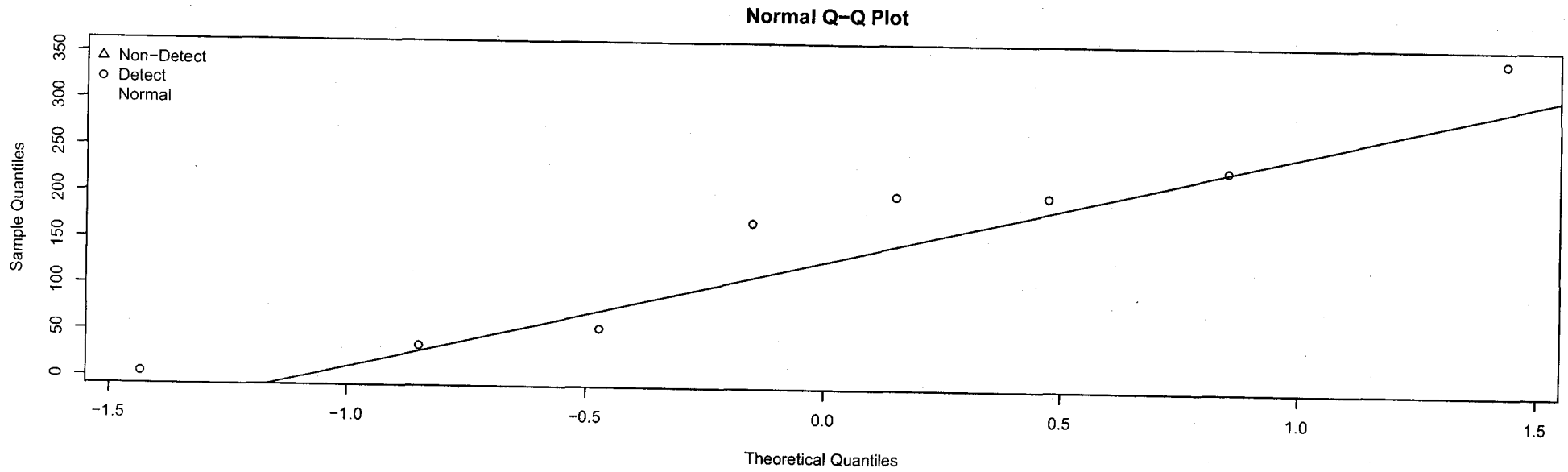


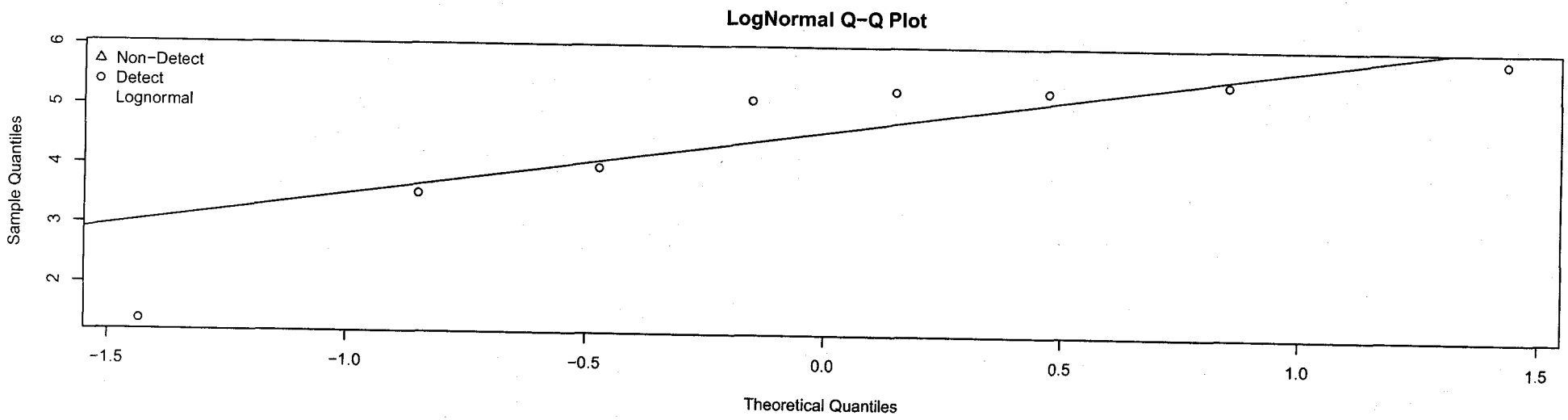
Mere Brook
Fall Sediment
BENZO(K)FLUORANTHENE



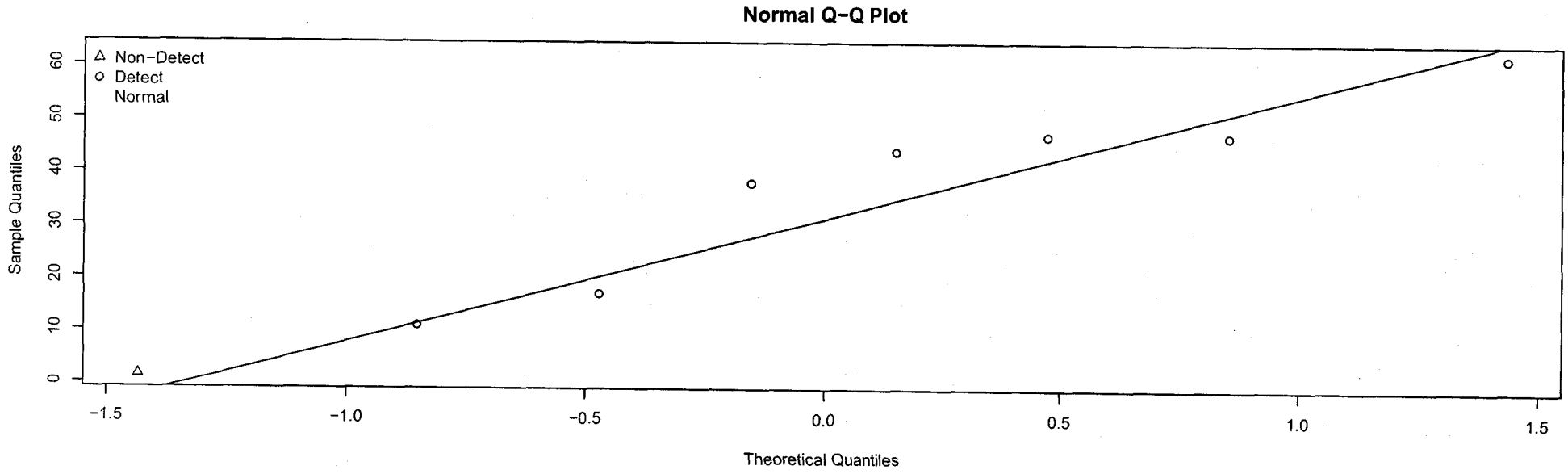


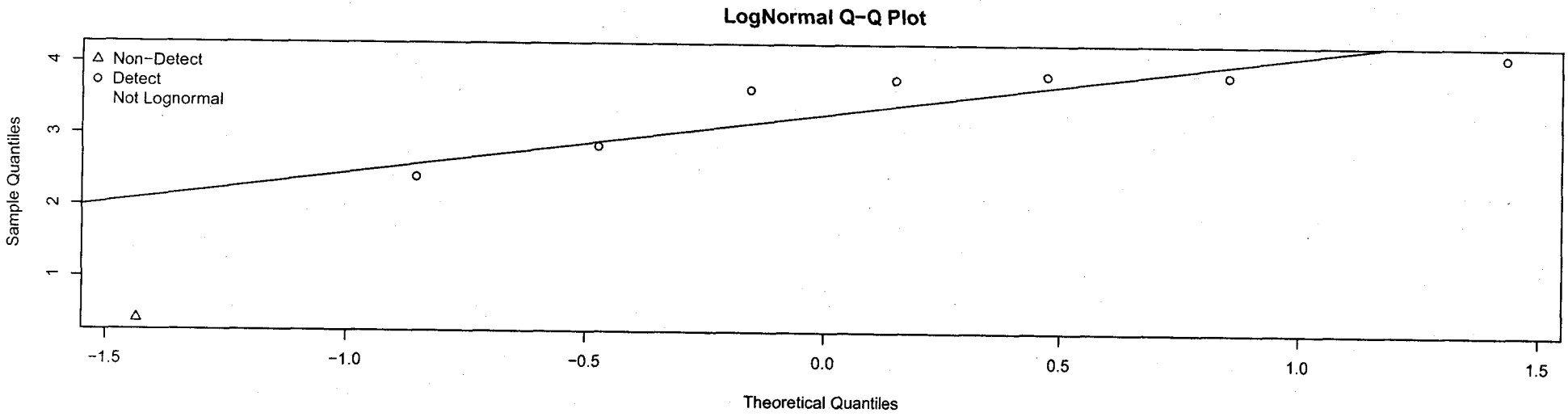
Mere Brook
Fall Sediment
CHRYSENE



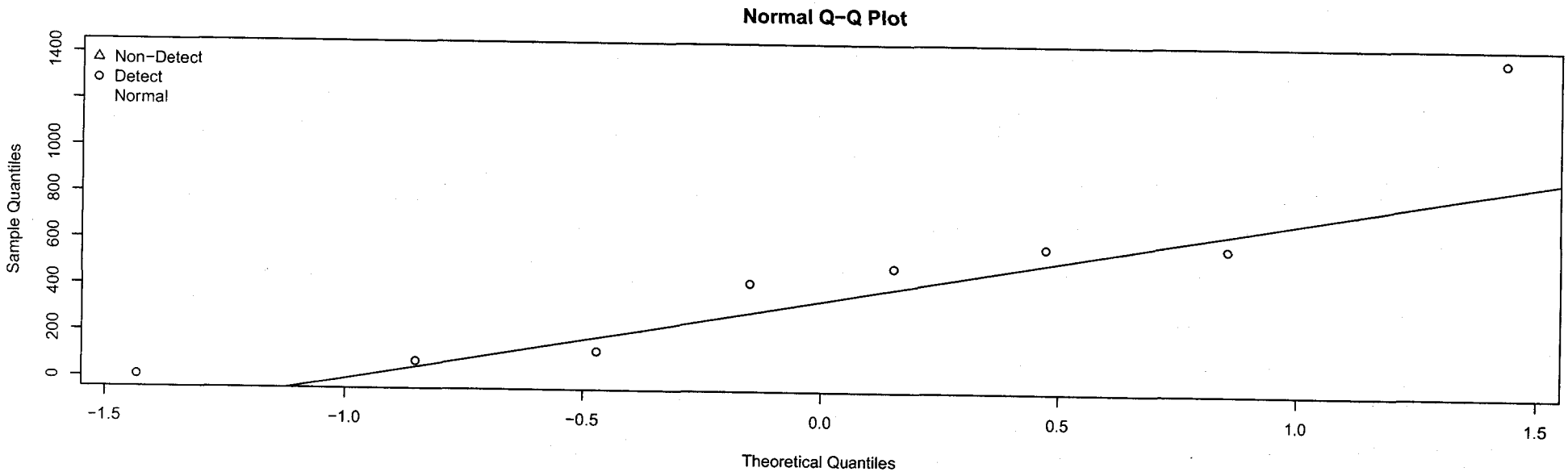


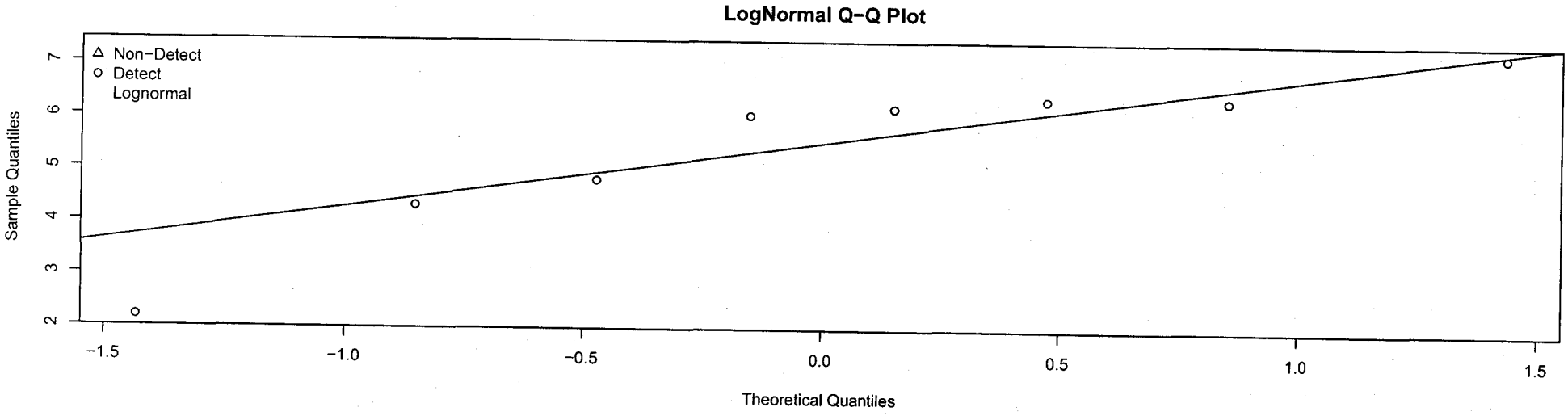
Mere Brook
Fall Sediment
DIBENZO(A,H)ANTHRACENE



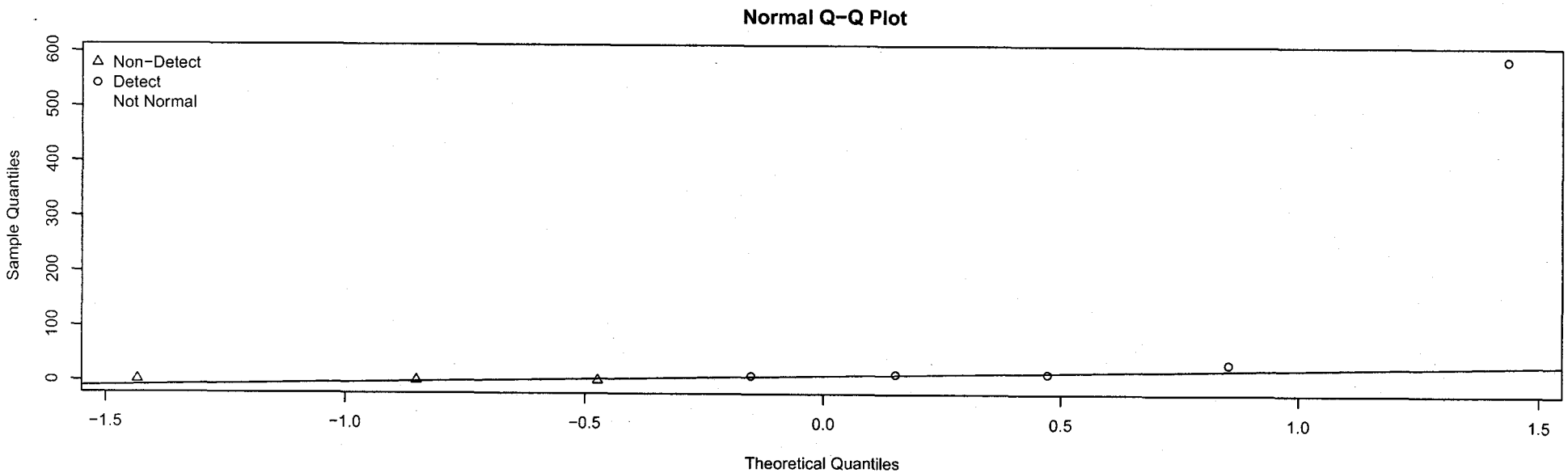


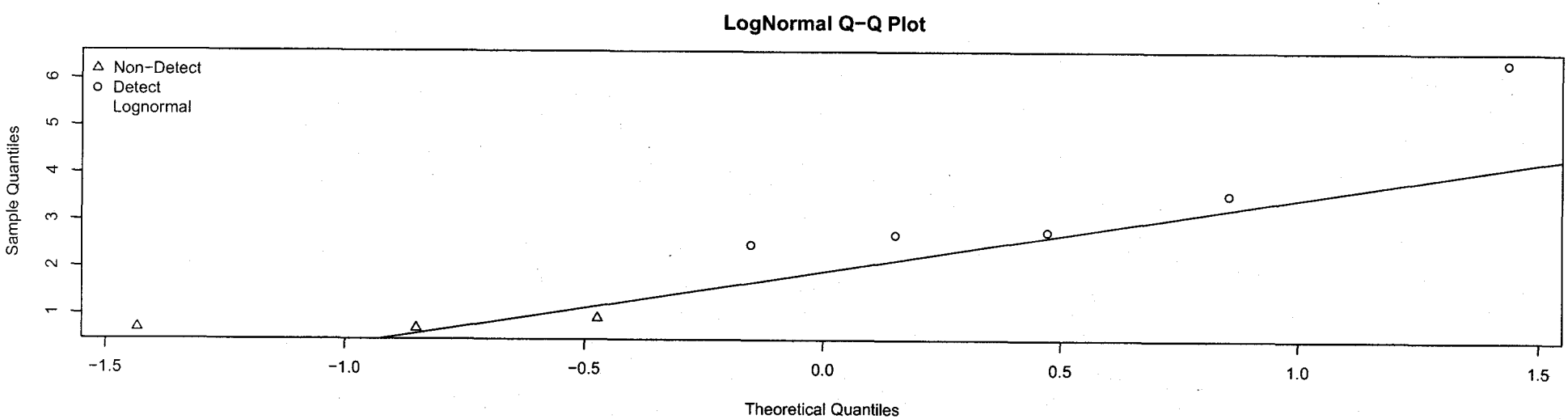
Mere Brook
Fall Sediment
FLUORANTHENE



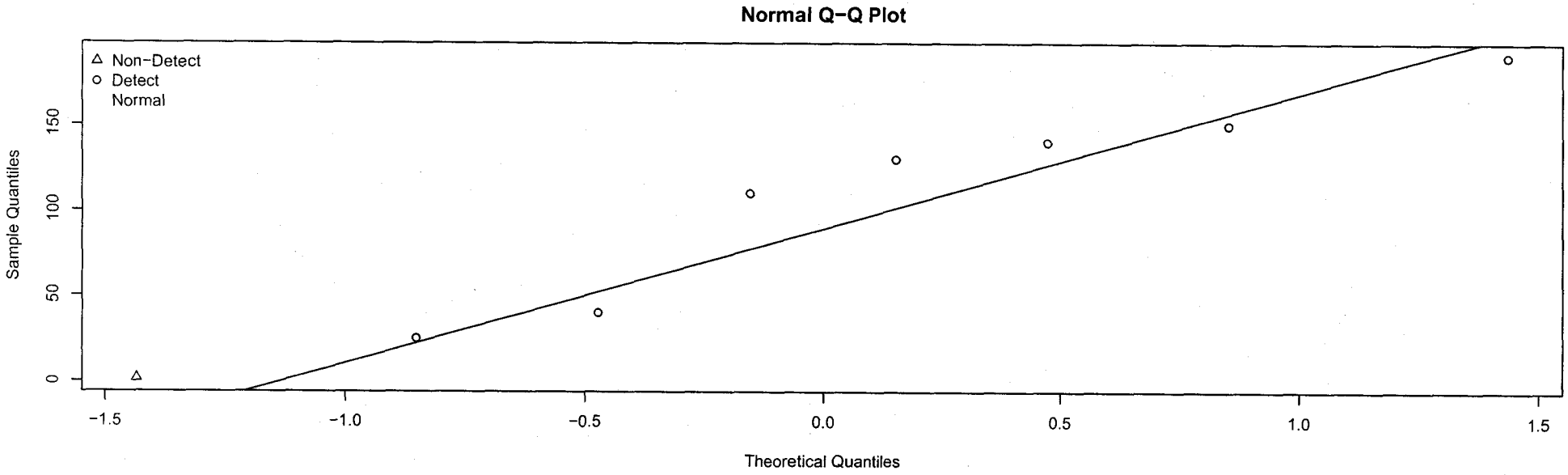


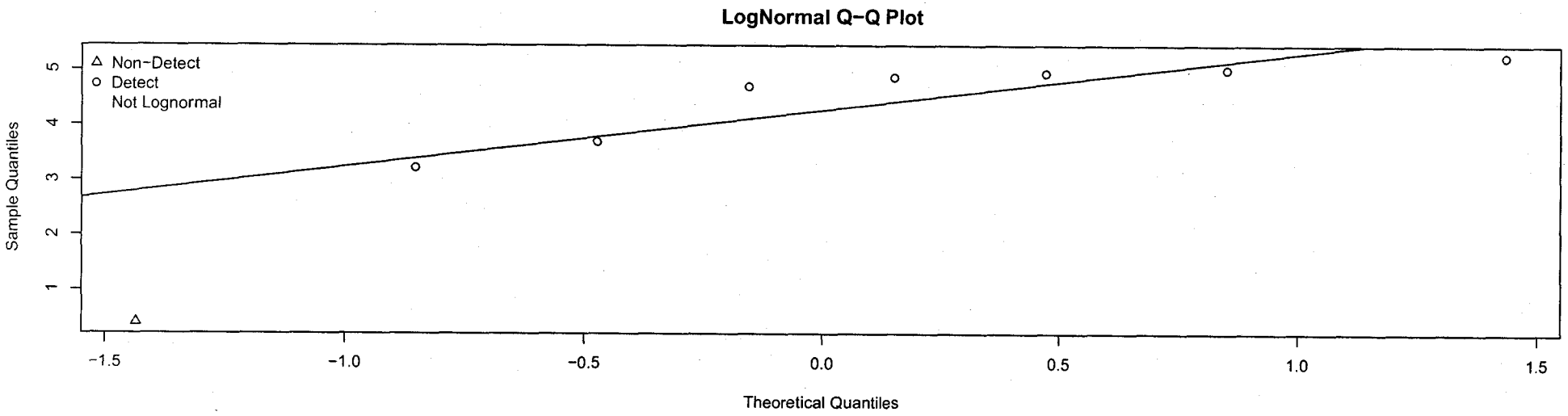
Mere Brook
Fall Sediment
FLUORENE



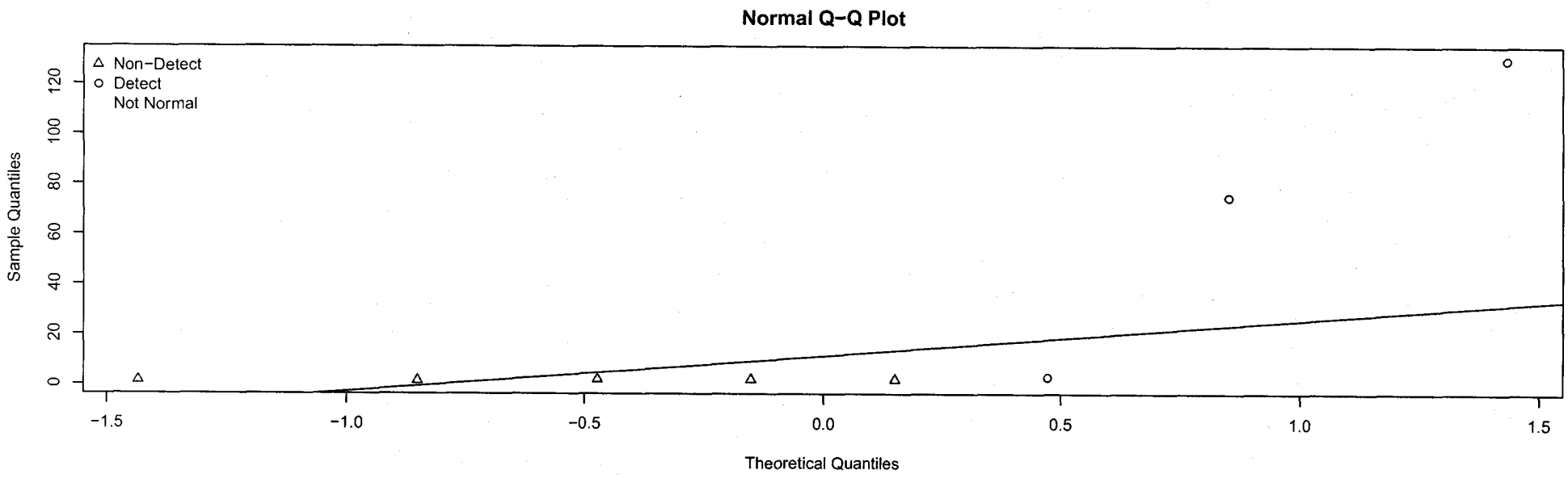


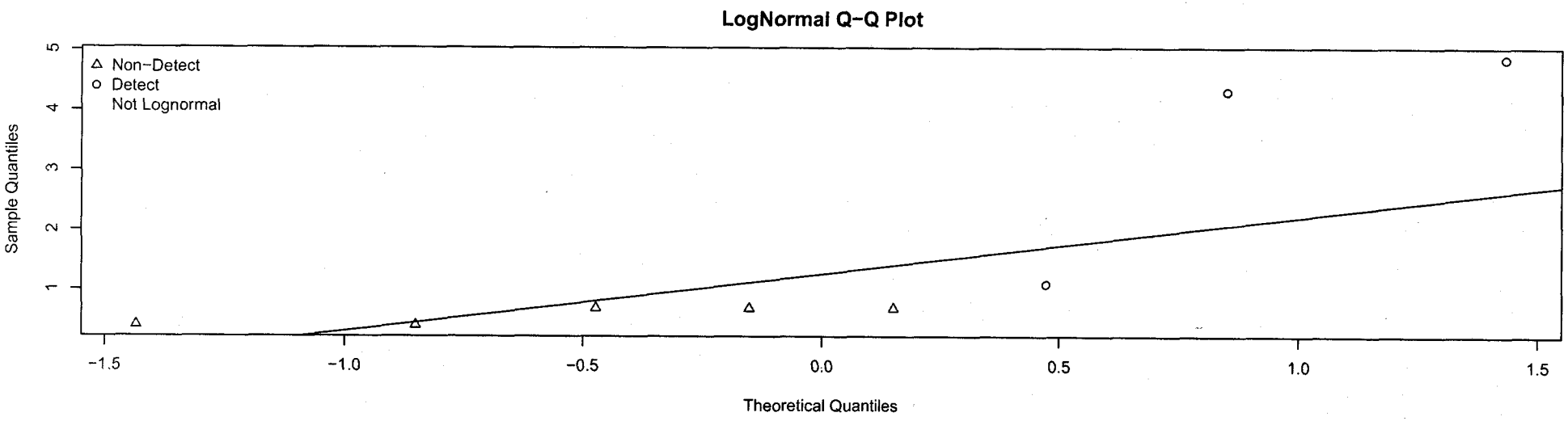
Mere Brook
Fall Sediment
INDENO(1,2,3-CD)PYRENE



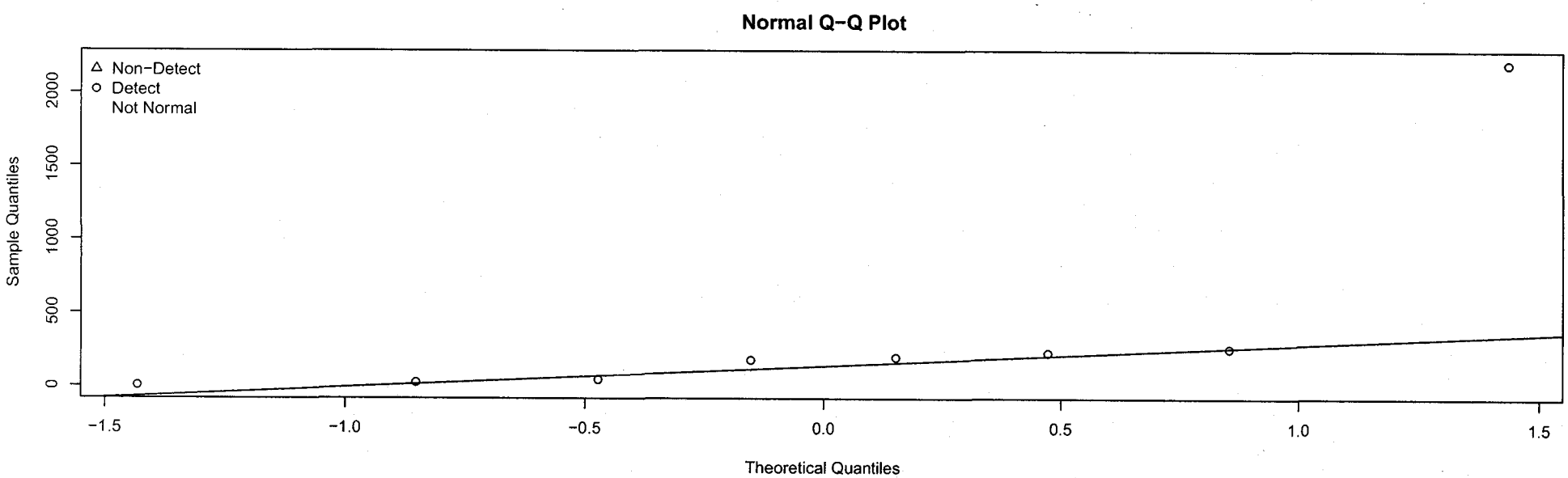


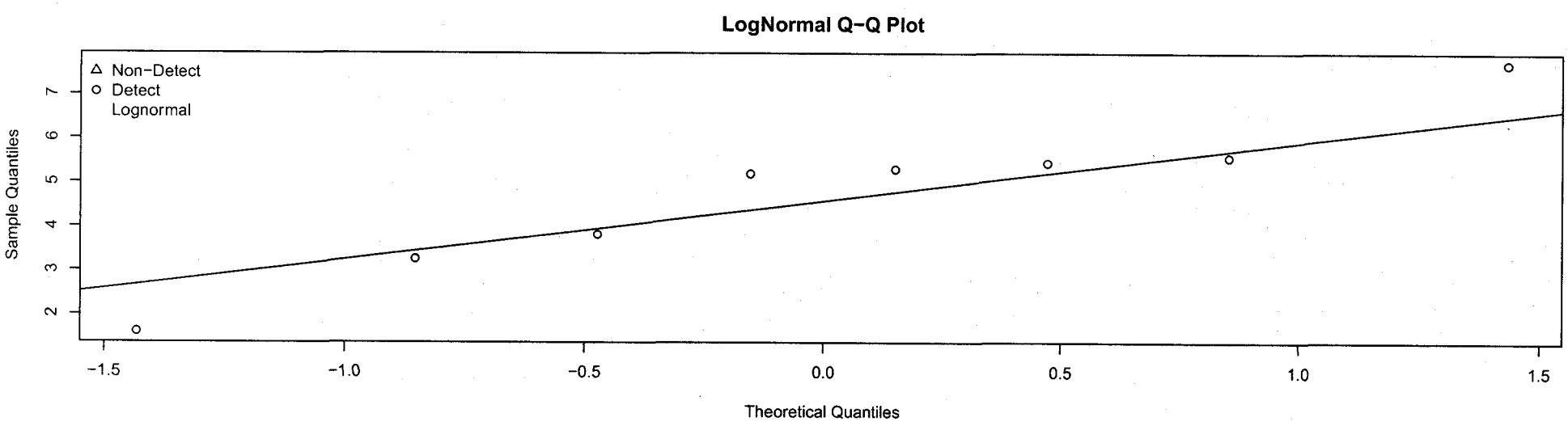
Mere Brook
Fall Sediment
NAPHTHALENE



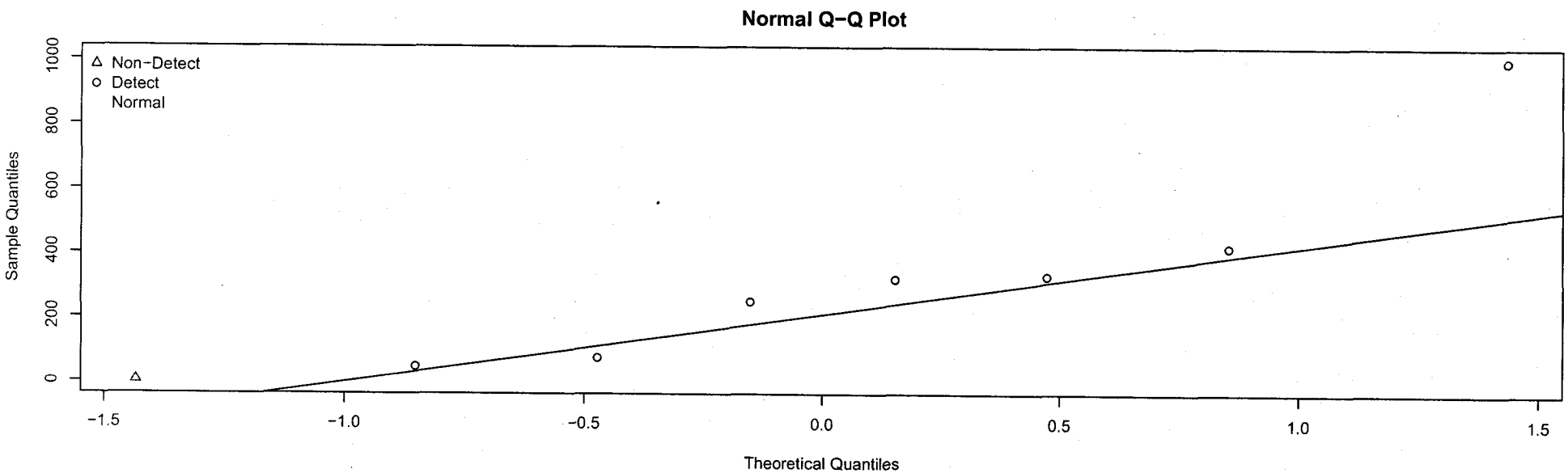


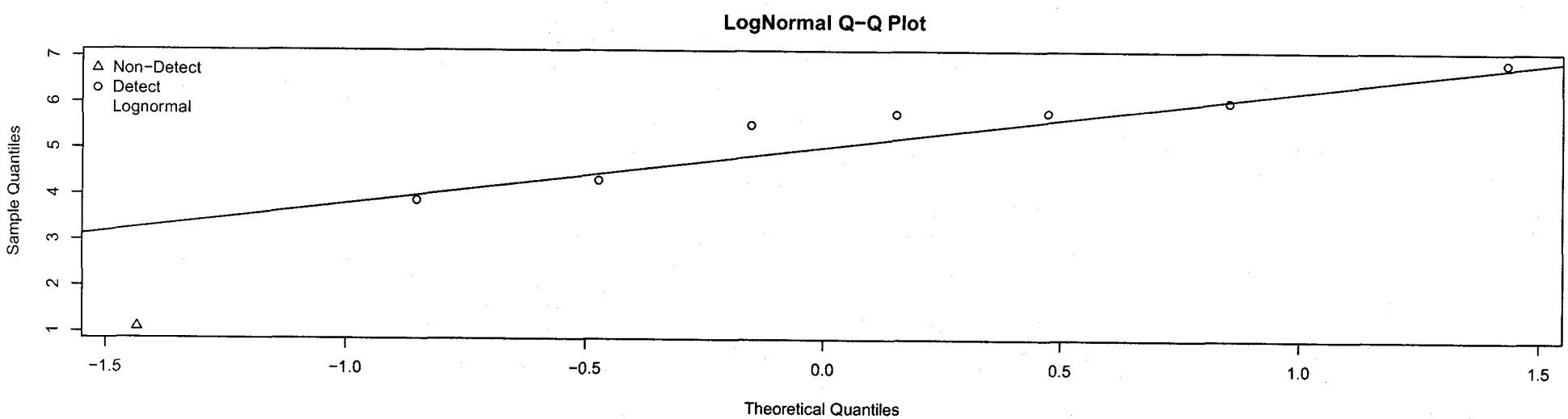
Mere Brook
Fall Sediment
PHENANTHRENE



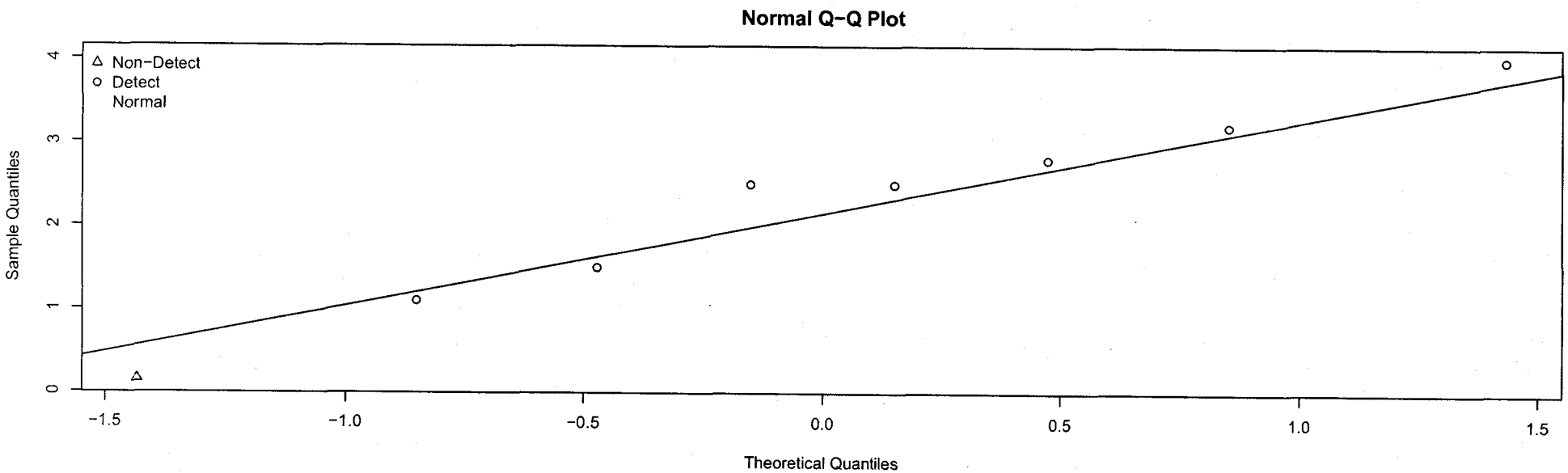


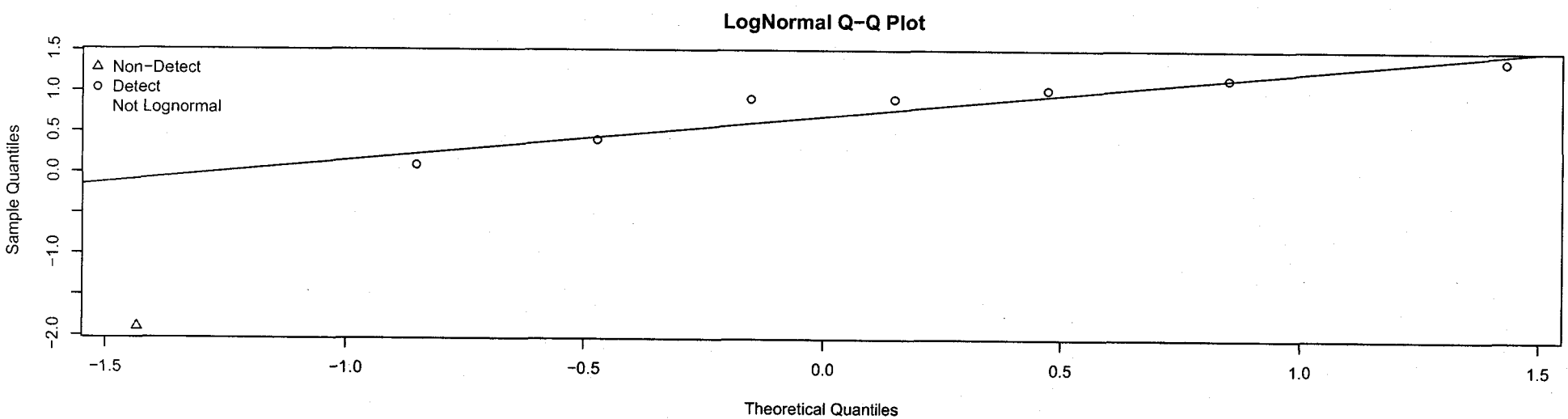
Mere Brook
Fall Sediment
PYRENE



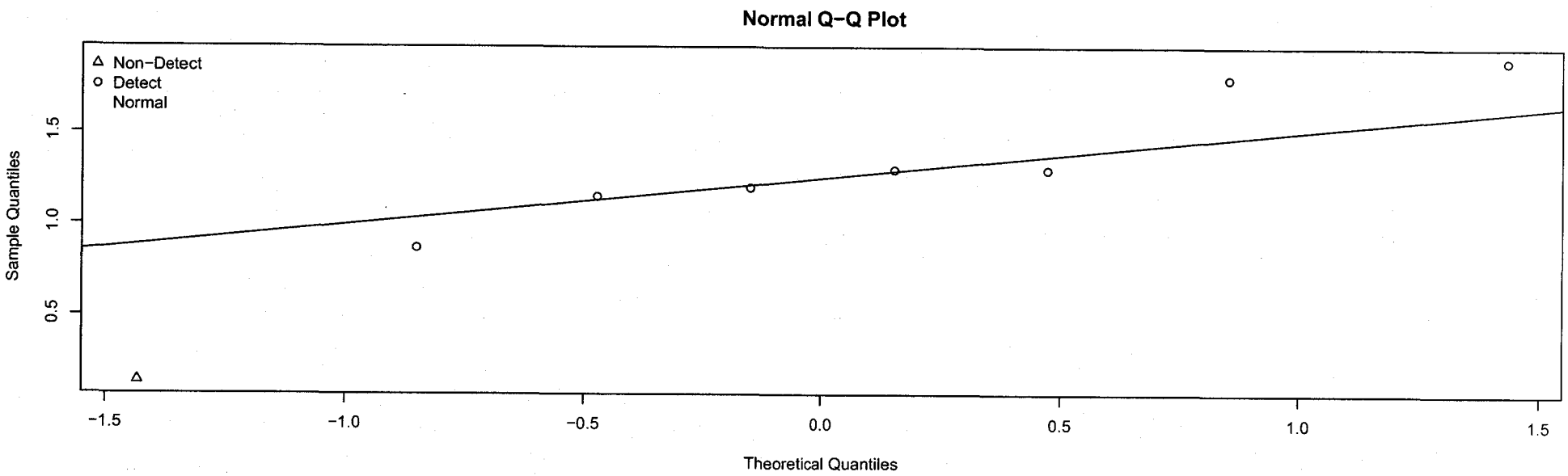


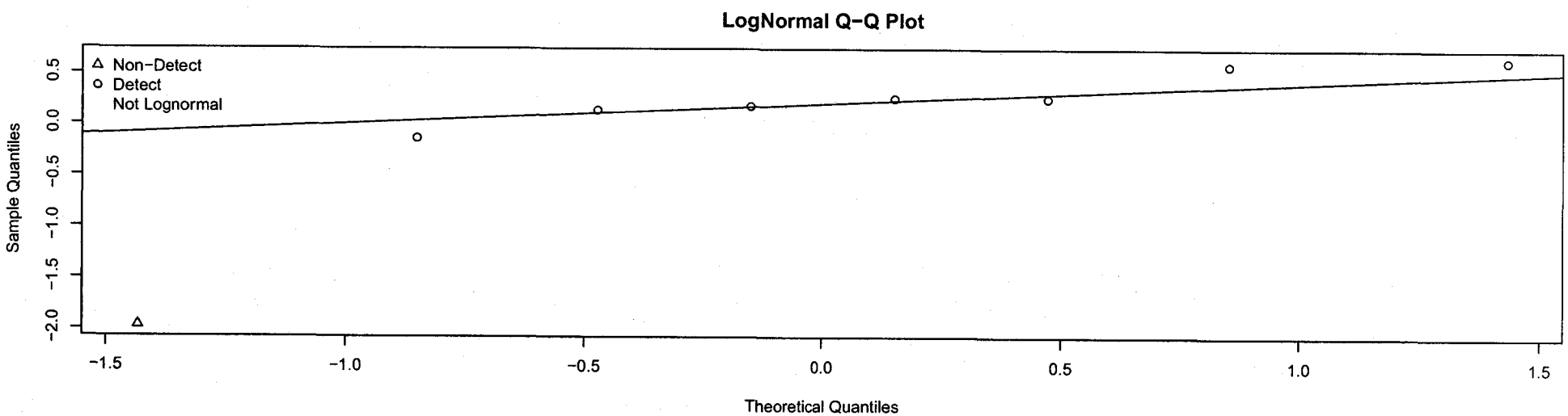
Mere Brook
Fall Sediment
4,4'-DDD



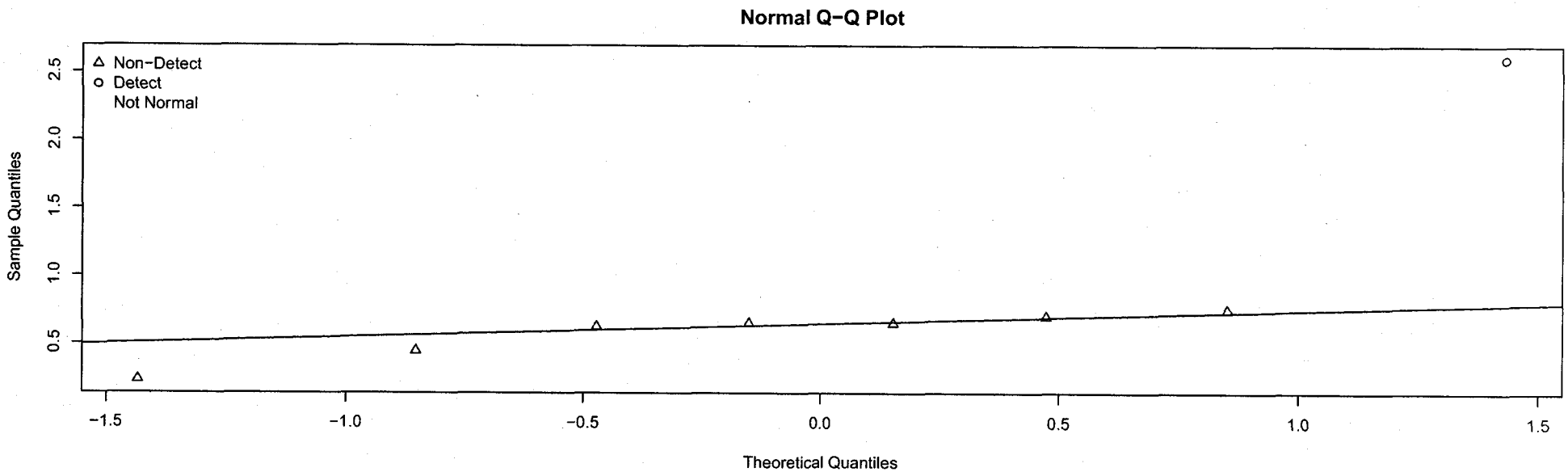


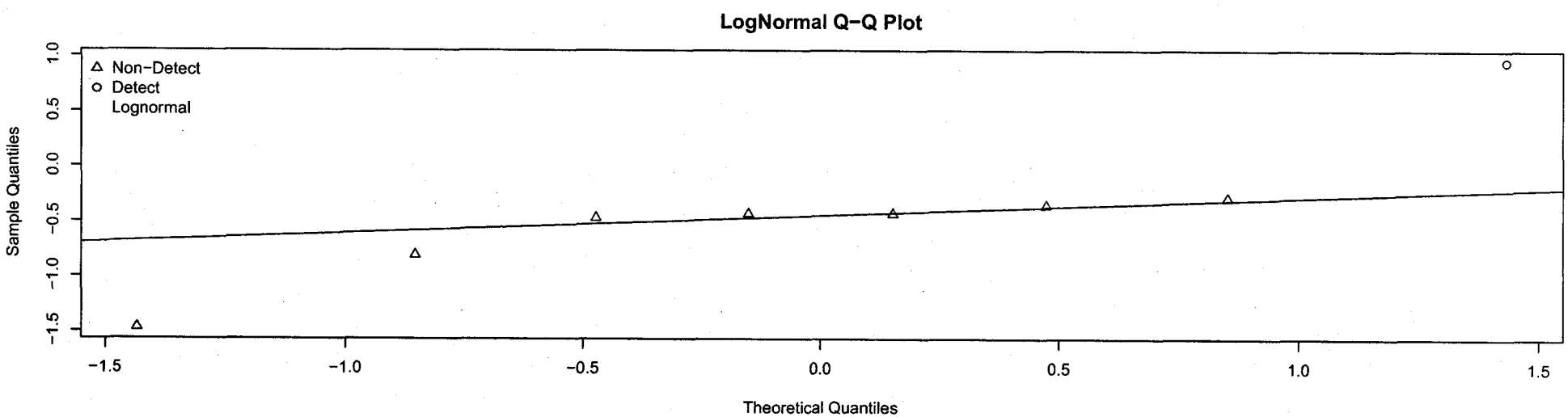
Mere Brook
Fall Sediment
4,4'-DDE



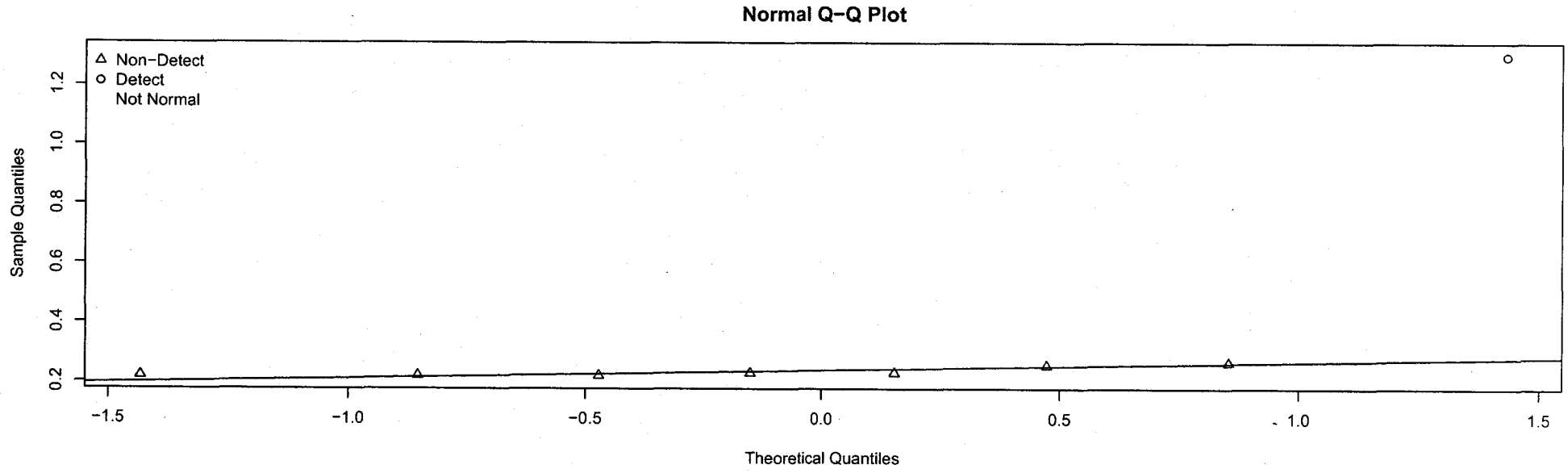


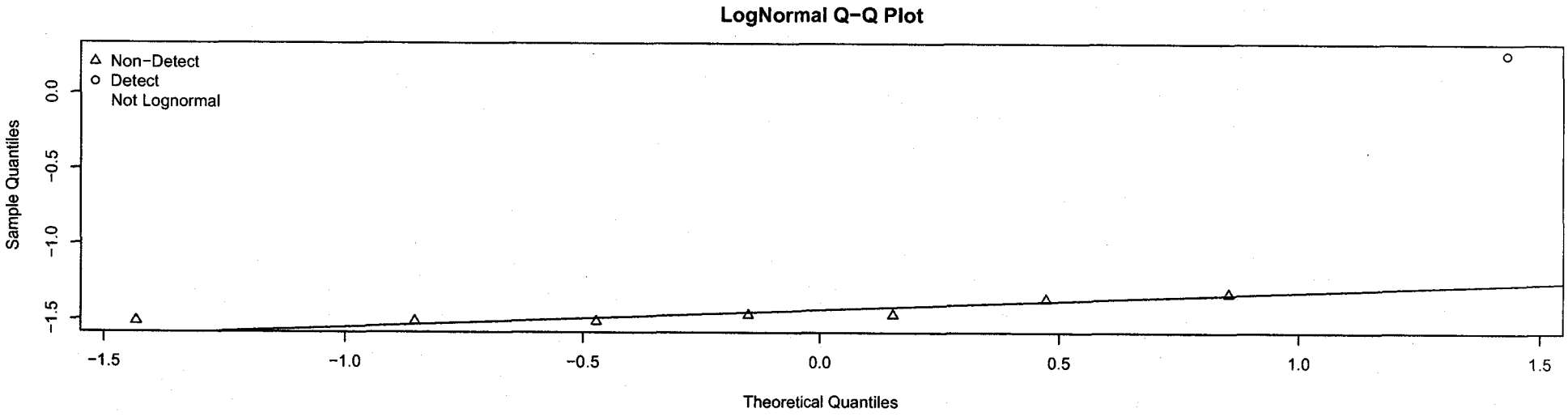
Mere Brook
Fall Sediment
4,4'-DDT



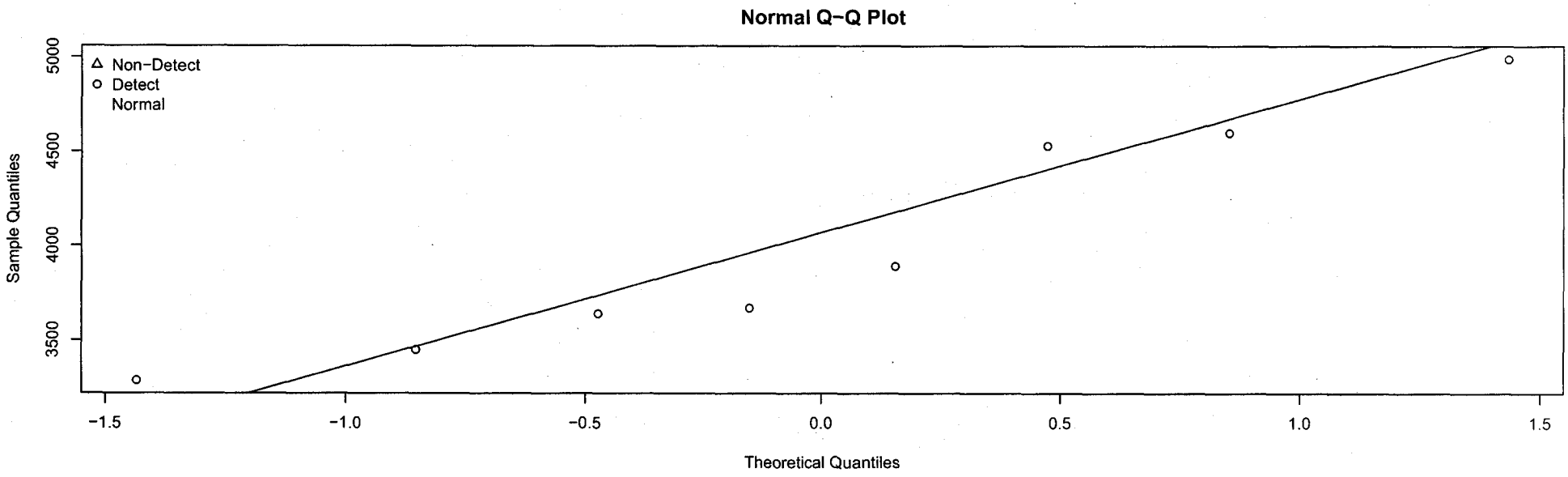


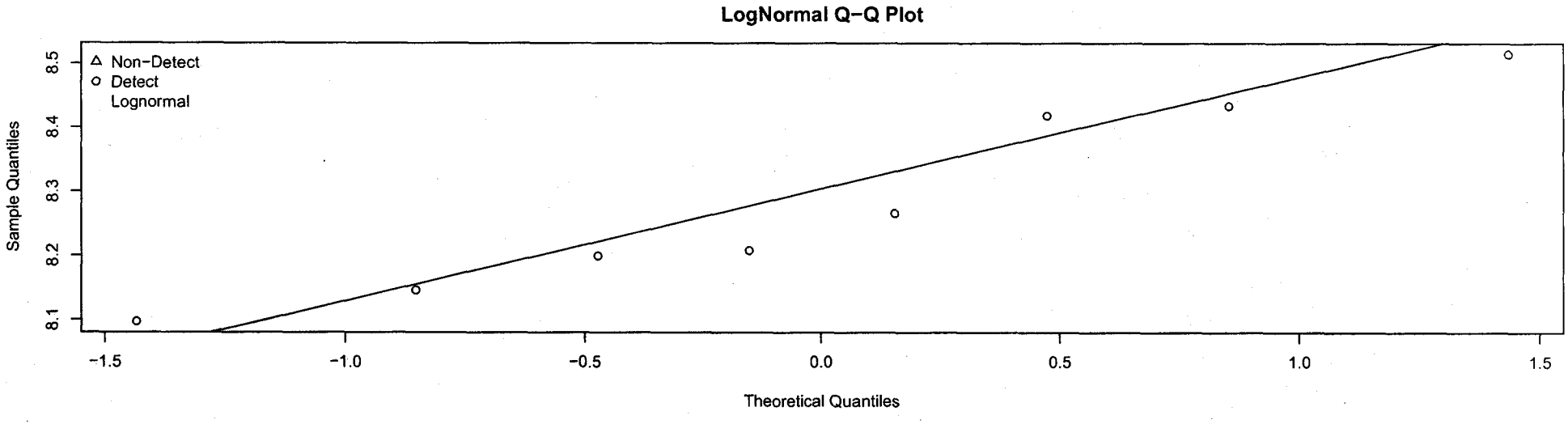
Mere Brook
Fall Sediment
ENDOSULFAN II



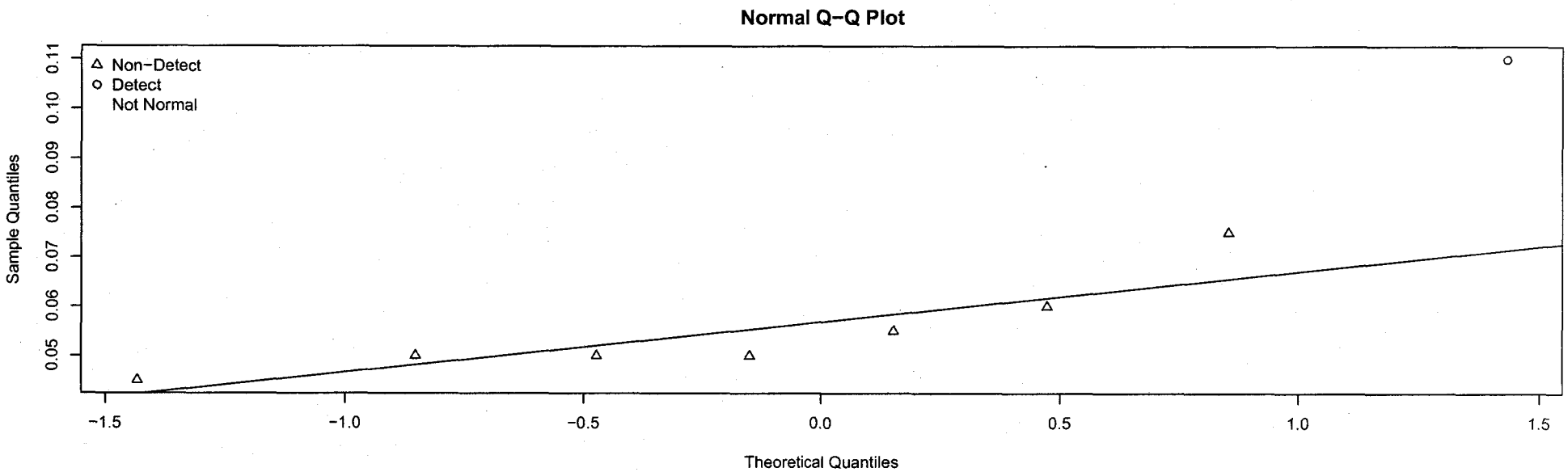


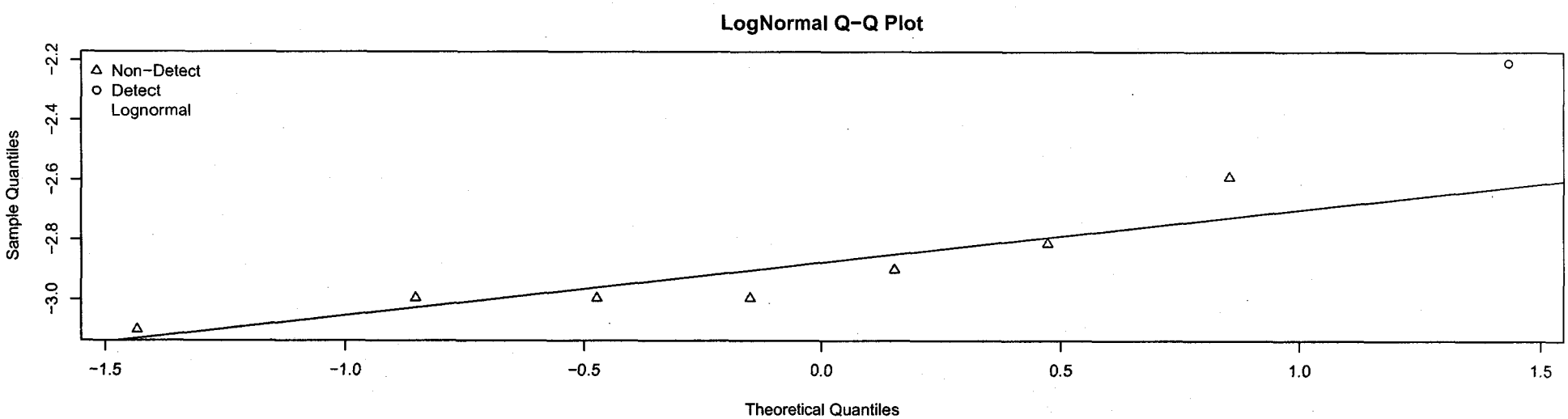
Mere Brook
Fall Sediment
ALUMINUM



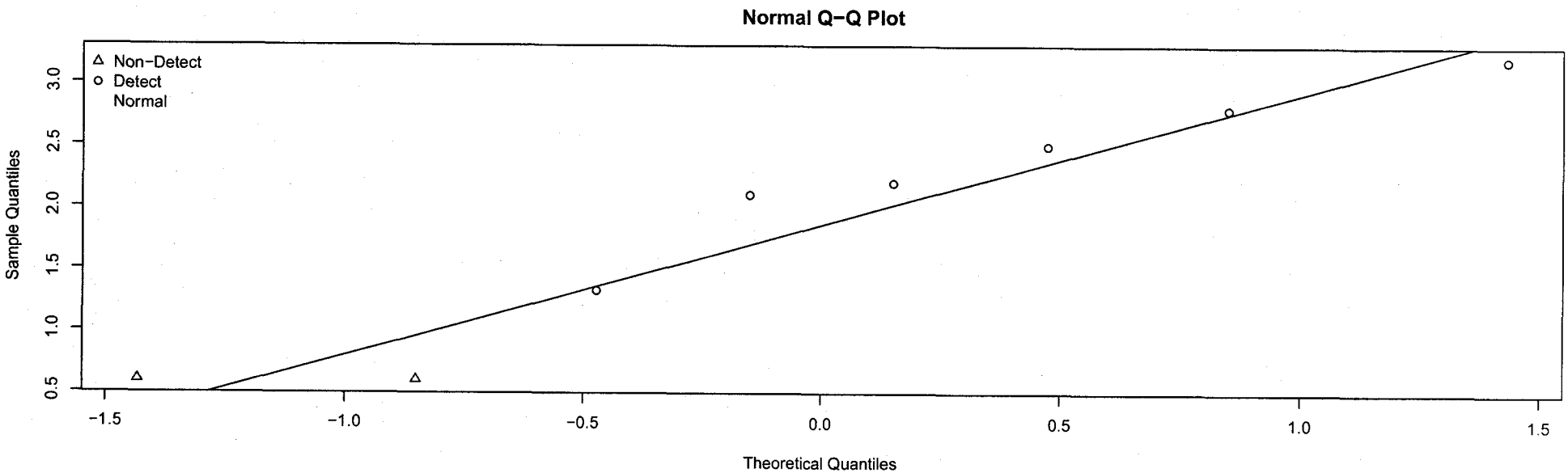


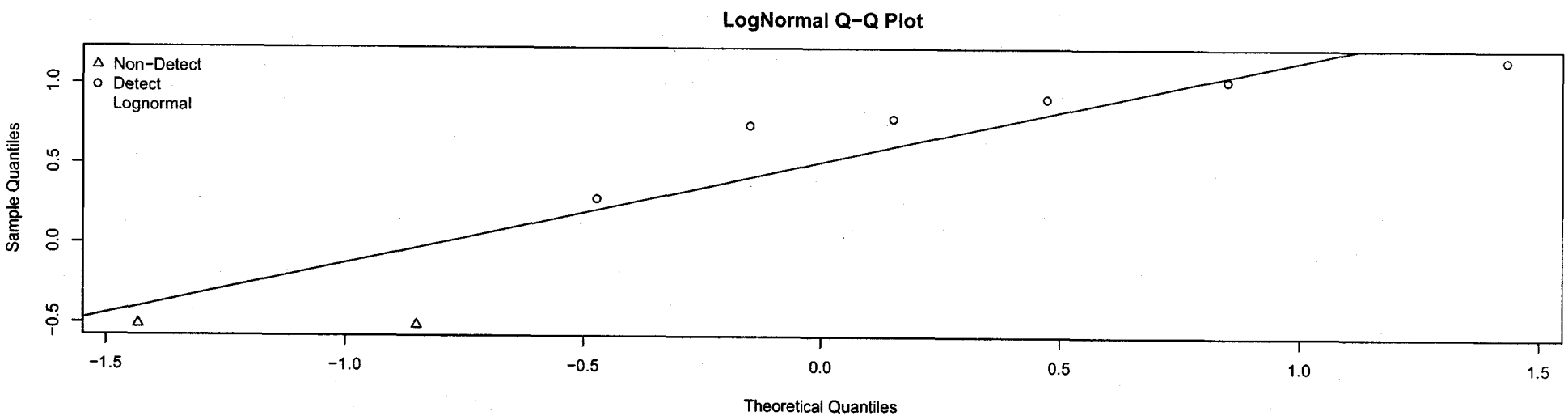
Mere Brook
Fall Sediment
ANTIMONY



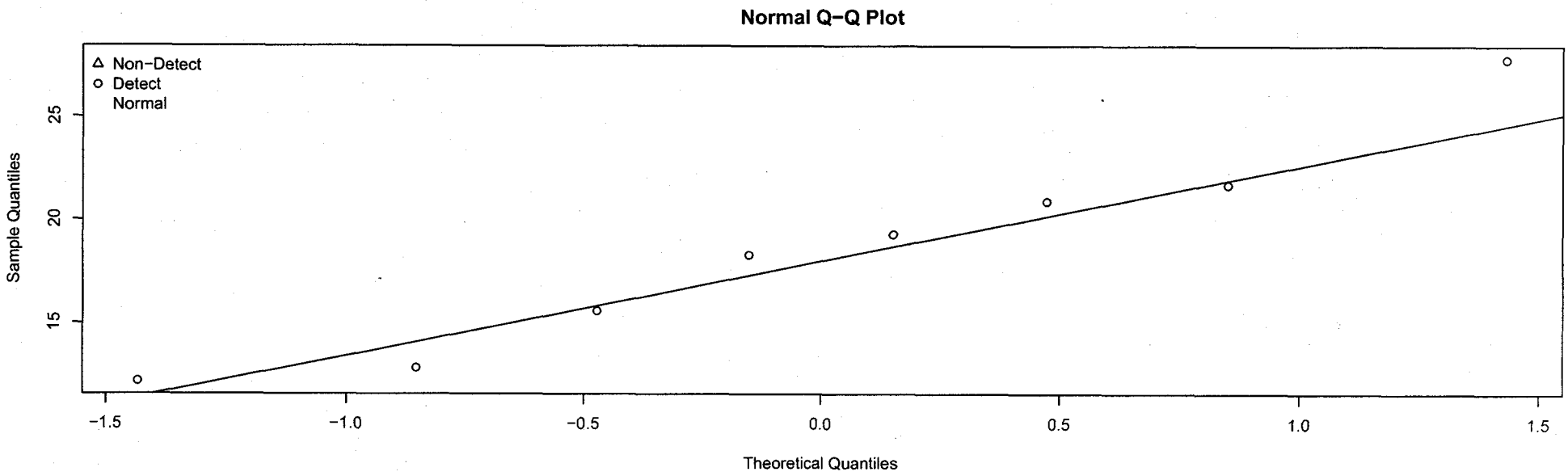


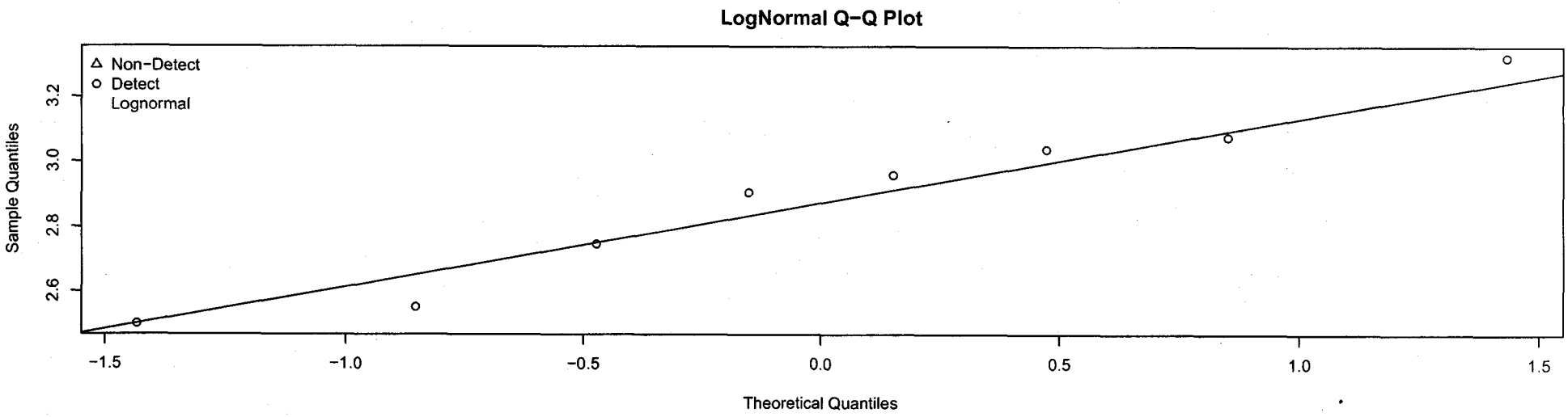
Mere Brook
Fall Sediment
ARSENIC



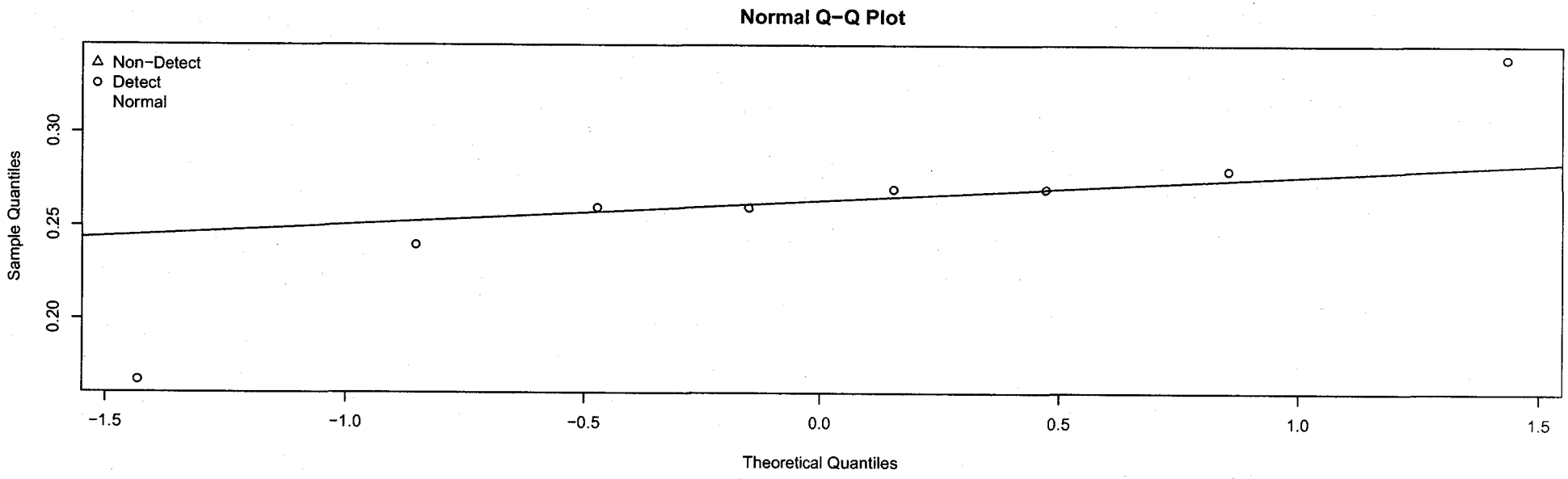


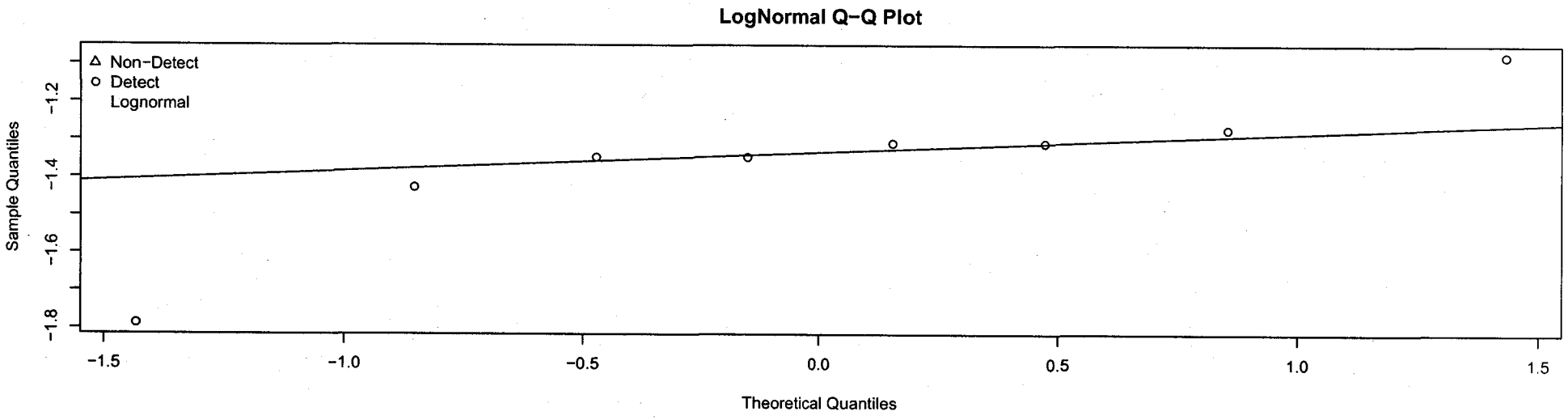
Mere Brook
Fall Sediment
BARIUM



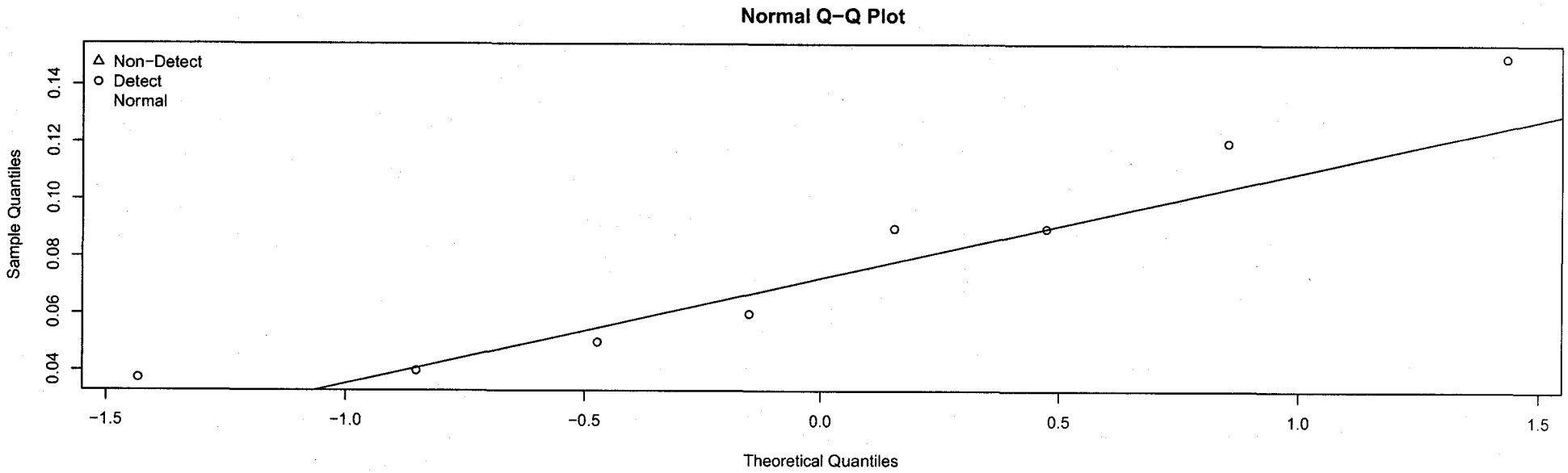


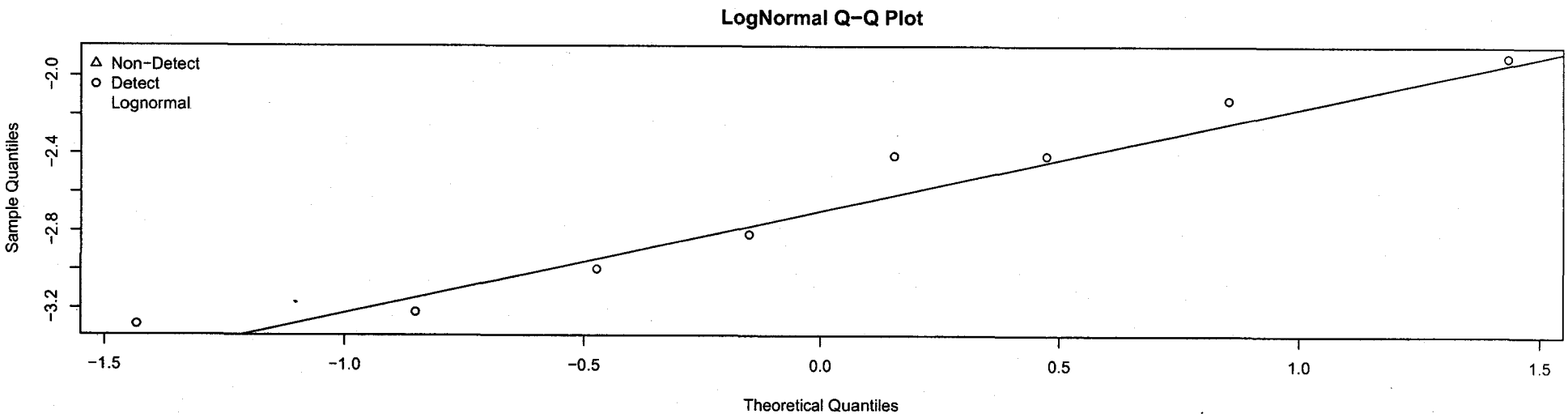
Mere Brook
Fall Sediment
BERYLLIUM



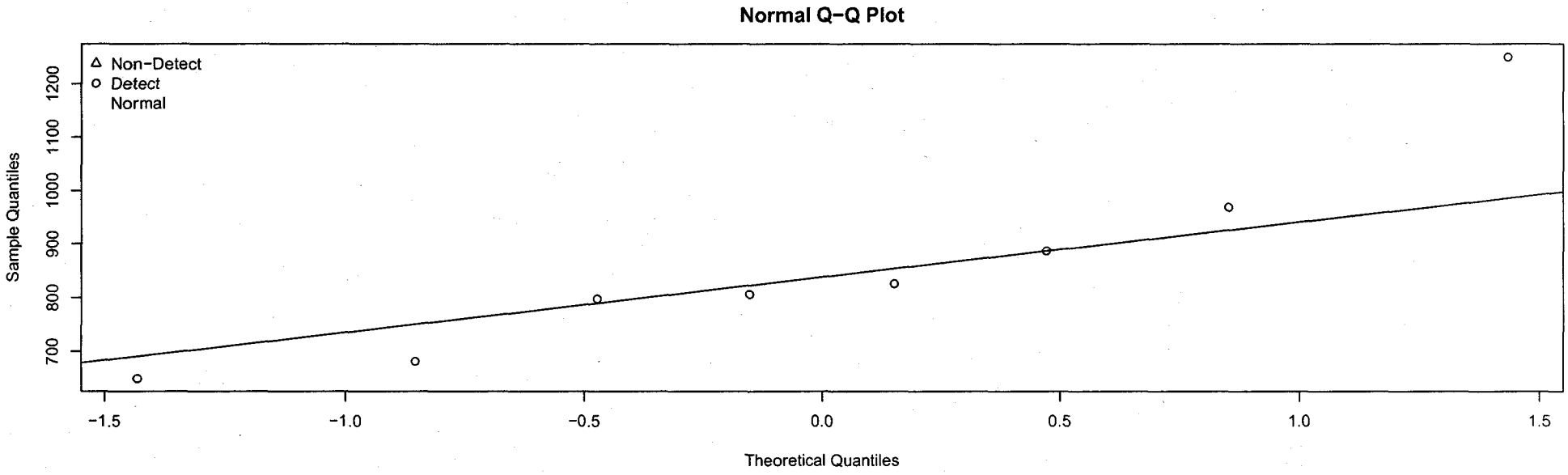


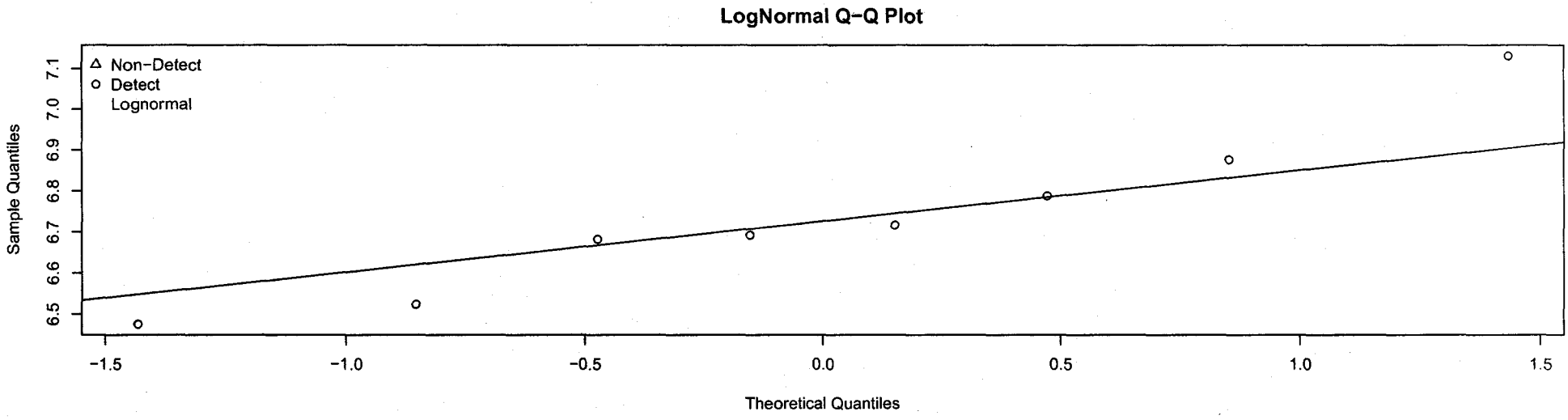
Mere Brook
Fall Sediment
CADMIUM



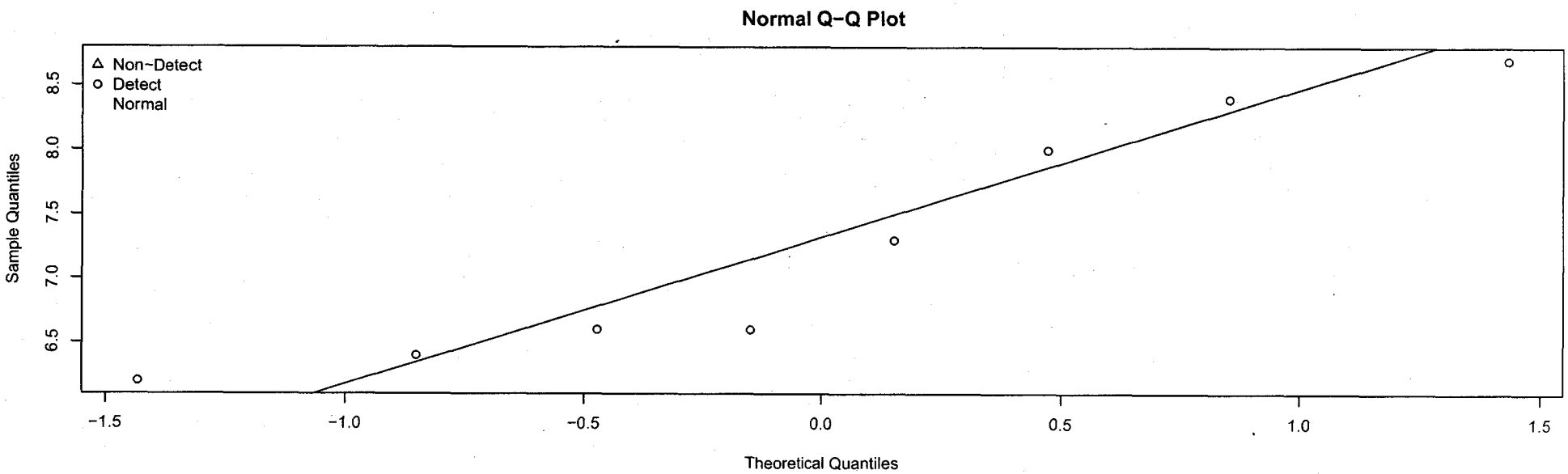


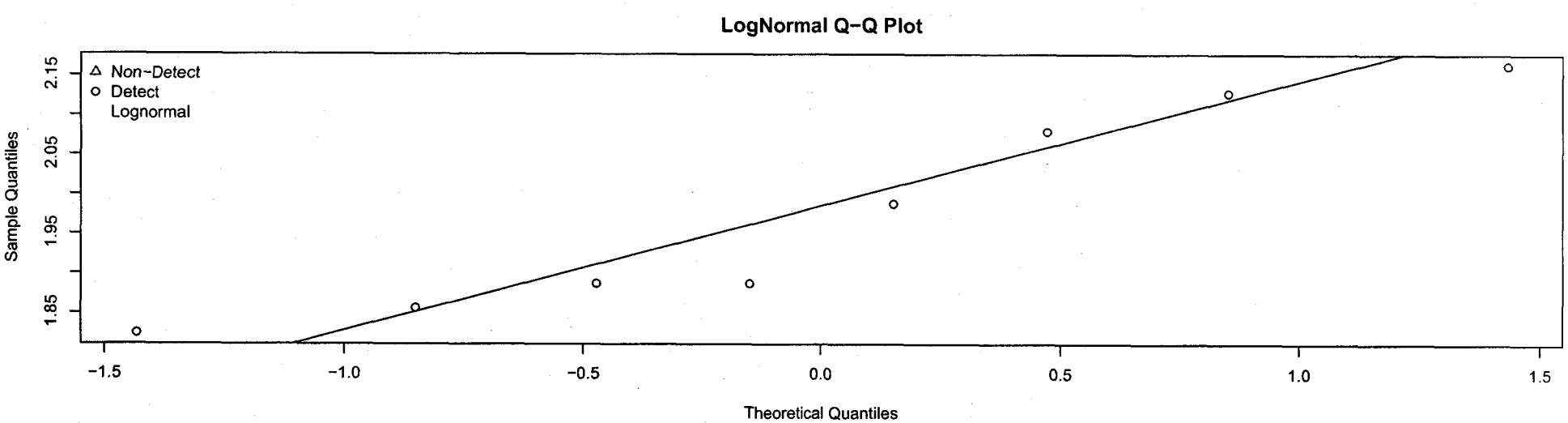
Mere Brook
Fall Sediment
CALCIUM



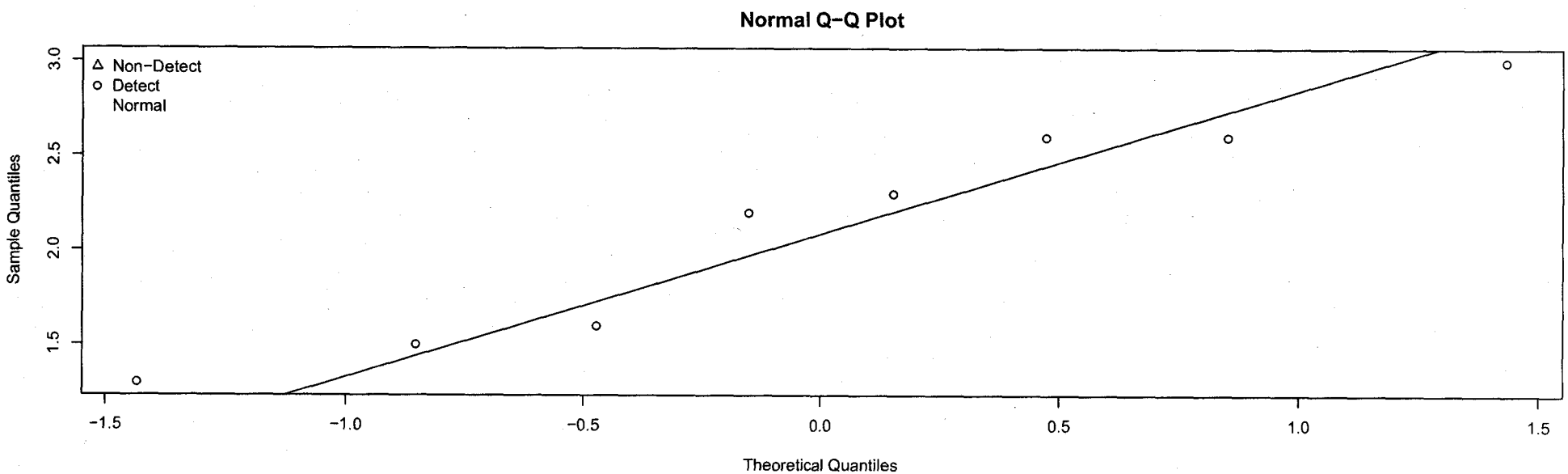


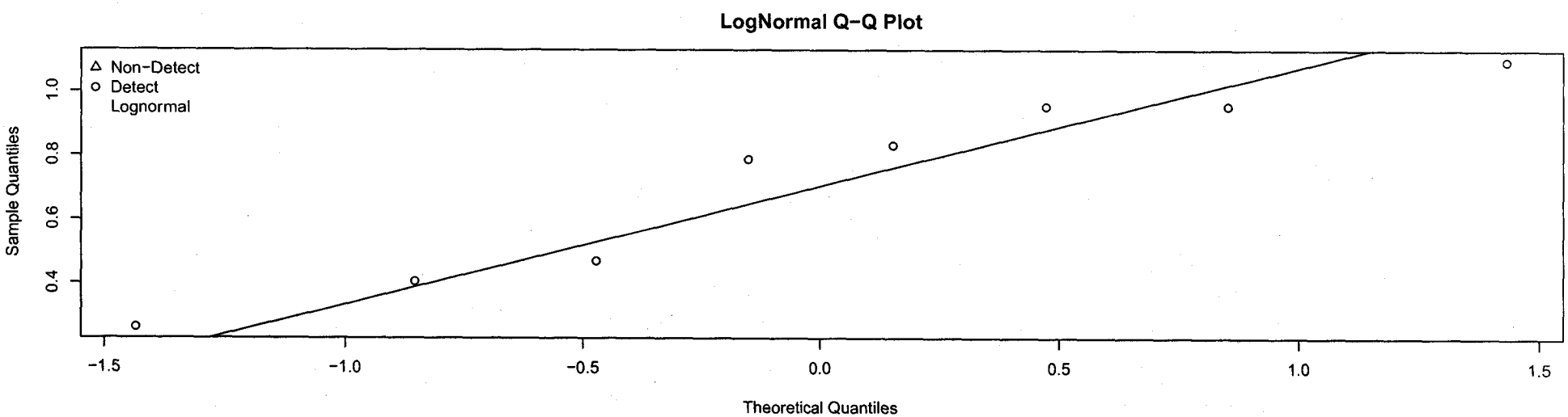
Mere Brook
Fall Sediment
CHROMIUM



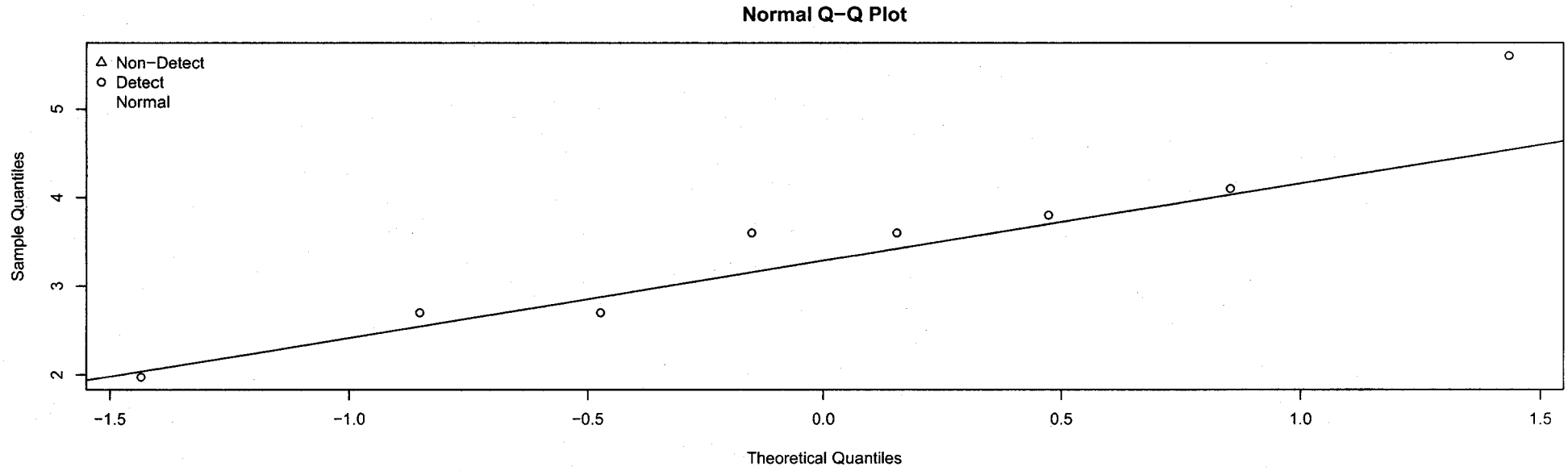


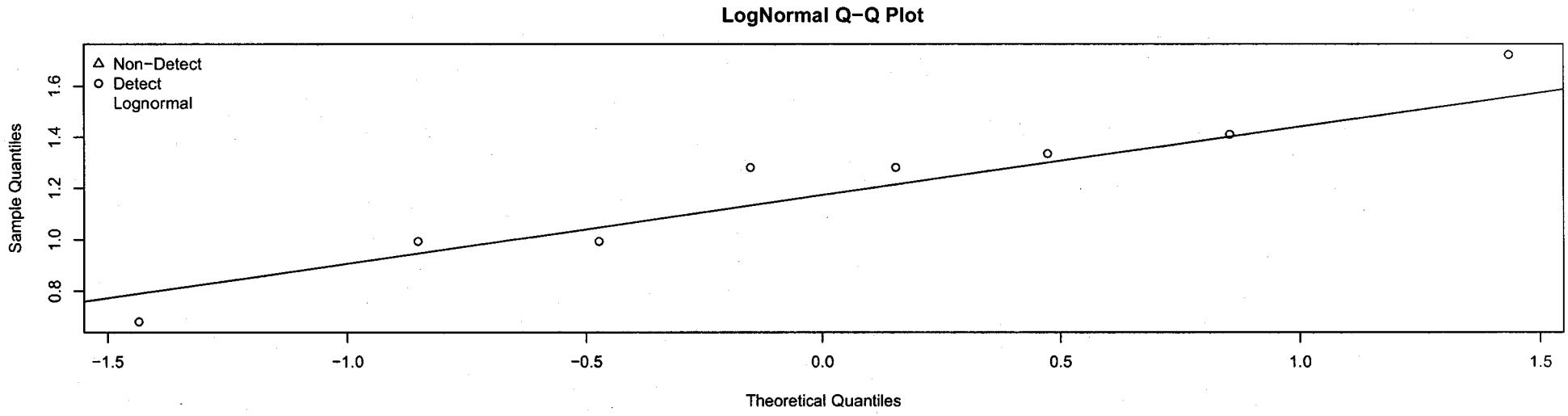
Mere Brook
Fall Sediment
COBALT



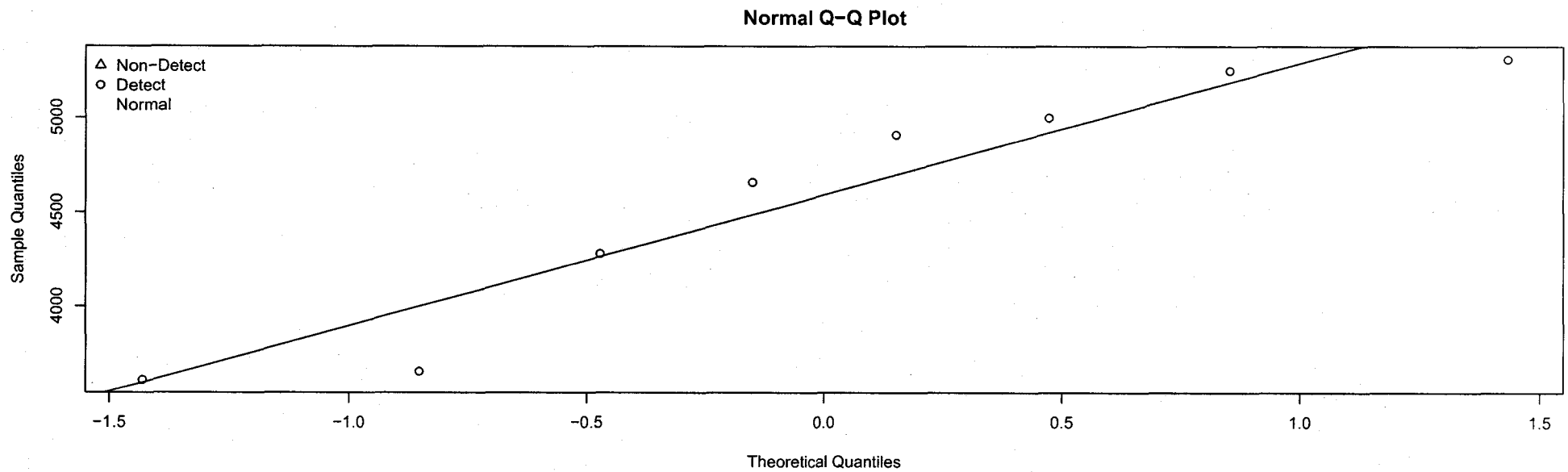


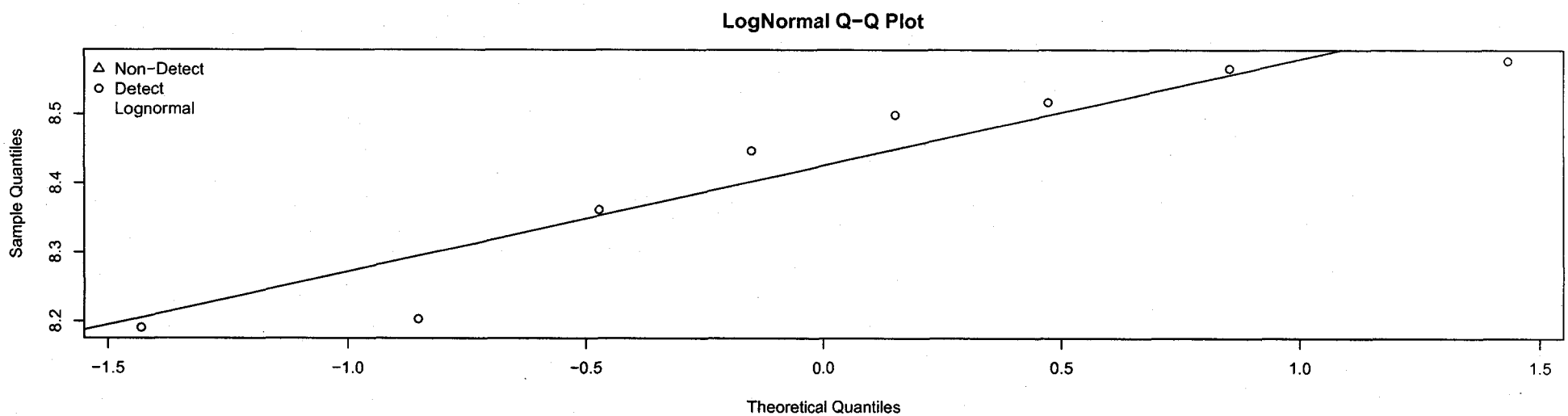
Mere Brook
Fall Sediment
COPPER



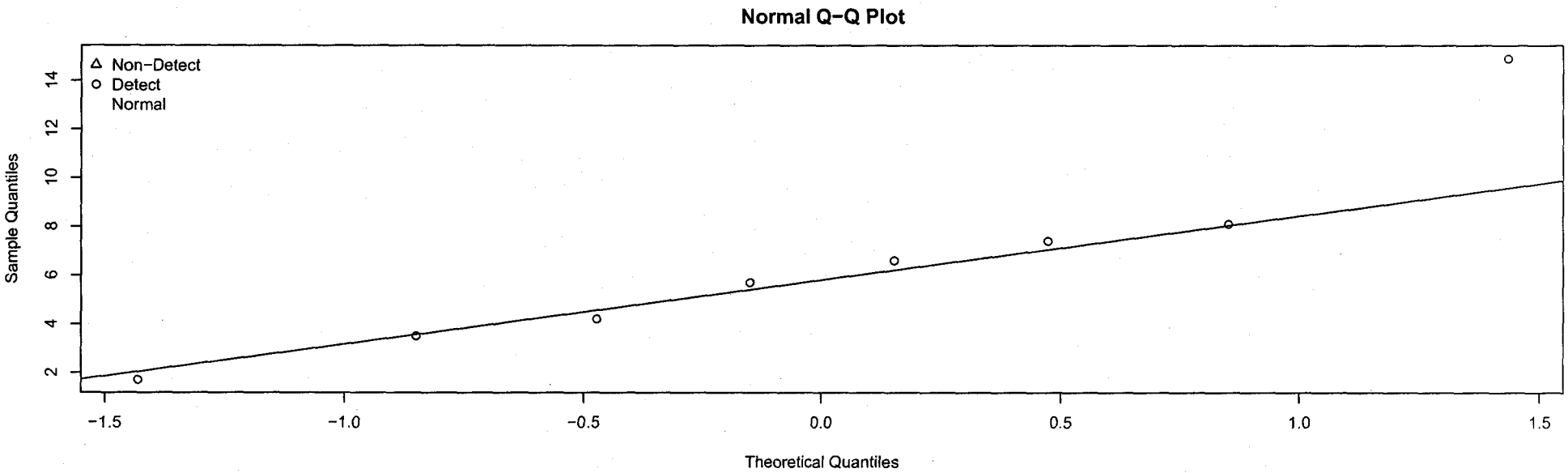


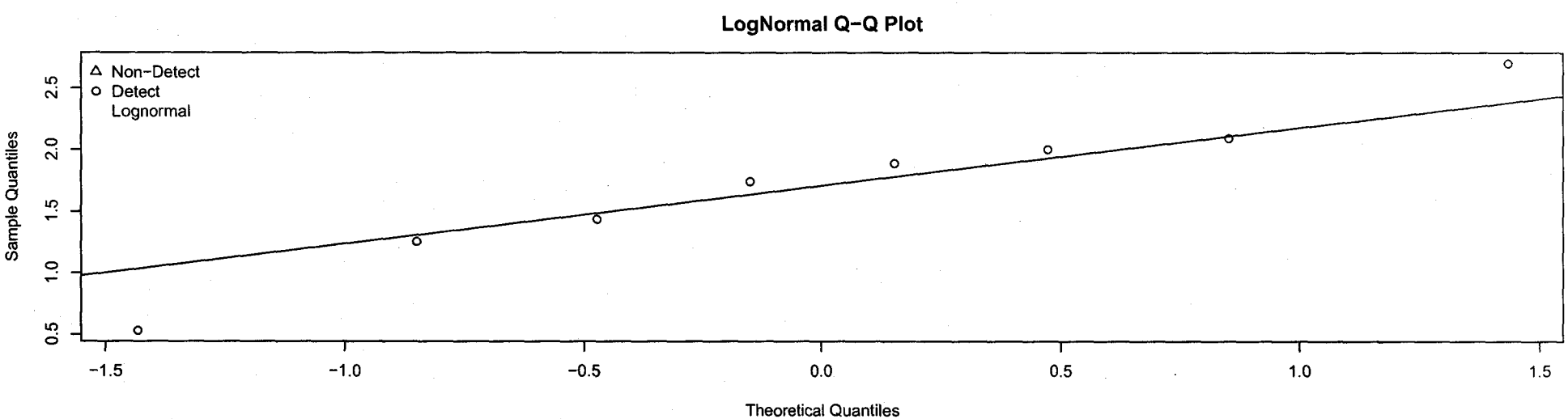
Mere Brook
Fall Sediment
IRON



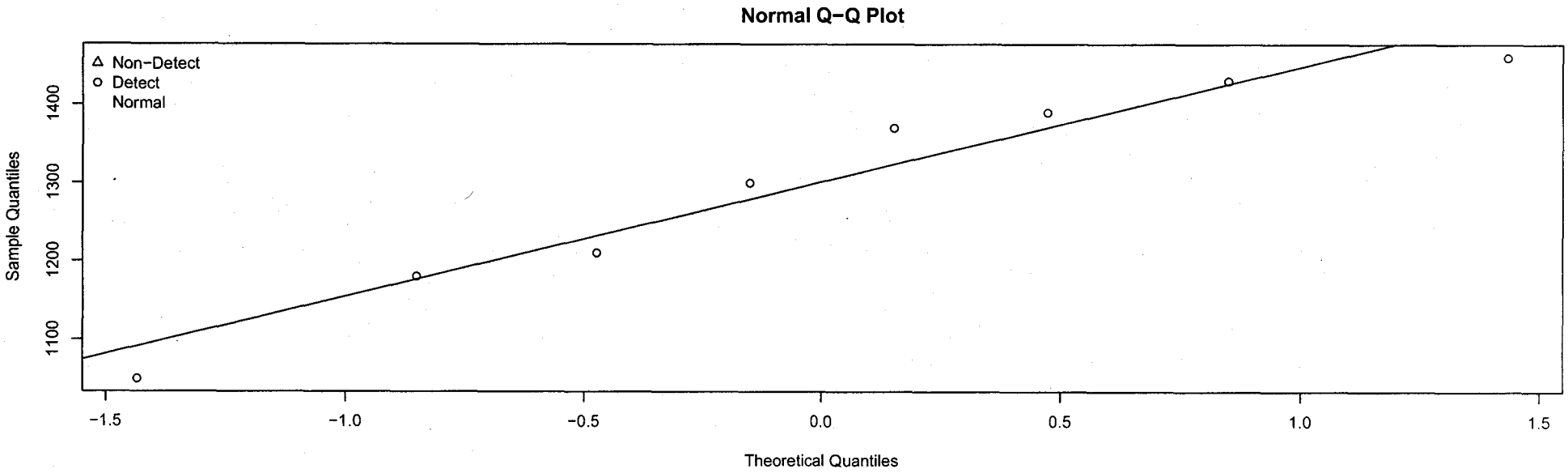


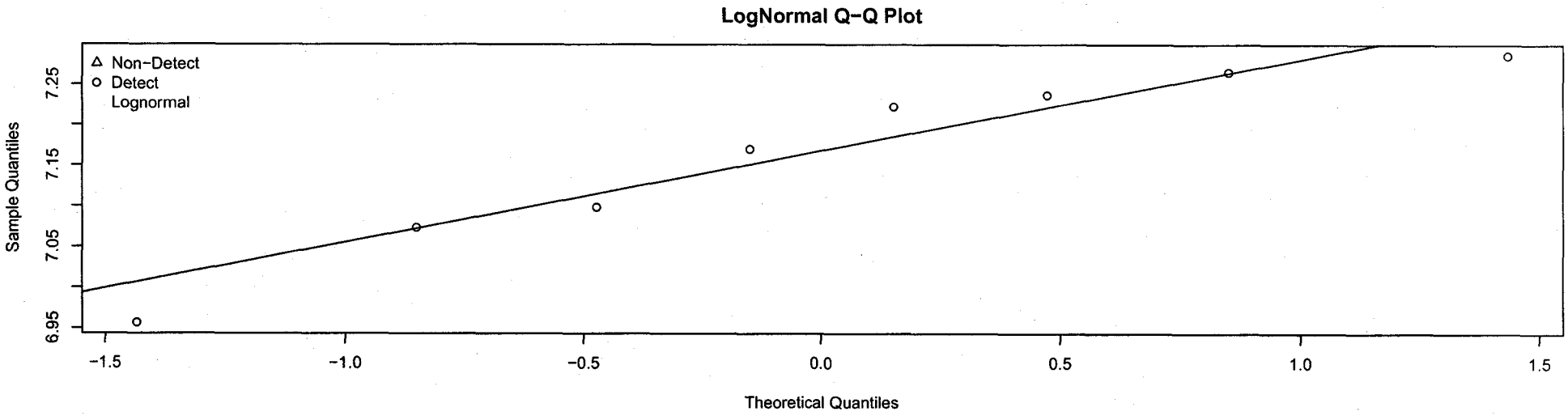
Mere Brook
Fall Sediment
LEAD



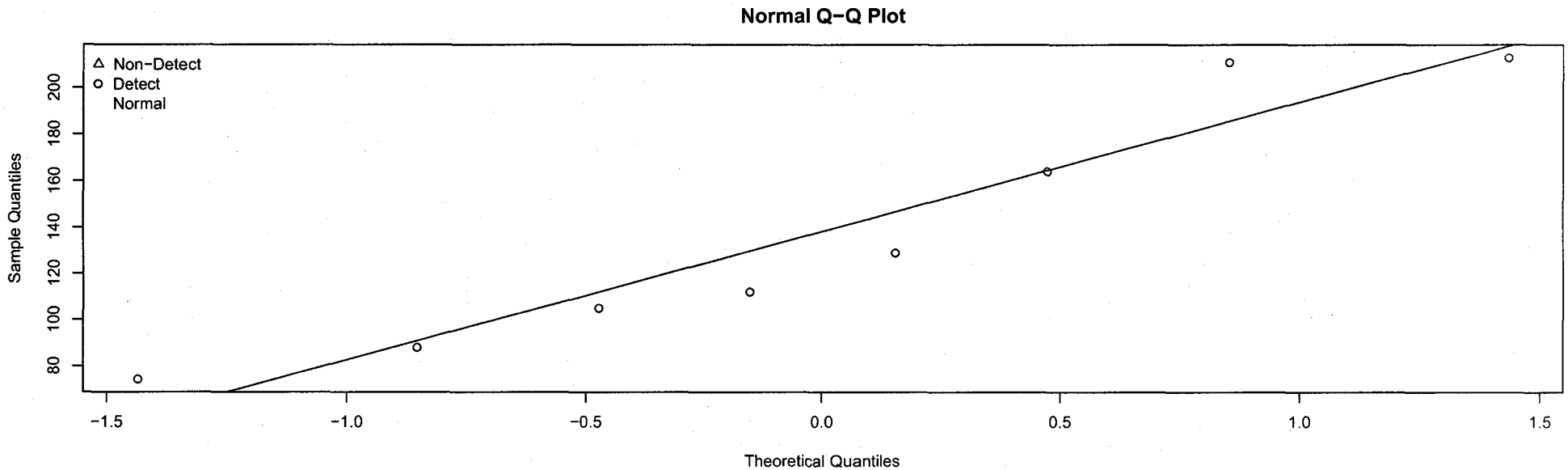


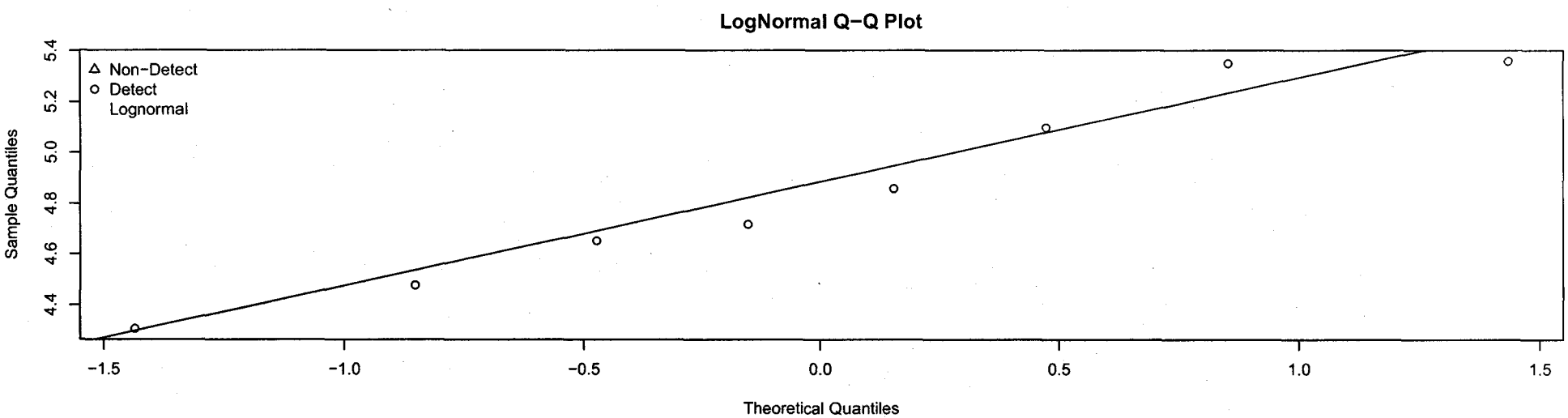
Mere Brook
Fall Sediment
MAGNESIUM





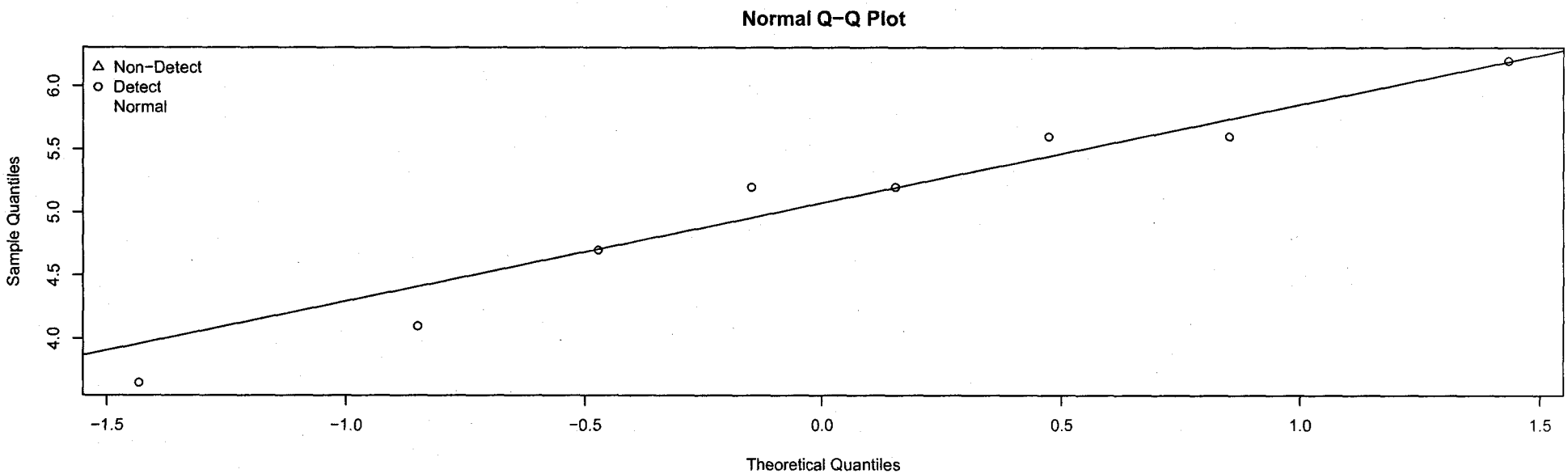
Mere Brook
Fall Sediment
MANGANESE

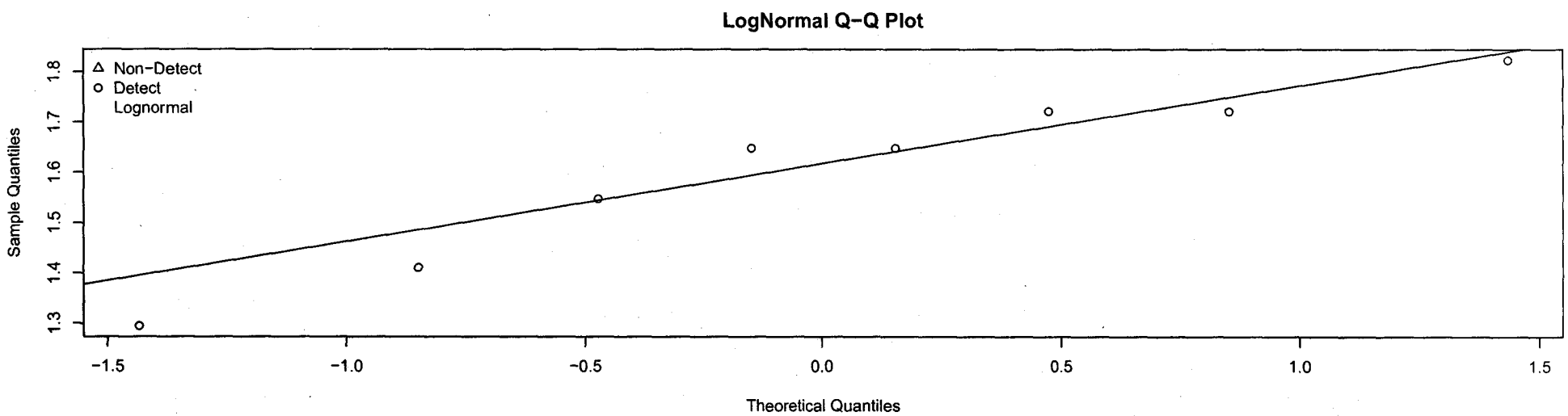




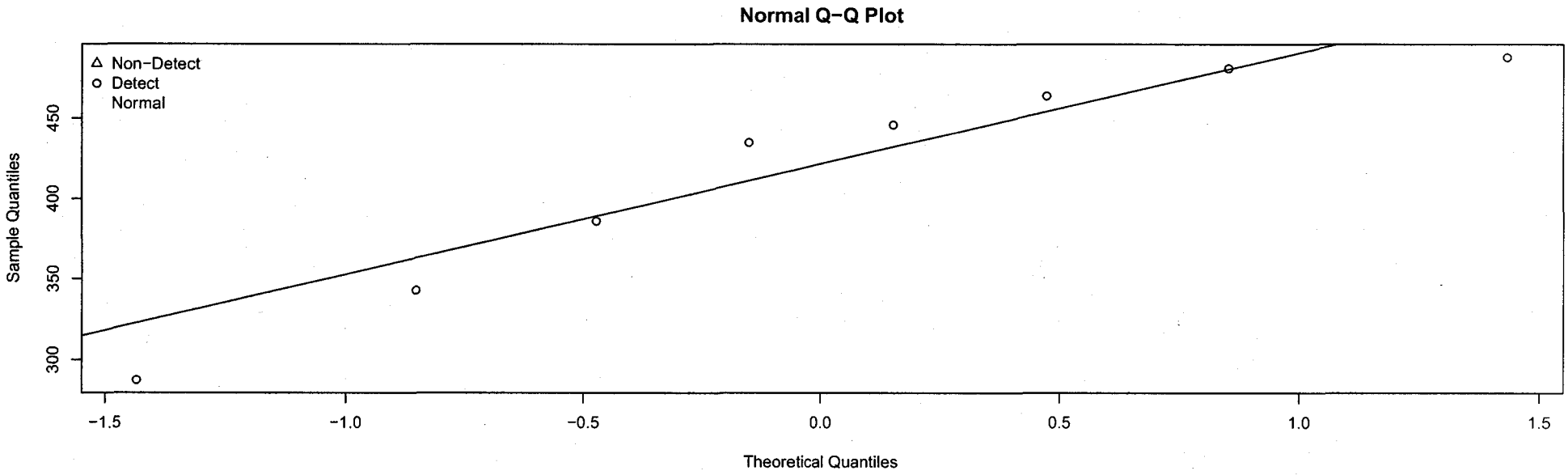
Mere Brook
Fall Sediment

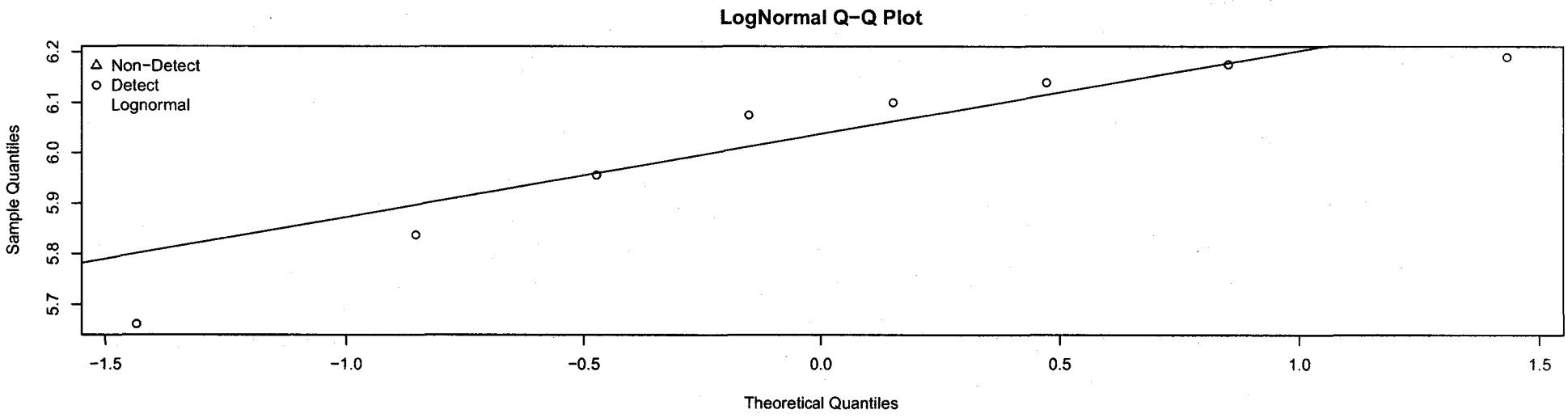
NICKEL



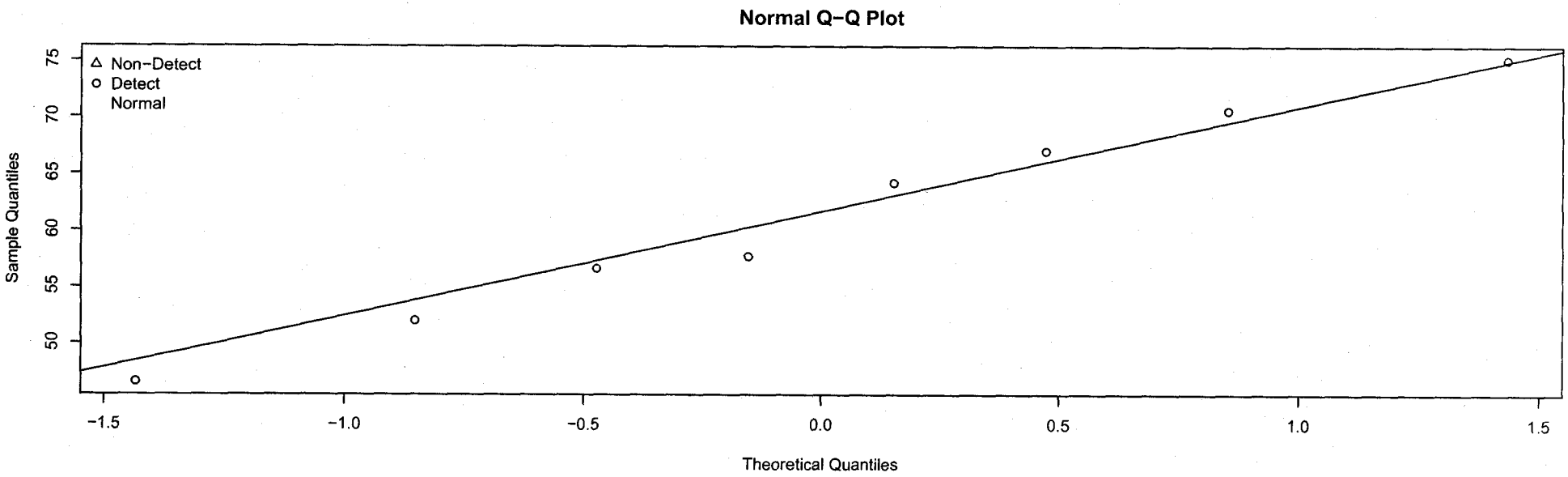


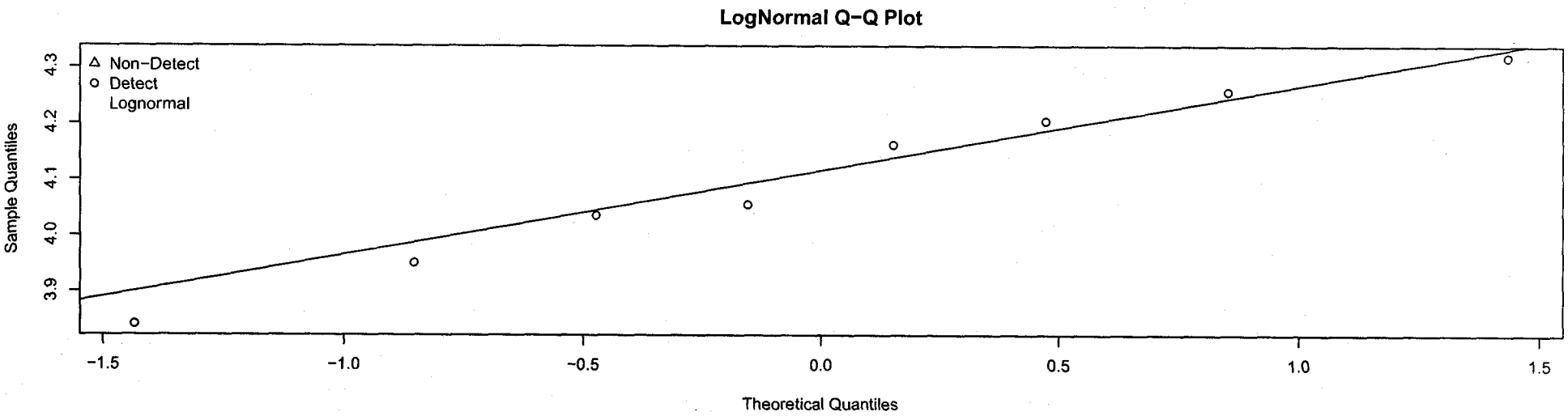
Mere Brook
Fall Sediment
POTASSIUM



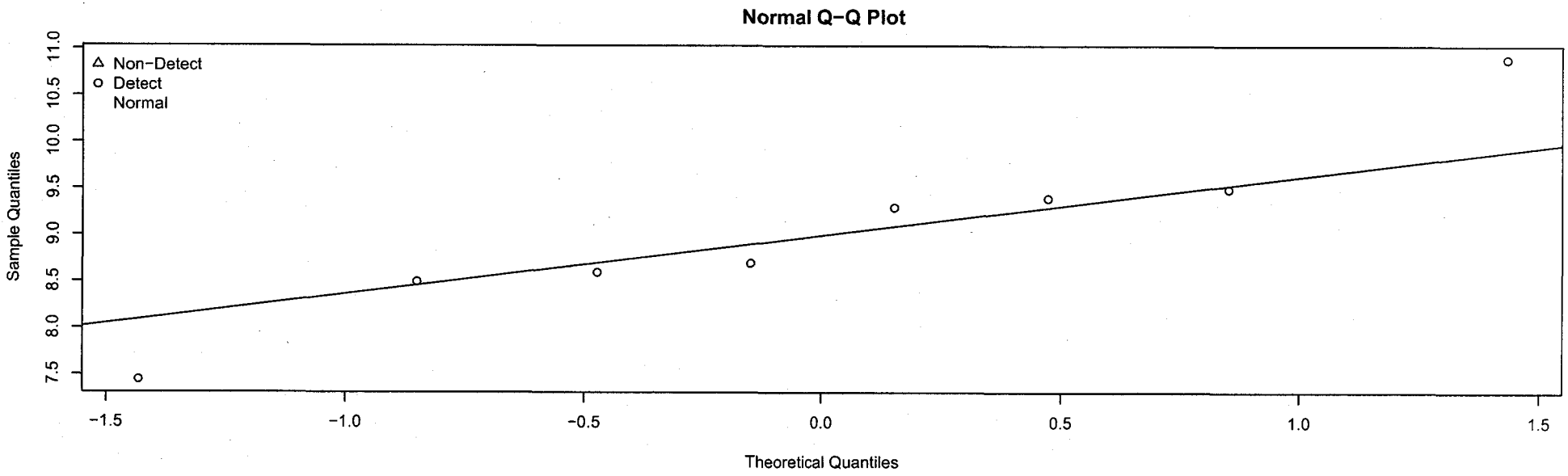


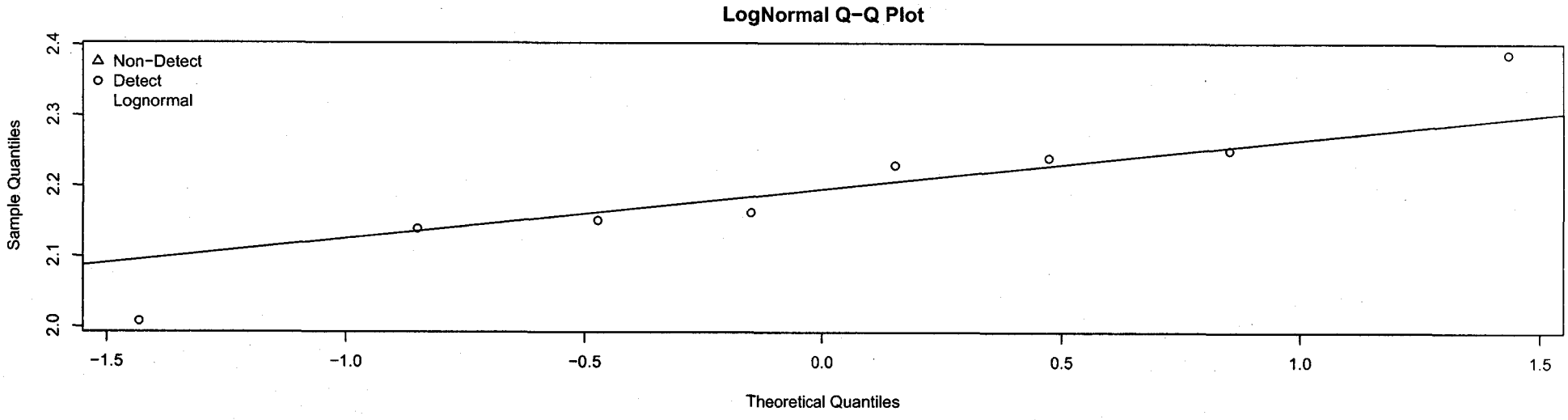
Mere Brook
Fall Sediment
SODIUM



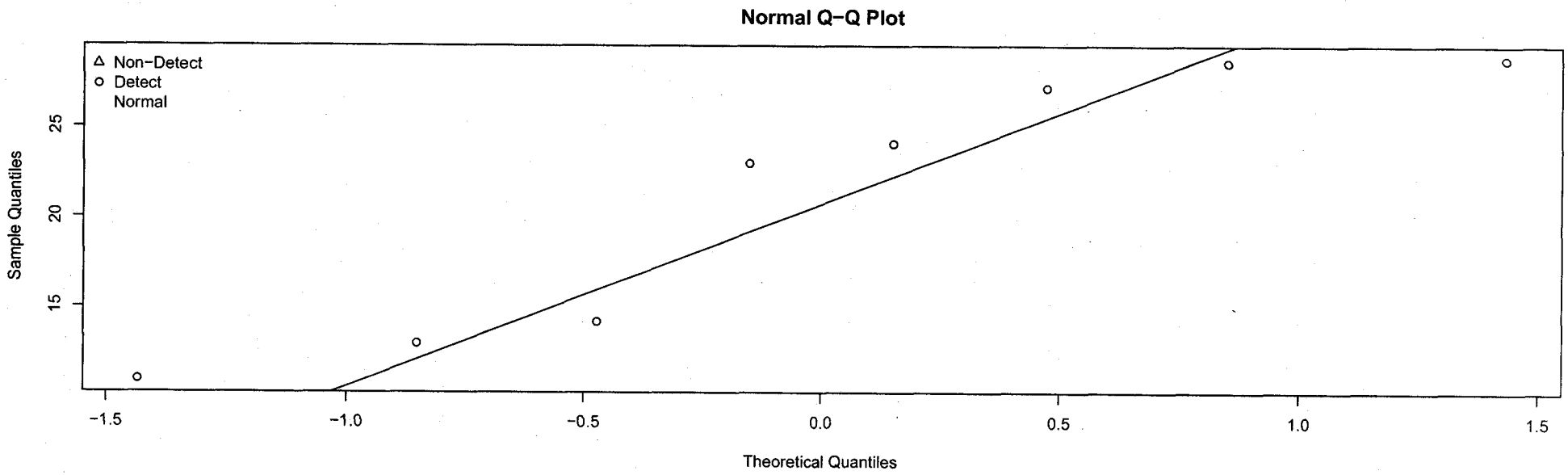


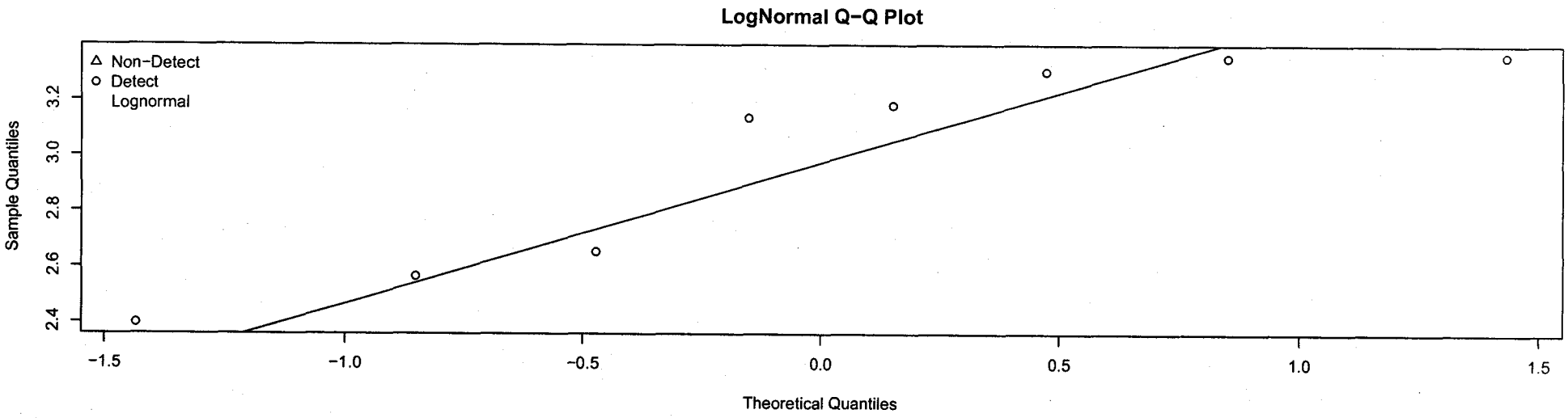
Mere Brook
Fall Sediment
VANADIUM



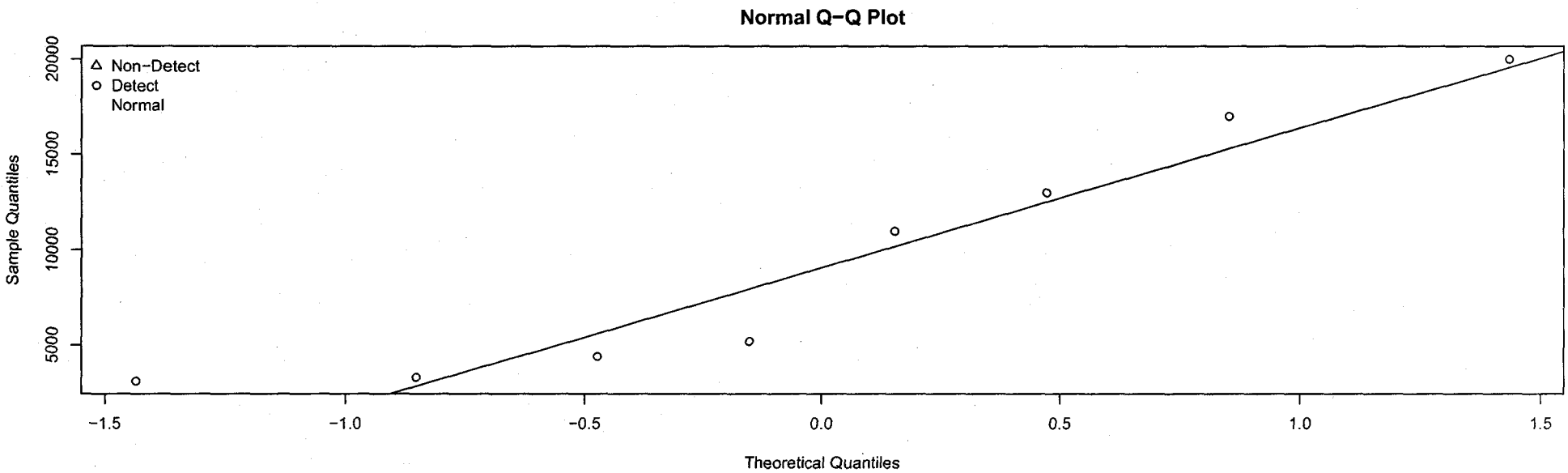


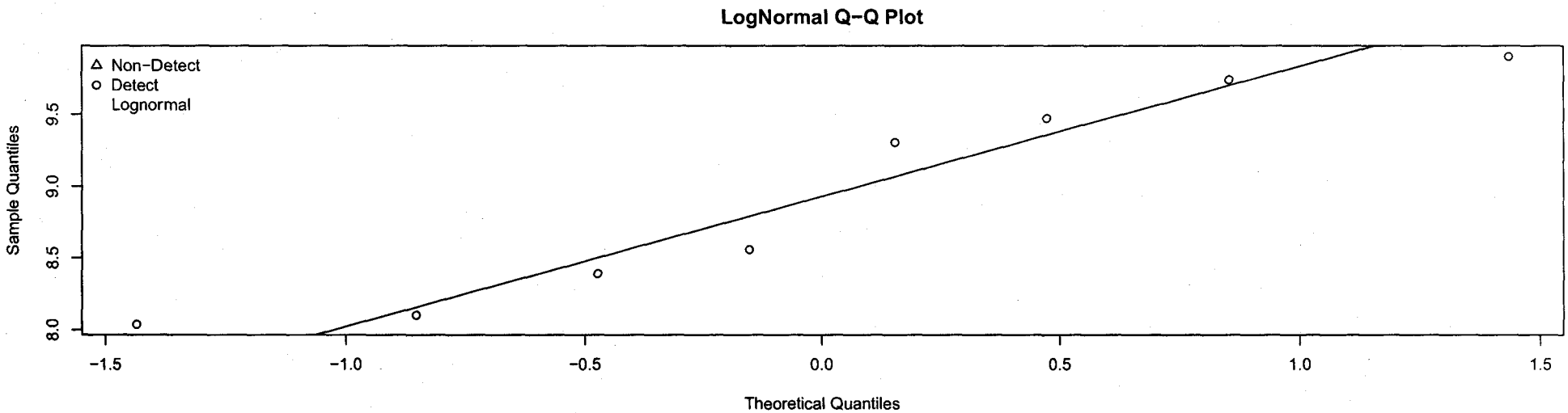
Mere Brook
Fall Sediment
ZINC



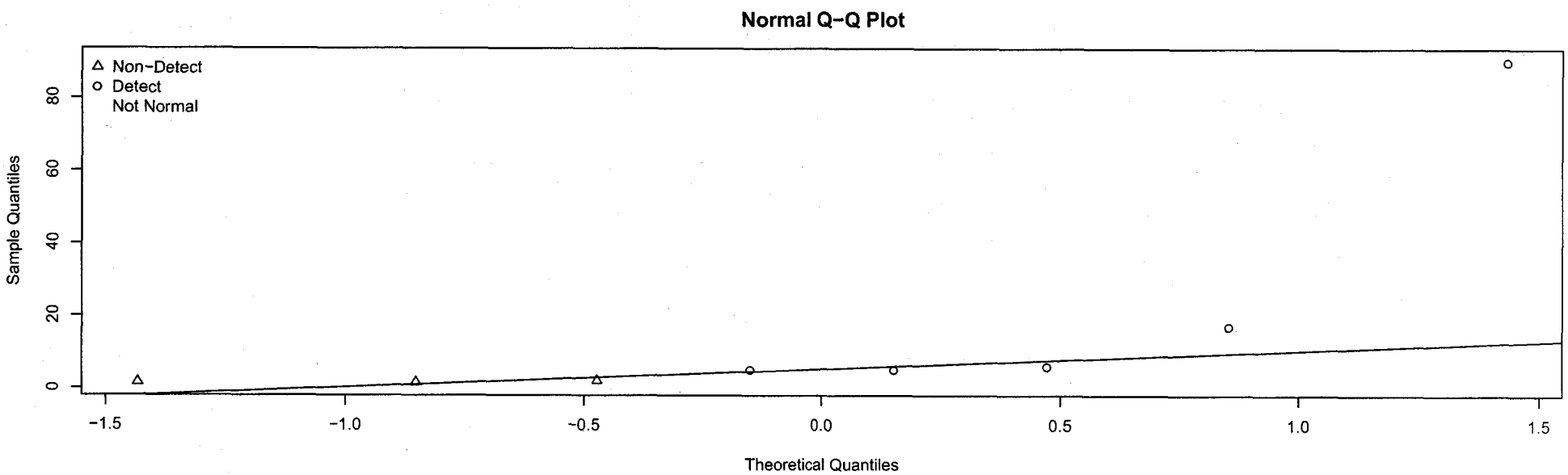


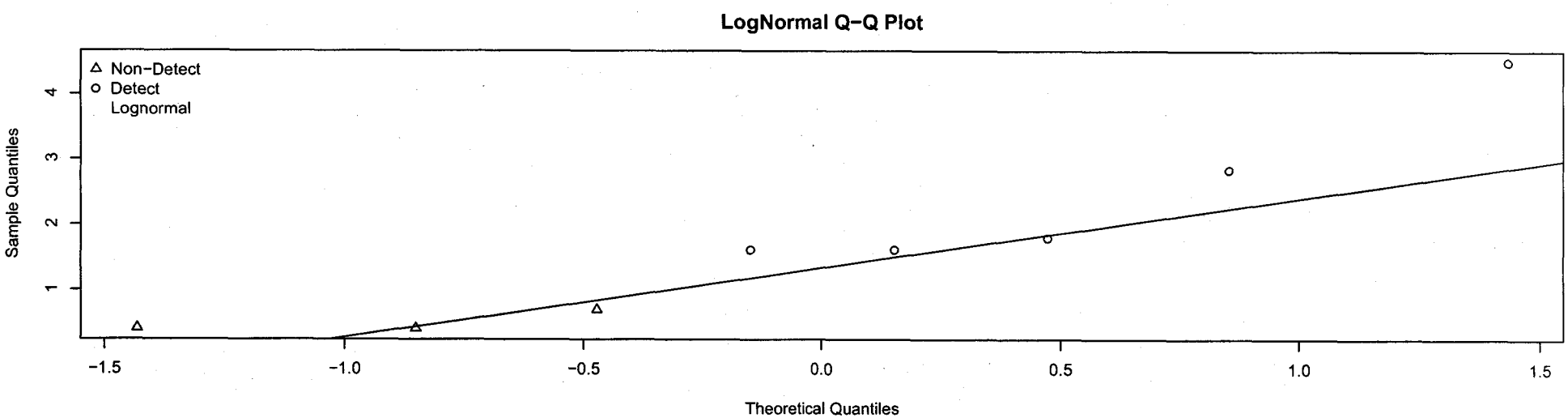
Mere Brook
Fall Sediment
TOTAL ORGANIC CARBON



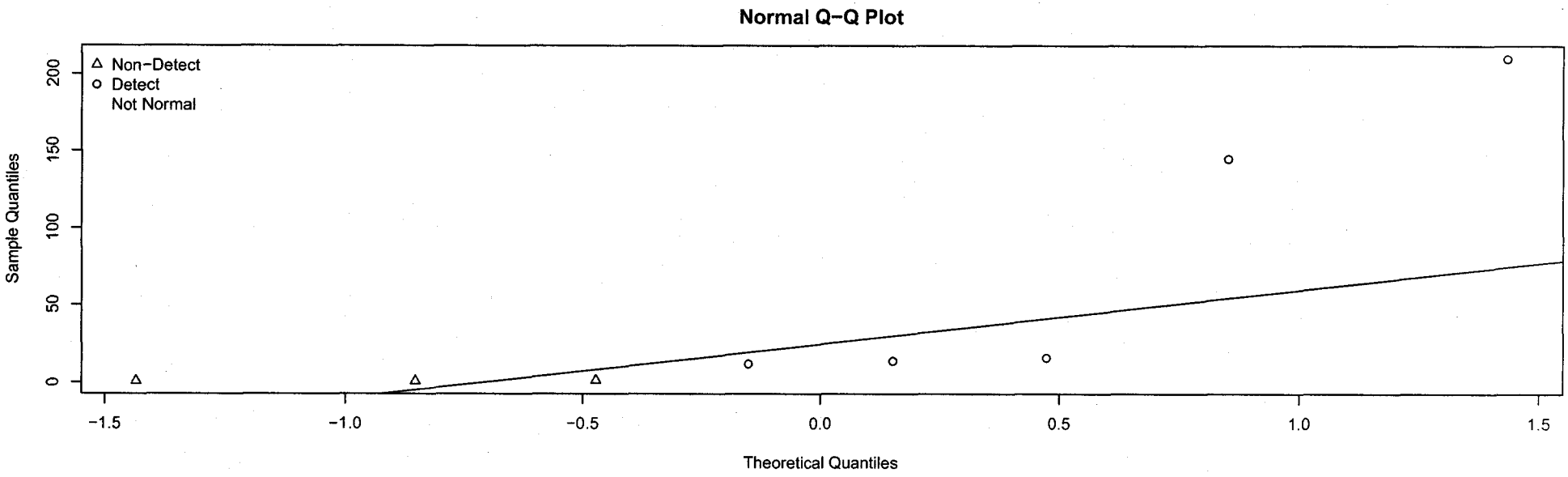


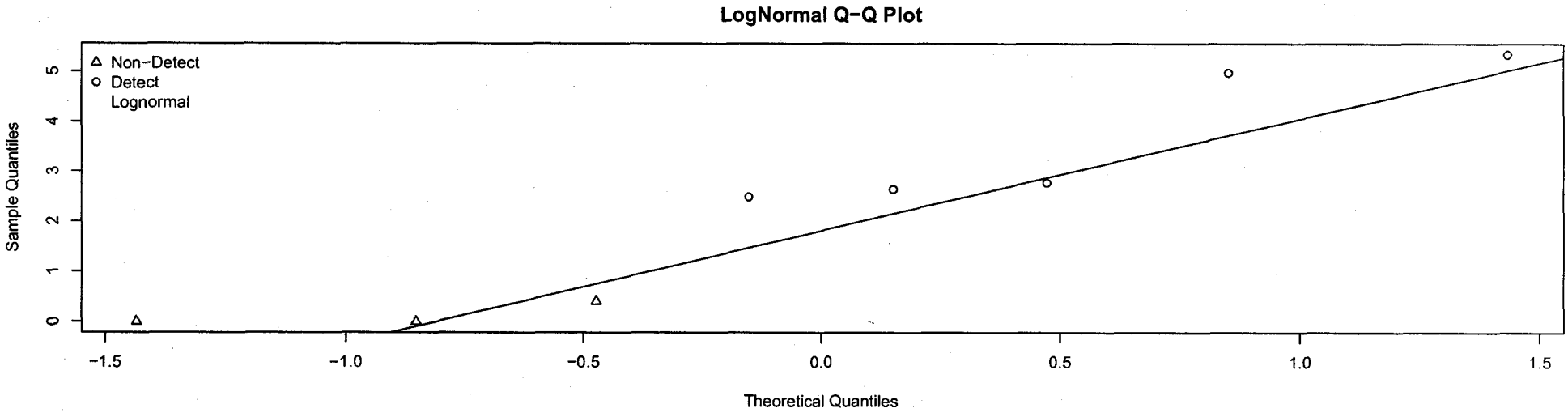
Mere Brook
Spring Sediment
2-METHYLNAPHTHALENE



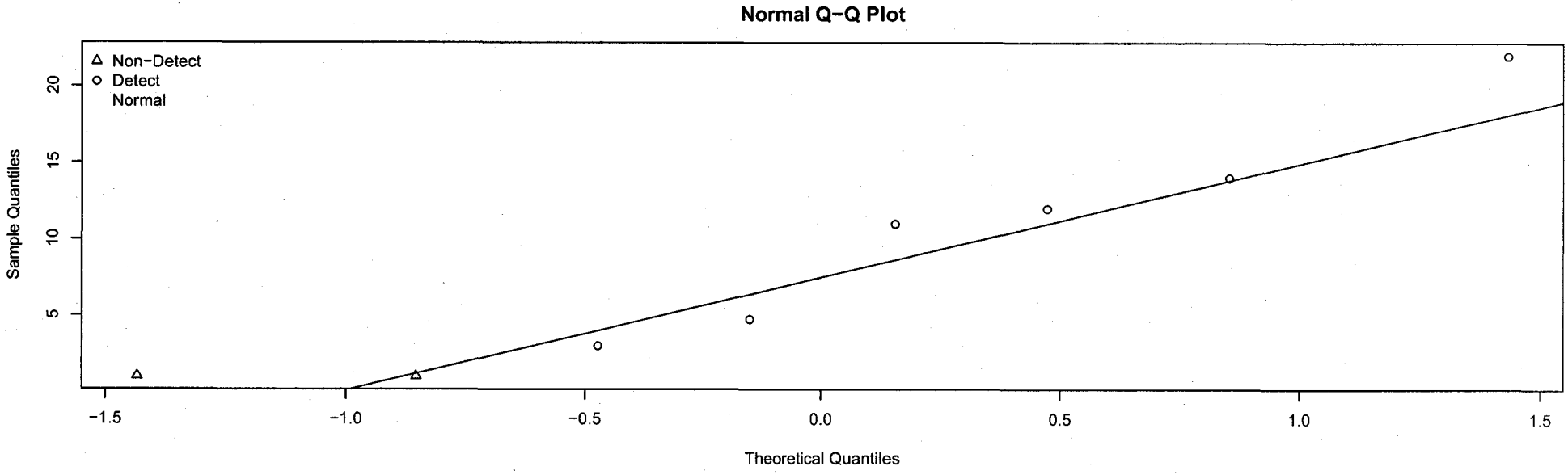


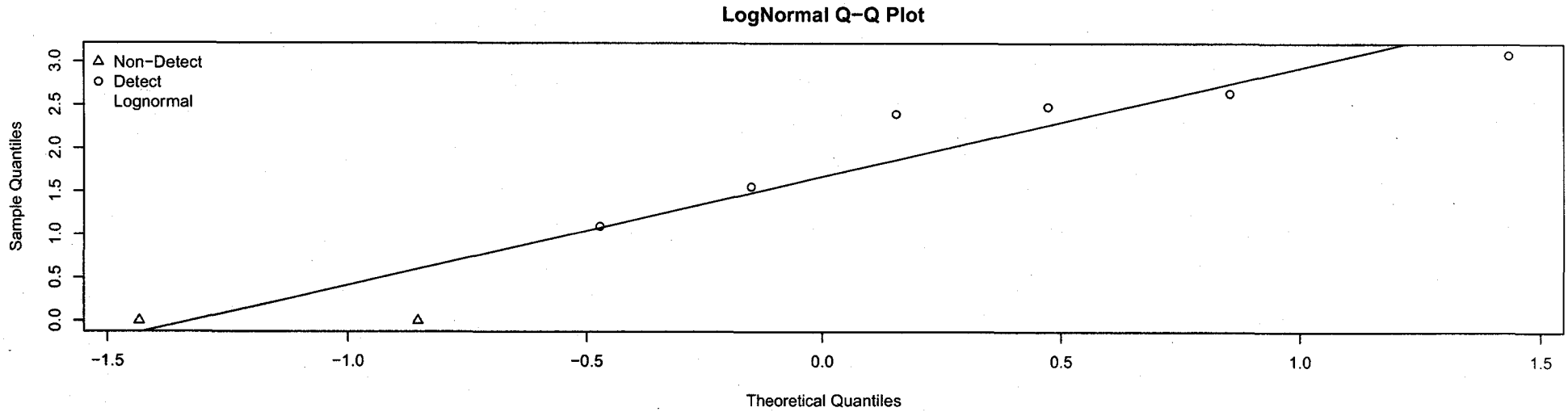
Mere Brook
Spring Sediment
ACENAPHTHENE



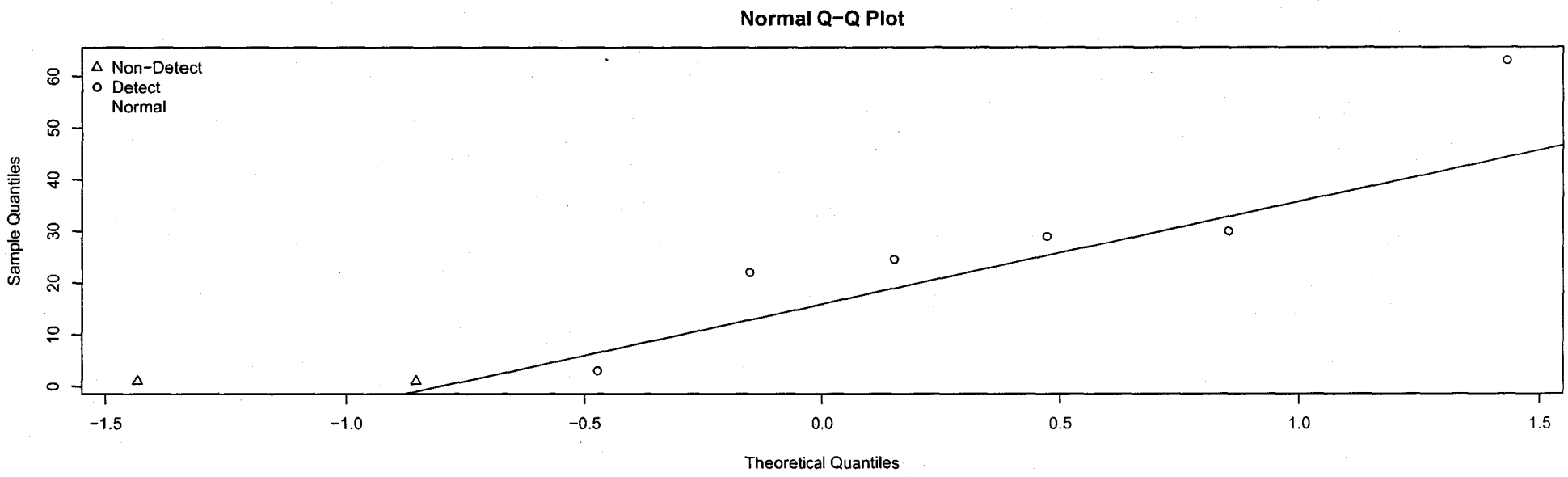


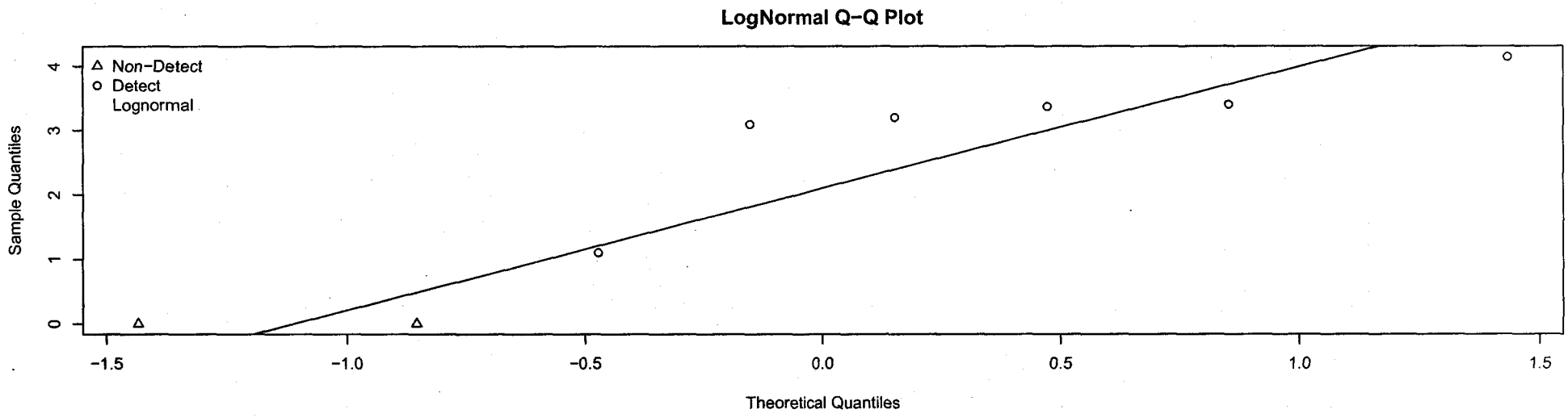
Mere Brook
Spring Sediment
ACENAPHTHYLENE



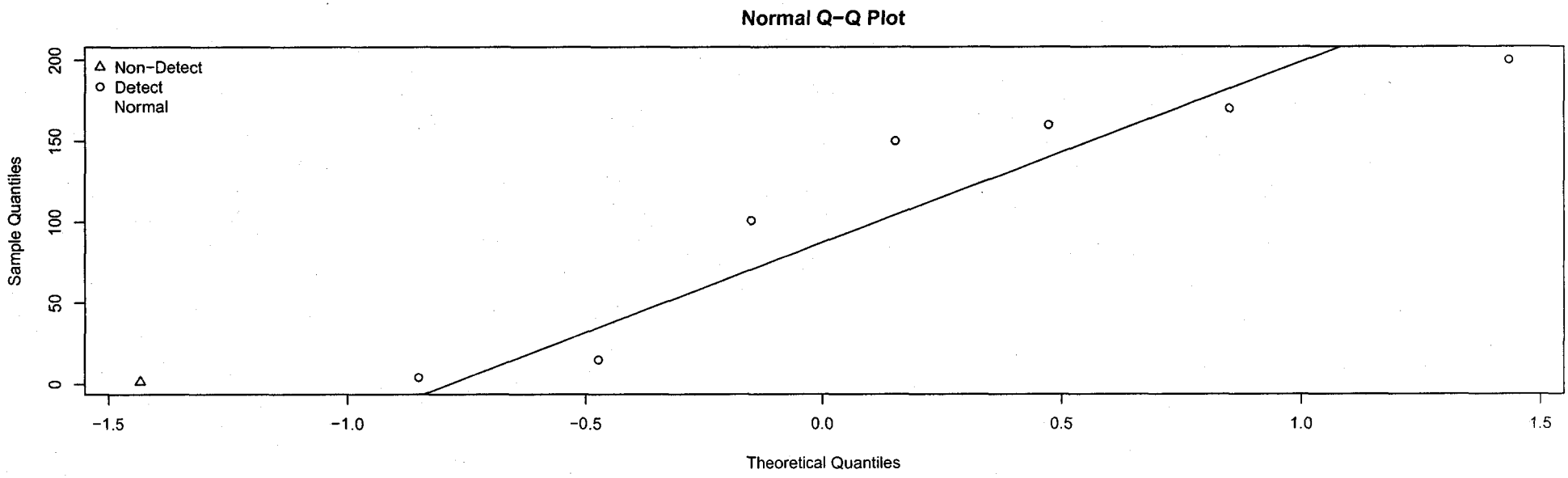


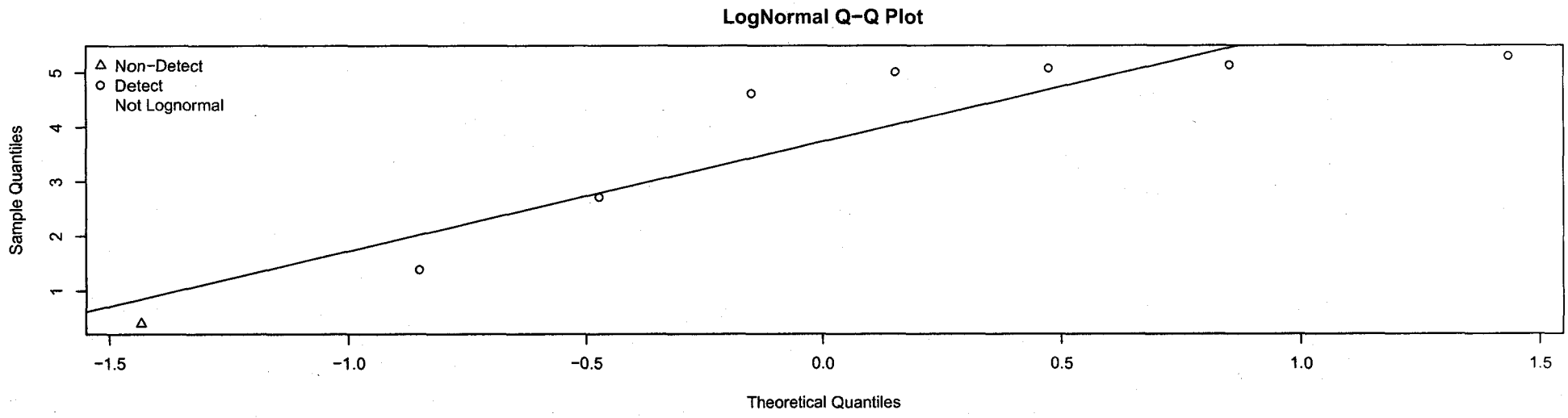
Mere Brook
Spring Sediment
ANTHRACENE



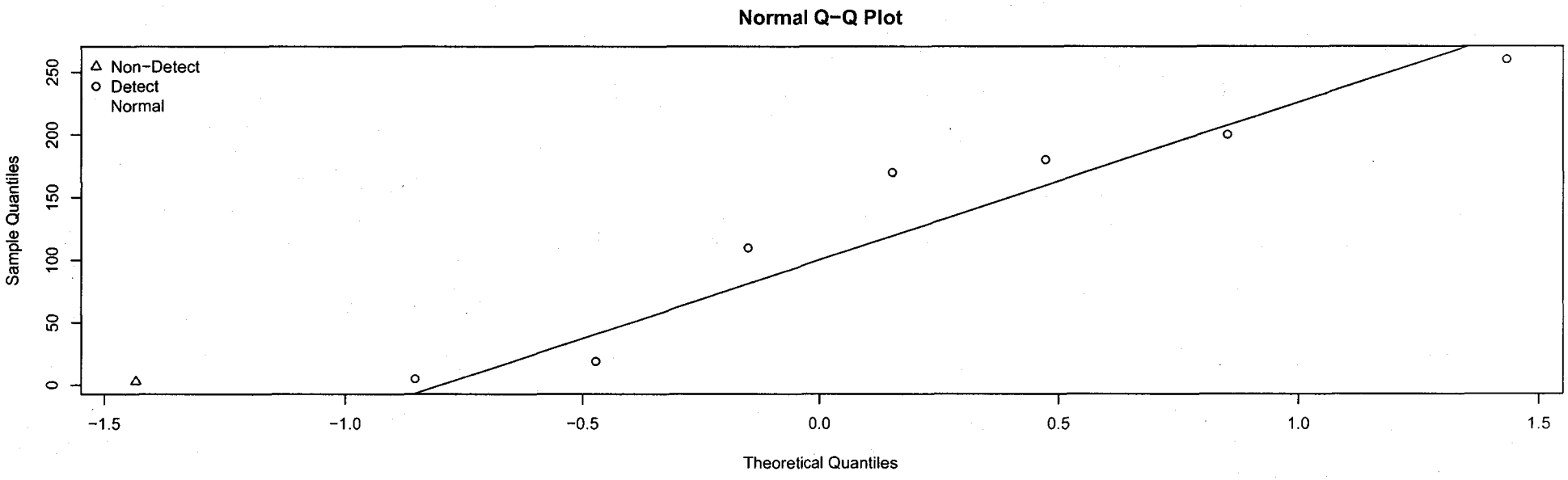


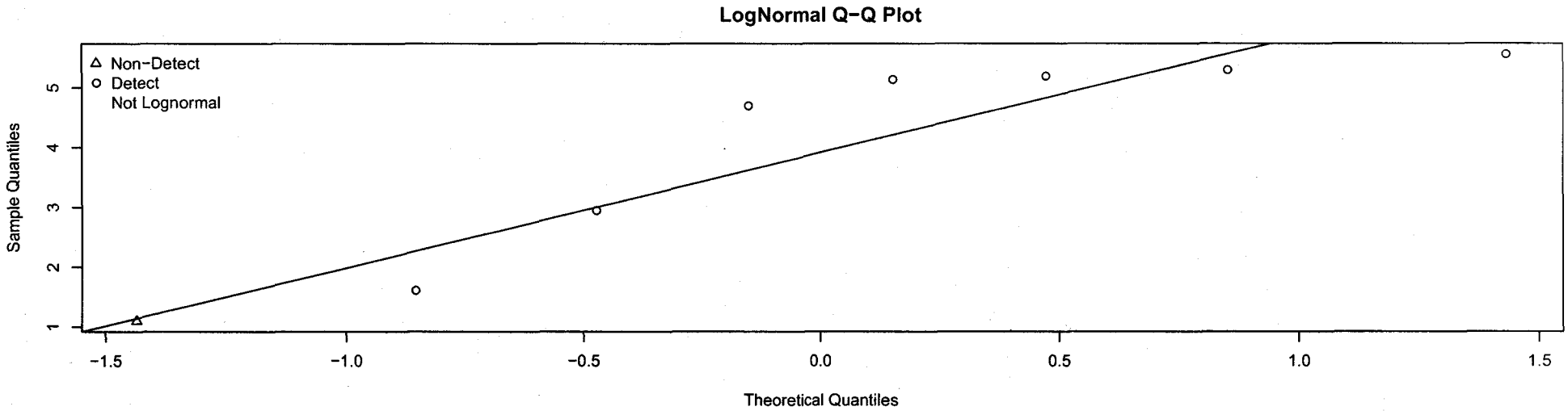
Mere Brook
Spring Sediment
BENZO(A)ANTHRACENE



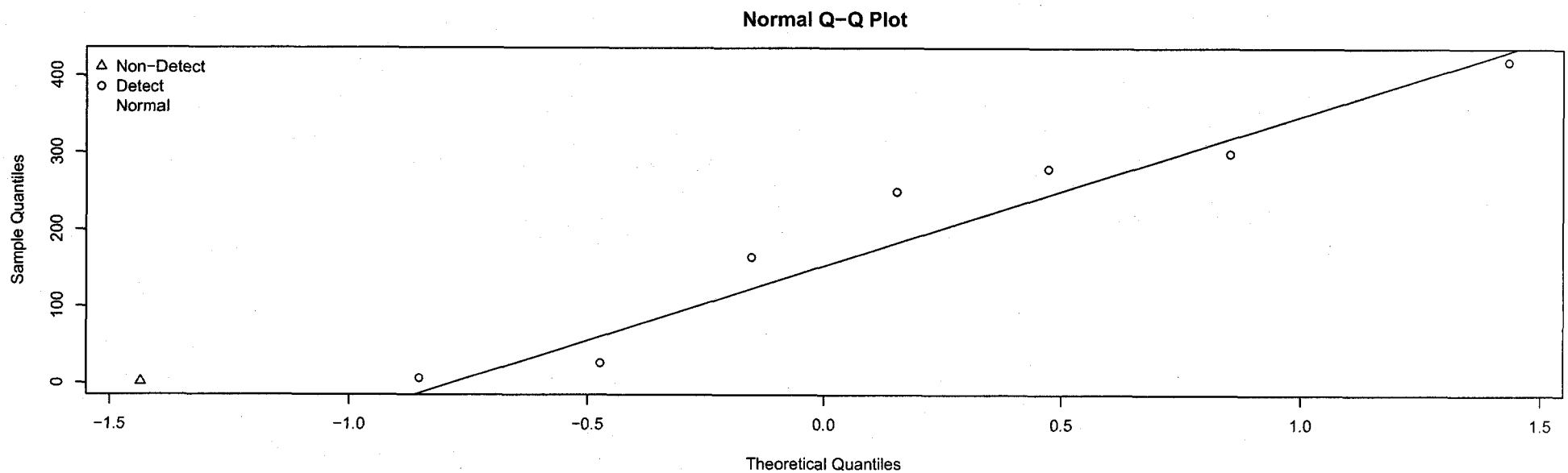


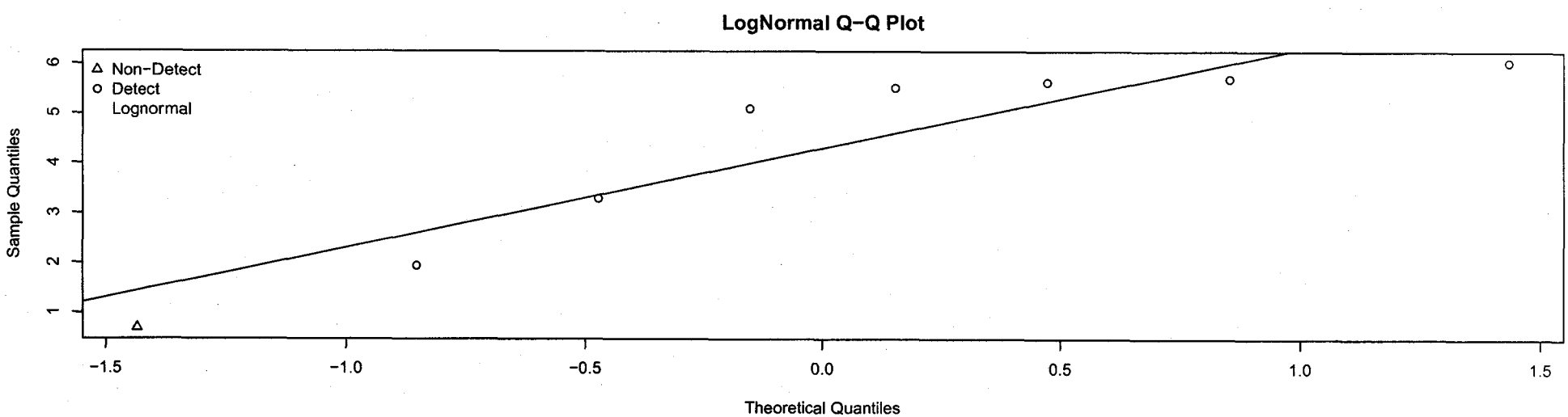
Mere Brook
Spring Sediment
BENZO(A)PYRENE



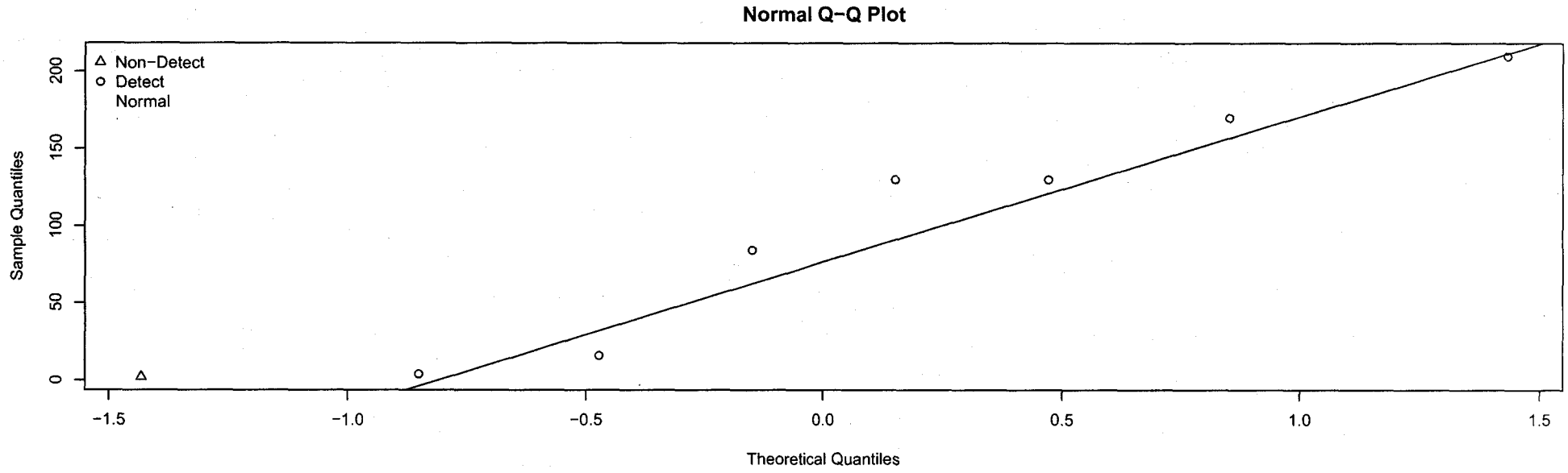


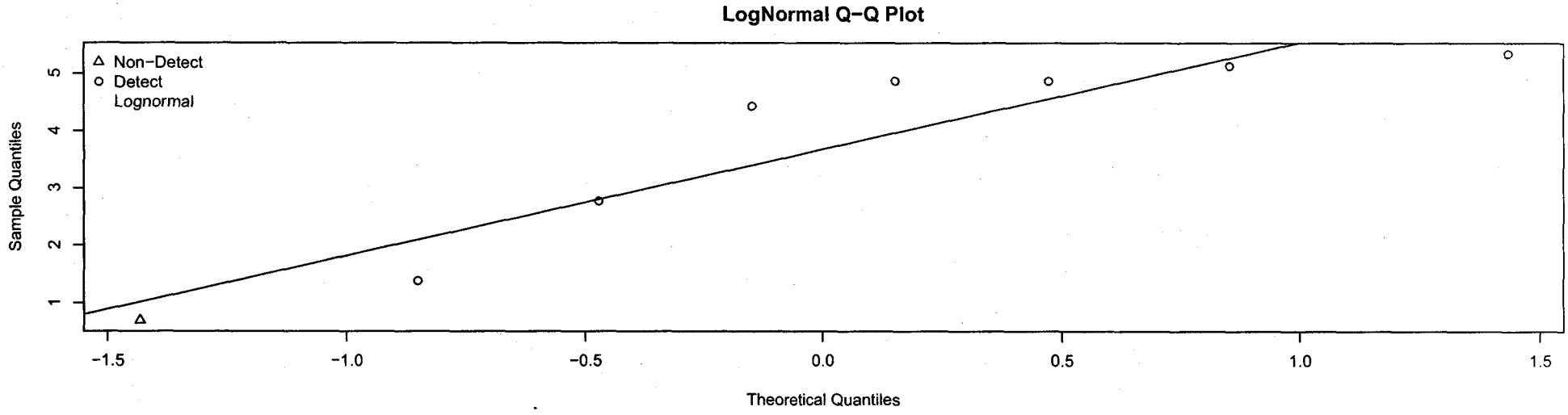
Mere Brook
Spring Sediment
BENZO(B)FLUORANTHENE



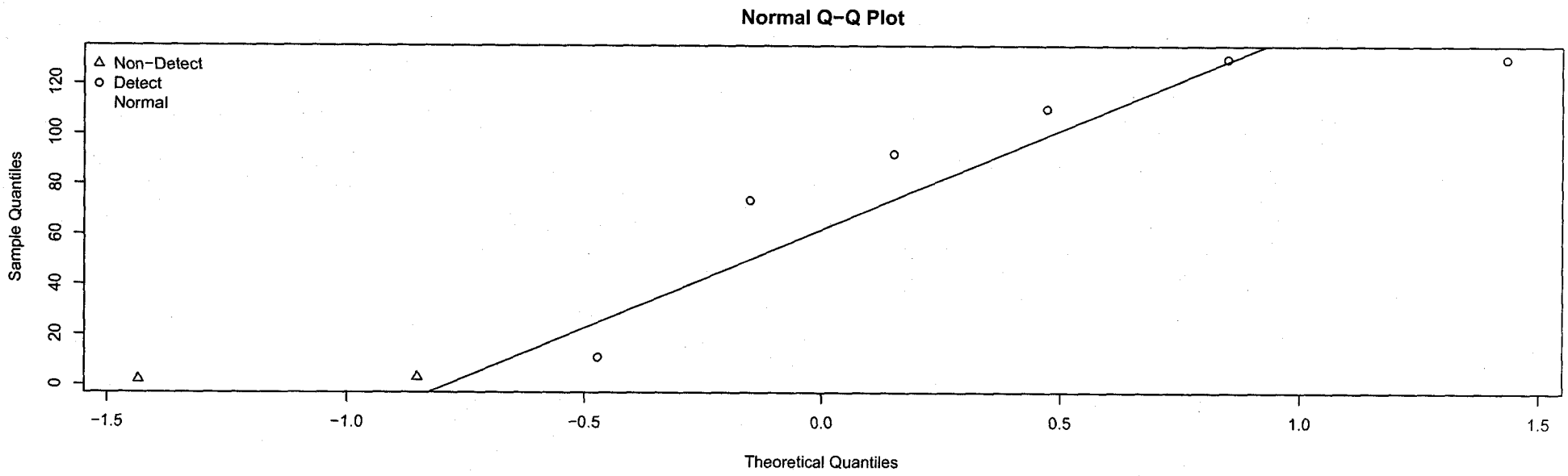


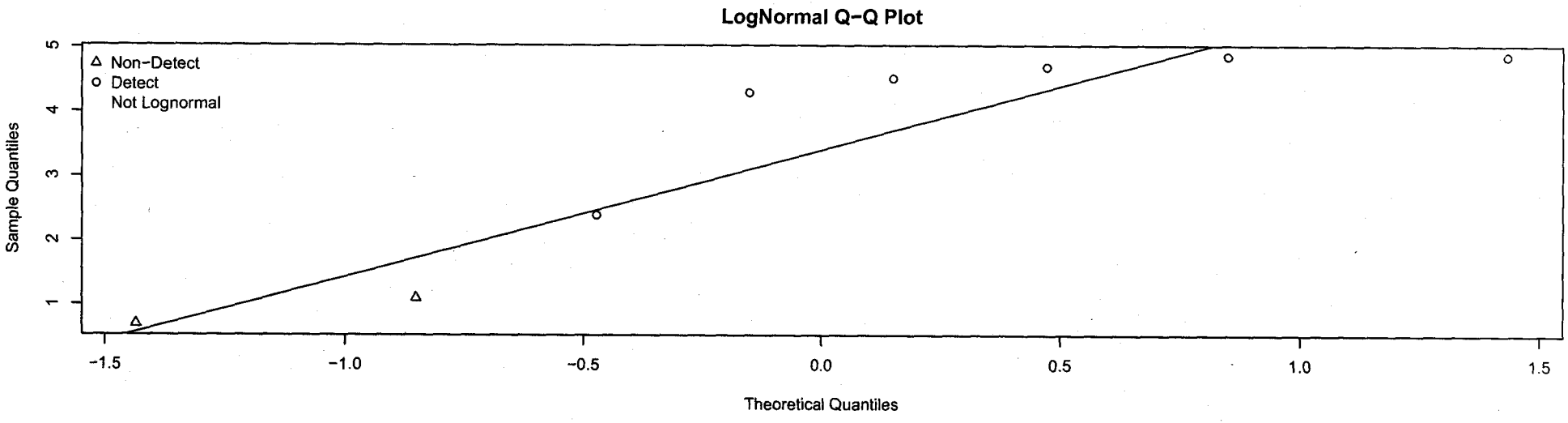
Mere Brook
Spring Sediment
BENZO(G,H,I)PERYLENE



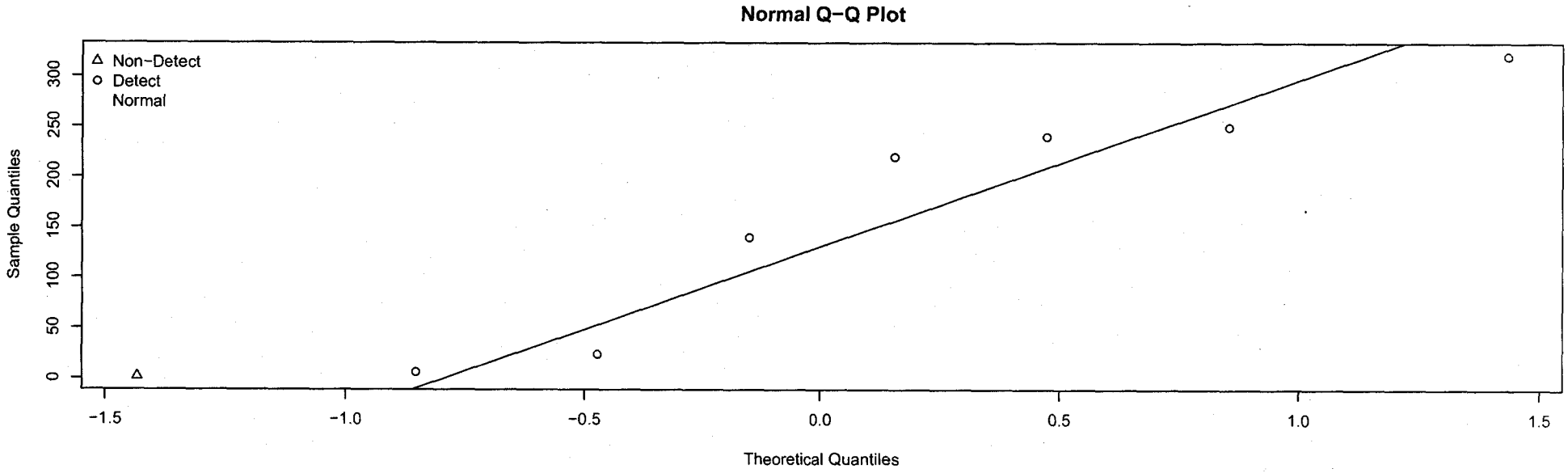


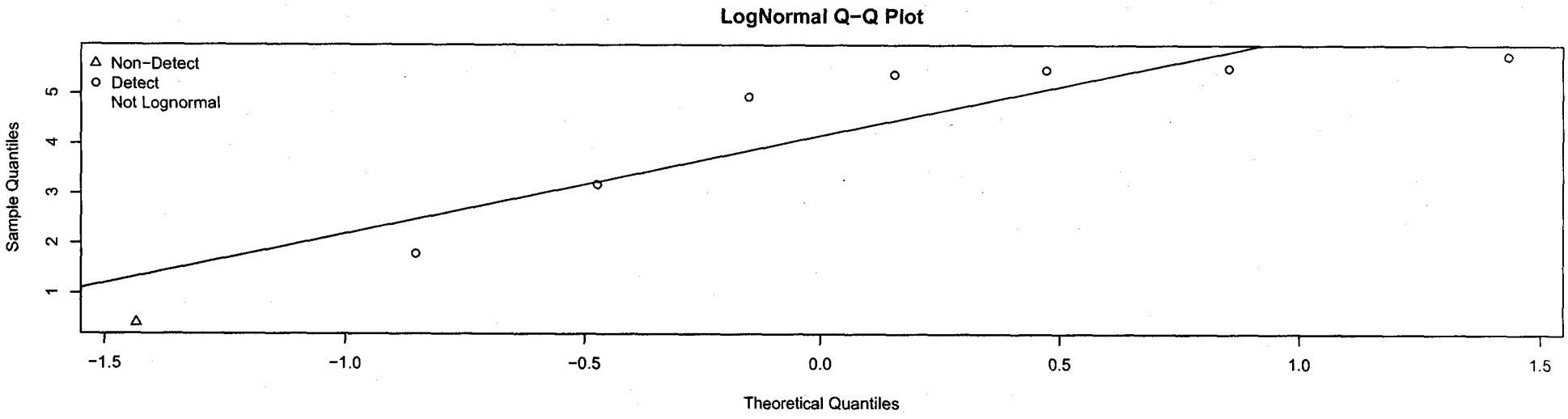
Mere Brook
Spring Sediment
BENZO(K)FLUORANTHENE



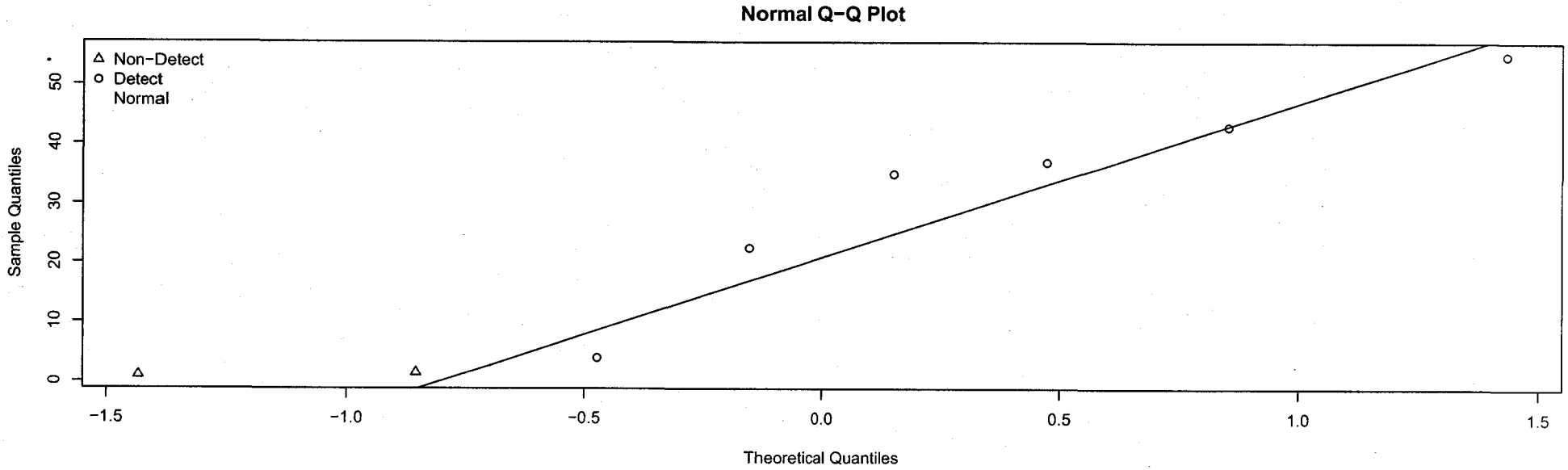


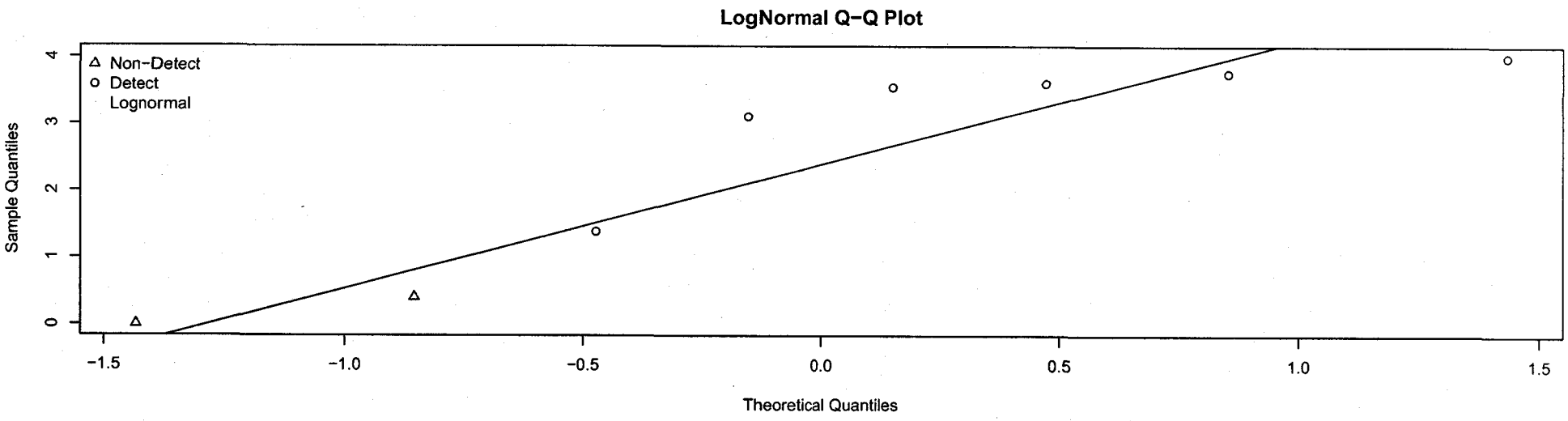
Mere Brook
Spring Sediment
CHRYSENE



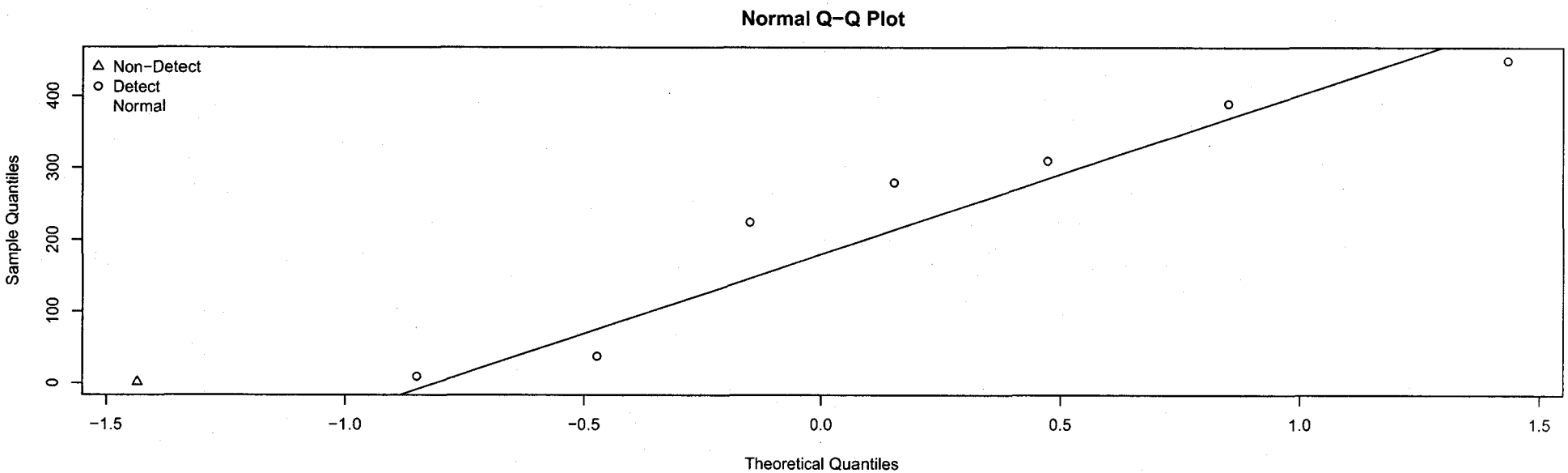


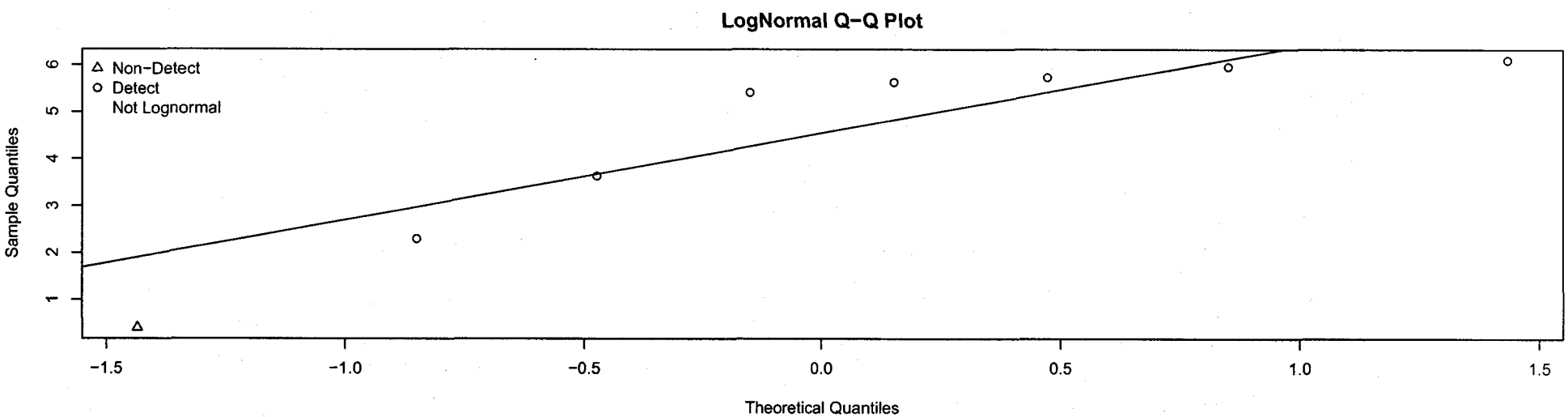
Mere Brook
Spring Sediment
DIBENZO(A,H)ANTHRACENE



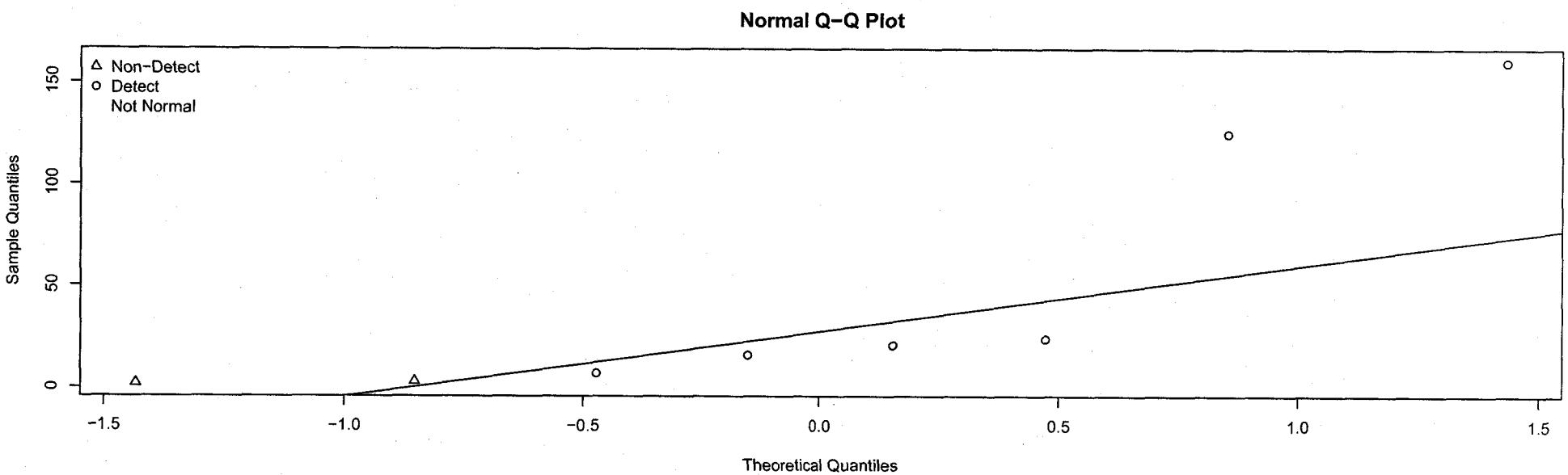


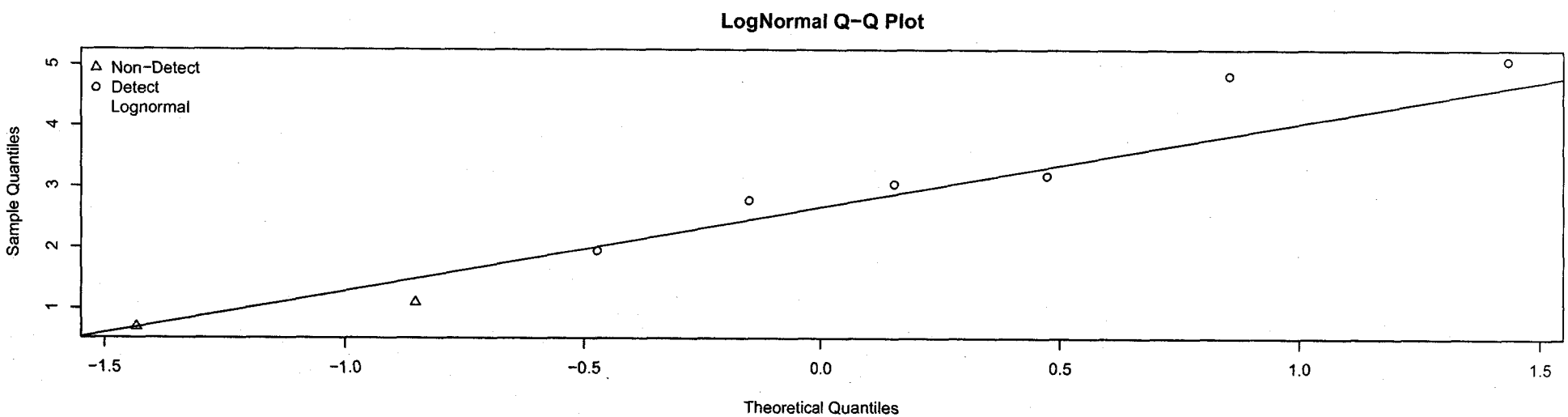
Mere Brook
Spring Sediment
FLUORANTHENE



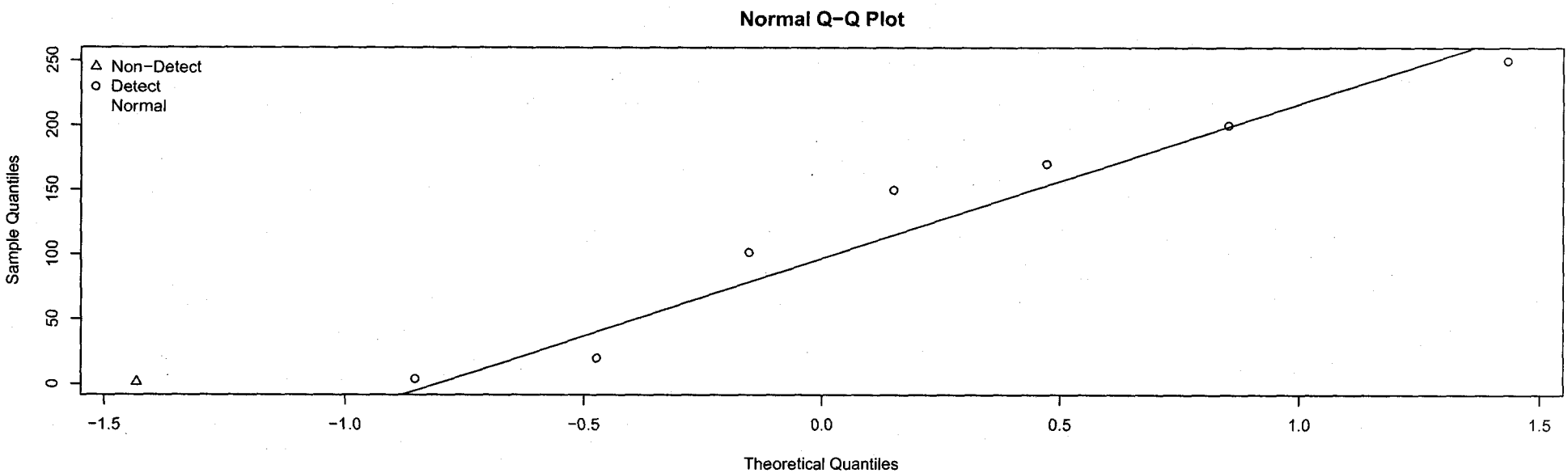


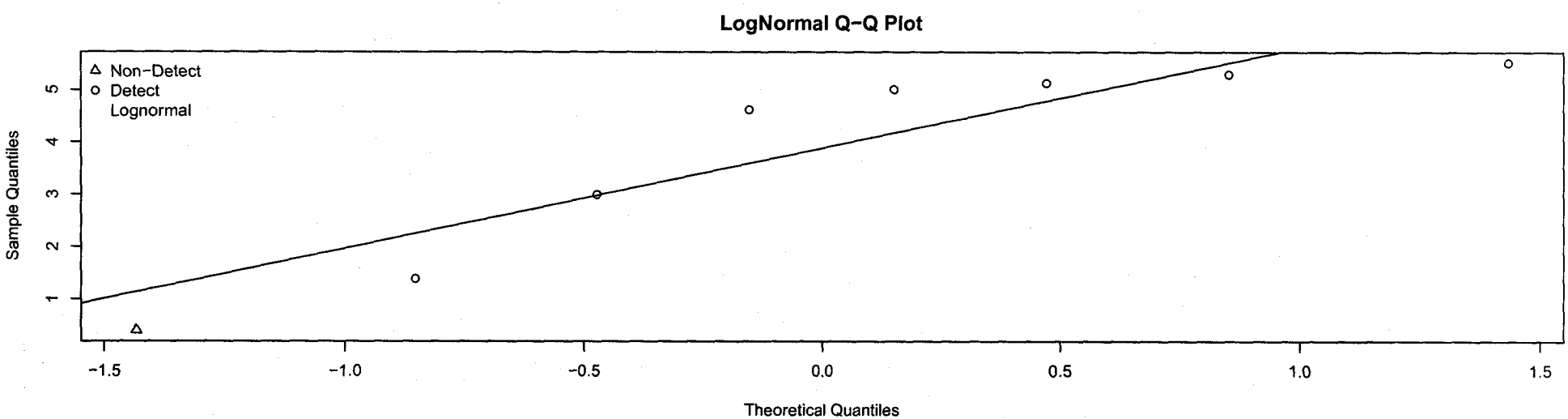
Mere Brook
Spring Sediment
FLUORENE



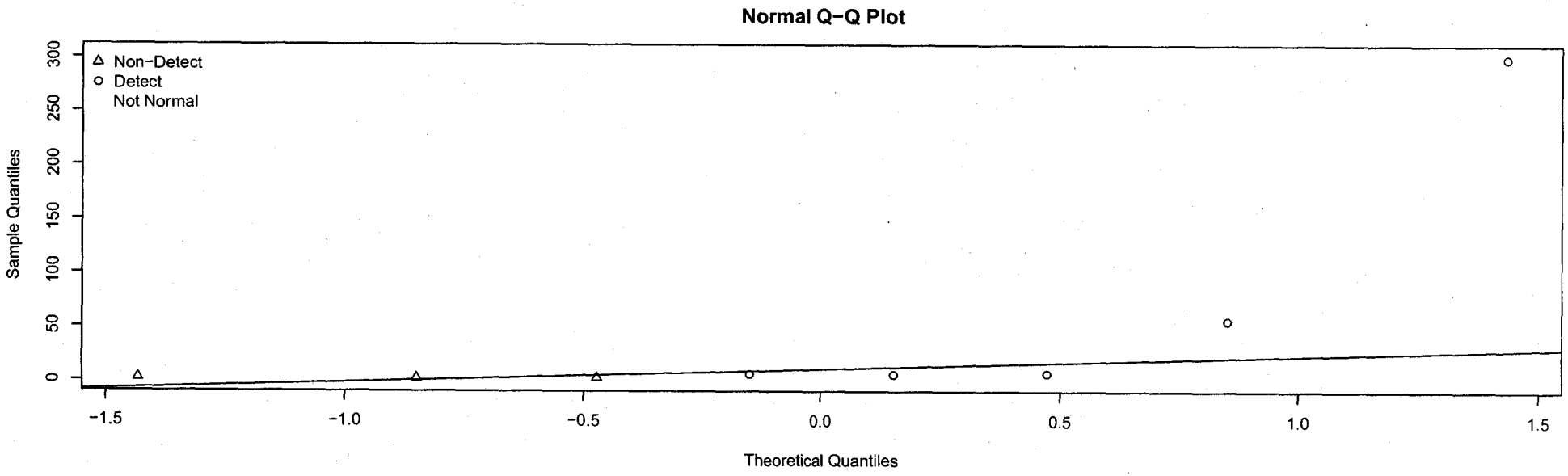


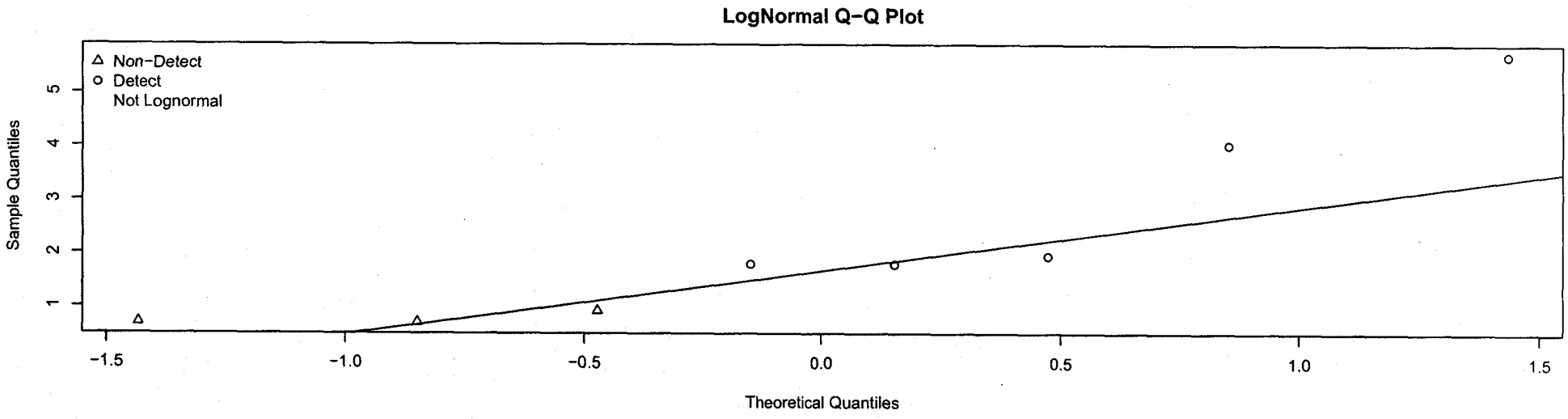
Mere Brook
Spring Sediment
INDENO(1,2,3-CD)PYRENE



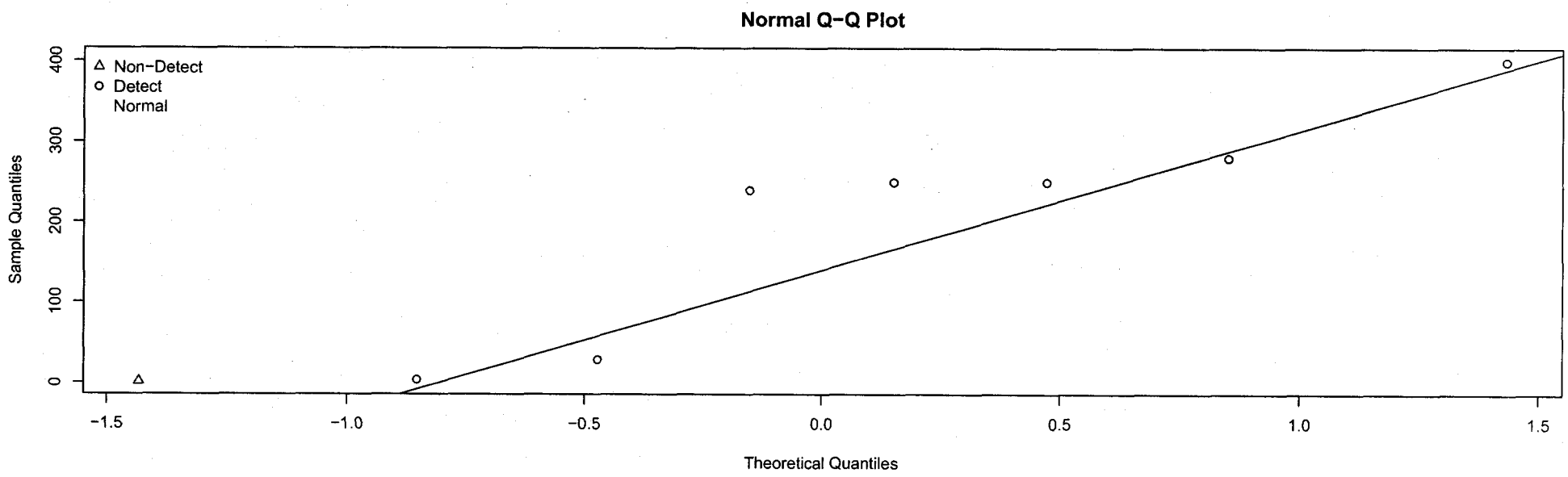


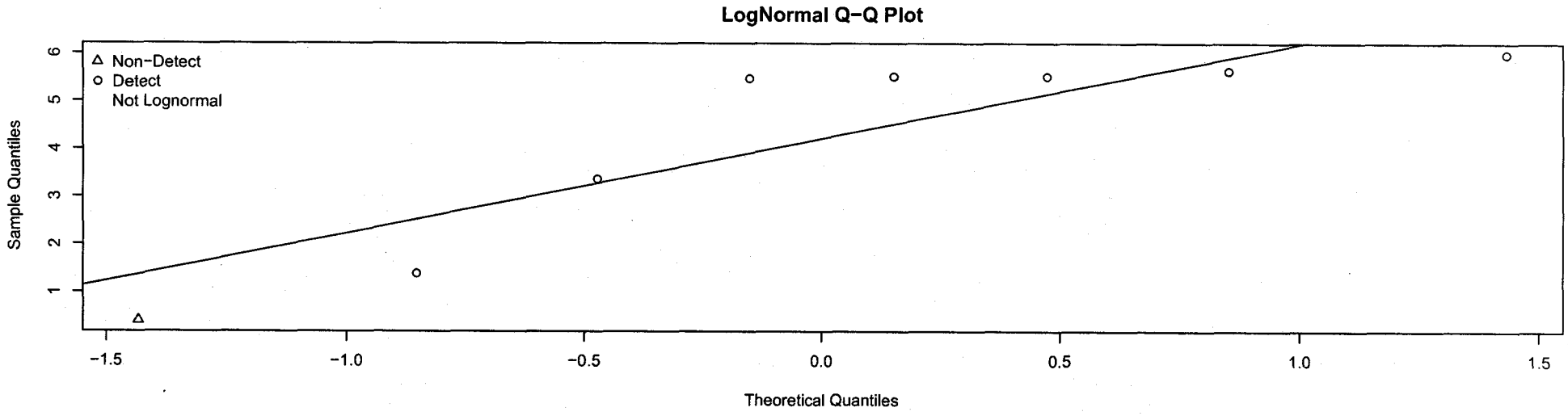
Mere Brook
Spring Sediment
NAPHTHALENE



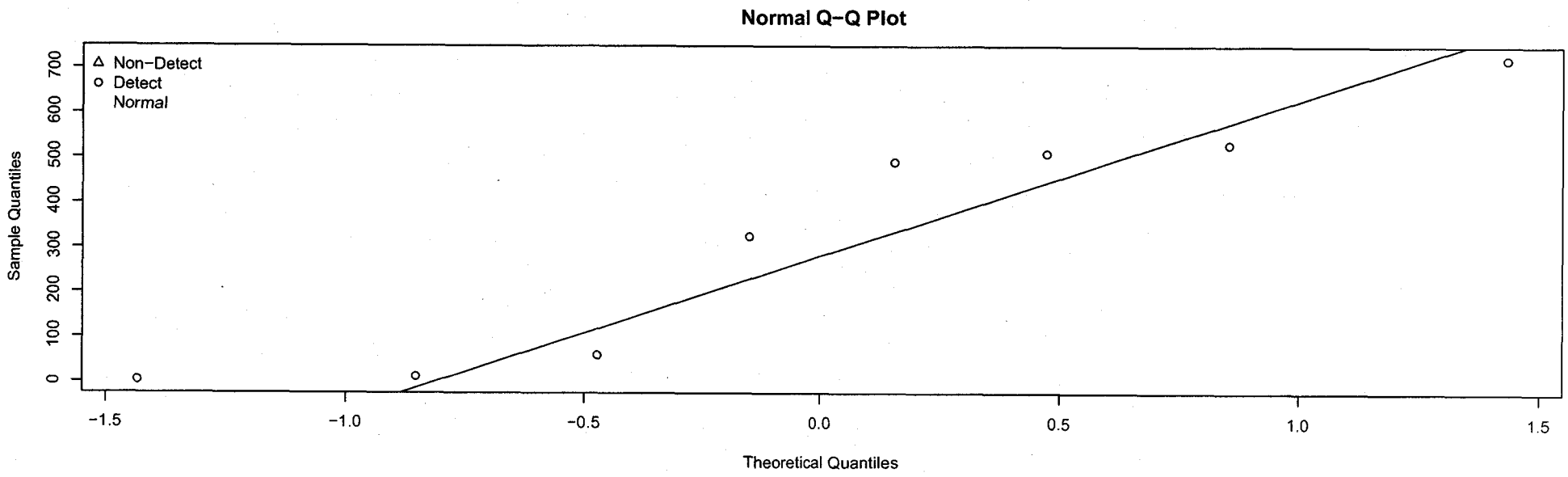


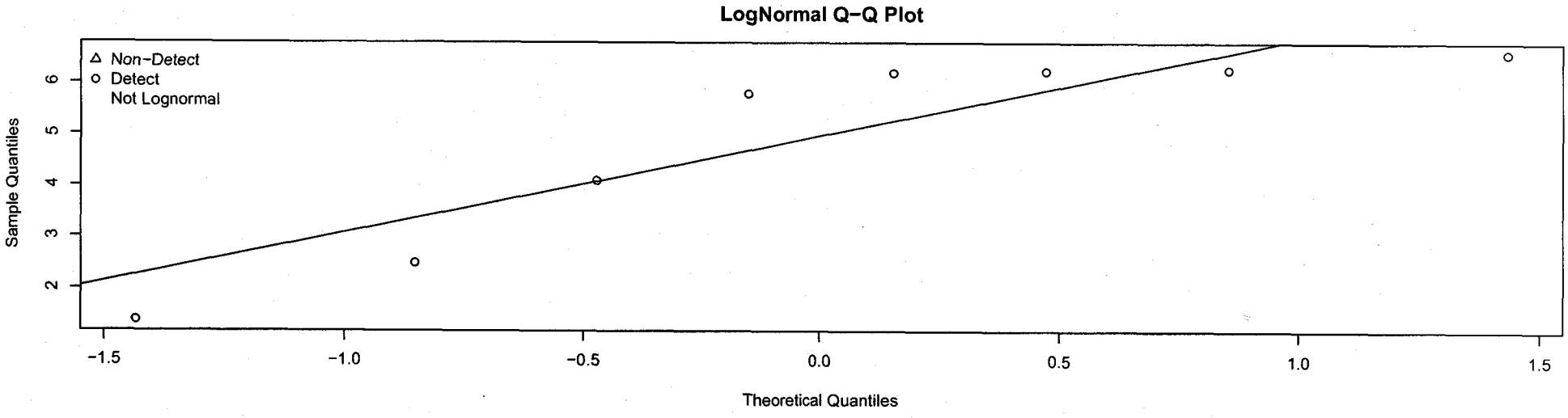
Mere Brook
Spring Sediment
PHENANTHRENE



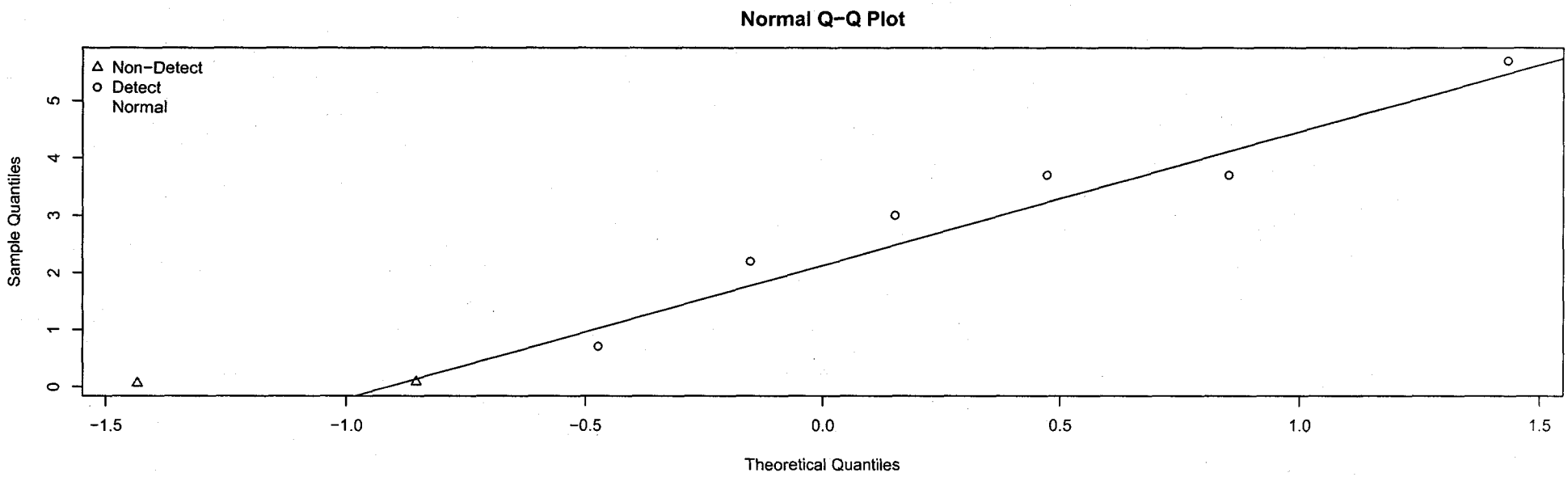


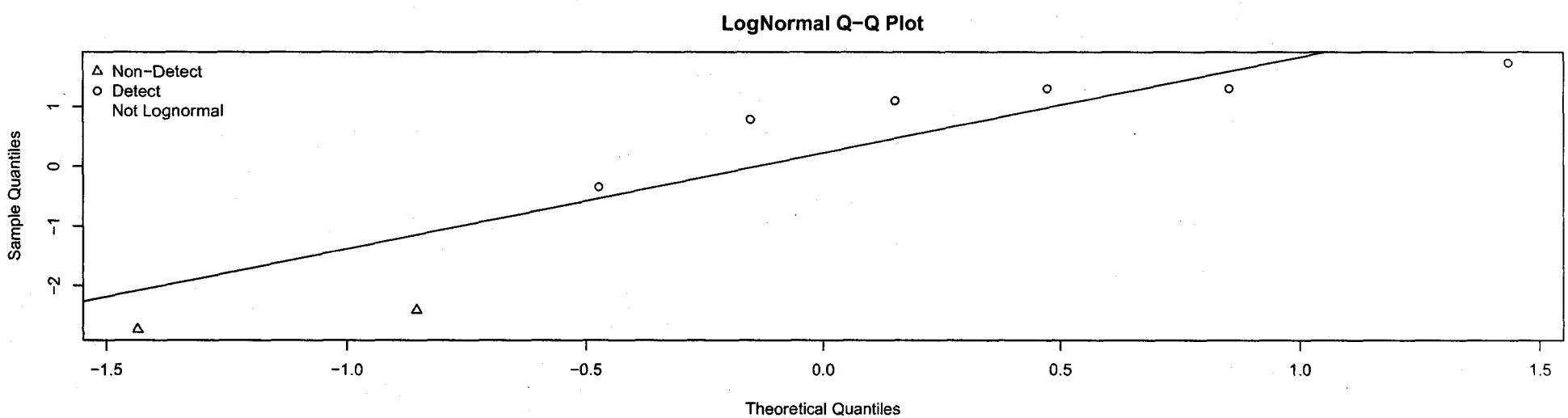
Mere Brook
Spring Sediment
PYRENE



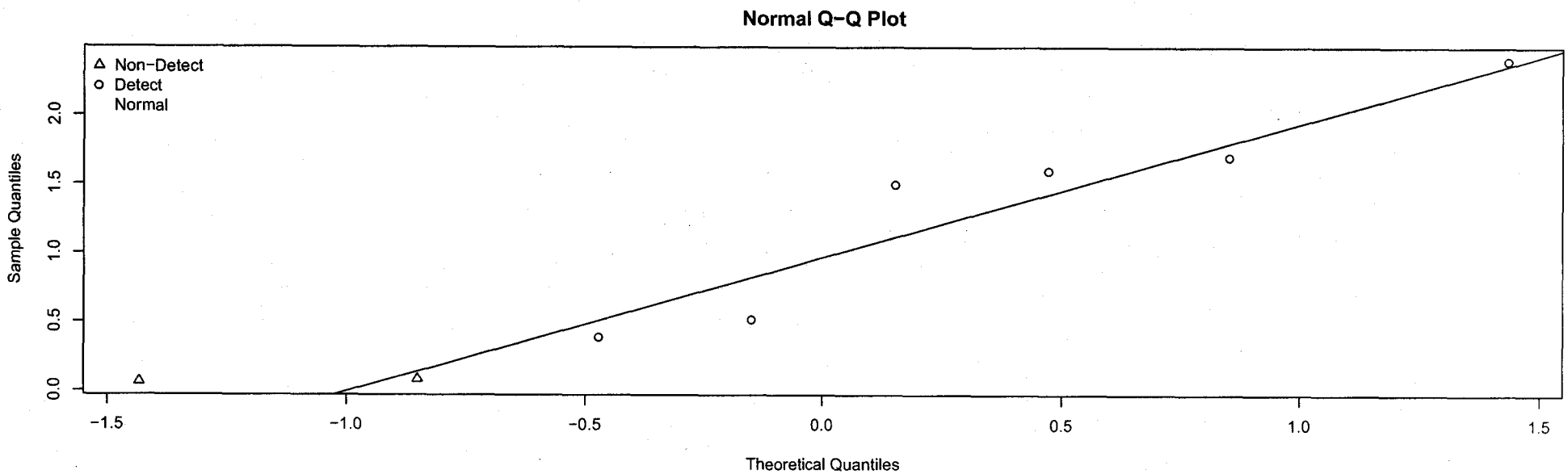


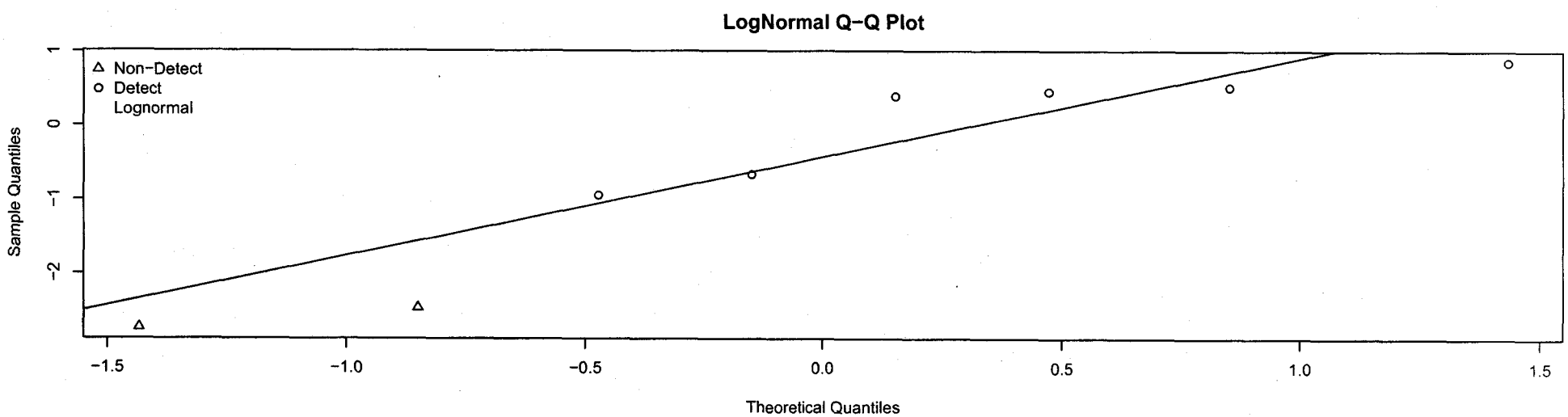
Mere Brook
Spring Sediment
4,4'-DDD



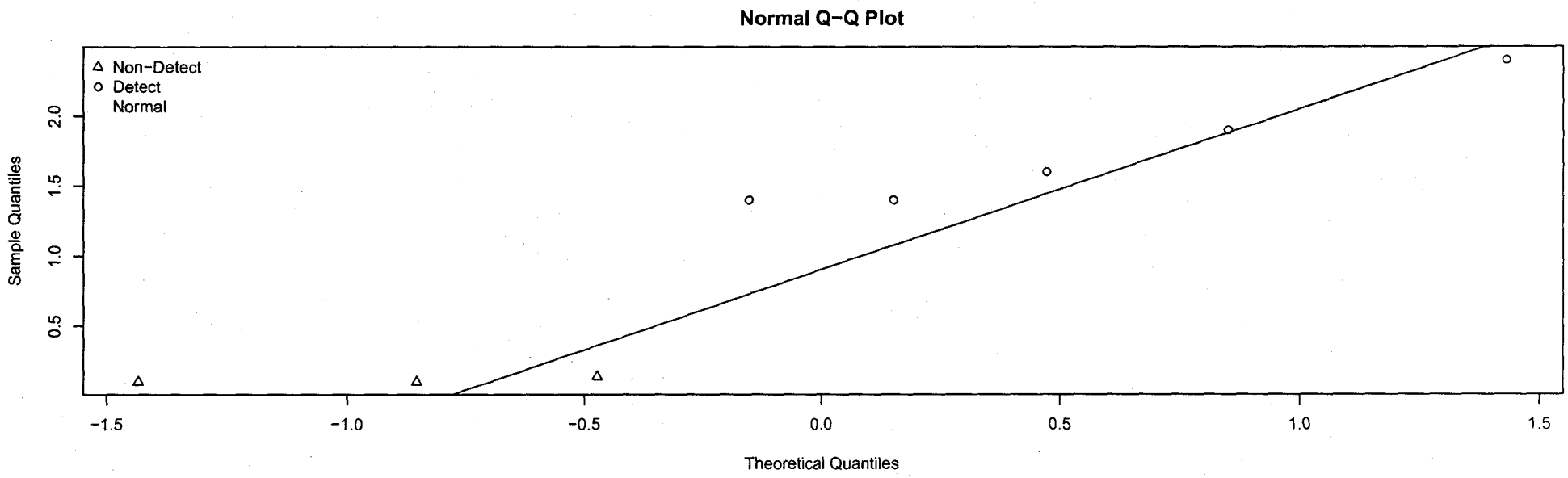


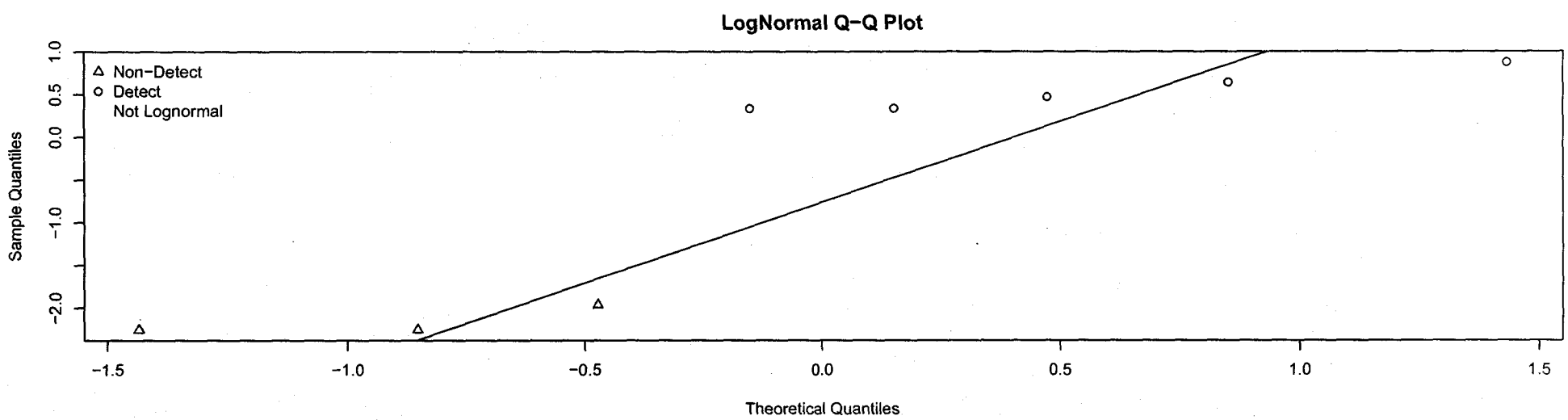
Mere Brook
Spring Sediment
4,4'-DDE



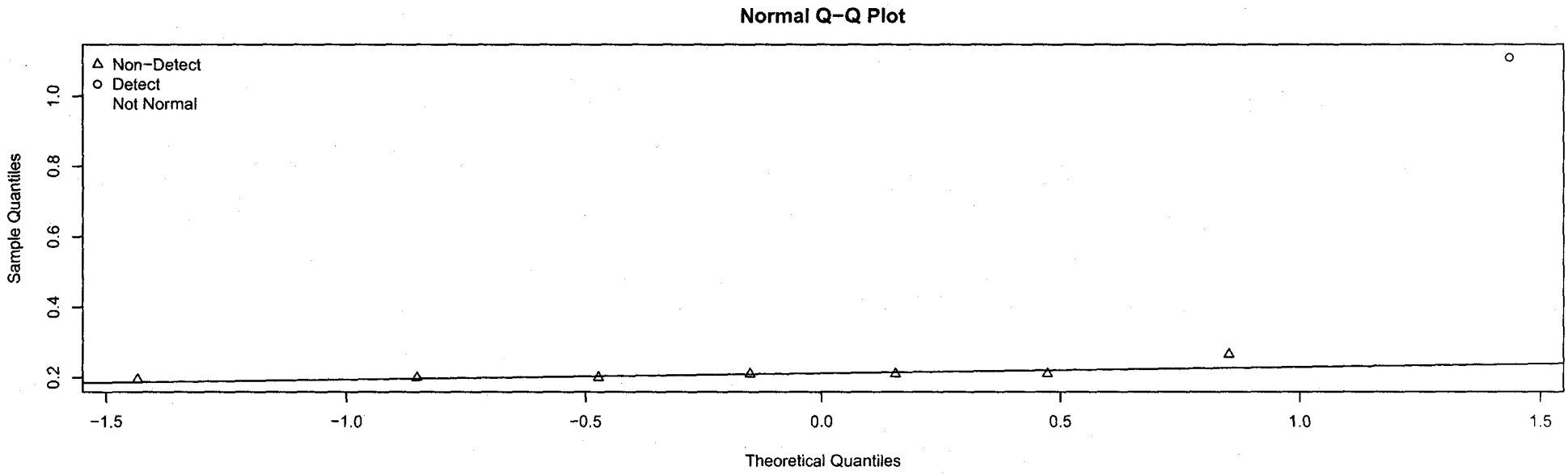


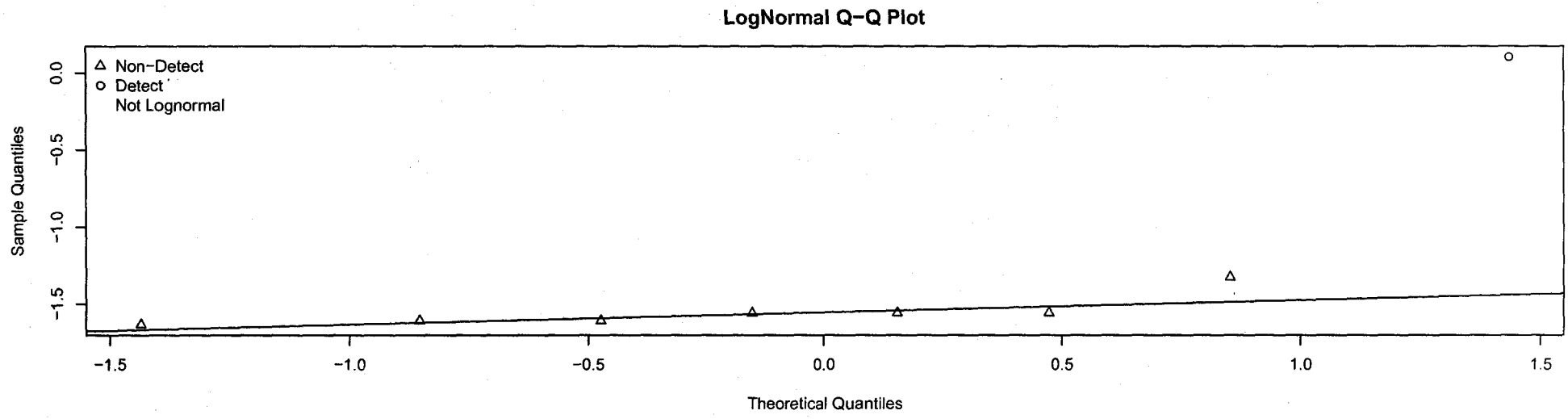
Mere Brook
Spring Sediment
4,4'-DDT



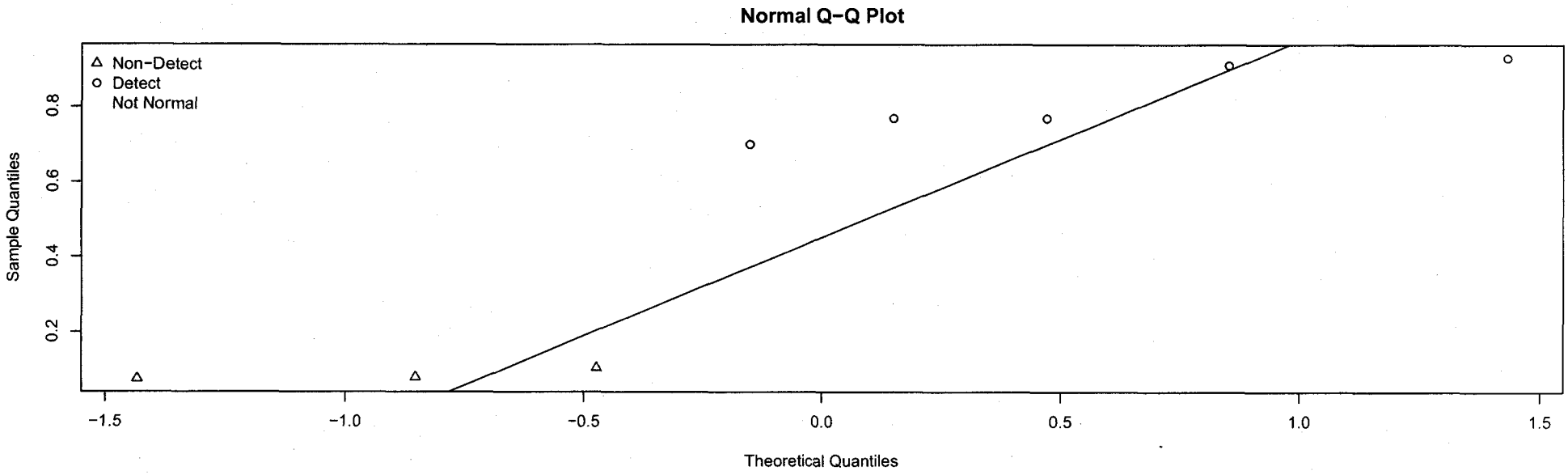


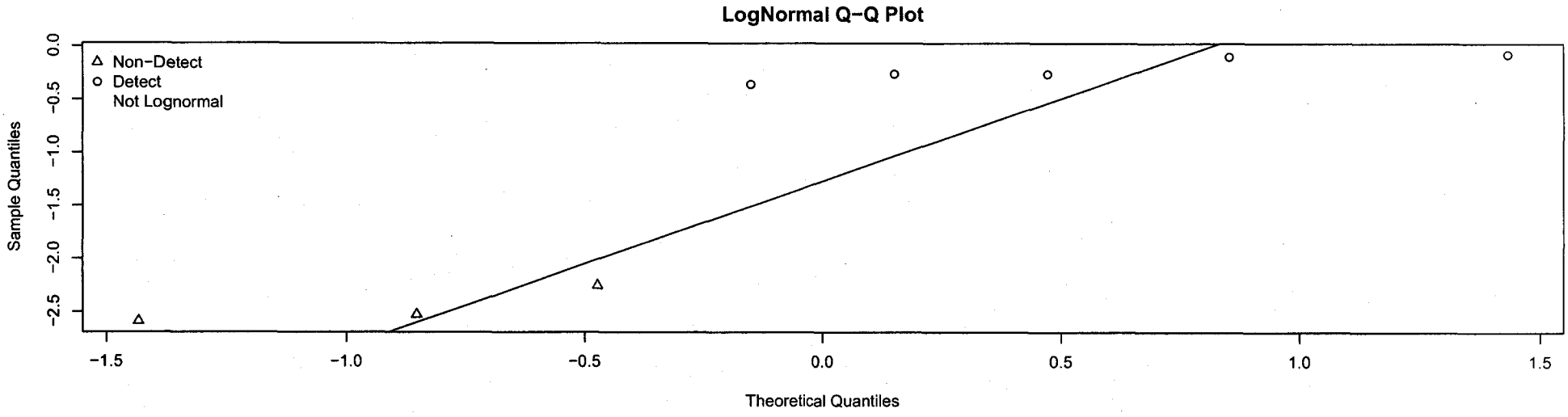
Mere Brook
Spring Sediment
ENDOSULFAN SULFATE



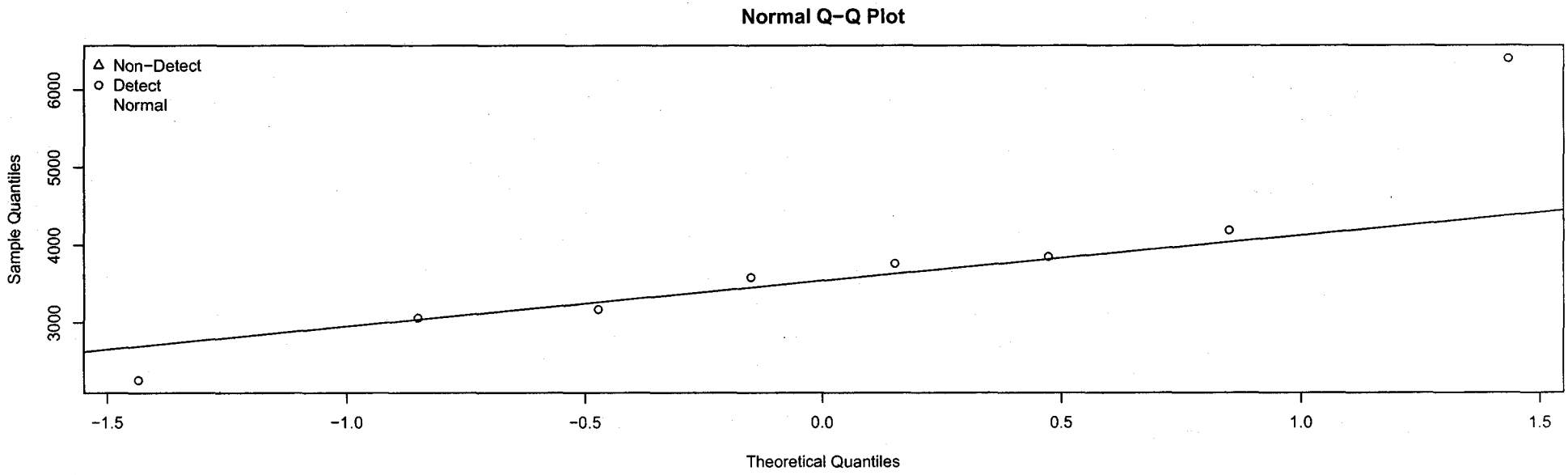


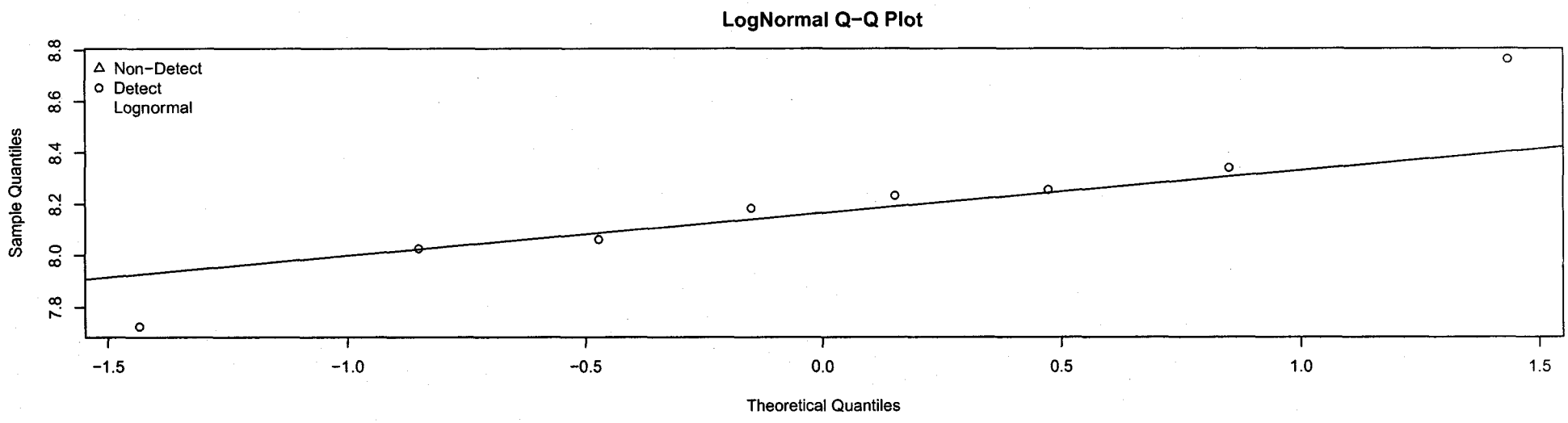
Mere Brook
Spring Sediment
GAMMA-CHLORDANE



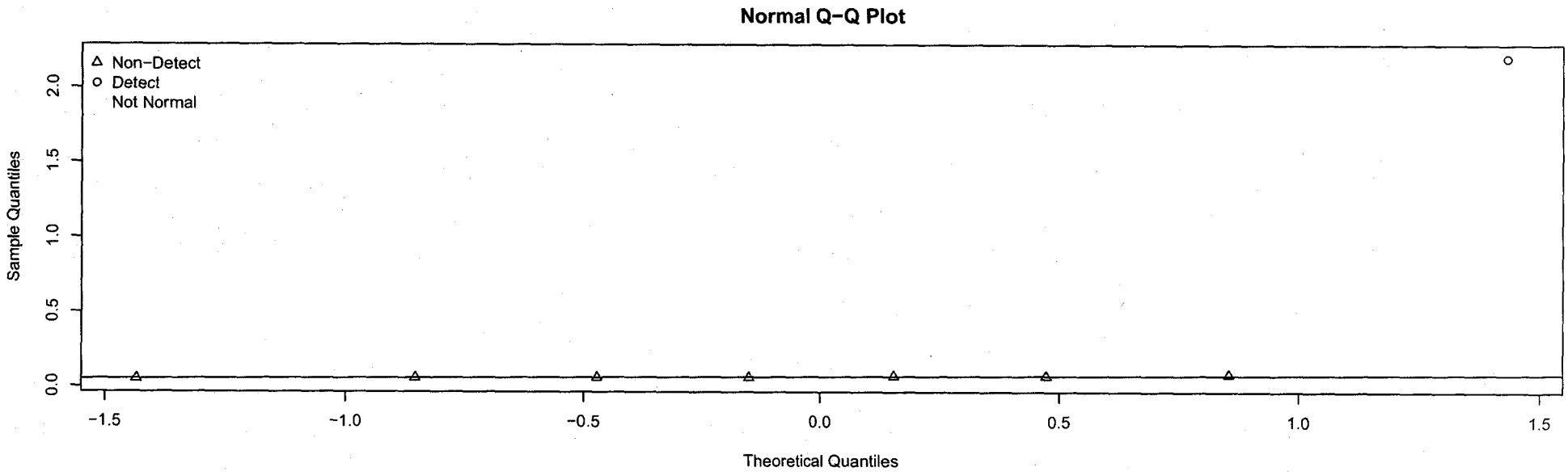


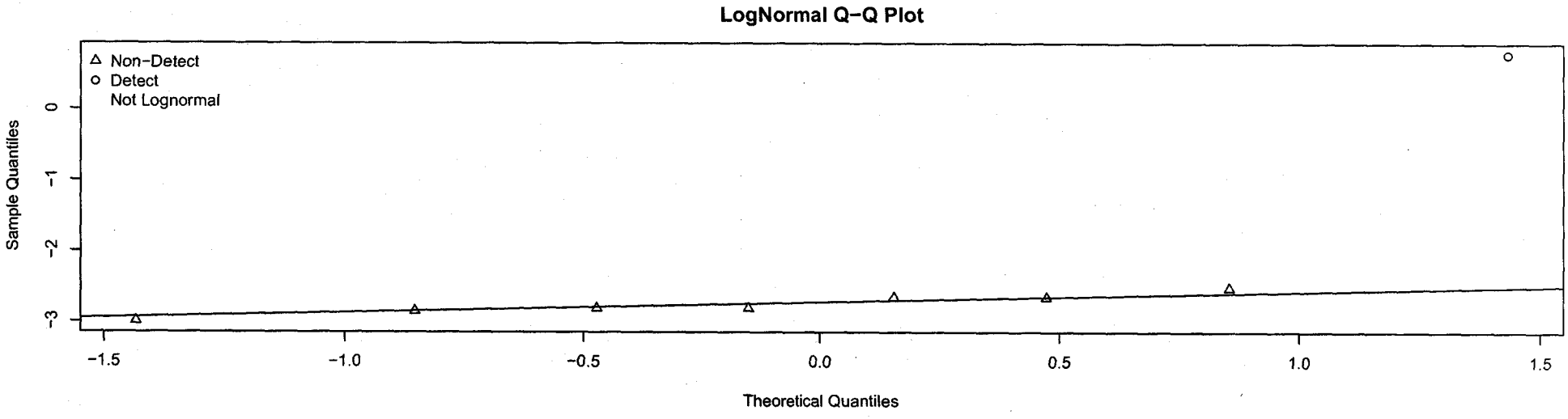
Mere Brook
Spring Sediment
ALUMINUM



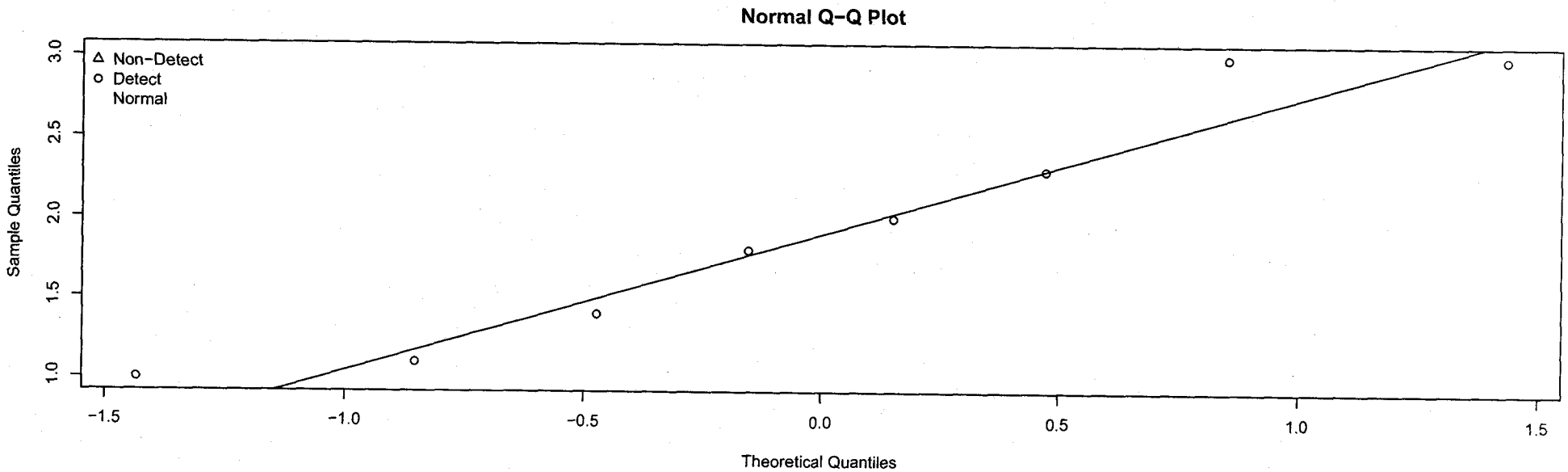


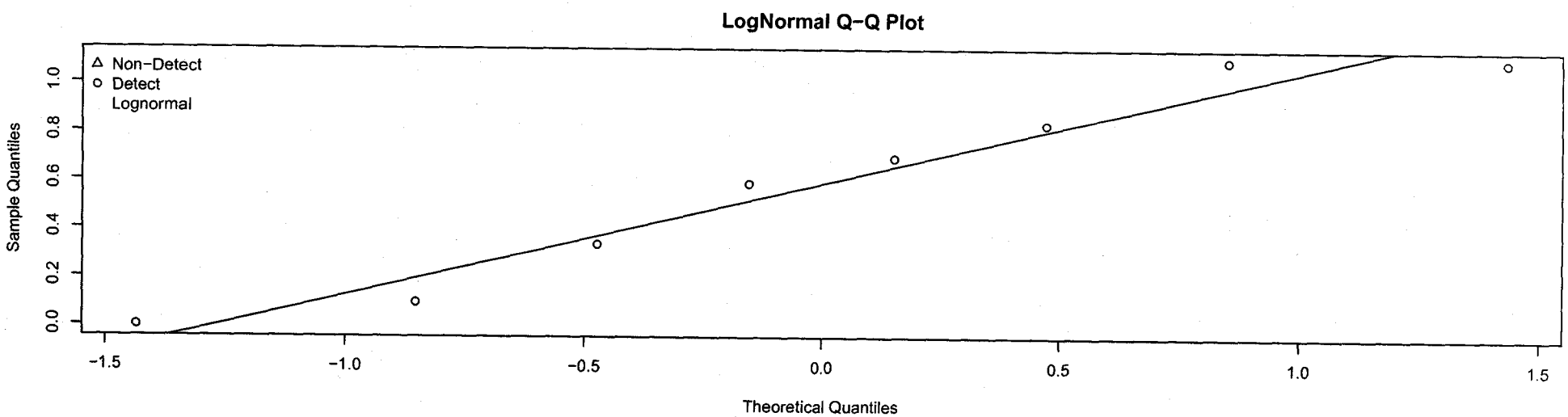
Mere Brook
Spring Sediment
ANTIMONY



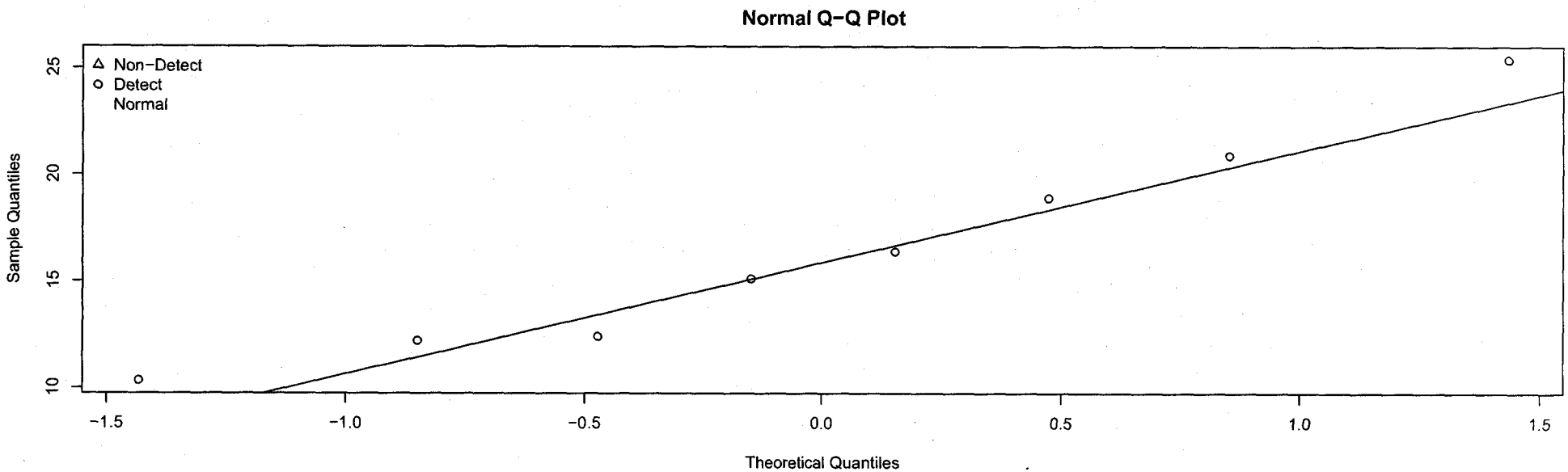


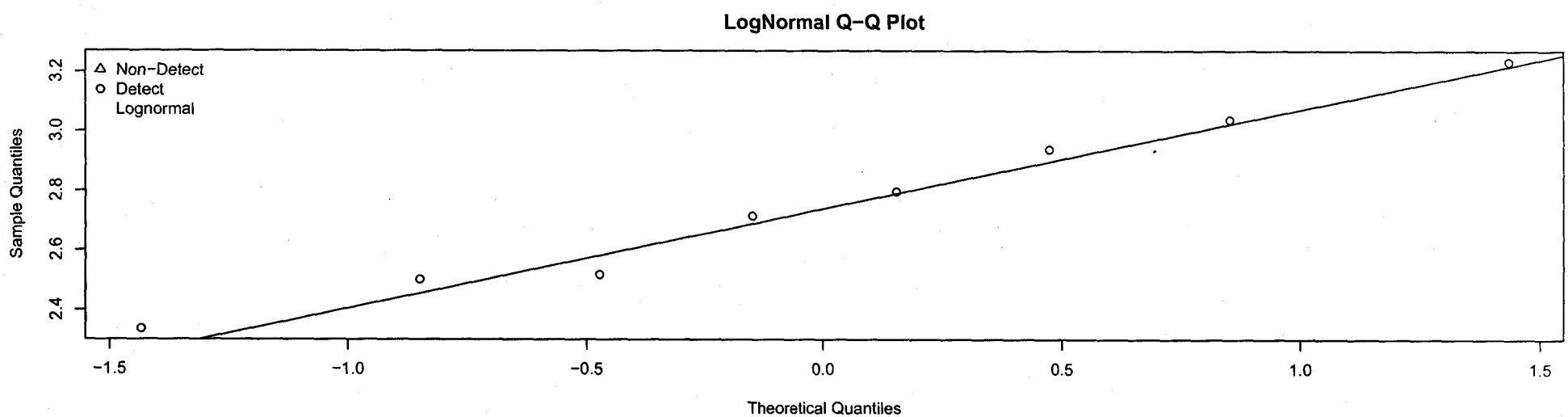
Mere Brook
Spring Sediment
ARSENIC



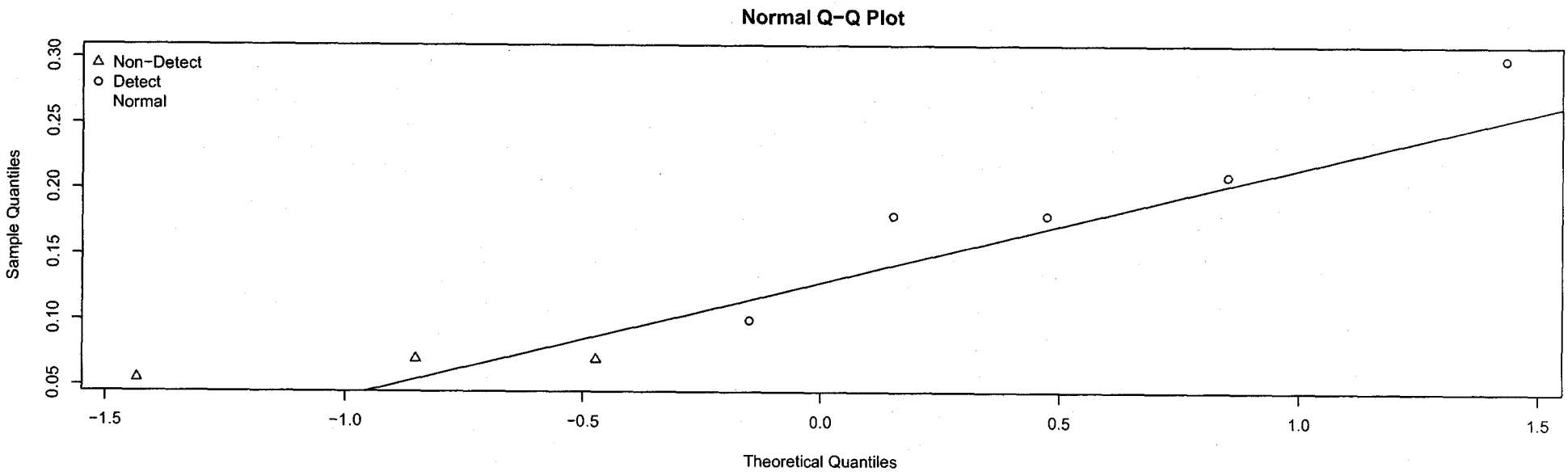


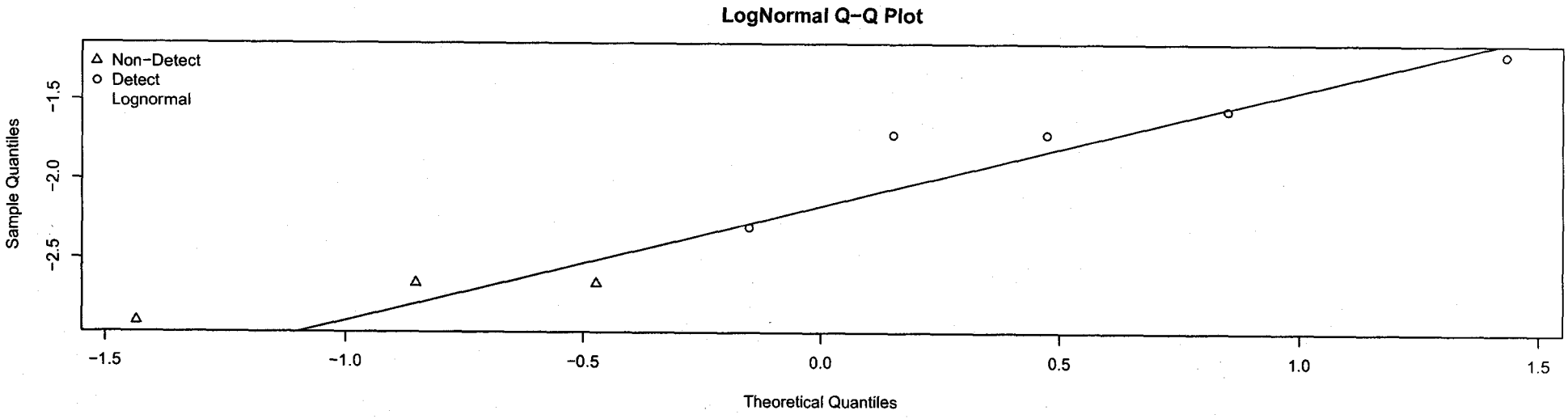
Mere Brook
Spring Sediment
BARIUM



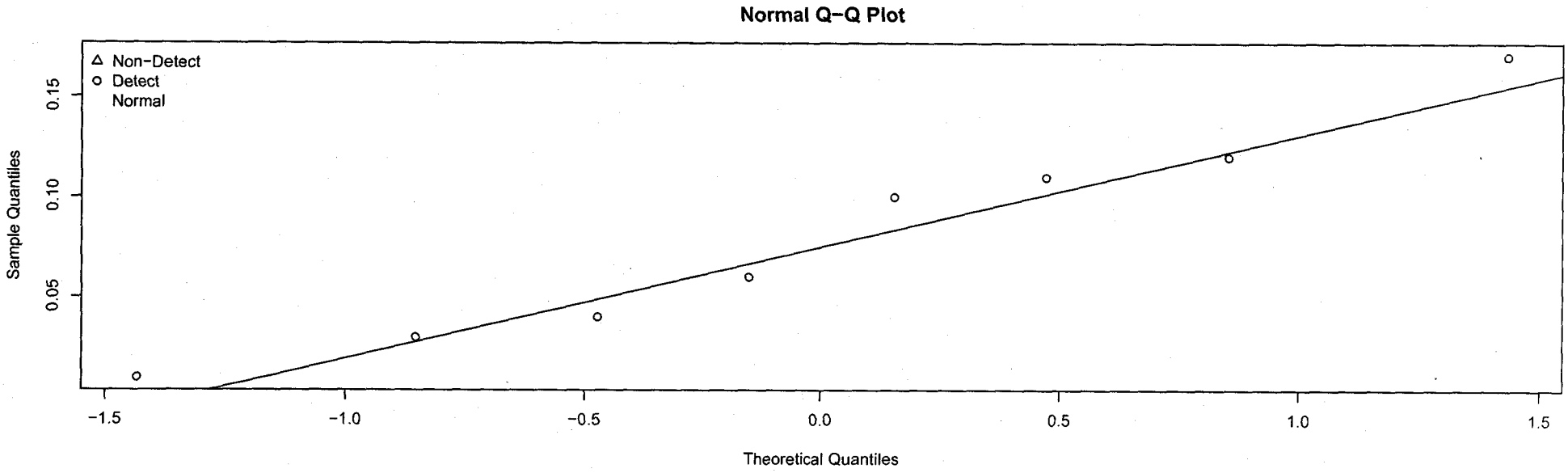


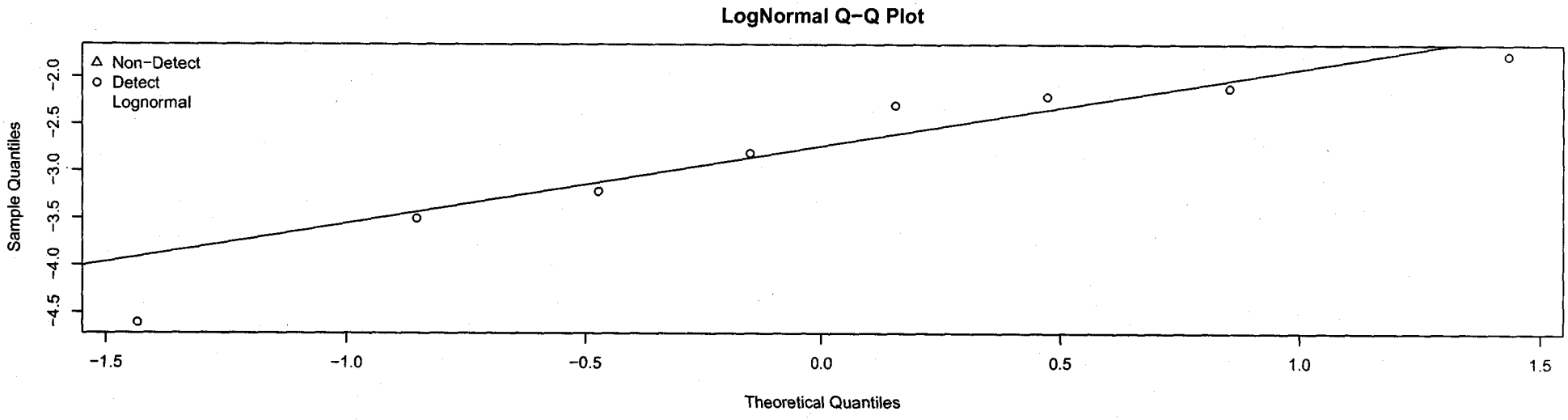
Mere Brook
Spring Sediment
BERYLLIUM



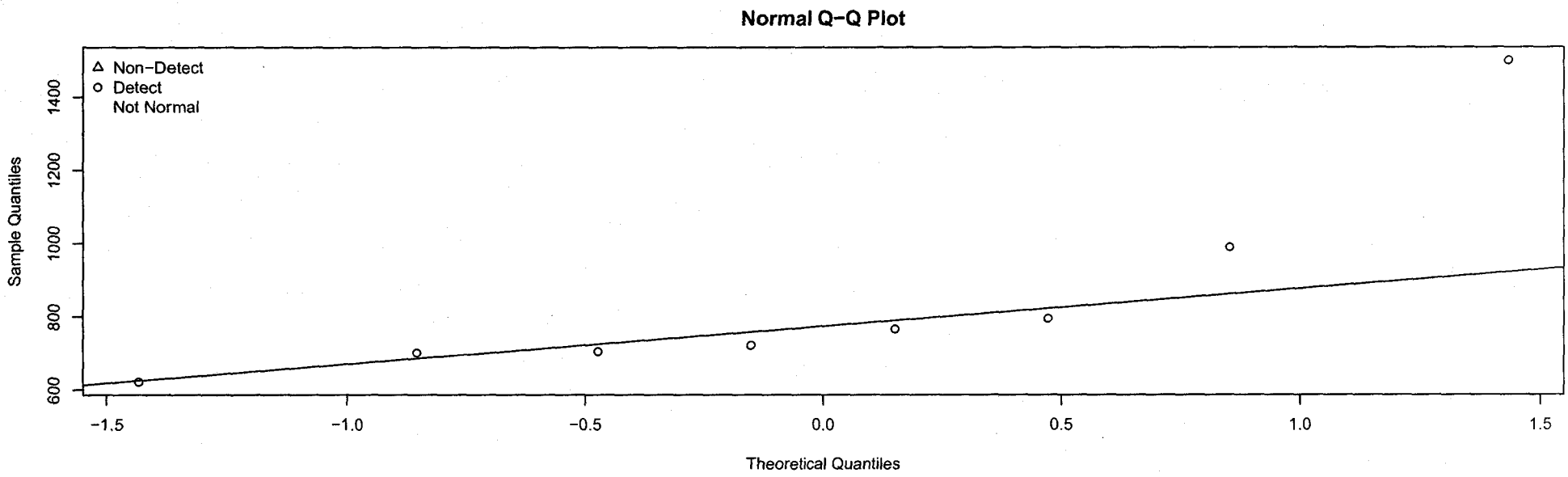


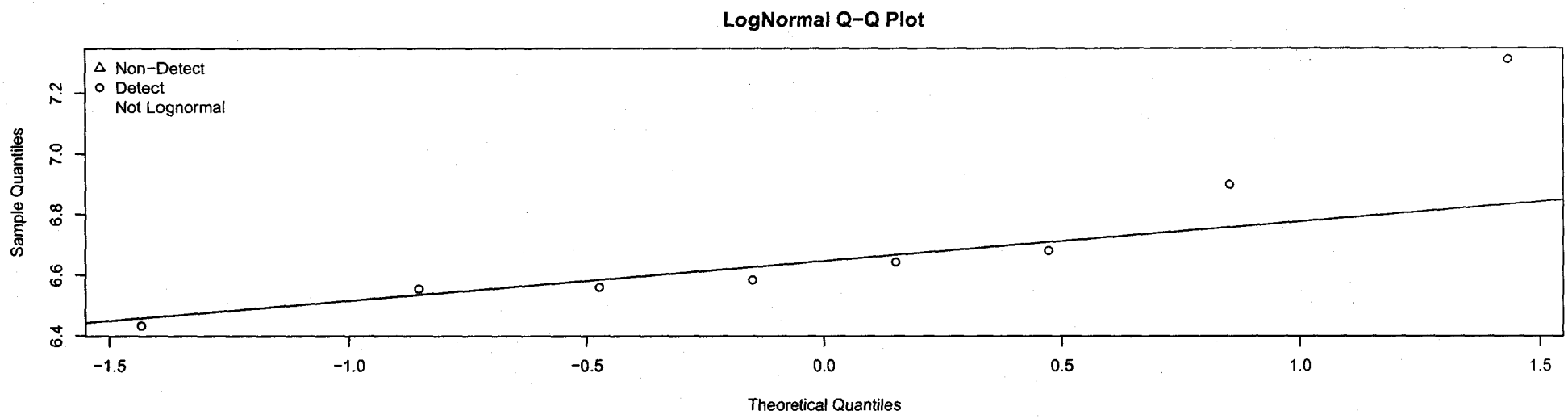
Mere Brook
Spring Sediment
CADMIUM



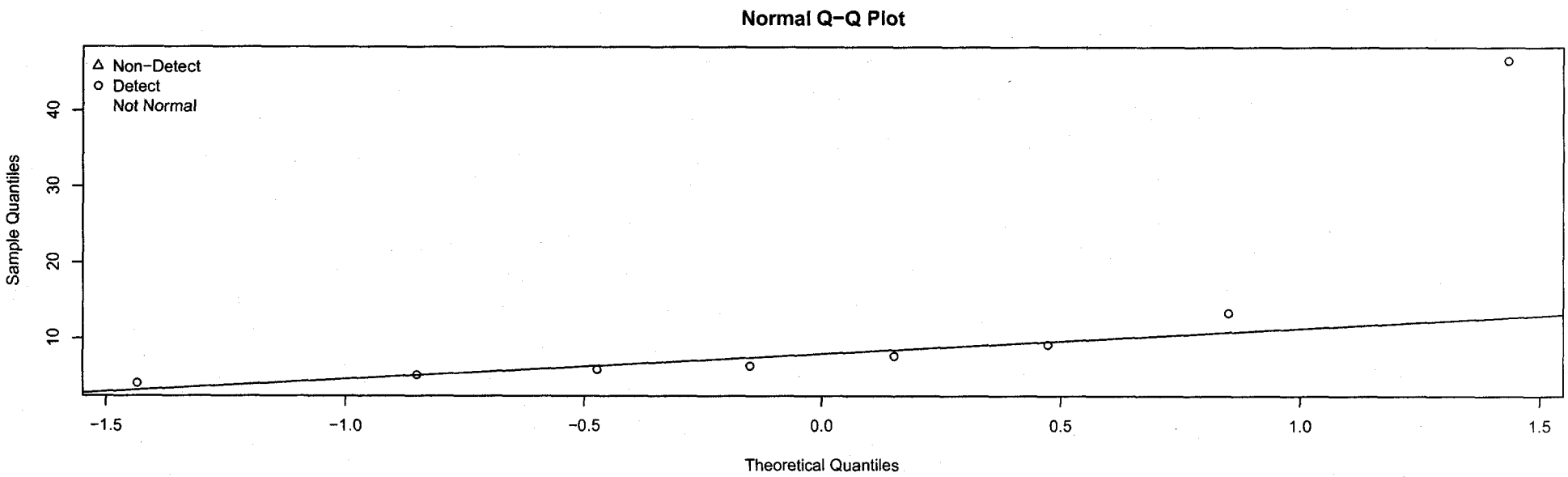


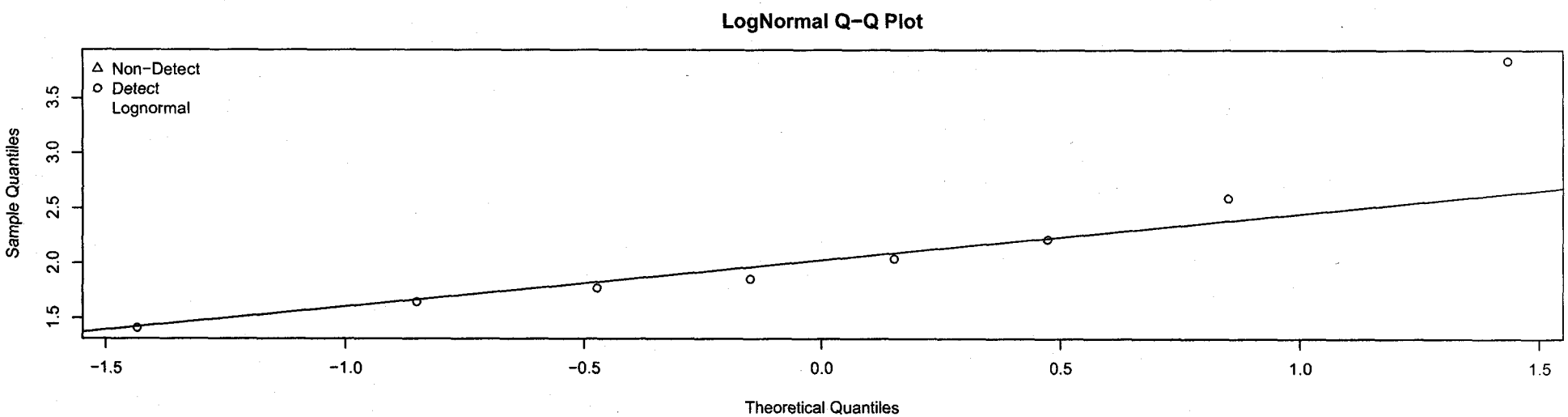
Mere Brook
Spring Sediment
CALCIUM



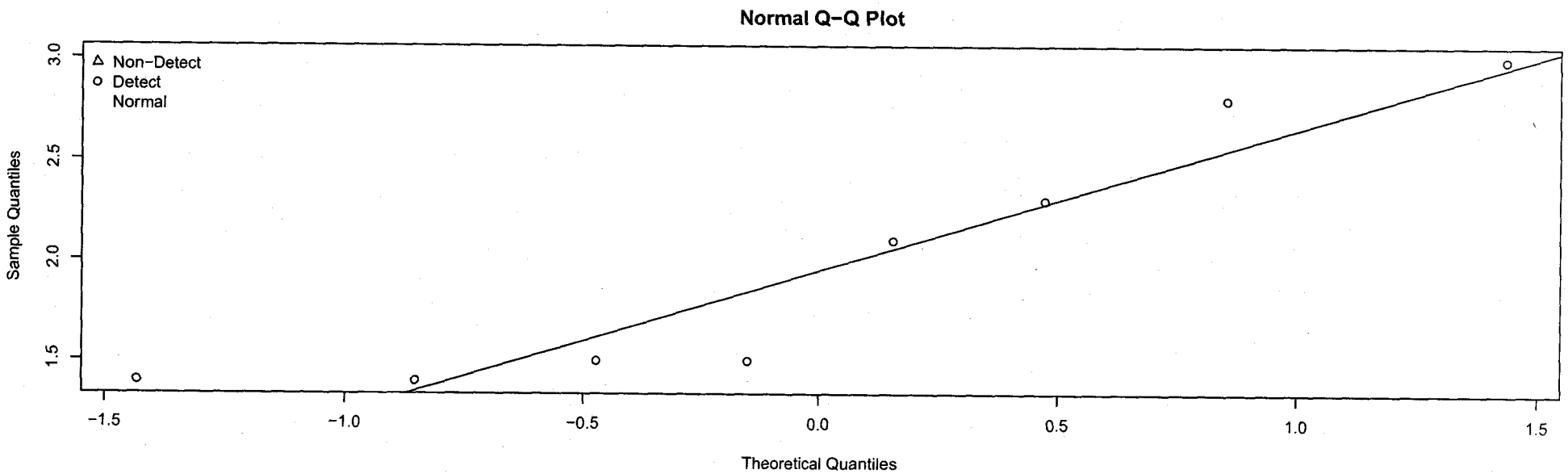


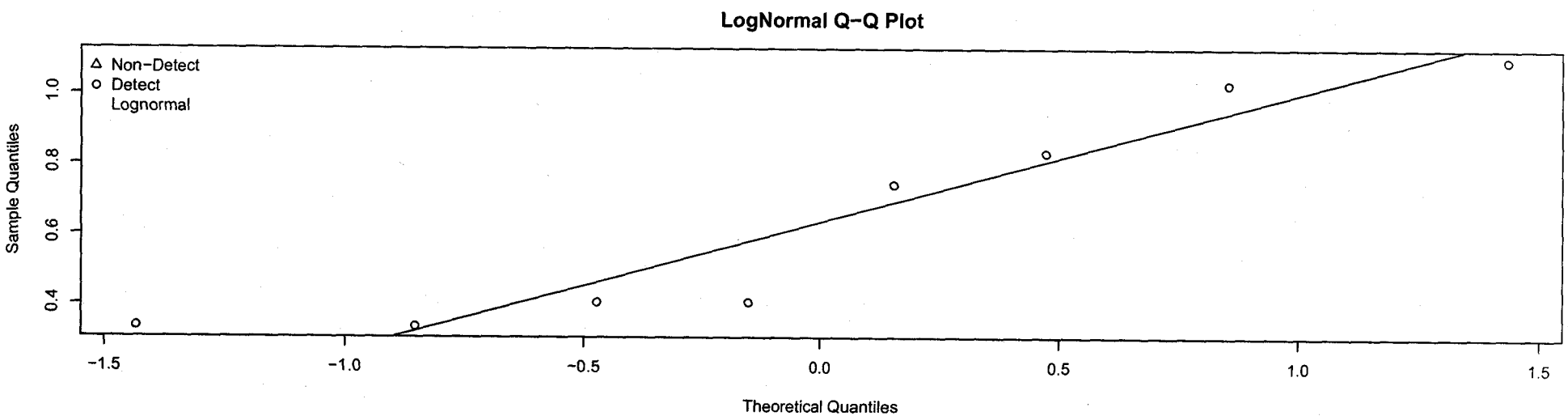
Mere Brook
Spring Sediment
CHROMIUM



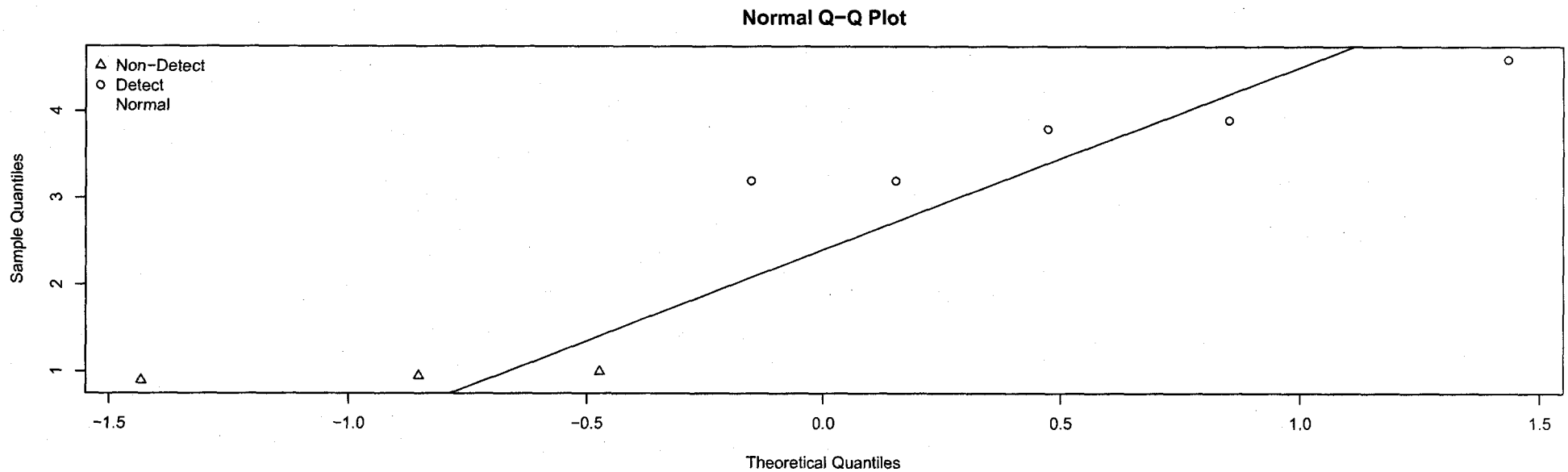


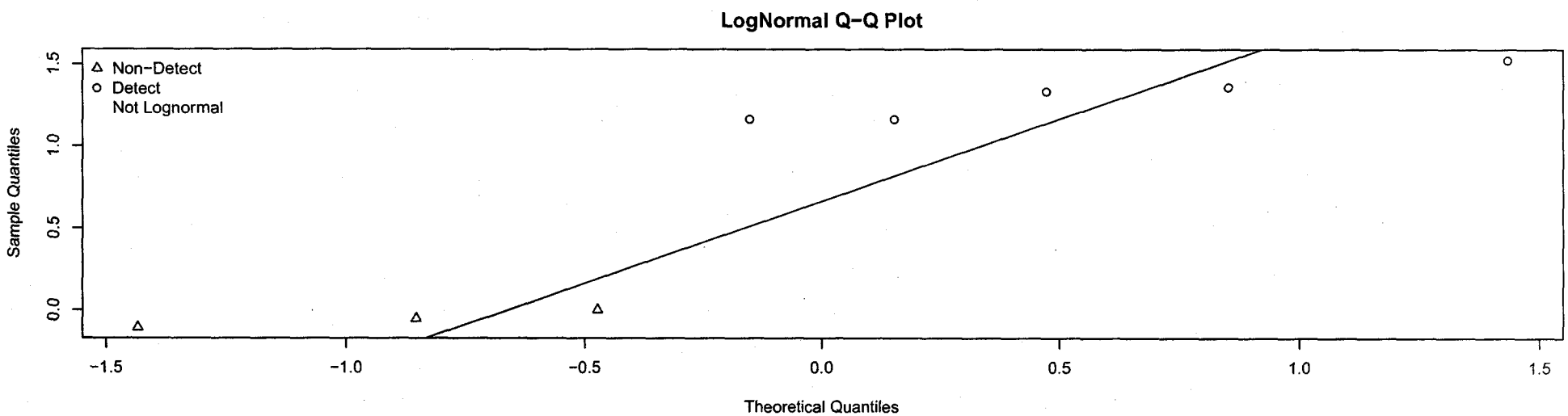
Mere Brook
Spring Sediment
COBALT



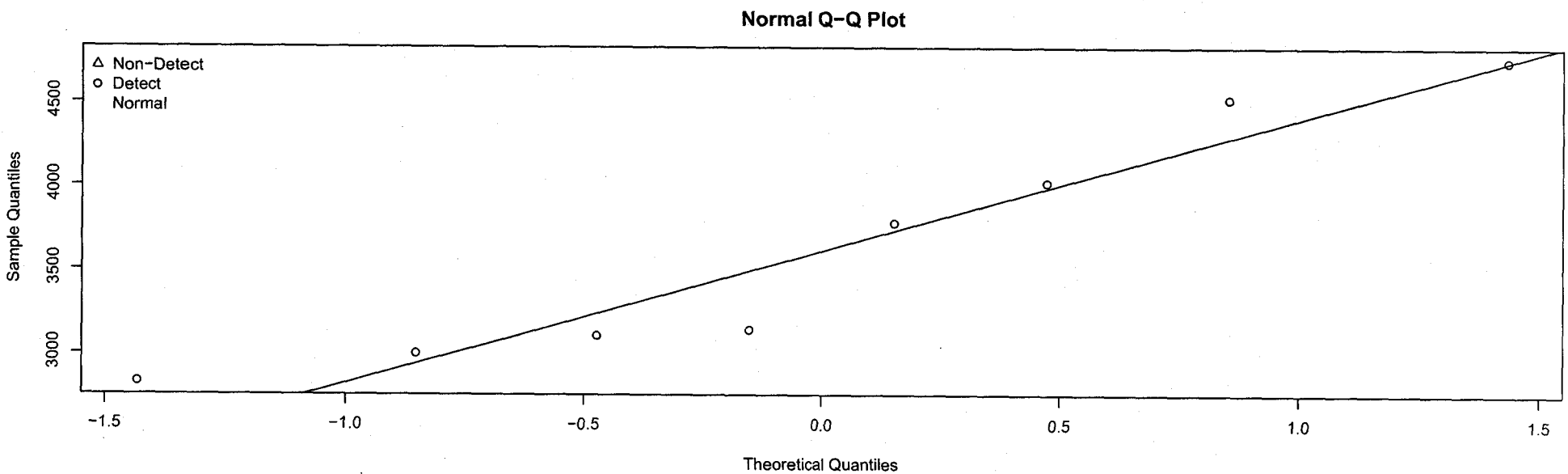


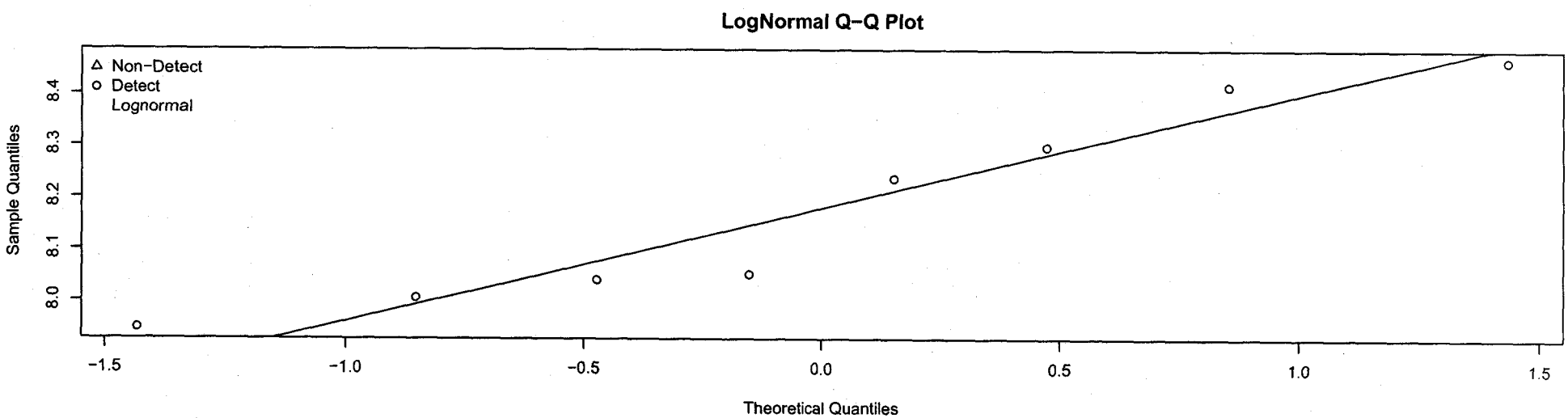
Mere Brook
Spring Sediment
COPPER



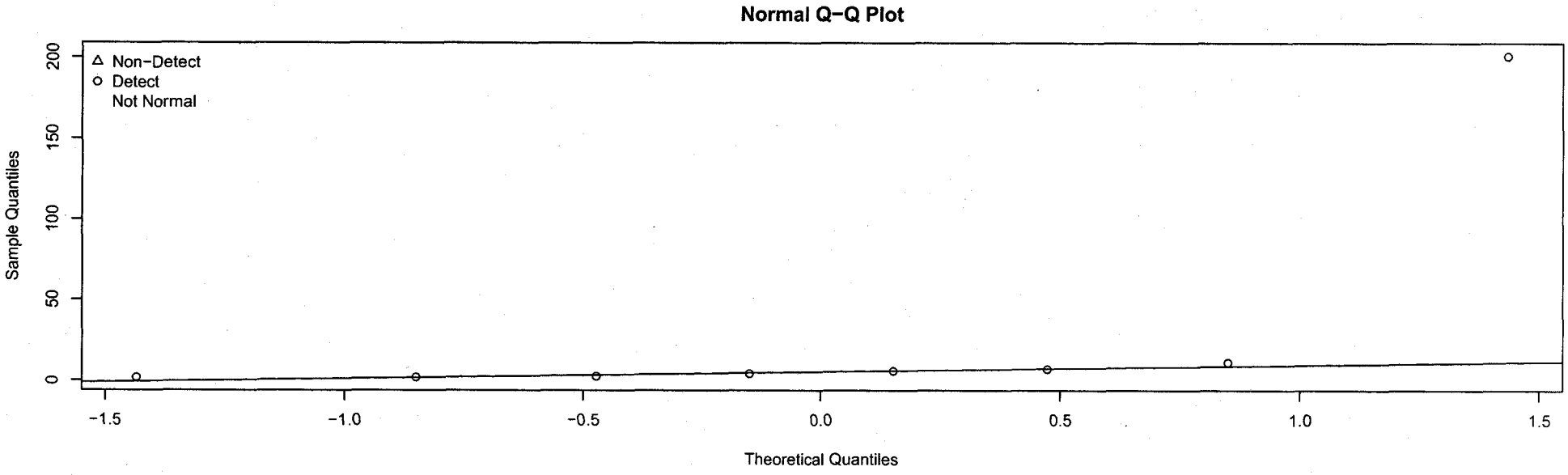


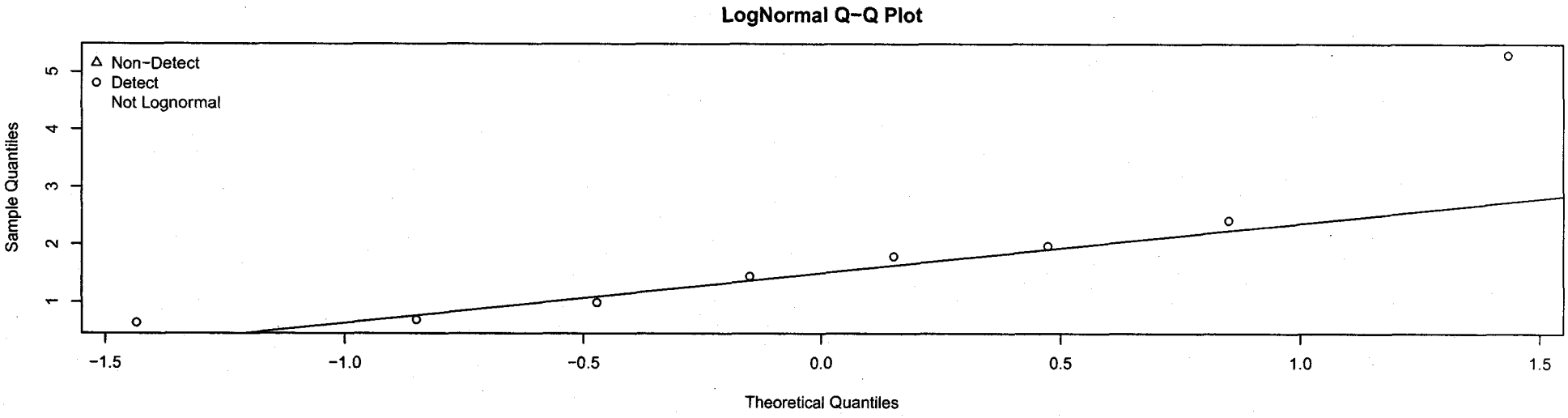
Mere Brook
Spring Sediment
IRON



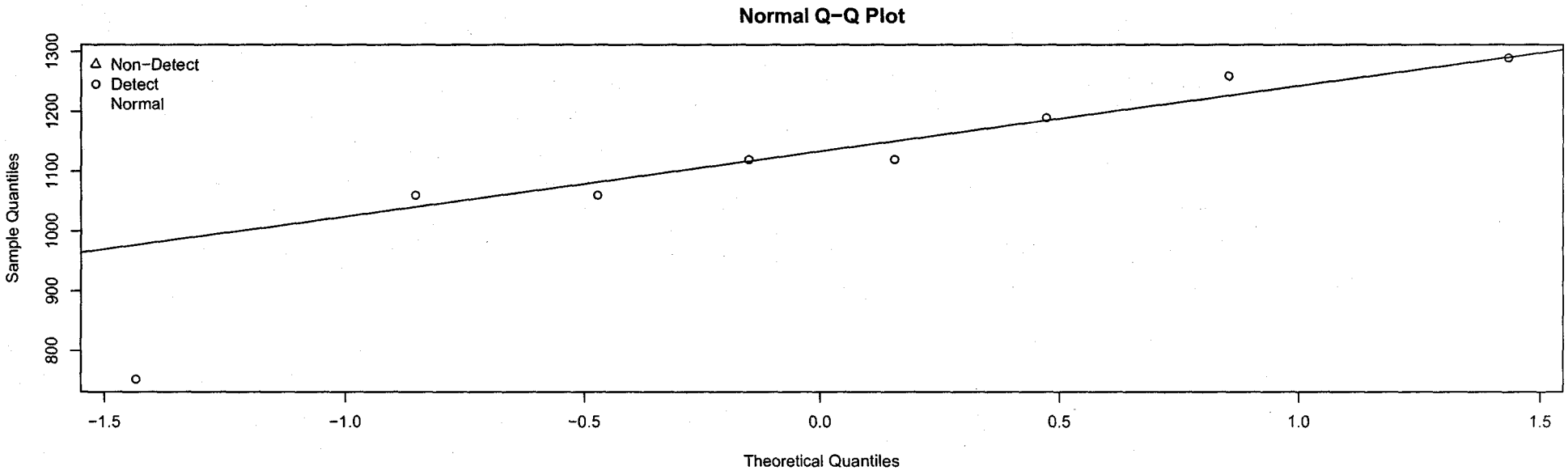


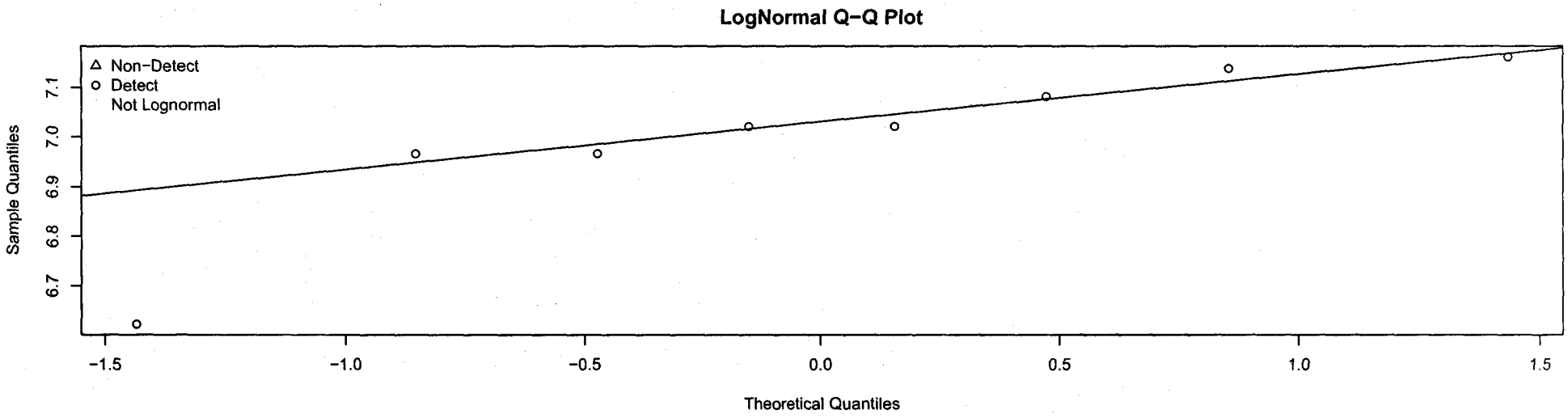
Mere Brook
Spring Sediment
LEAD



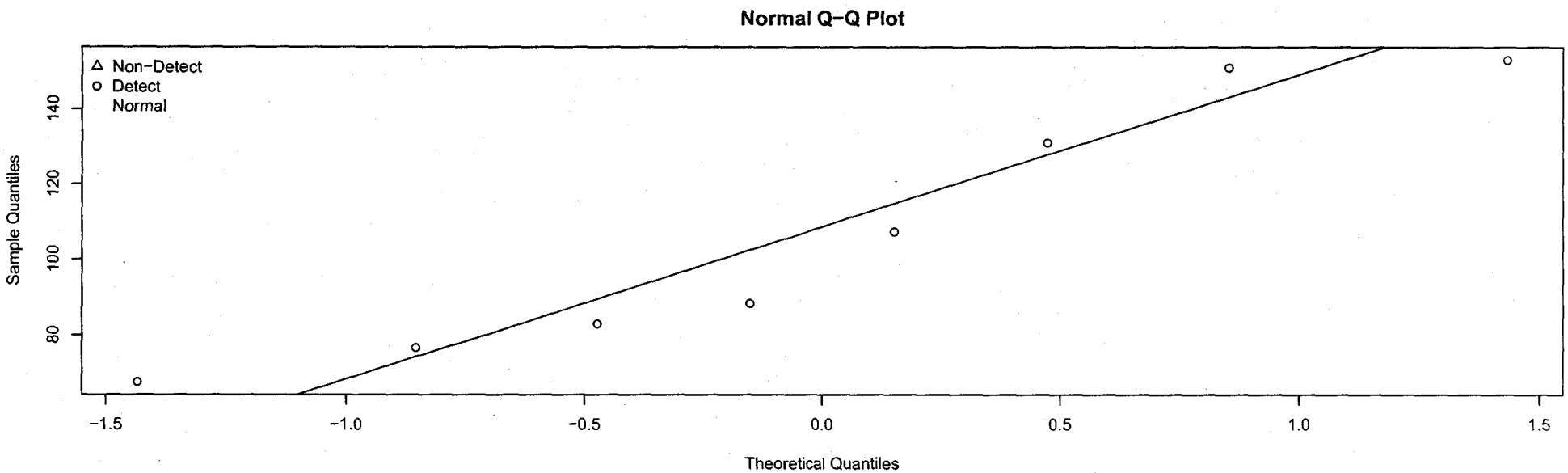


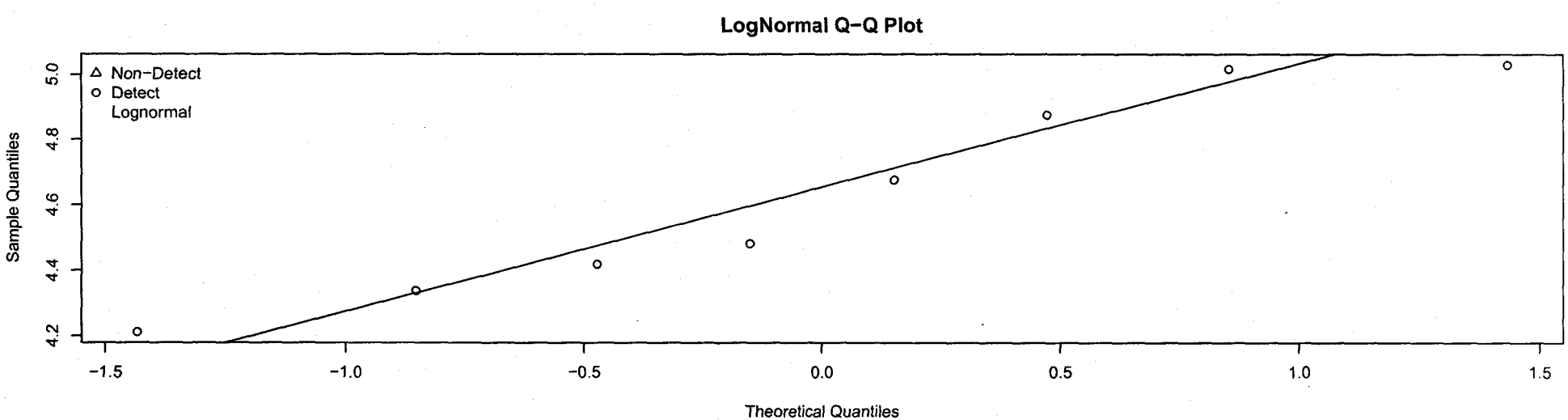
Mere Brook
Spring Sediment
MAGNESIUM



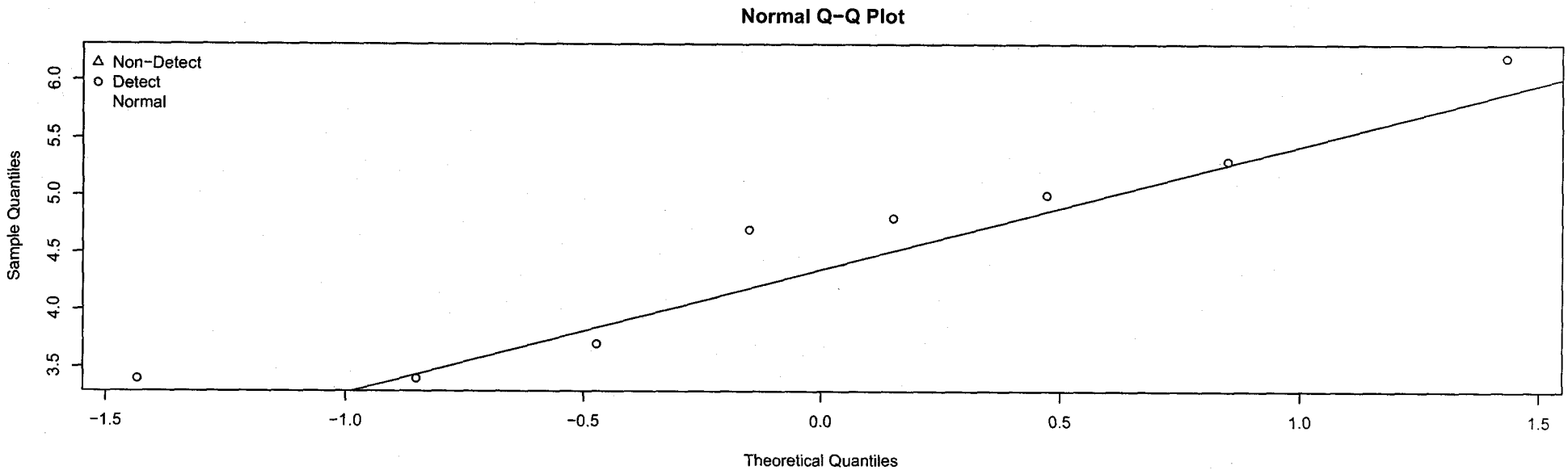


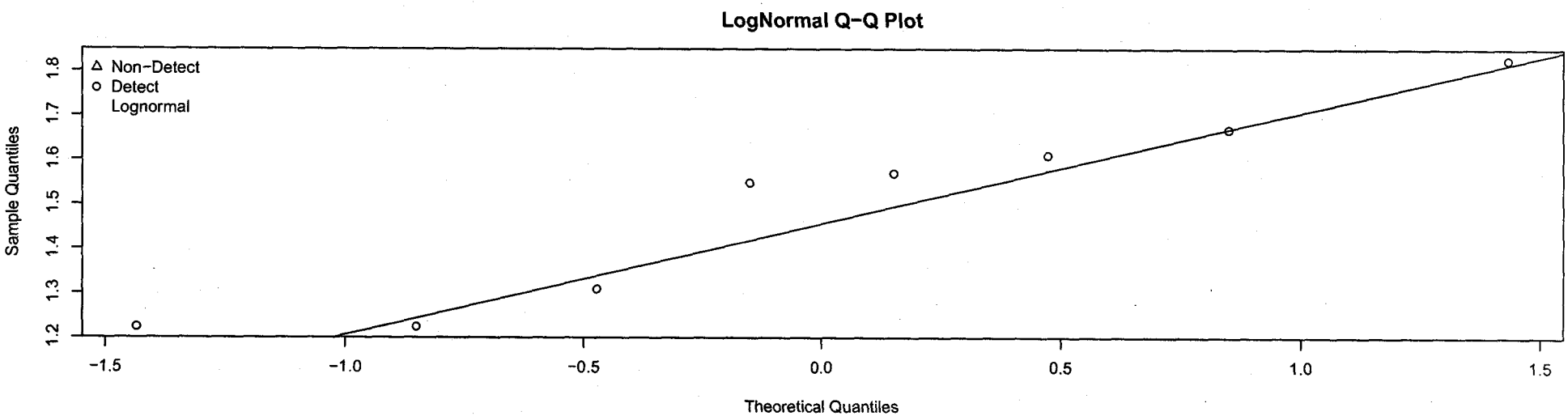
Mere Brook
Spring Sediment
MANGANESE



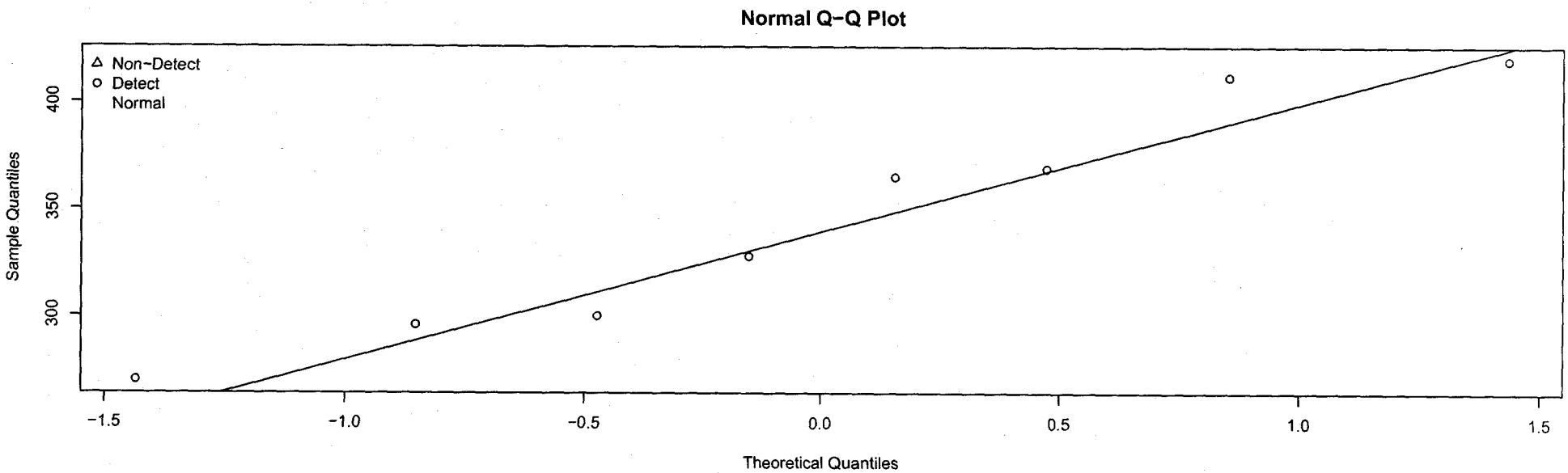


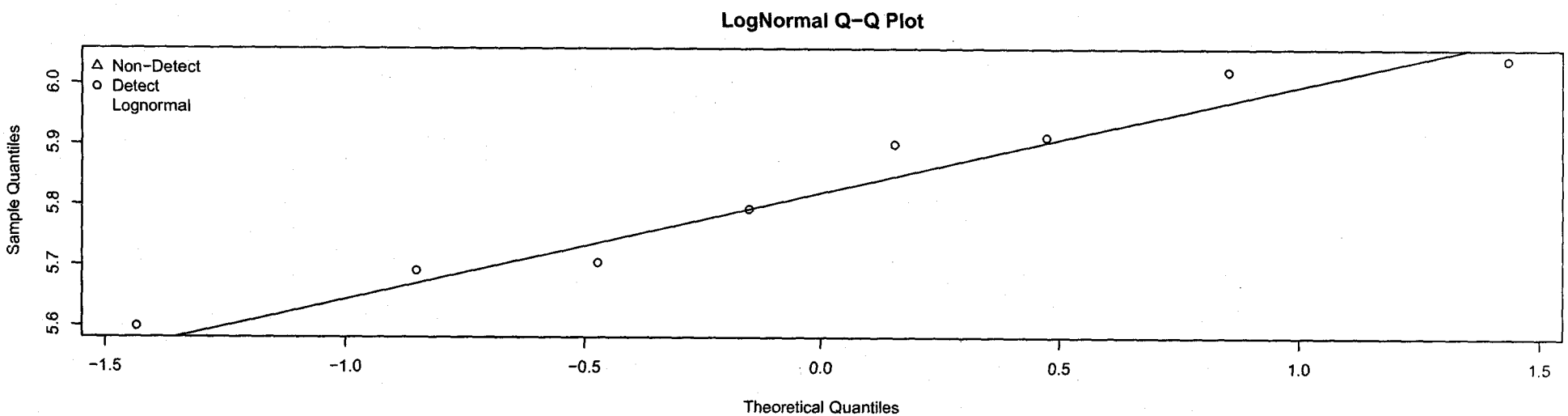
Mere Brook
Spring Sediment
NICKEL



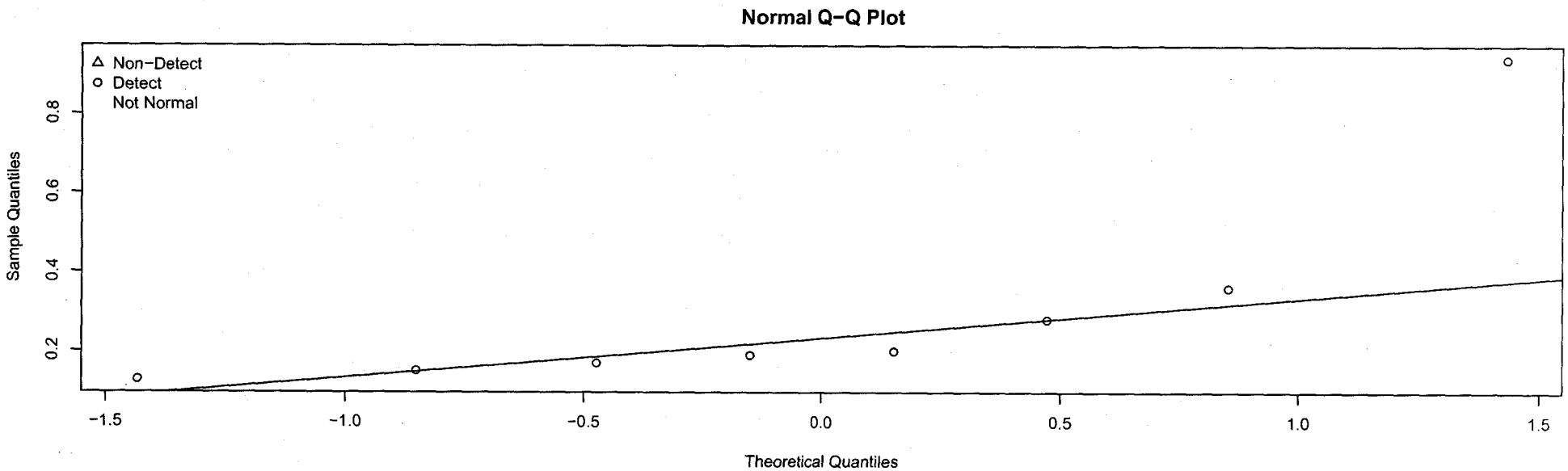


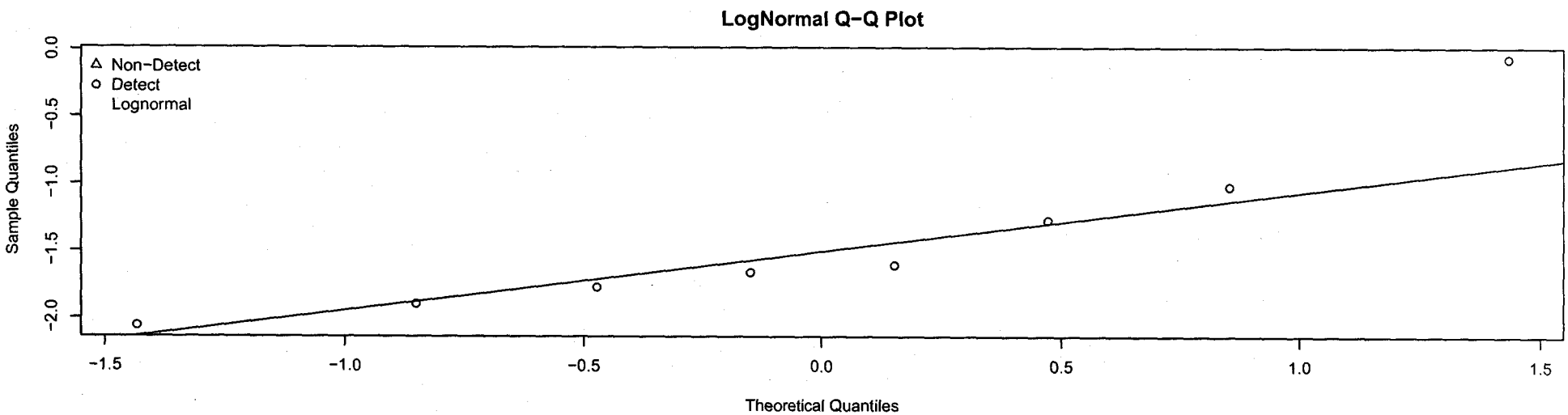
Mere Brook
Spring Sediment
POTASSIUM



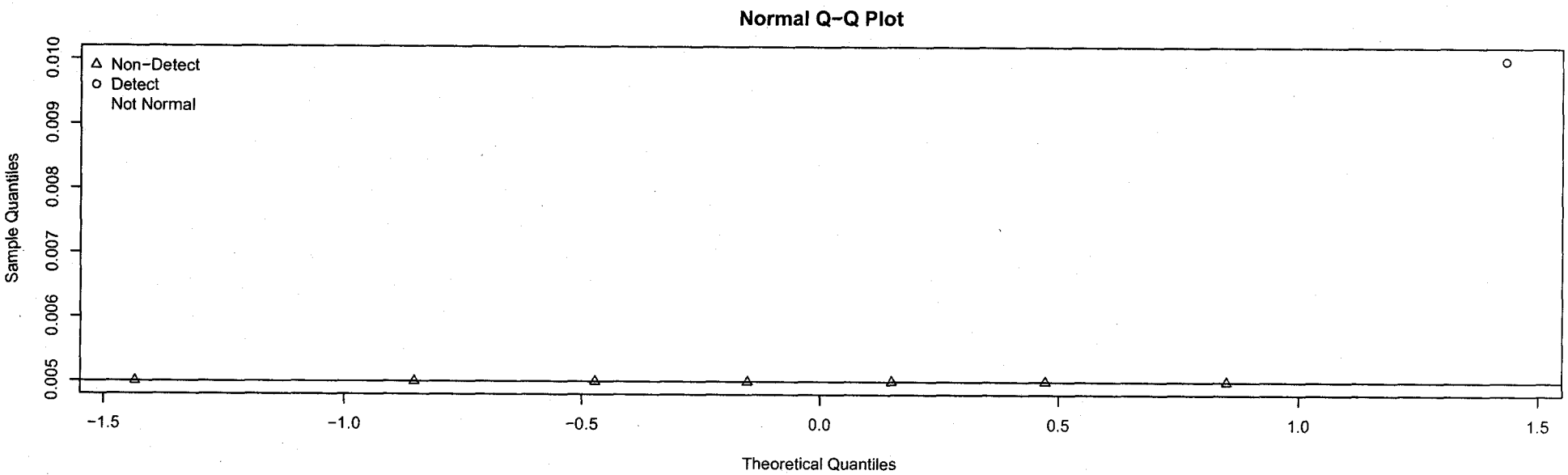


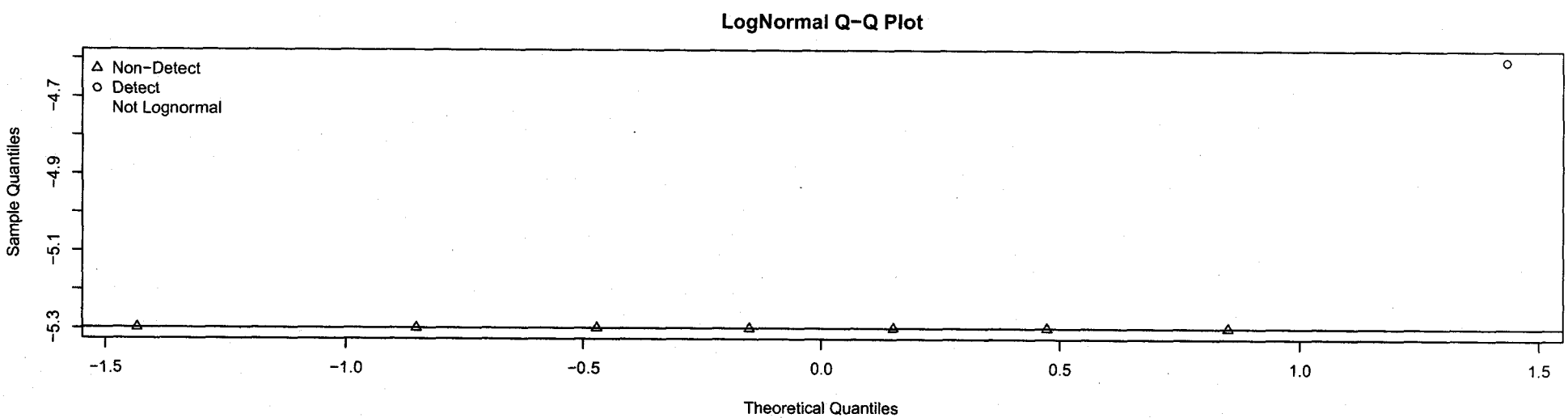
Mere Brook
Spring Sediment
SELENIUM



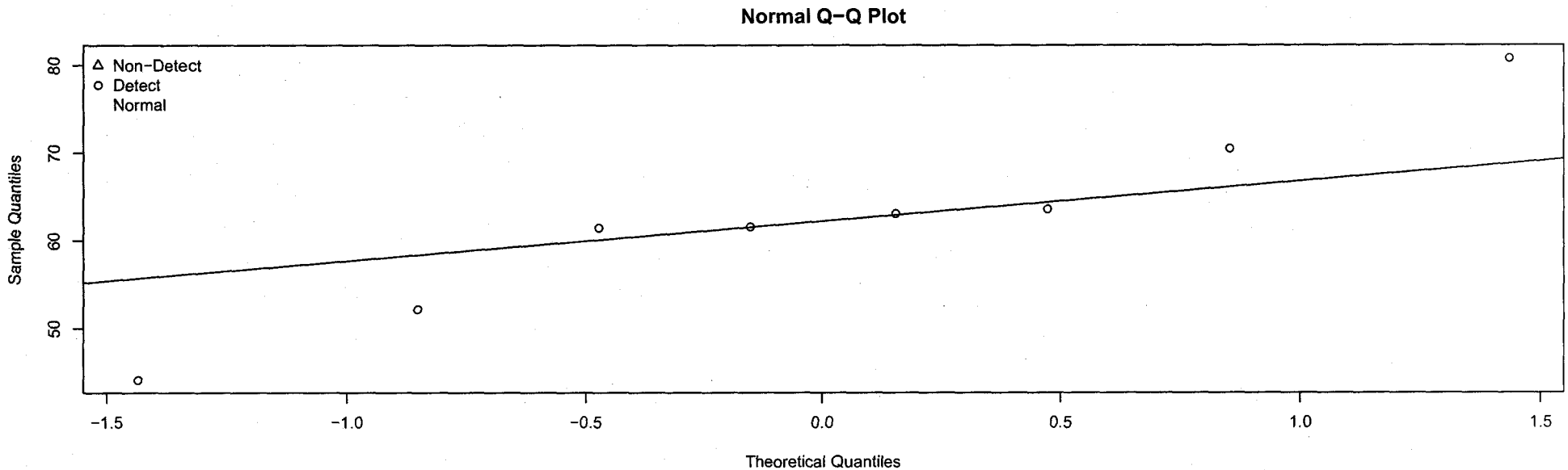


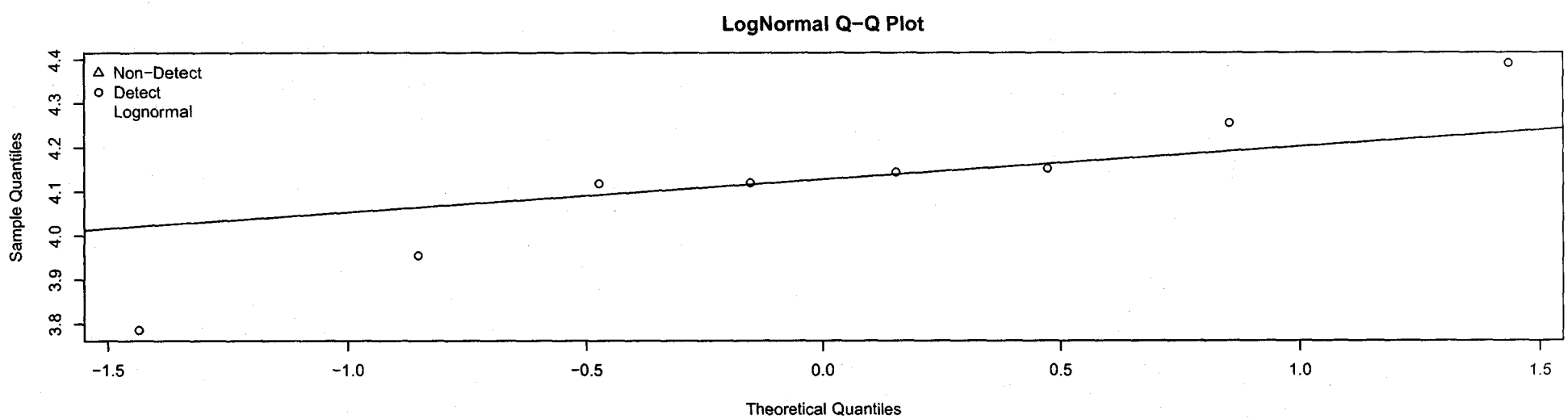
Mere Brook
Spring Sediment
SILVER



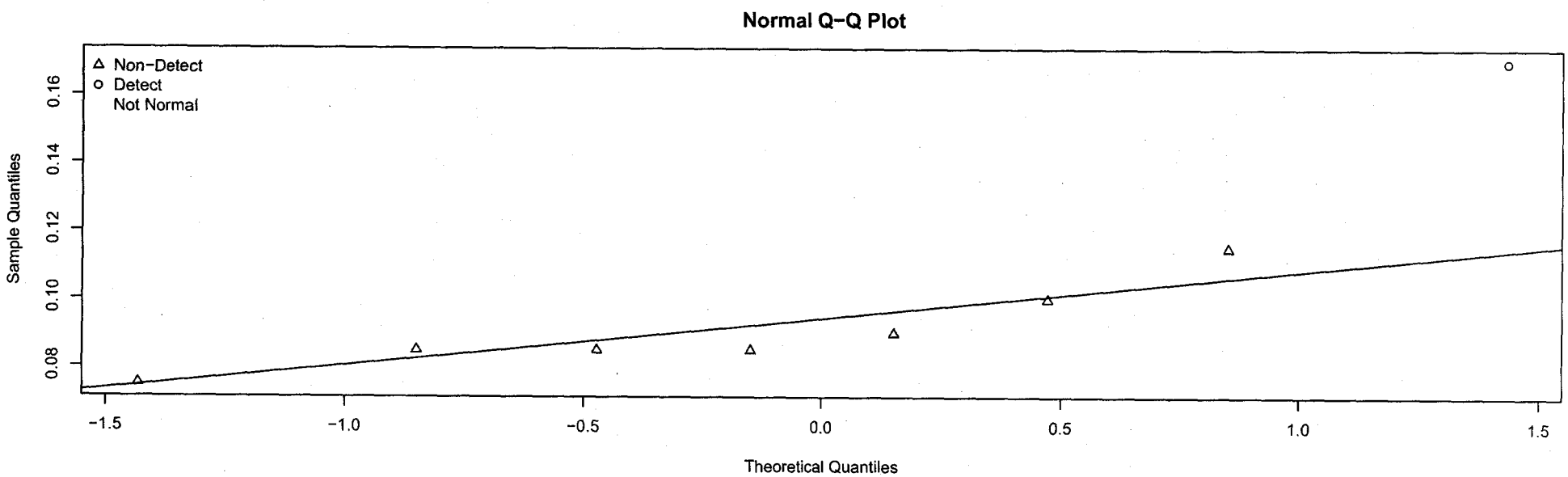


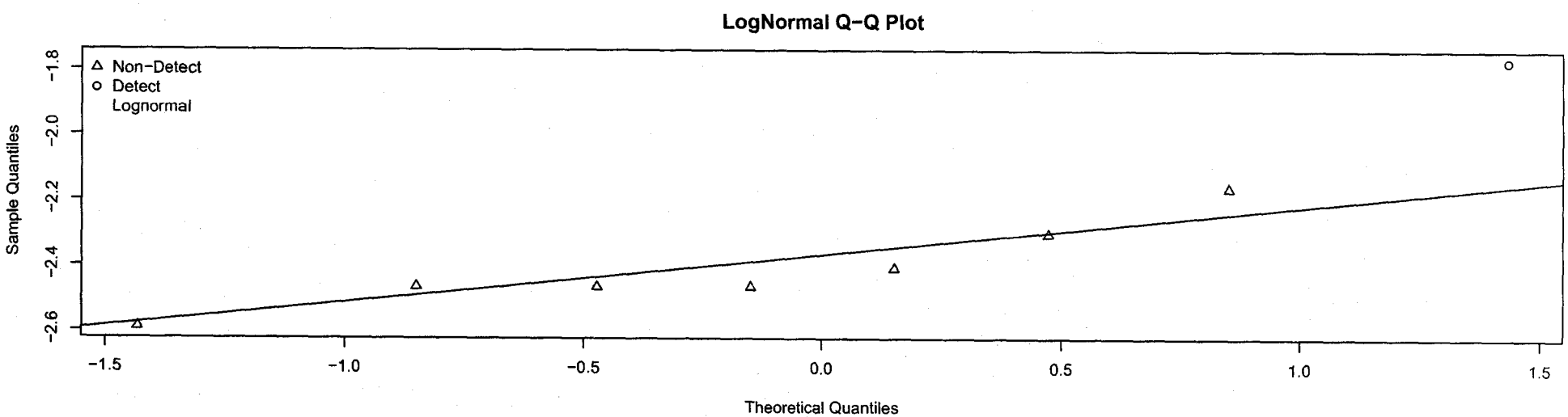
Mere Brook
Spring Sediment
SODIUM



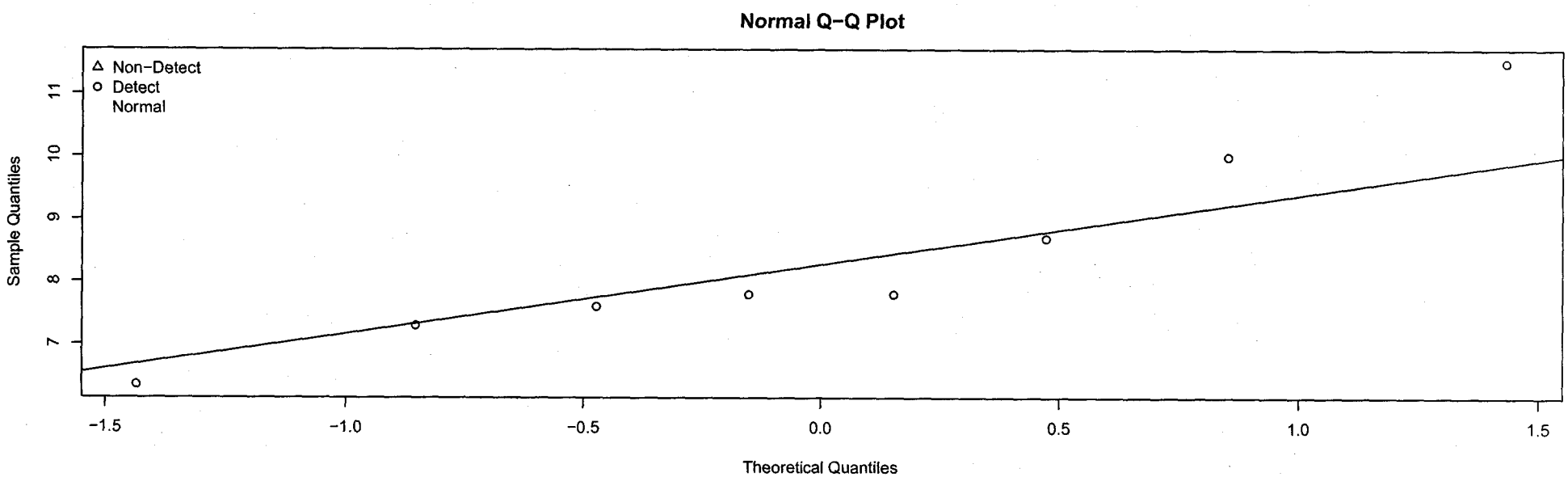


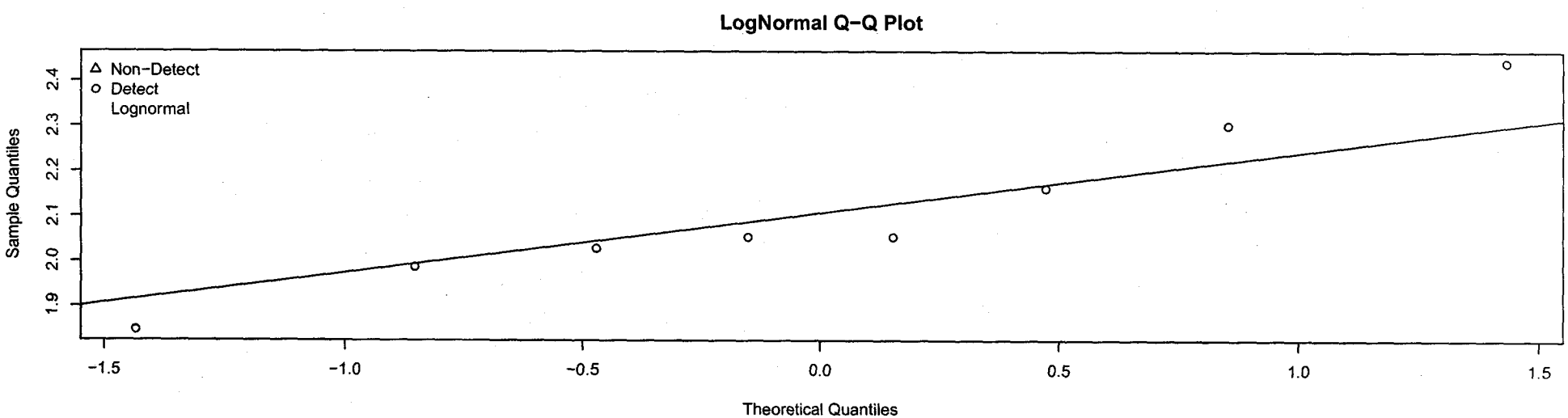
Mere Brook
Spring Sediment
THALLIUM



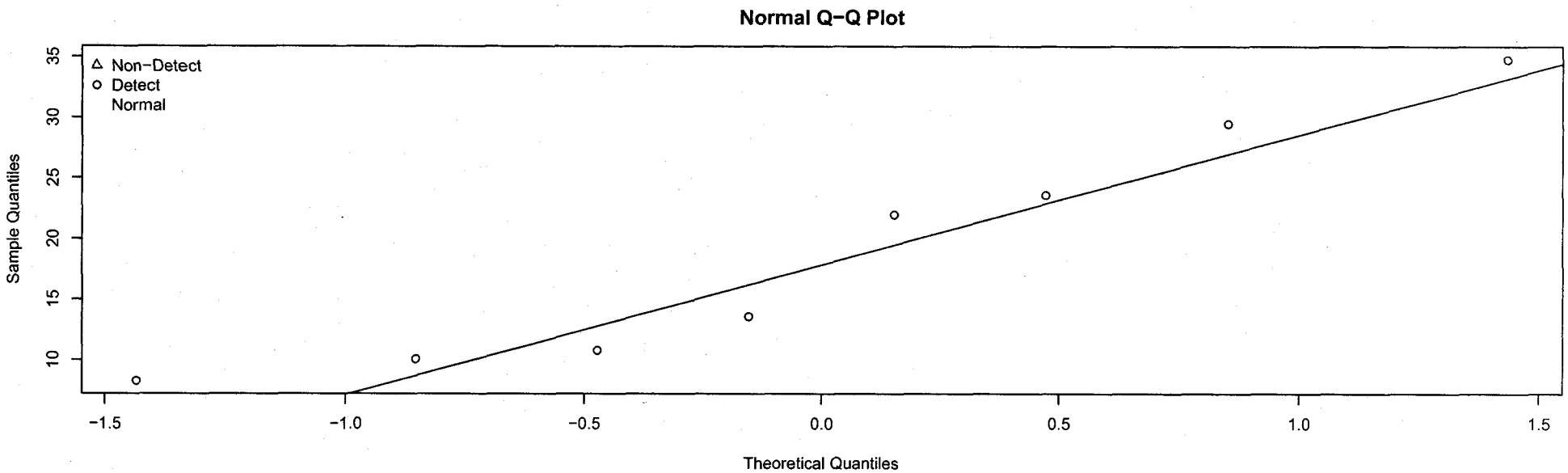


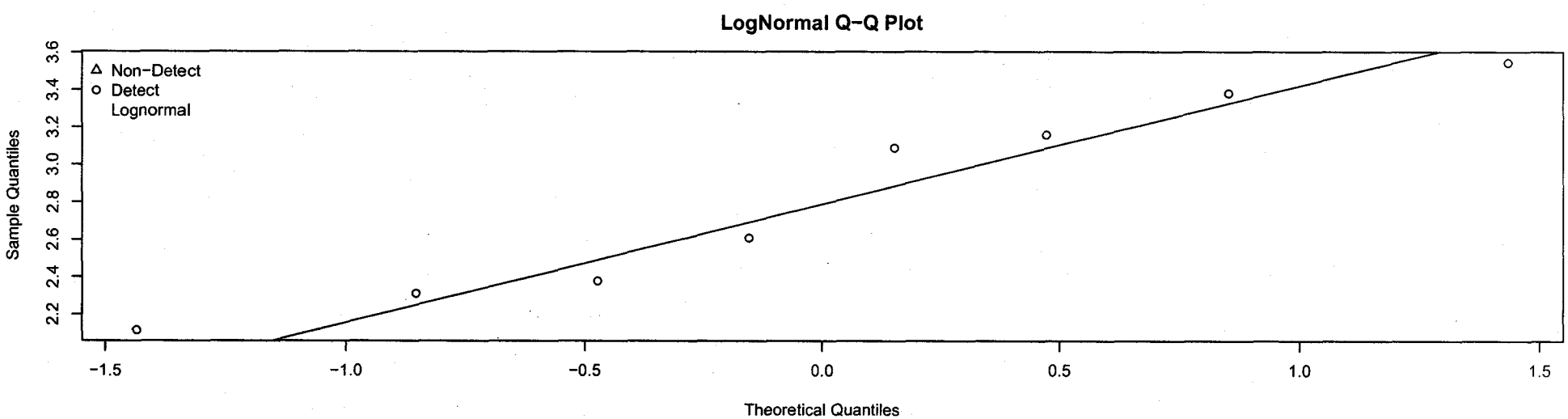
Mere Brook
Spring Sediment
VANADIUM



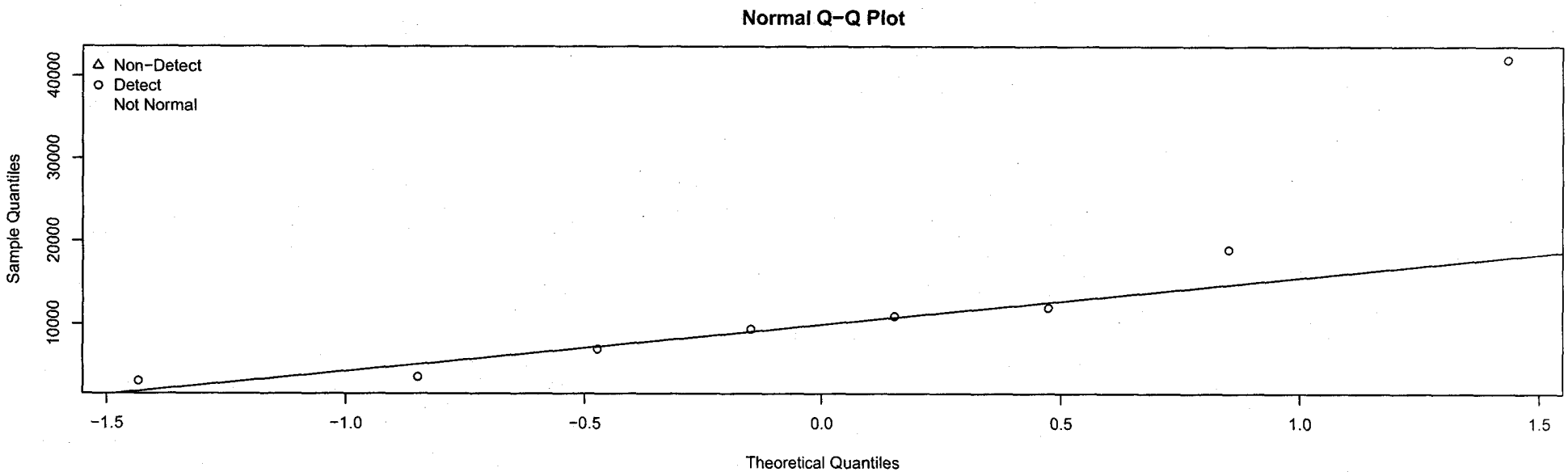


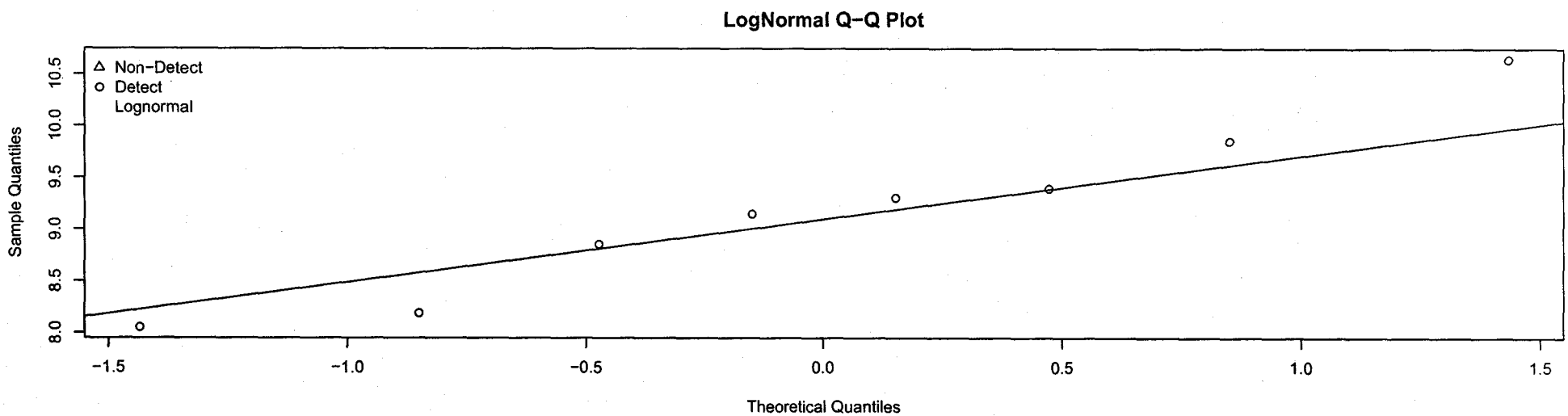
Mere Brook
Spring Sediment
ZINC





Mere Brook
Spring Sediment
TOTAL ORGANIC CARBON





A.4.3 SEDIMENT GRAPHICAL DATA EVALUATION

APPENDIX A.4.3 GRAPHICAL DATA EVALUATION

Graphical presentations of the data may identify potential outliers, indicate the presence of more than one data population represented by a data set, suggest that data gaps exist, and/or that there are spatial or temporal trends in the dataset. Each of these has the potential to confound data evaluations and statistical analyses. Box plots, normal probability (Q-Q) plots, and histograms were used to evaluate the data sets and are presented at the end of this section.

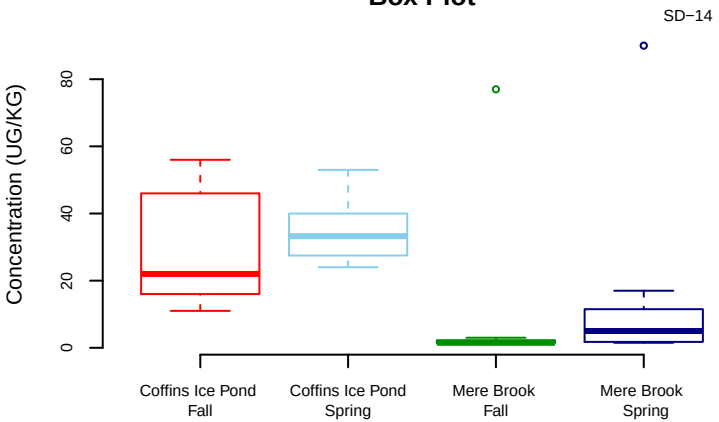
Box plots show the central tendency, degree of symmetry, range of variation, and potential outliers of a data set. The data set is shown as a rectangular box that represents the middle 50 percent of the data. The upper value of the box (75th percentile) and the lower value of the box (25th percentile) define the top and bottom of the rectangle, respectively. The median is represented by the middle line in the box. This type of plot can reveal whether data groups are similar and the extent and magnitude of candidate outliers. Candidate outliers were labeled with location ID.

A probability (Q-Q) plot graphs the quantiles of a data set against the quantiles of the normal data distribution. A non-linear bend in the Q-Q probability plot or a point of departure from linearity at one end of the probability plot suggest that the data do not follow the normal distribution. Probability (Q-Q) plots augment the identification of outliers and identify any data points or data ranges that contribute to a poor fit to a normal distributional shape. Non-detects and detects were labeled with different symbols and different soil groupings were plotted using different colors. Multiple non-detected concentrations can be seen as the step like pattern on the plots. Candidate outliers were labeled with location ID.

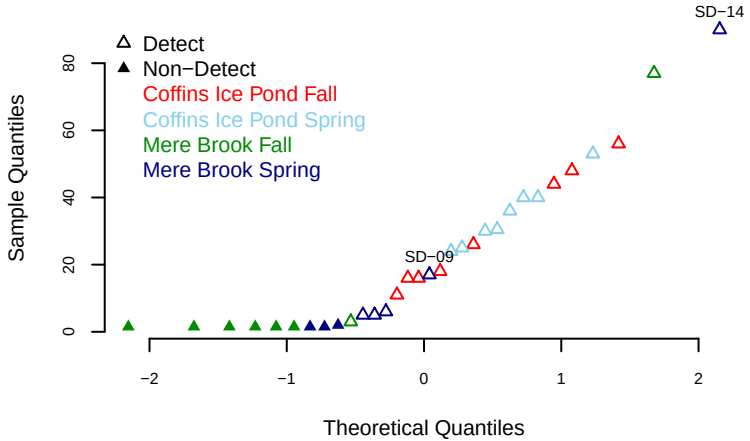
Histograms also depict the distributional shape, showing the mode, the relative frequency of detection at various concentration ranges, and the spread of data points near the upper end. These may be used in conjunction with probability plots to determine which data points contribute anomalies relative to the assumption of a normal bell curve shape.

2−METHYLNAPHTHALENE

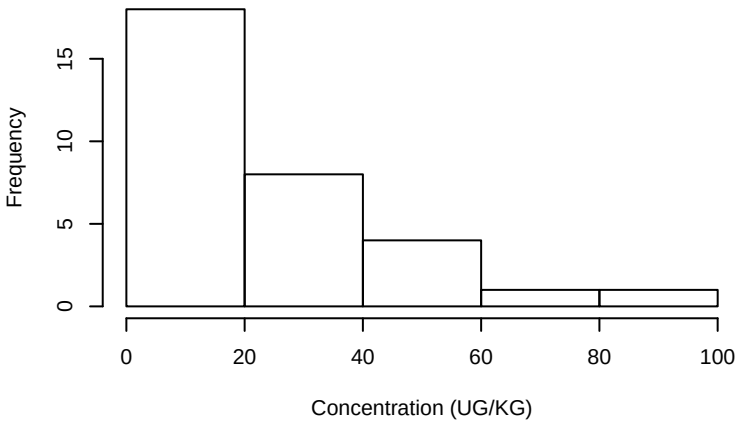
Box Plot



Normal Q−Q Plot



Histogram



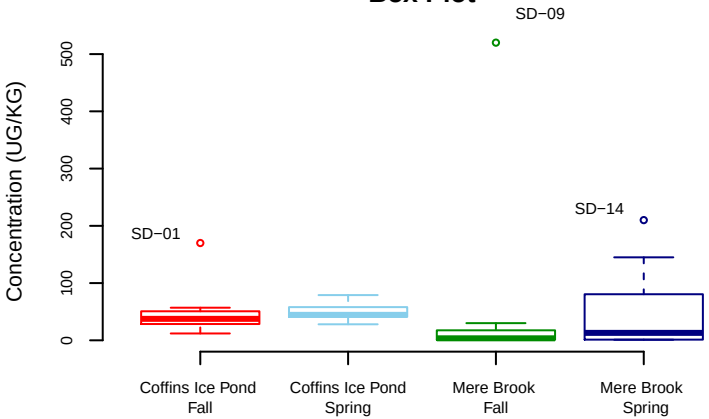
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	11	24	1.5	1.5
25th Percentile	16	29	1.5	1.9
Median	22	33	1.5	5
Mean	29	35	11	16
75th Percentile	45	40	1.9	8.8
Maximum	56	53	77	90

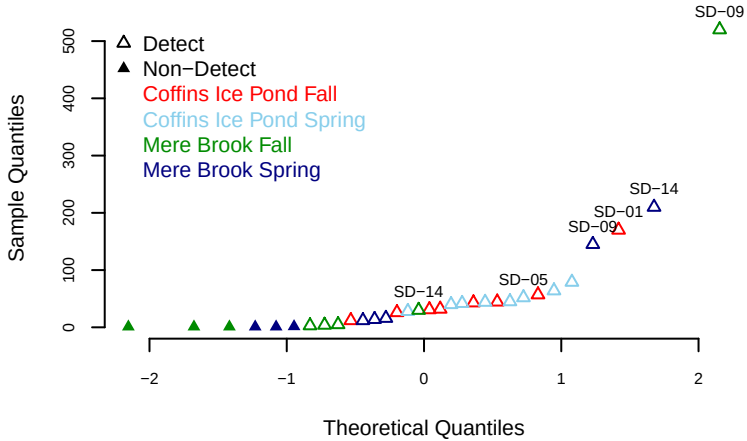
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

ACENAPHTHENE

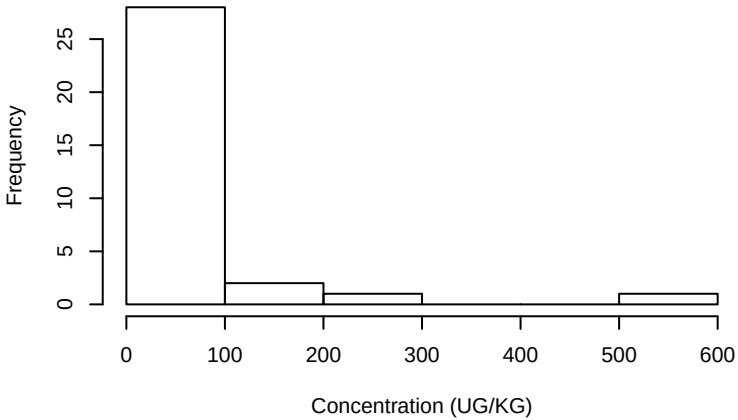
Box Plot



Normal Q−Q Plot



Histogram



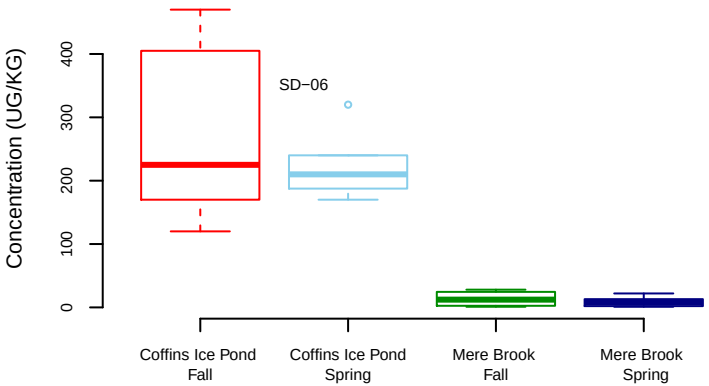
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	12	28	1	1
25th Percentile	30	42	1	1.4
Median	38	44	3.5	13
Mean	52	49	71	50
75th Percentile	48	55	11	48
Maximum	170	79	520	210

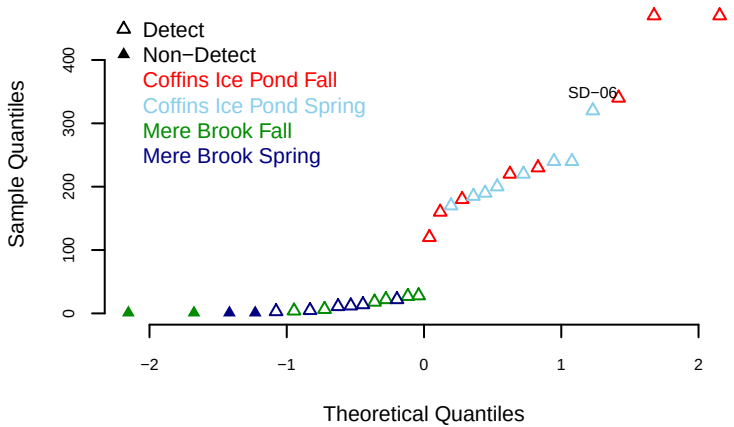
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

ACENAPHTHYLENE

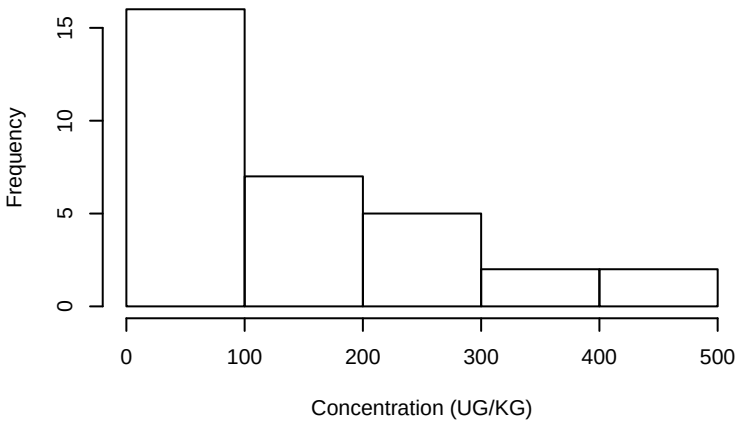
Box Plot



Normal Q−Q Plot



Histogram



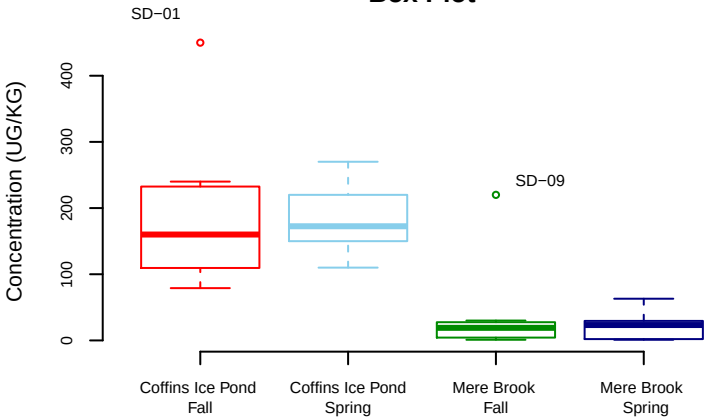
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	120	170	1	1
25th Percentile	180	190	3.2	2.5
Median	220	210	12	7.9
Mean	270	220	13	8.6
75th Percentile	370	240	23	12
Maximum	470	320	28	22

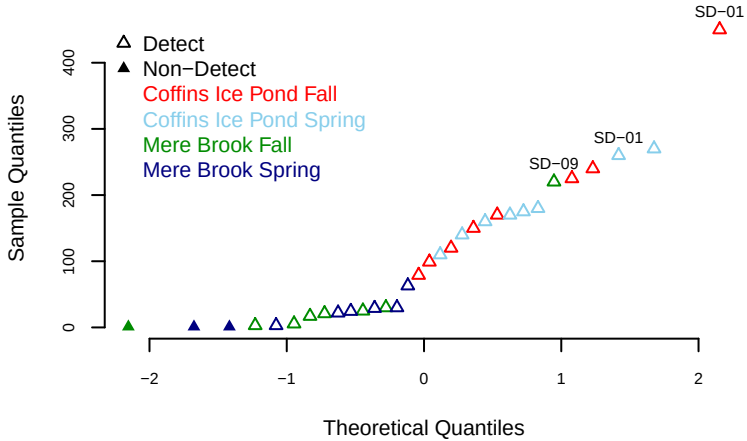
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

ANTHRACENE

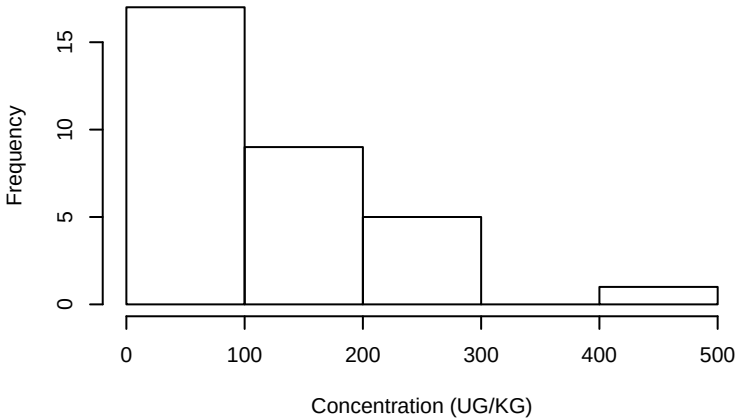
Box Plot



Normal Q−Q Plot



Histogram



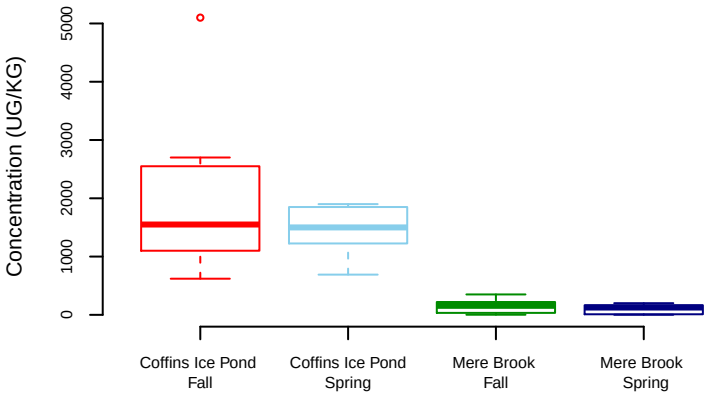
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	79	110	1	1
25th Percentile	110	160	4.9	2.5
Median	160	170	19	23
Mean	190	180	40	22
75th Percentile	230	200	26	29
Maximum	450	270	220	63

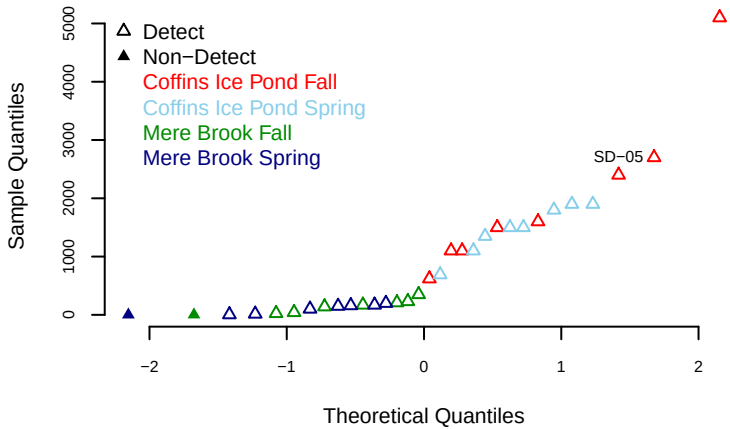
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

BENZO(A)ANTHRACENE

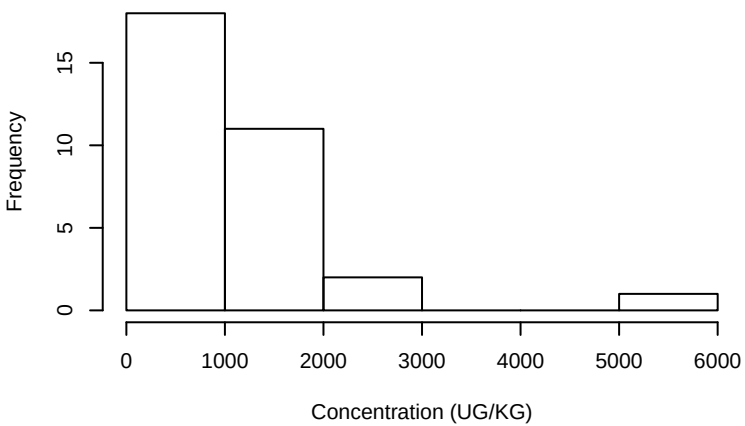
Box Plot



Normal Q−Q Plot



Histogram



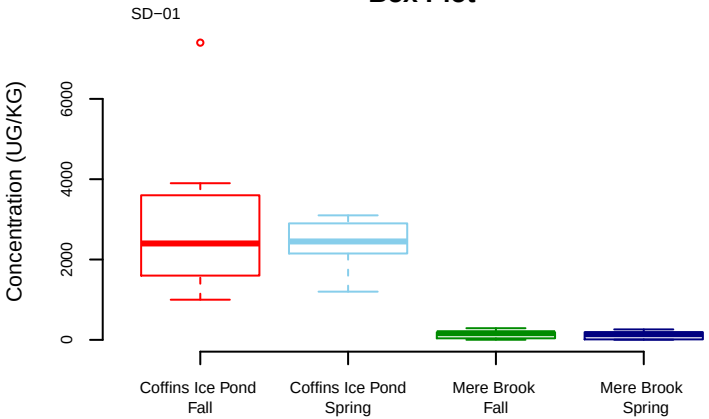
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	620	690	2	1.5
25th Percentile	1100	1300	38	12
Median	1600	1500	160	130
Mean	2000	1500	150	100
75th Percentile	2500	1800	220	160
Maximum	5100	1900	350	200

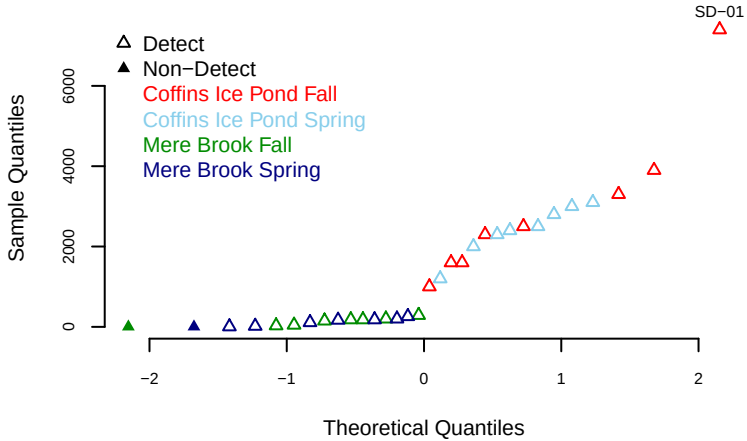
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

BENZO(A)PYRENE

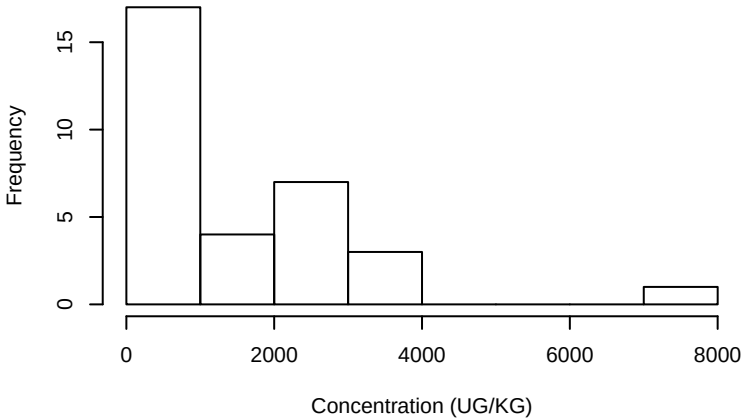
Box Plot



Normal Q−Q Plot



Histogram



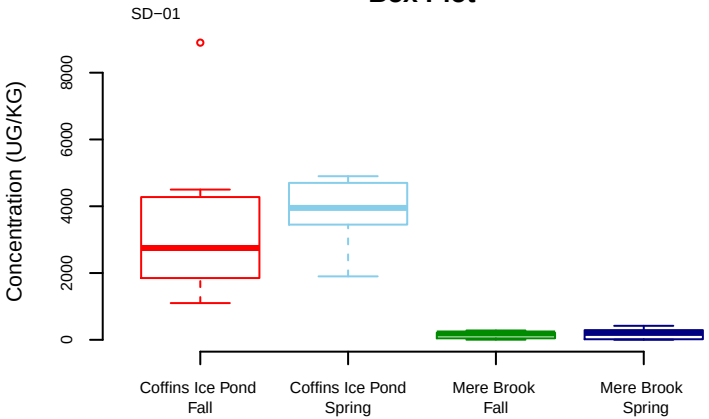
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	1000	1200	2.5	3
25th Percentile	1600	2200	42	16
Median	2400	2400	160	140
Mean	3000	2400	130	120
75th Percentile	3400	2800	180	180
Maximum	7400	3100	290	260

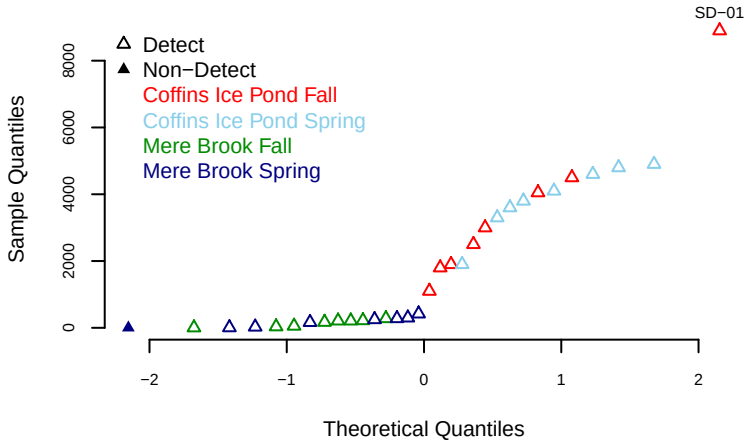
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

BENZO(B)FLUORANTHENE

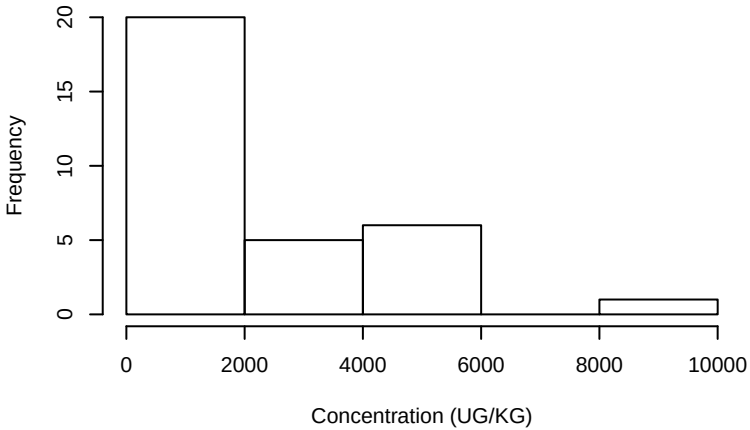
Box Plot



Normal Q−Q Plot



Histogram



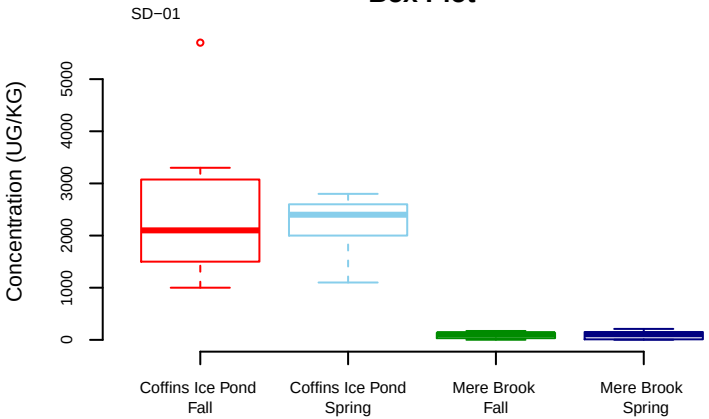
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	1100	1900	4	2
25th Percentile	1900	3500	50	22
Median	2800	4000	190	210
Mean	3500	3900	150	180
75th Percentile	4200	4600	210	280
Maximum	8900	4900	280	420

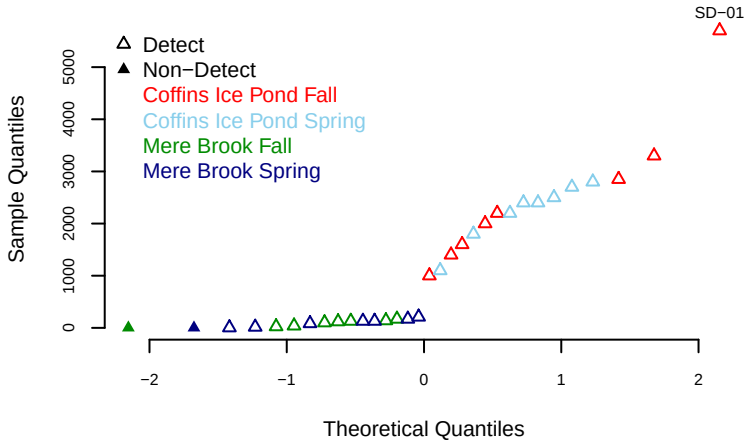
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

BENZO(G,H,I)PERYLENE

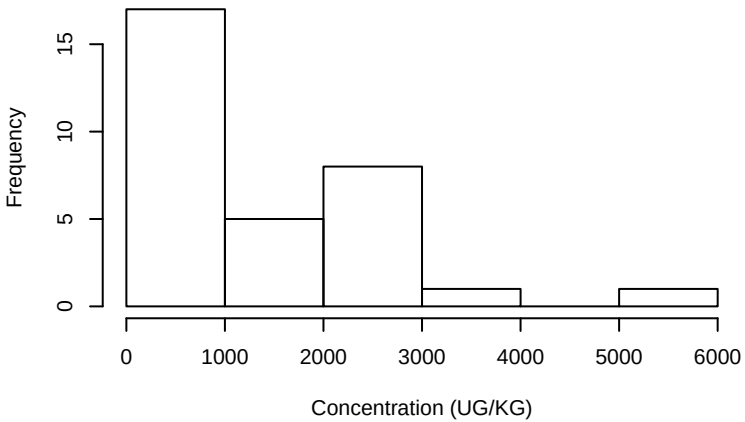
Box Plot



Normal Q−Q Plot



Histogram



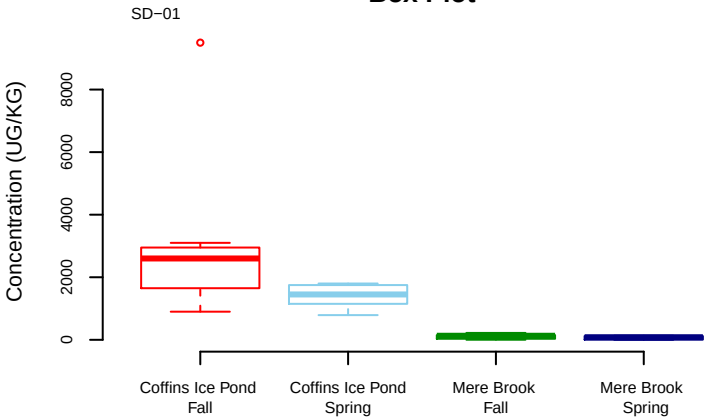
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	1000	1100	2	2
25th Percentile	1600	2100	36	13
Median	2100	2400	110	110
Mean	2500	2200	91	93
75th Percentile	3000	2600	130	140
Maximum	5700	2800	170	210

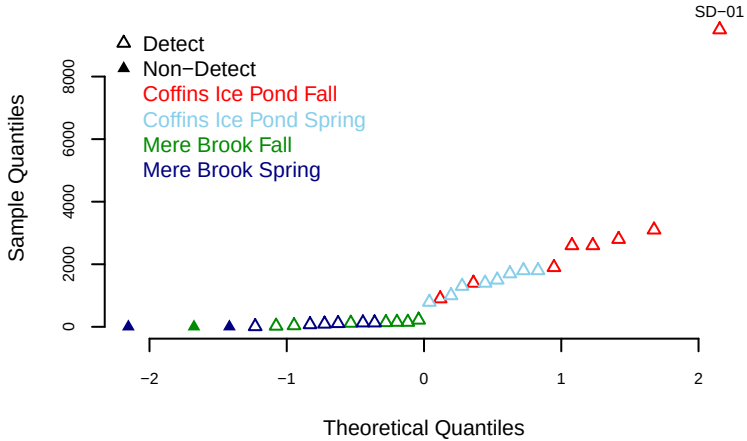
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

BENZO(K)FLUORANTHENE

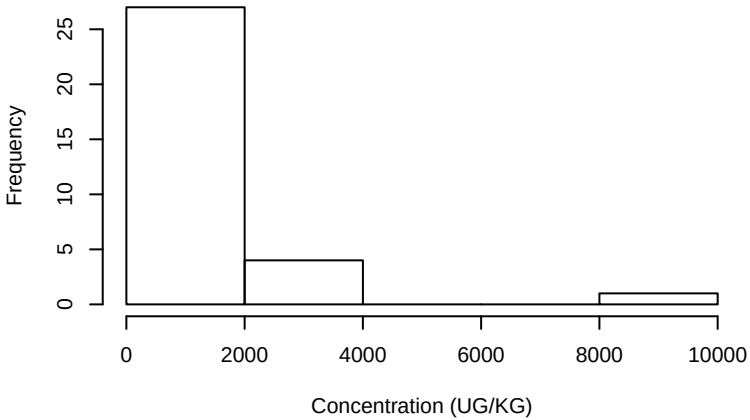
Box Plot



Normal Q−Q Plot



Histogram



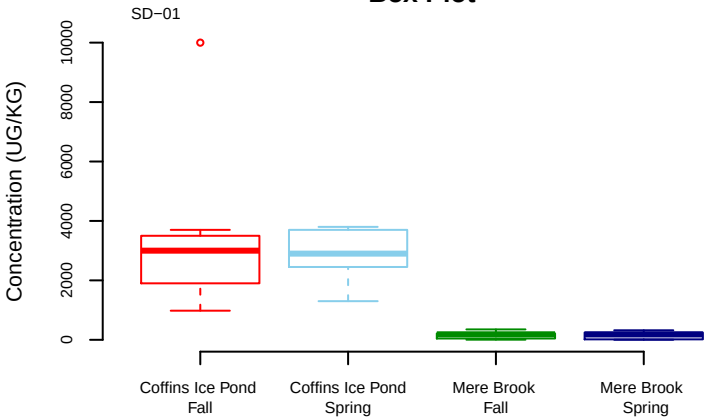
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	900	790	2.5	2
25th Percentile	1800	1200	37	9
Median	2600	1400	130	83
Mean	3100	1400	110	69
75th Percentile	2900	1700	150	120
Maximum	9500	1800	220	130

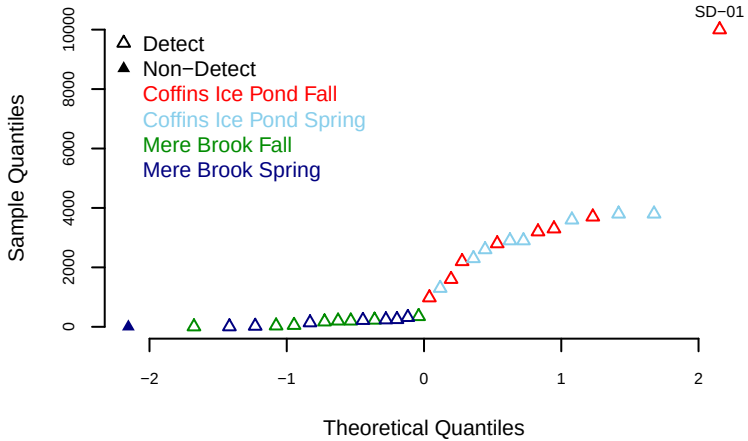
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

CHRYSENE

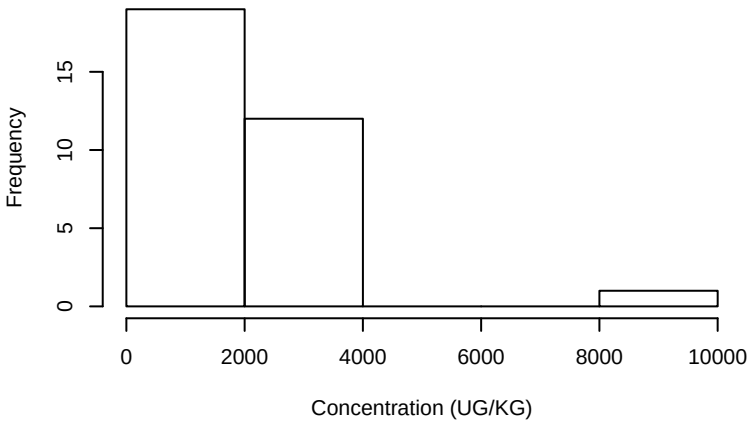
Box Plot



Normal Q−Q Plot



Histogram



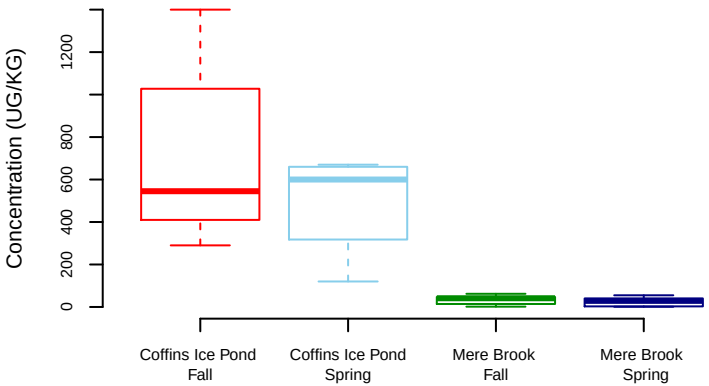
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	980	1300	4	1.5
25th Percentile	2000	2500	49	20
Median	3000	2900	180	180
Mean	3500	2900	160	150
75th Percentile	3400	3600	210	240
Maximum	10000	3800	350	320

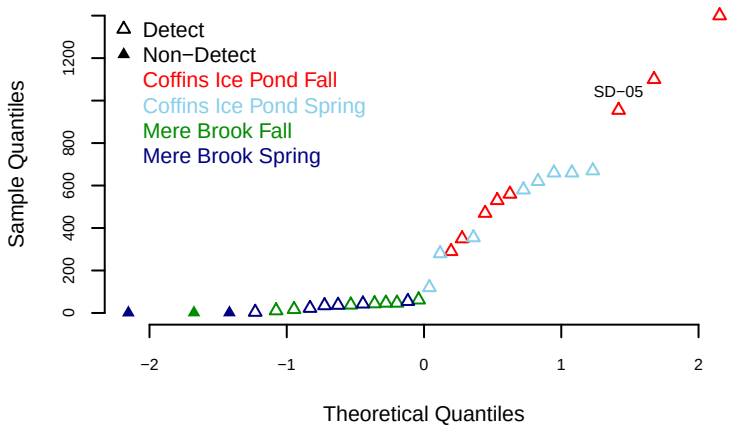
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

DIBENZO(A,H)ANTHRACENE

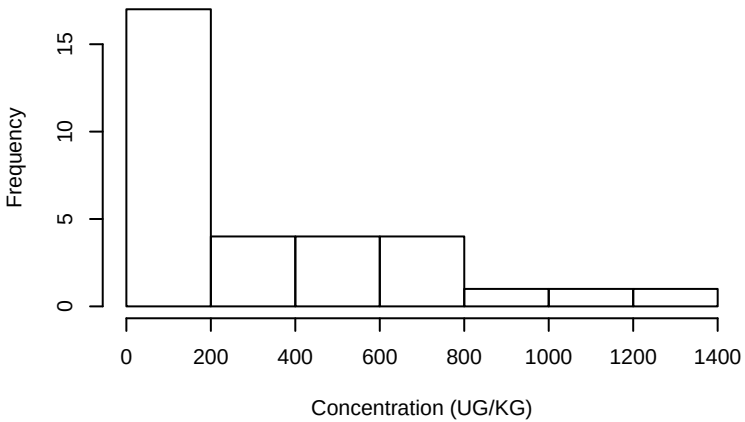
Box Plot



Normal Q−Q Plot



Histogram



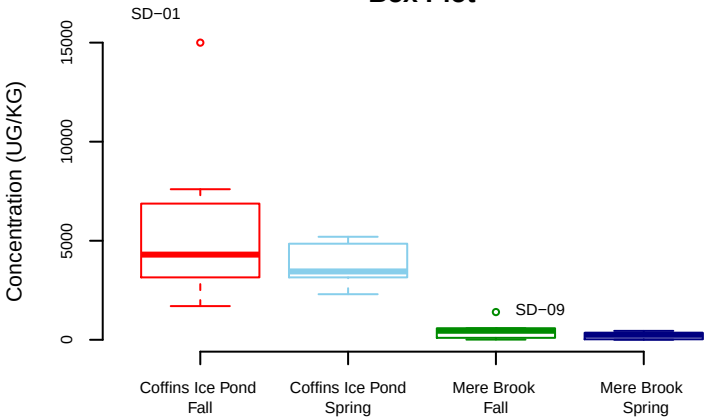
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	290	120	1.5	1
25th Percentile	440	340	16	3.4
Median	540	600	41	29
Mean	710	490	33	25
75th Percentile	990	660	47	38
Maximum	1400	670	62	55

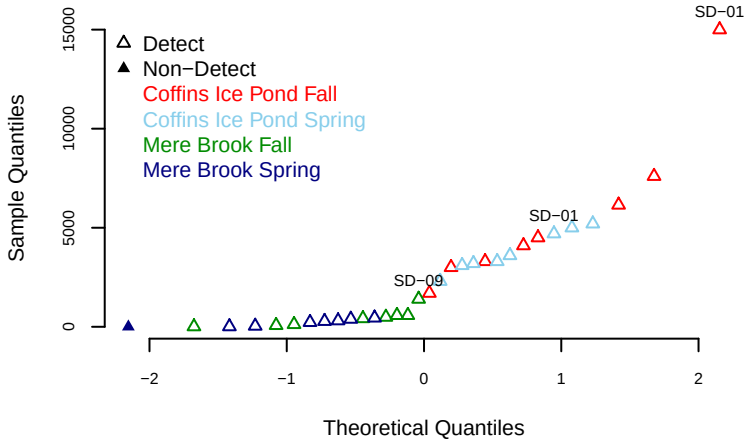
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

FLUORANTHENE

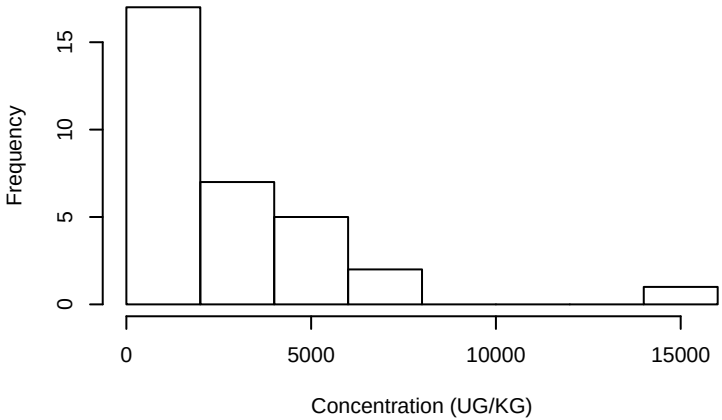
Box Plot



Normal Q−Q Plot



Histogram



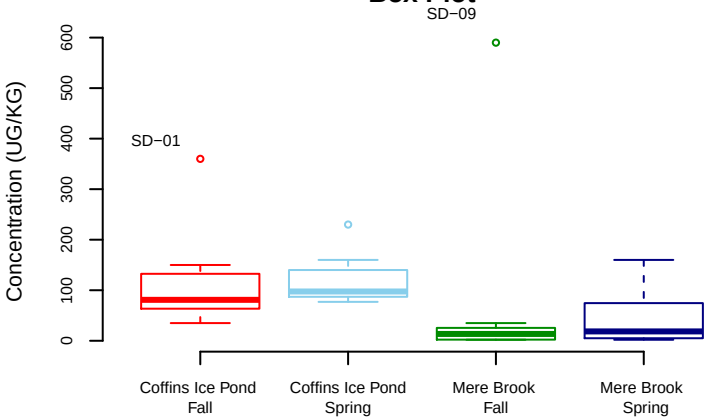
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	1700	2300	9	1.5
25th Percentile	3200	3200	110	31
Median	4300	3400	460	250
Mean	5700	3800	460	210
75th Percentile	6500	4800	580	330
Maximum	15000	5200	1400	450

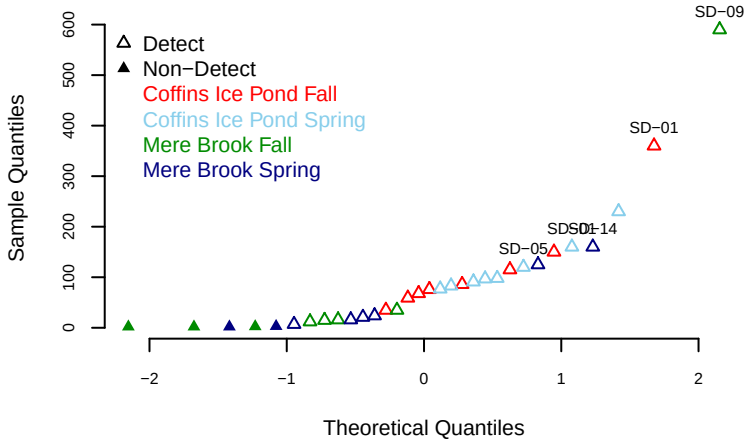
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

FLUORENE

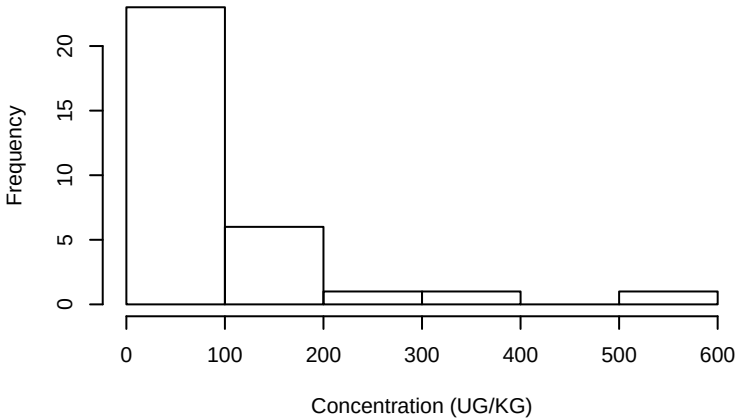
Box Plot



Normal Q−Q Plot



Histogram



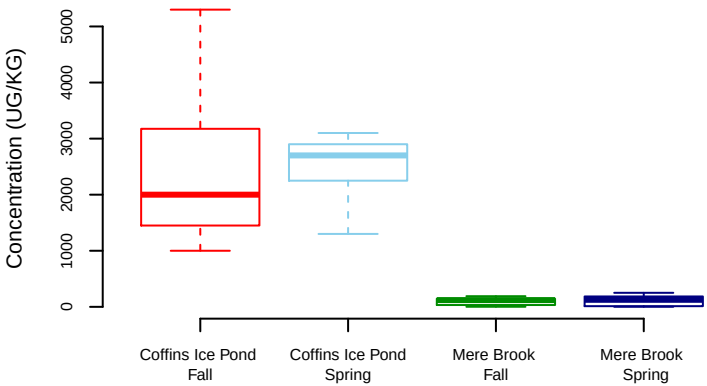
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	35	77	2	2
25th Percentile	66	89	2.4	6
Median	81	98	14	18
Mean	120	120	84	45
75th Percentile	120	130	21	49
Maximum	360	230	590	160

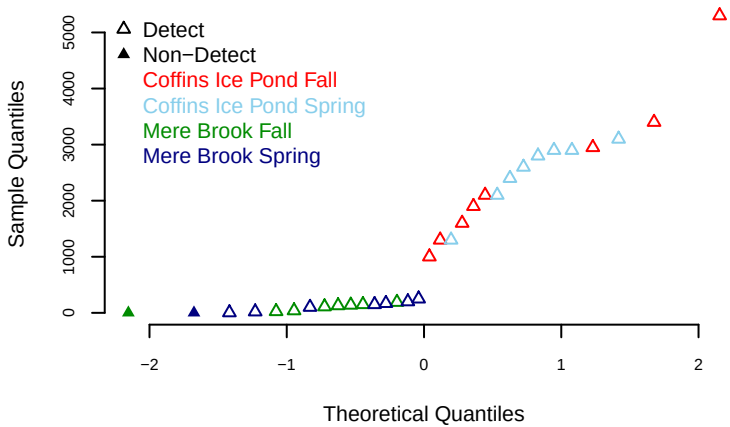
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

INDENO(1,2,3−CD)PYRENE

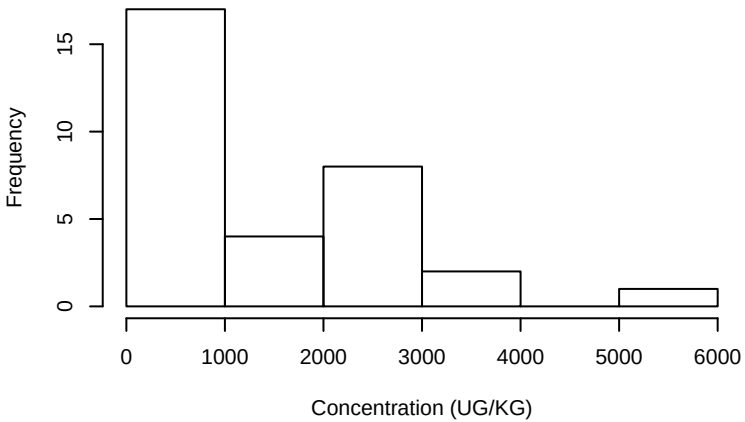
Box Plot



Normal Q−Q Plot



Histogram



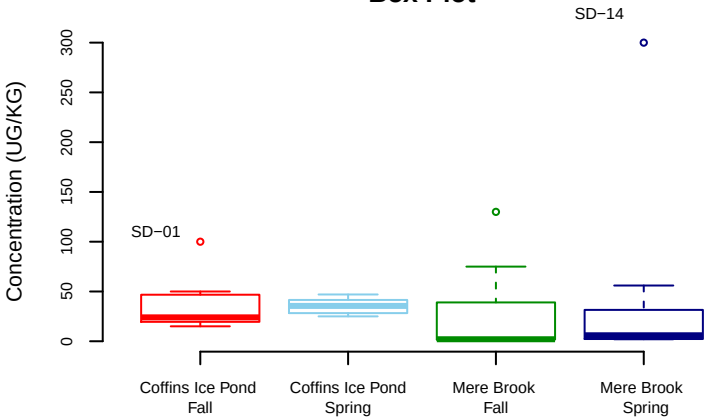
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	1000	1300	1.5	1.5
25th Percentile	1500	2300	36	16
Median	2000	2700	120	130
Mean	2400	2500	98	110
75th Percentile	3100	2900	140	180
Maximum	5300	3100	190	250

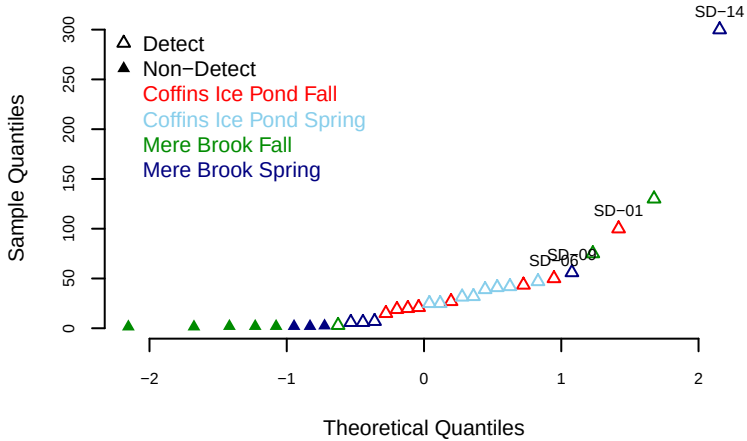
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

NAPHTHALENE

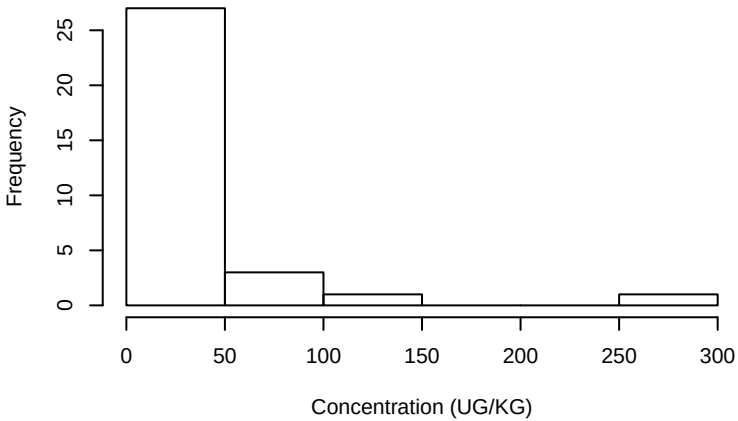
Box Plot



Normal Q−Q Plot



Histogram



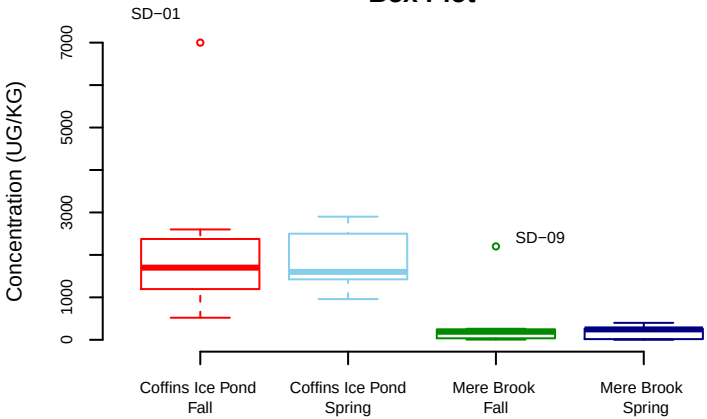
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	15	25	1.5	2
25th Percentile	20	30	1.9	2.4
Median	24	36	2	6
Mean	37	35	27	48
75th Percentile	45	41	21	19
Maximum	100	47	130	300

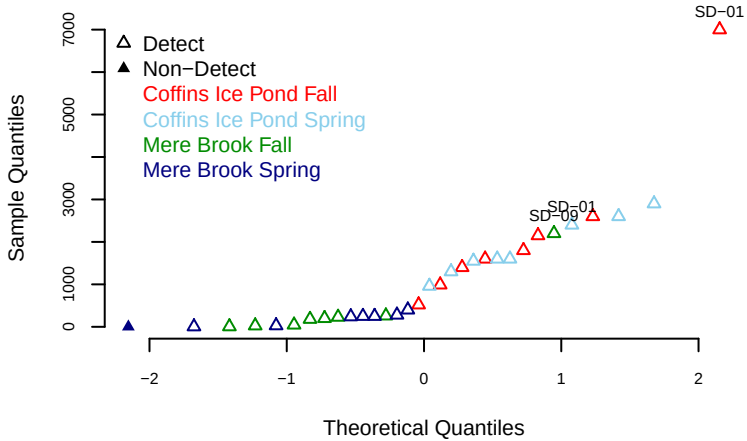
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

PHENANTHRENE

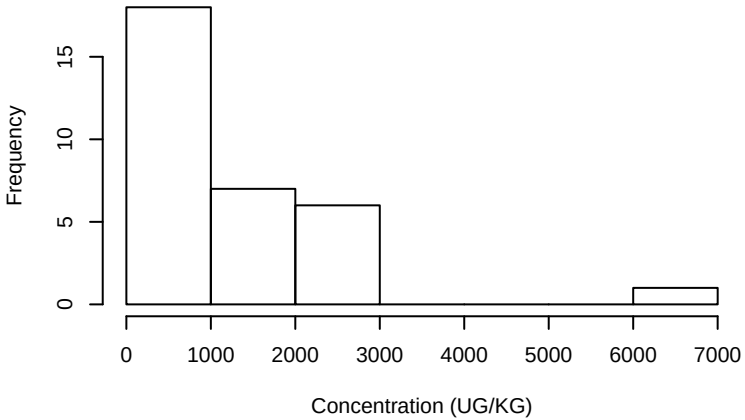
Box Plot



Normal Q−Q Plot



Histogram



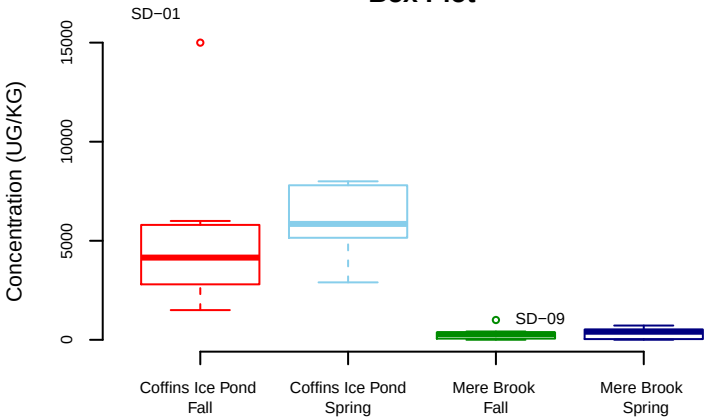
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	520	960	5	1.5
25th Percentile	1300	1500	41	23
Median	1700	1600	190	240
Mean	2300	1900	390	180
75th Percentile	2300	2400	240	260
Maximum	7000	2900	2200	400

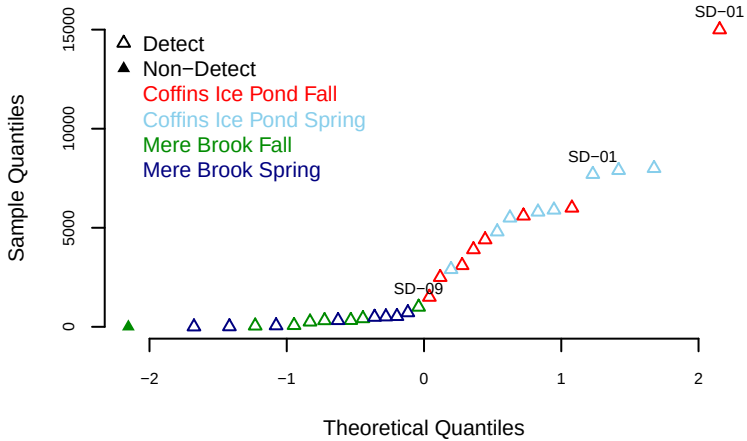
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

PYRENE

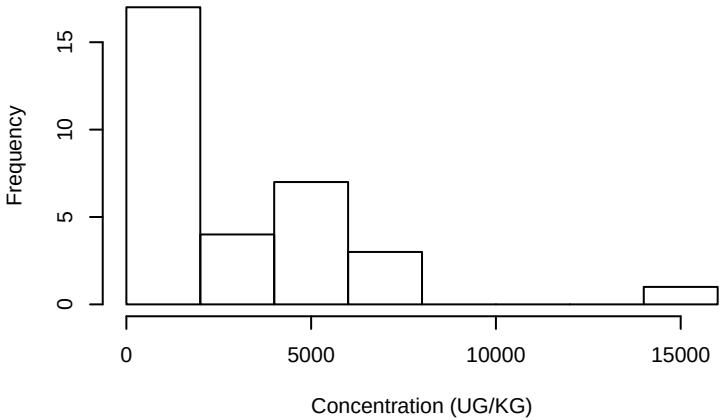
Box Plot



Normal Q−Q Plot



Histogram



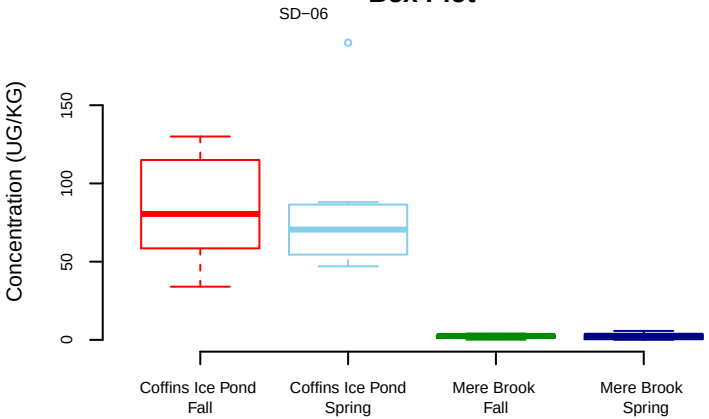
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	1500	2900	3	4
25th Percentile	3000	5300	68	48
Median	4200	5800	280	410
Mean	5200	6100	310	330
75th Percentile	5700	7800	350	520
Maximum	15000	8000	1000	720

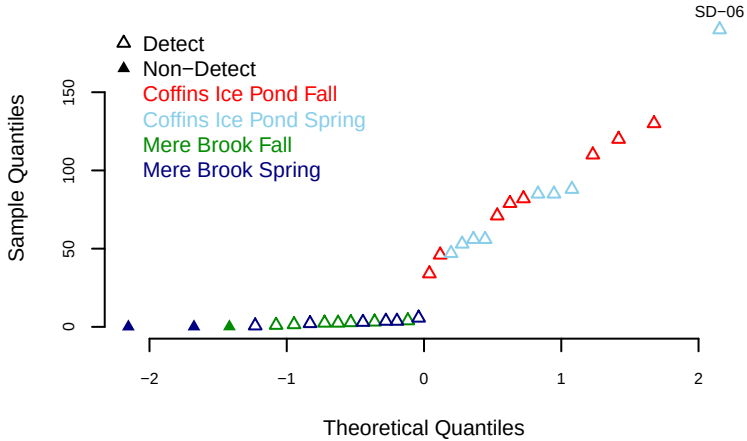
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

4,4'−DDD

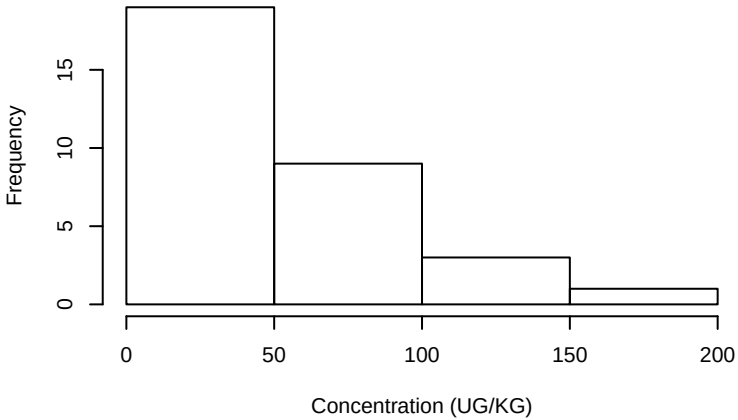
Box Plot



Normal Q−Q Plot



Histogram



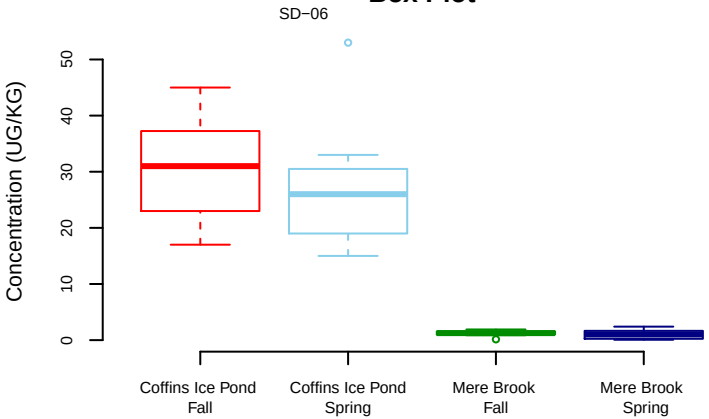
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	34	47	0.15	0.065
25th Percentile	65	55	1.4	0.56
Median	80	70	2.5	2.6
Mean	84	82	2.2	2.4
75th Percentile	110	86	2.9	3.7
Maximum	130	190	4	5.7

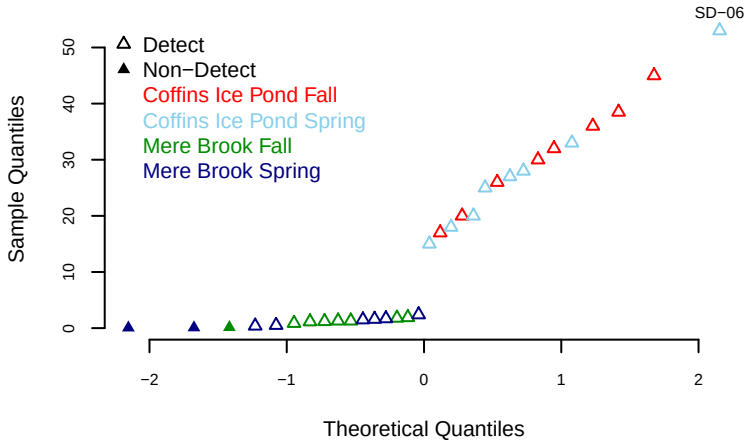
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

4,4'−DDE

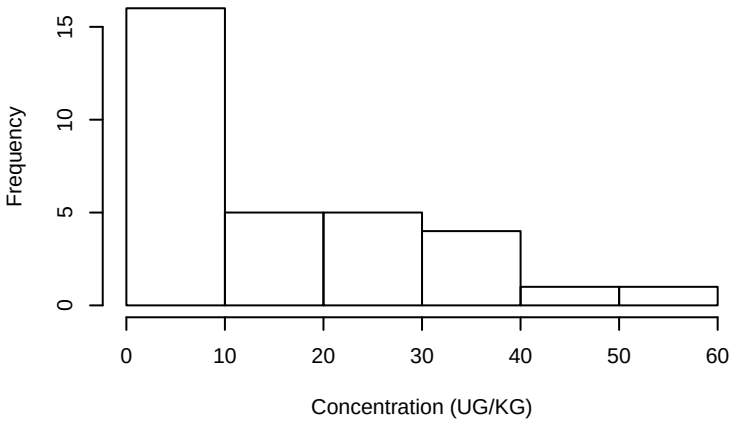
Box Plot



Normal Q−Q Plot



Histogram



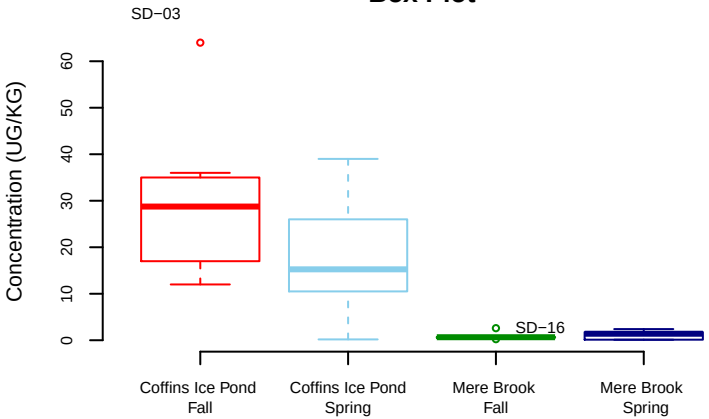
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	17	15	0.14	0.065
25th Percentile	24	20	1.1	0.31
Median	31	26	1.2	1
Mean	31	27	1.2	1
75th Percentile	37	29	1.4	1.6
Maximum	45	53	1.9	2.4

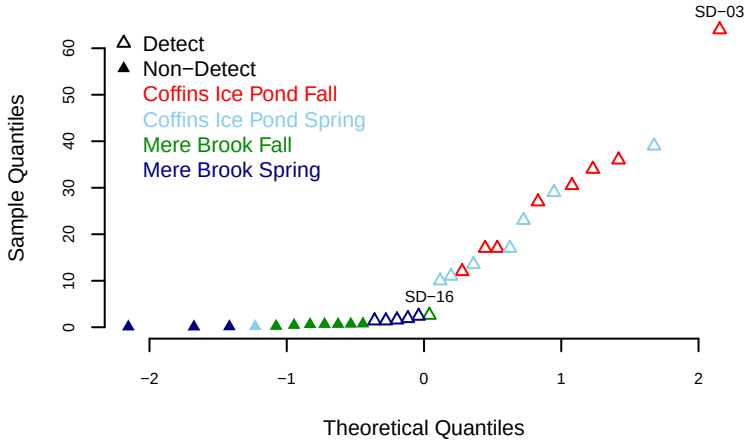
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

4,4'−DDT

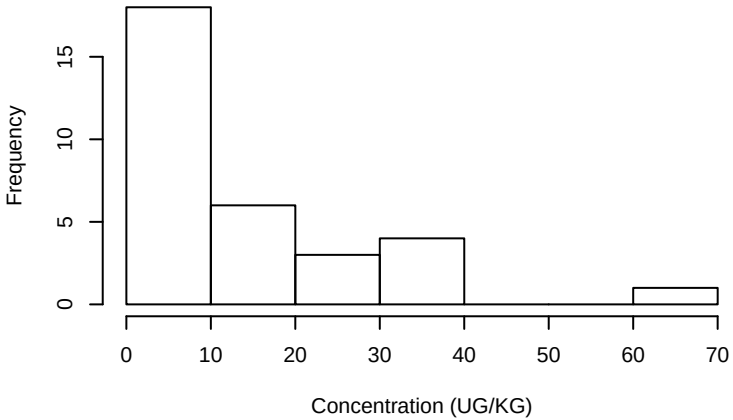
Box Plot



Normal Q−Q Plot



Histogram



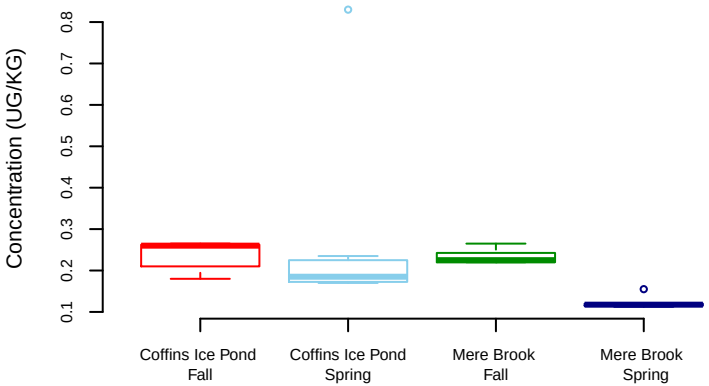
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	12	0.18	0.23	0.1
25th Percentile	17	11	0.58	0.13
Median	29	15	0.65	1.4
Mean	30	18	0.83	1.1
75th Percentile	34	24	0.71	1.7
Maximum	64	39	2.6	2.4

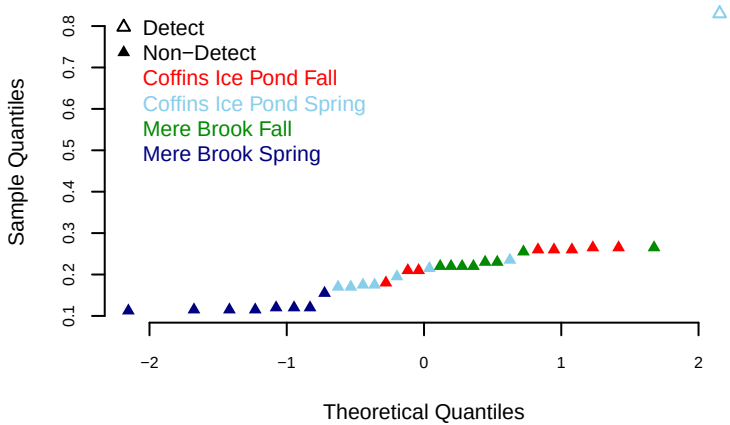
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

ALPHA−BHC

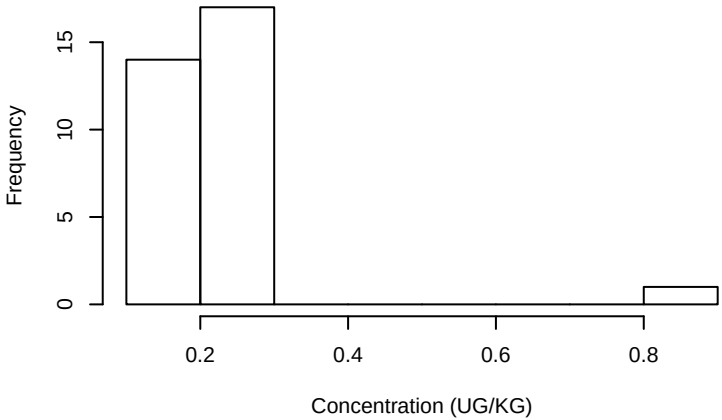
Box Plot



Normal Q−Q Plot



Histogram



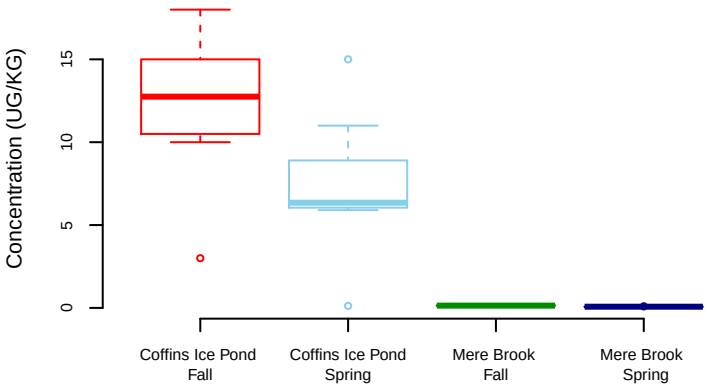
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	0.18	0.17	0.22	0.11
25th Percentile	0.21	0.17	0.22	0.12
Median	0.26	0.18	0.22	0.12
Mean	0.24	0.27	0.23	0.12
75th Percentile	0.26	0.22	0.24	0.12
Maximum	0.26	0.83	0.26	0.16

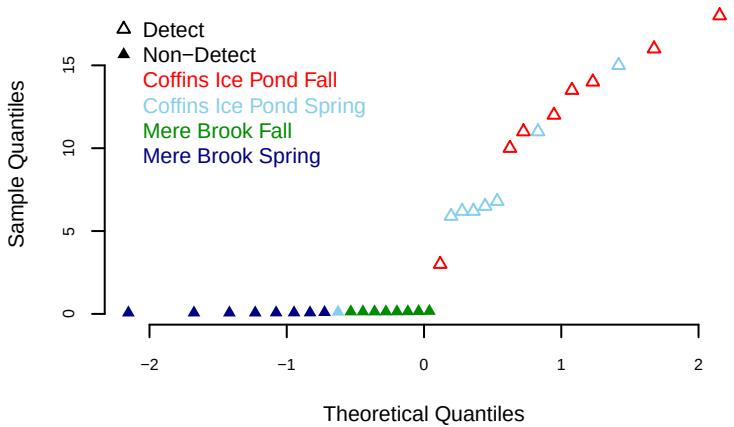
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

ALPHA−CHLORDANE

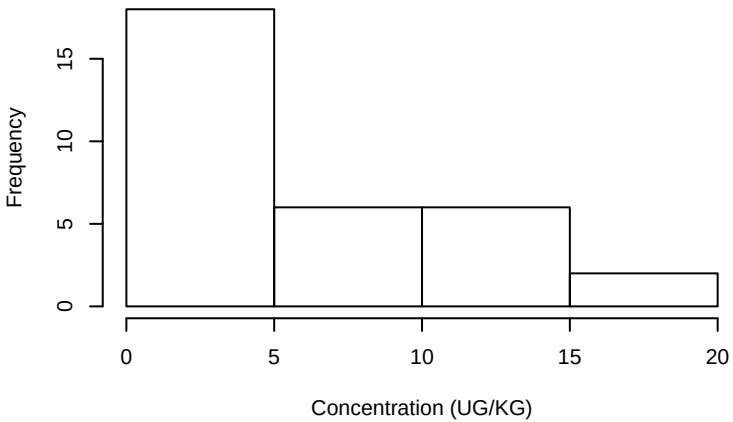
Box Plot



Normal Q−Q Plot



Histogram



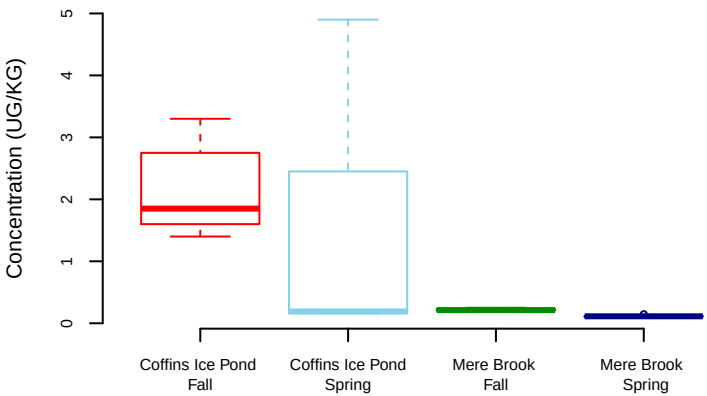
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	3	0.12	0.14	0.07
25th Percentile	11	6.1	0.14	0.07
Median	13	6.4	0.14	0.072
Mean	12	7.2	0.14	0.075
75th Percentile	14	7.8	0.15	0.075
Maximum	18	15	0.16	0.095

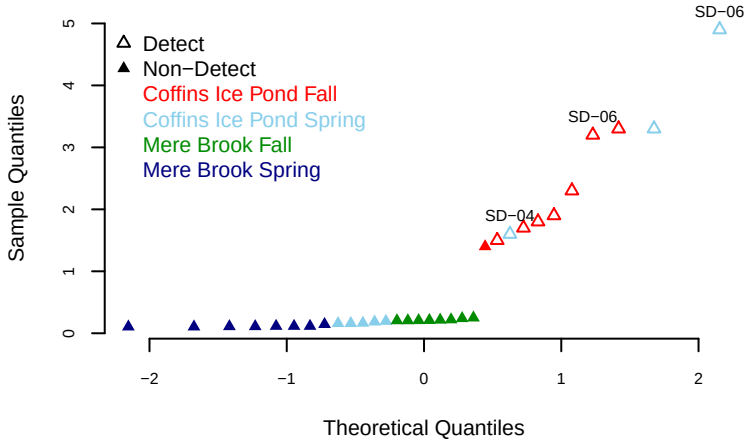
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

DELTA−BHC

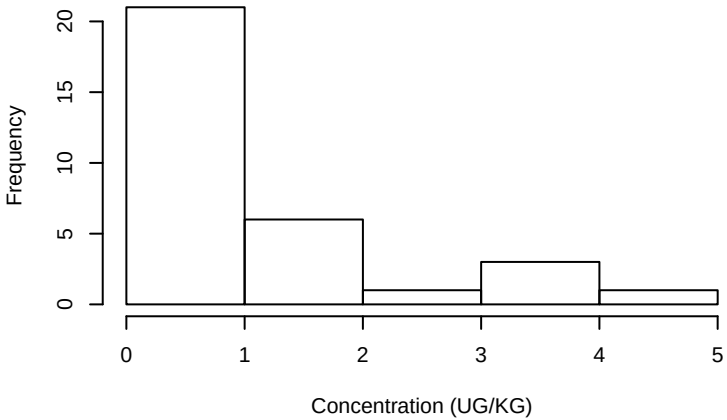
Box Plot



Normal Q−Q Plot



Histogram



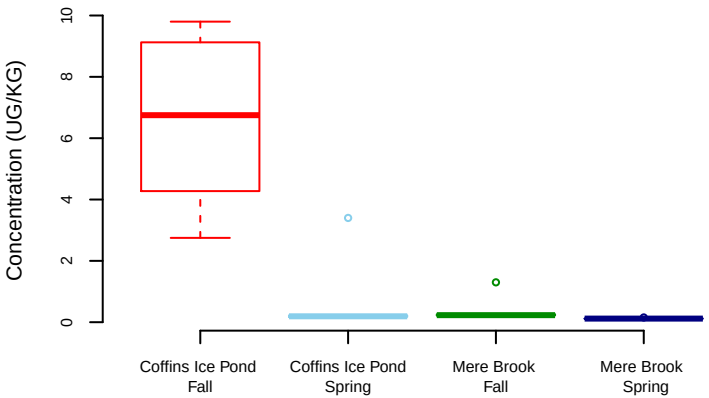
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	1.4	0.16	0.2	0.1
25th Percentile	1.6	0.16	0.21	0.11
Median	1.8	0.19	0.21	0.11
Mean	2.1	1.3	0.22	0.12
75th Percentile	2.5	2	0.22	0.12
Maximum	3.3	4.9	0.25	0.14

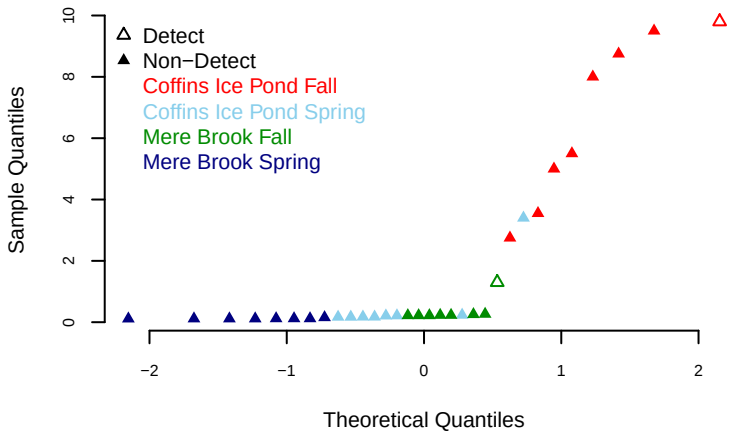
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

ENDOSULFAN II

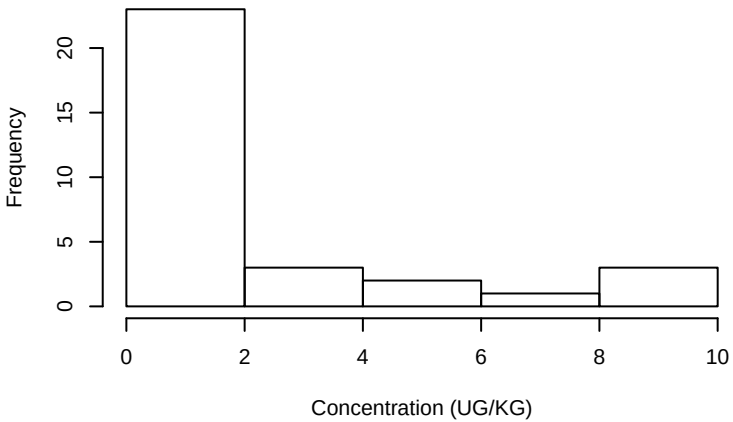
Box Plot



Normal Q−Q Plot



Histogram



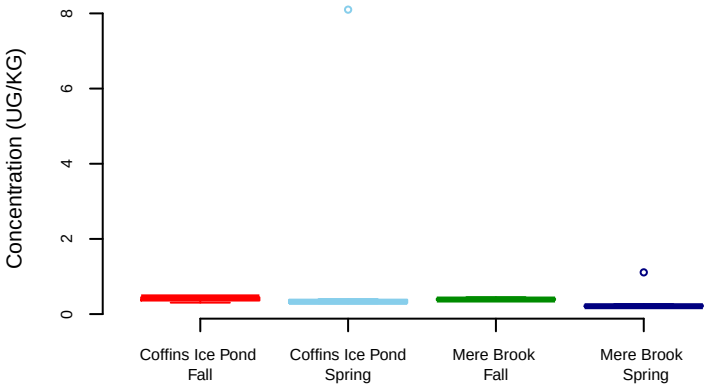
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	2.8	0.17	0.22	0.11
25th Percentile	4.6	0.17	0.22	0.12
Median	6.8	0.19	0.23	0.12
Mean	6.6	0.59	0.37	0.12
75th Percentile	8.9	0.22	0.26	0.12
Maximum	9.8	3.4	1.3	0.16

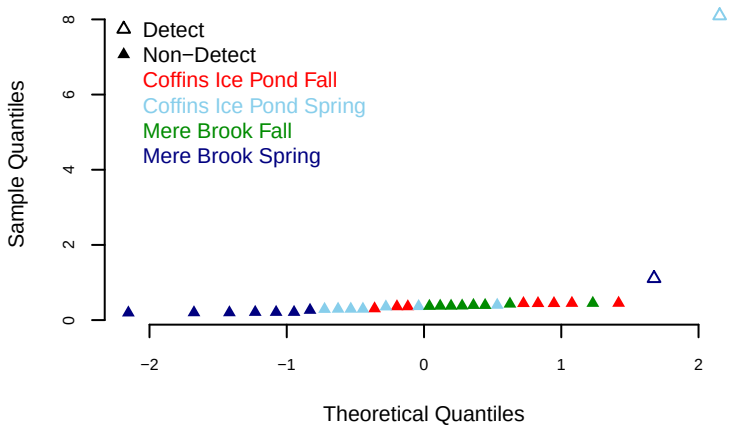
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

ENDOSULFAN SULFATE

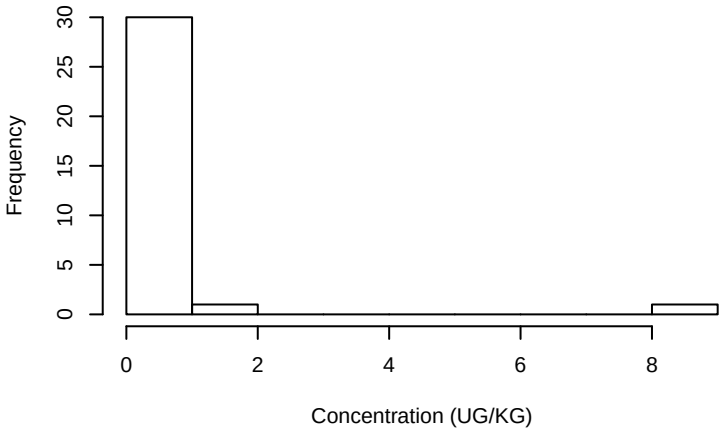
Box Plot



Normal Q−Q Plot



Histogram



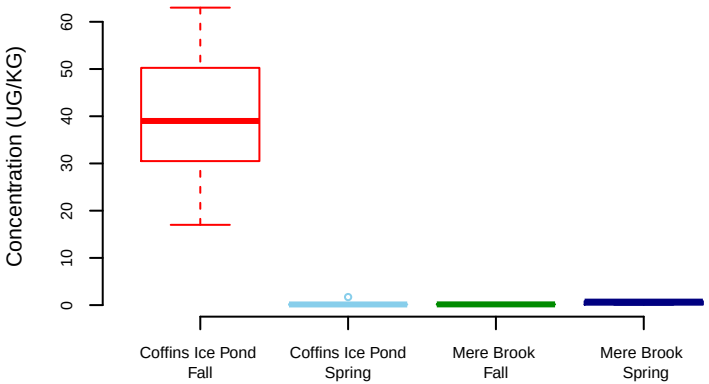
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	0.3	0.29	0.37	0.2
25th Percentile	0.36	0.3	0.38	0.2
Median	0.44	0.32	0.39	0.21
Mean	0.41	1.3	0.4	0.32
75th Percentile	0.45	0.37	0.4	0.22
Maximum	0.45	8.1	0.45	1.1

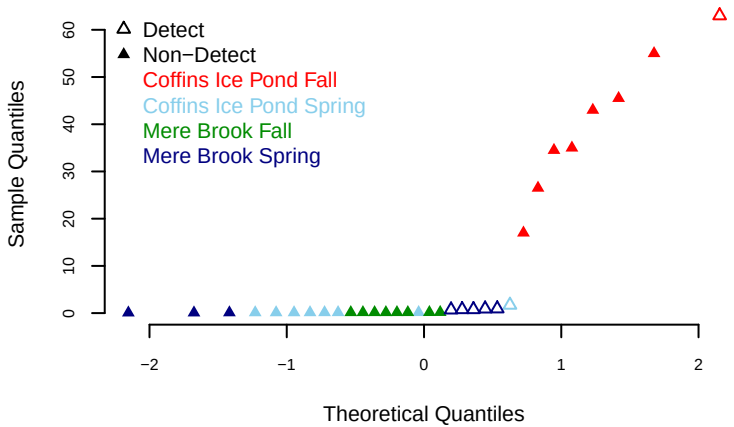
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

GAMMA−CHLORDANE

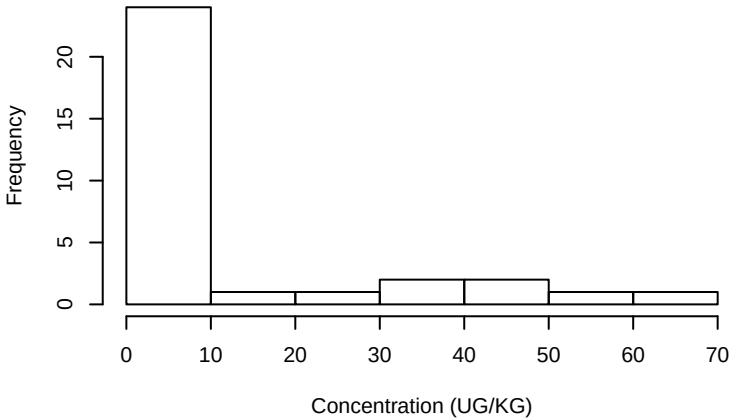
Box Plot



Normal Q−Q Plot



Histogram



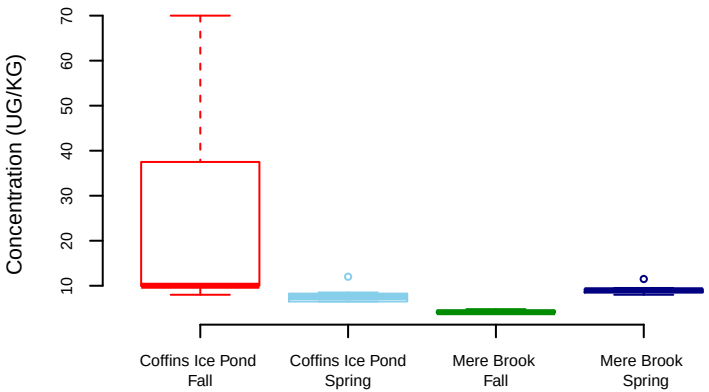
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	17	0.12	0.15	0.075
25th Percentile	32	0.12	0.15	0.099
Median	39	0.14	0.15	0.74
Mean	40	0.33	0.16	0.54
75th Percentile	48	0.15	0.16	0.8
Maximum	63	1.7	0.18	0.93

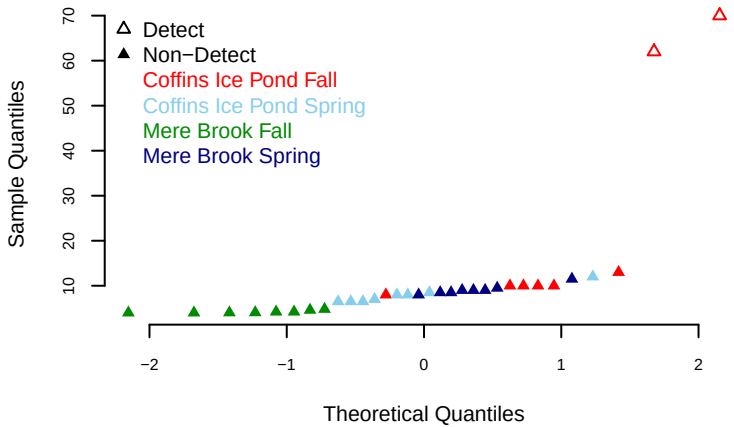
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

2,4,5−TP (SILVEX)

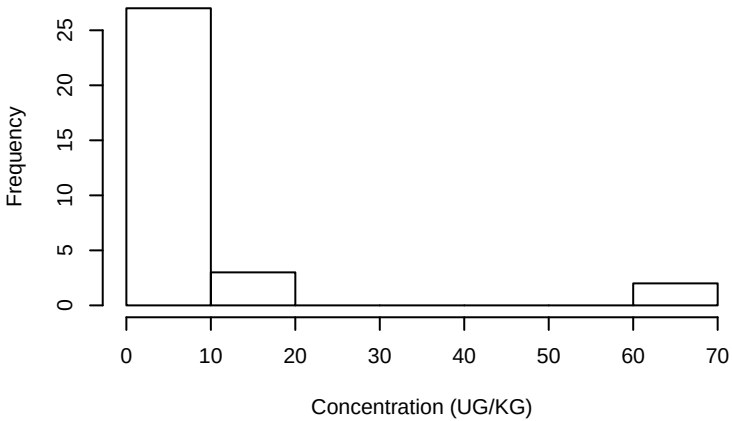
Box Plot



Normal Q−Q Plot



Histogram



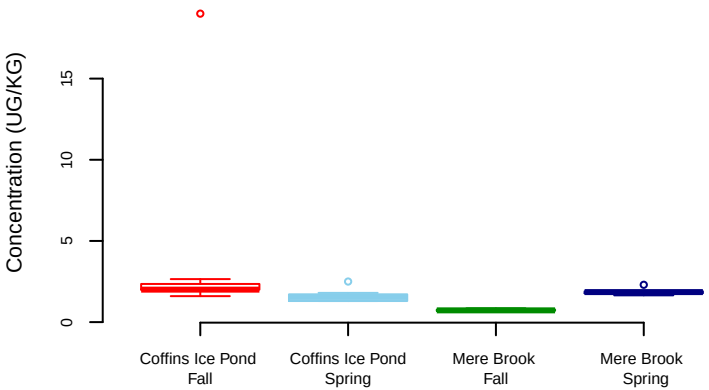
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	8	6.5	4	8
25th Percentile	10	6.5	4	8.5
Median	10	7.5	4.1	9
Mean	24	7.9	4.2	9.1
75th Percentile	25	8.1	4.3	9.1
Maximum	70	12	4.8	12

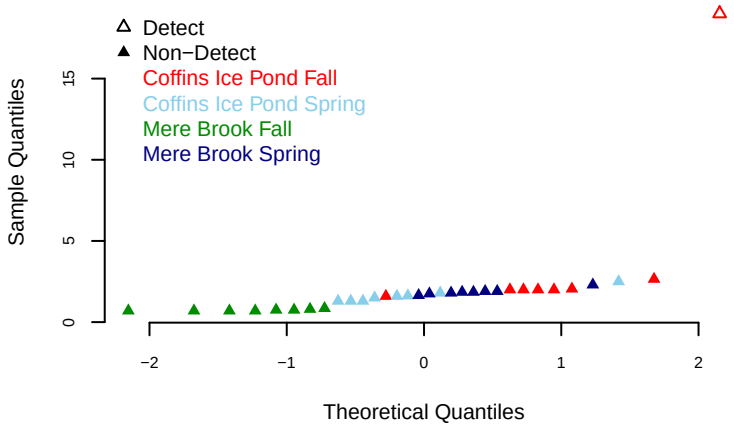
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

DINOSEB

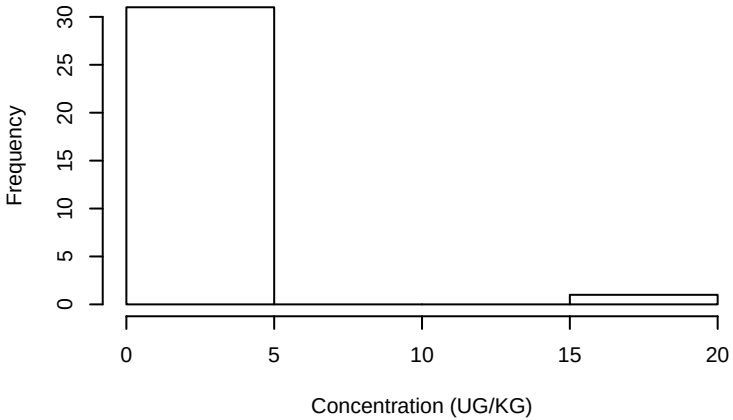
Box Plot



Normal Q−Q Plot



Histogram



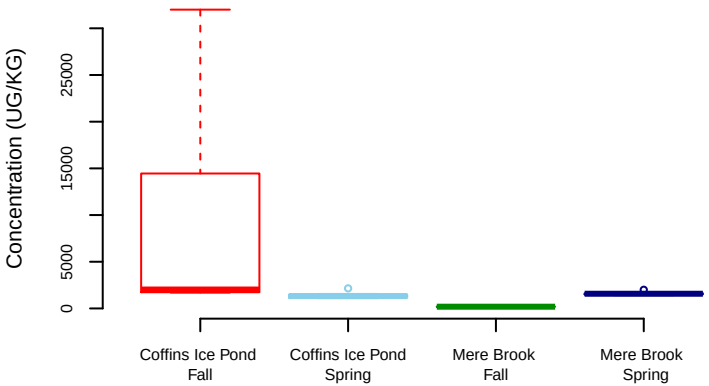
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	1.6	1.3	0.7	1.6
25th Percentile	2	1.3	0.7	1.8
Median	2	1.6	0.72	1.8
Mean	4.2	1.6	0.74	1.9
75th Percentile	2.2	1.7	0.76	1.9
Maximum	19	2.5	0.85	2.3

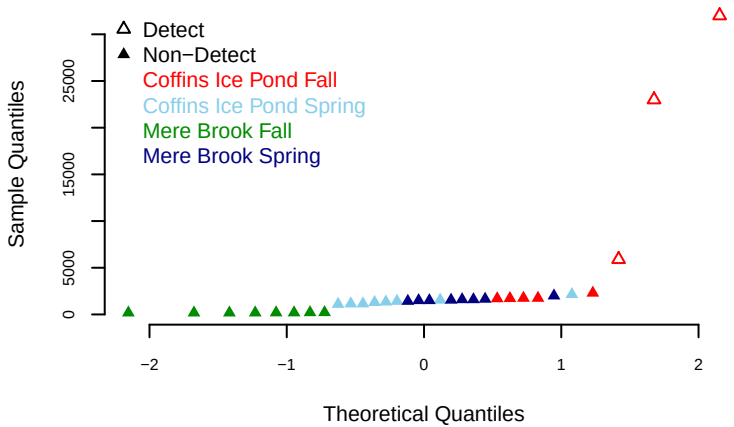
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

MCPP

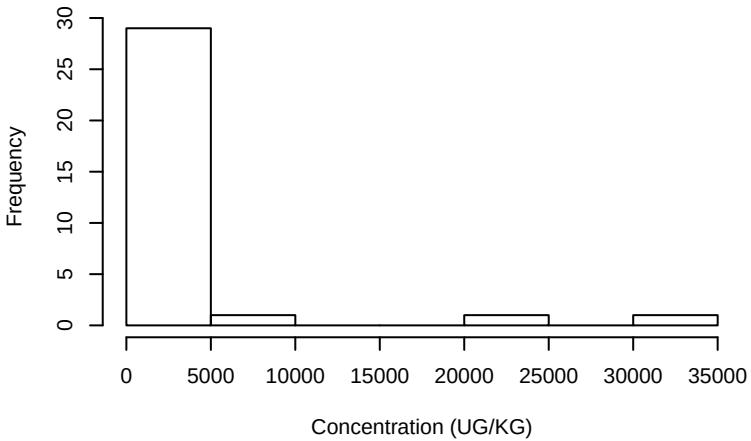
Box Plot



Normal Q−Q Plot



Histogram



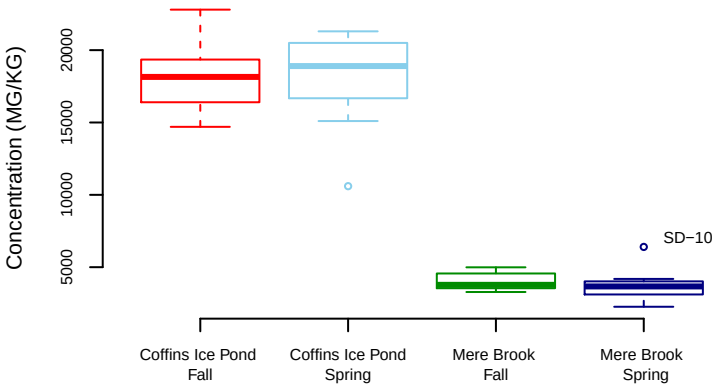
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	1700	1100	180	1400
25th Percentile	1700	1200	180	1500
Median	2000	1300	190	1600
Mean	8800	1400	190	1600
75th Percentile	10000	1500	200	1600
Maximum	32000	2200	220	2000

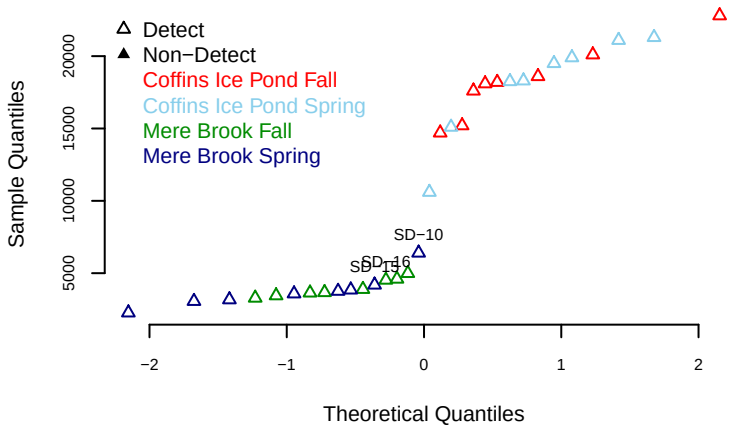
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

ALUMINUM

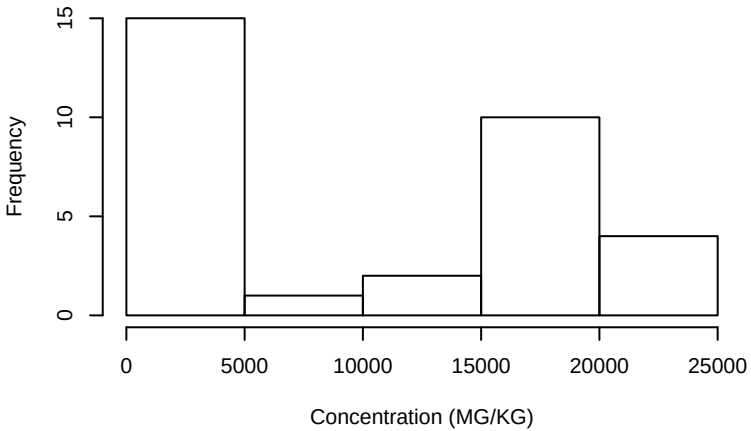
Box Plot



Normal Q−Q Plot



Histogram



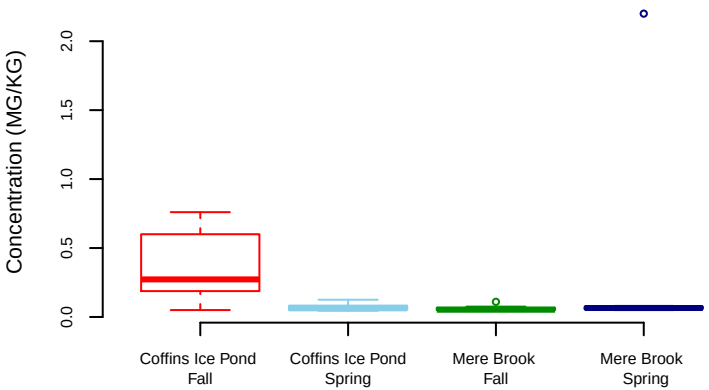
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	15000	11000	3300	2300
25th Percentile	17000	17000	3600	3100
Median	18000	19000	3800	3700
Mean	18000	18000	4000	3800
75th Percentile	19000	20000	4500	3900
Maximum	23000	21000	5000	6400

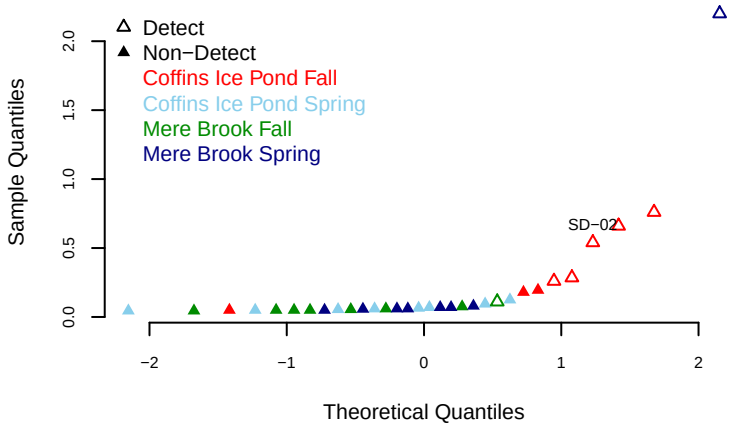
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

ANTIMONY

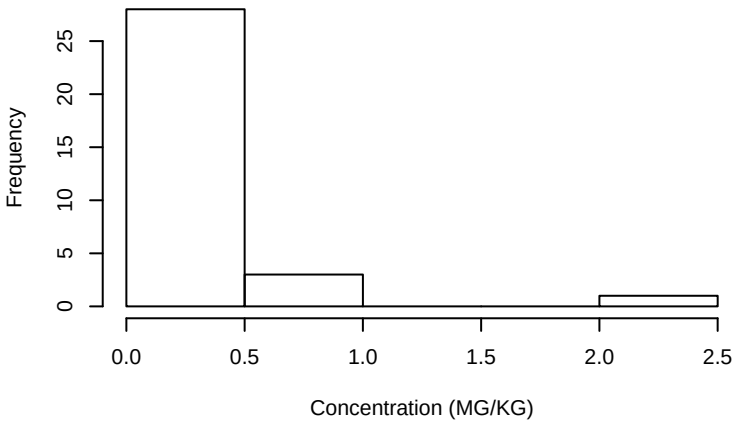
Box Plot



Normal Q−Q Plot



Histogram



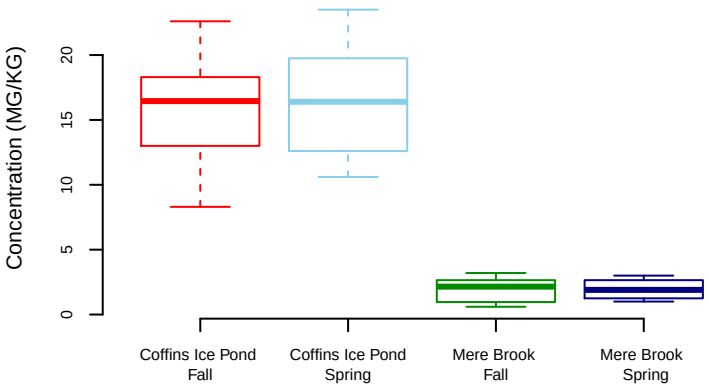
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	0.05	0.045	0.045	0.05
25th Percentile	0.19	0.054	0.05	0.059
Median	0.27	0.062	0.052	0.065
Mean	0.37	0.071	0.062	0.33
75th Percentile	0.57	0.076	0.064	0.072
Maximum	0.76	0.12	0.11	2.2

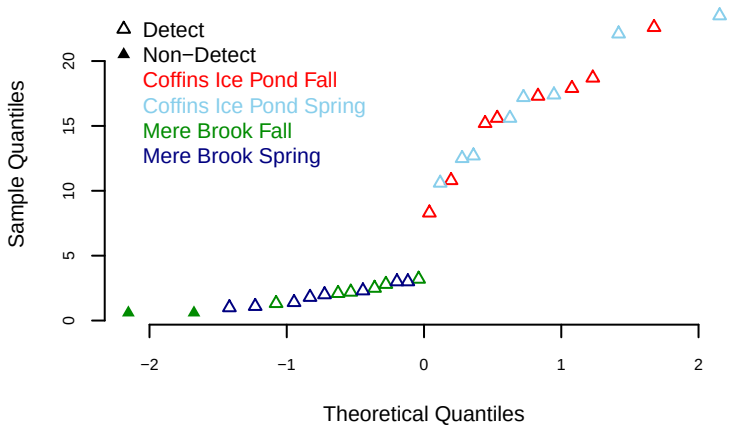
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

ARSENIC

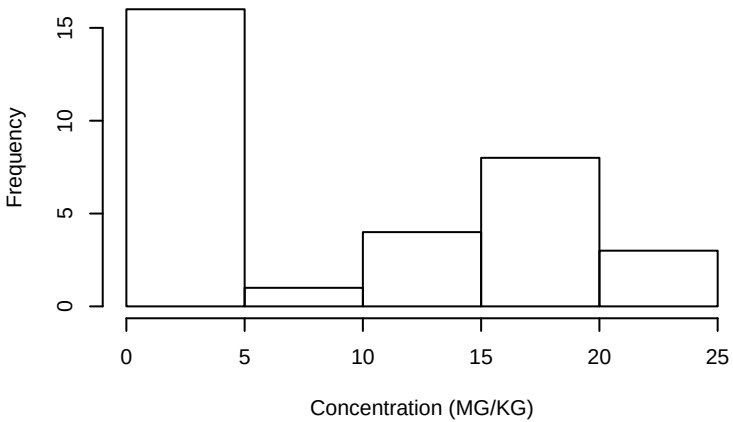
Box Plot



Normal Q−Q Plot



Histogram



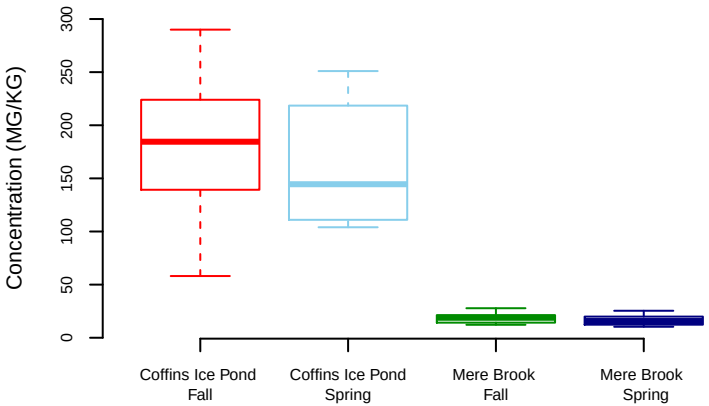
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	8.3	11	0.6	1
25th Percentile	14	13	1.1	1.3
Median	16	16	2.2	1.9
Mean	16	16	1.9	2
75th Percentile	18	19	2.6	2.5
Maximum	23	24	3.2	3

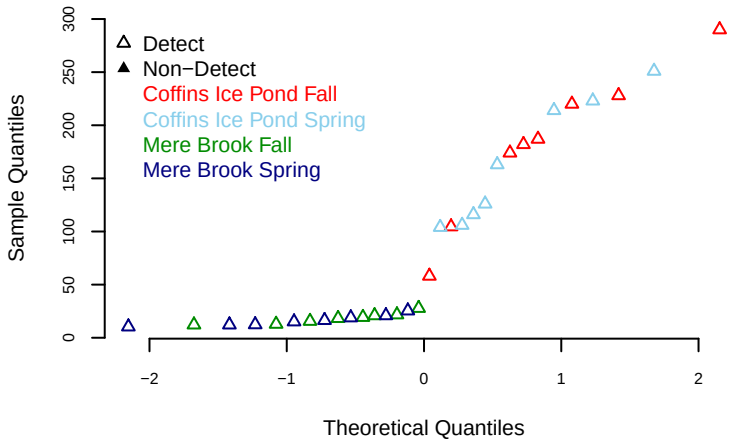
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

BARIUM

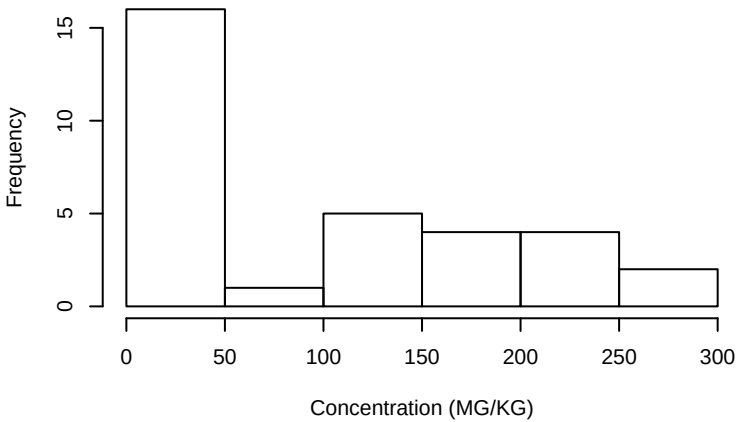
Box Plot



Normal Q−Q Plot



Histogram



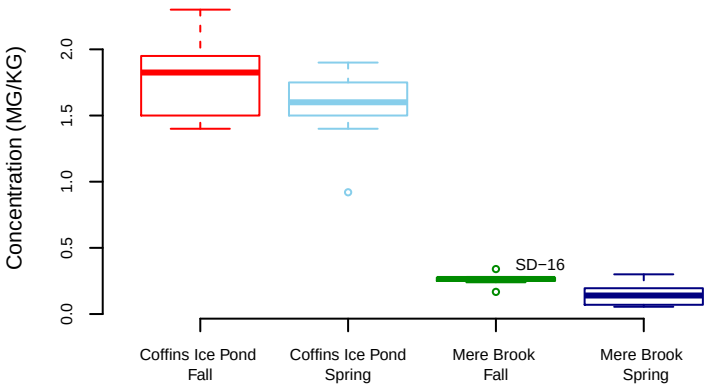
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	58	100	12	10
25th Percentile	160	110	15	12
Median	180	140	19	16
Mean	180	160	19	16
75th Percentile	220	220	21	19
Maximum	290	250	28	25

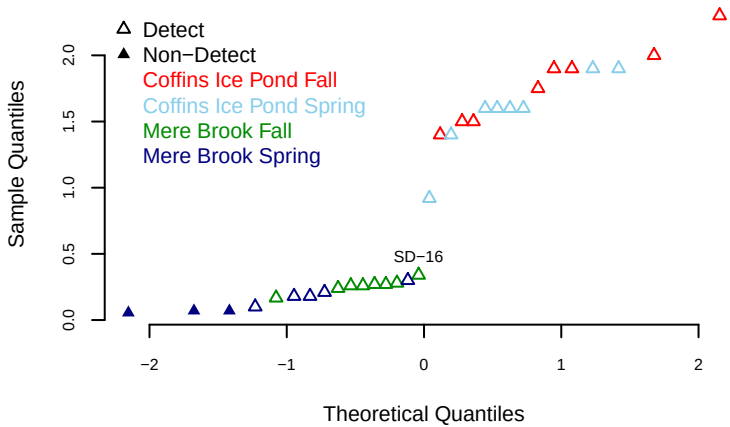
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

BERYLLIUM

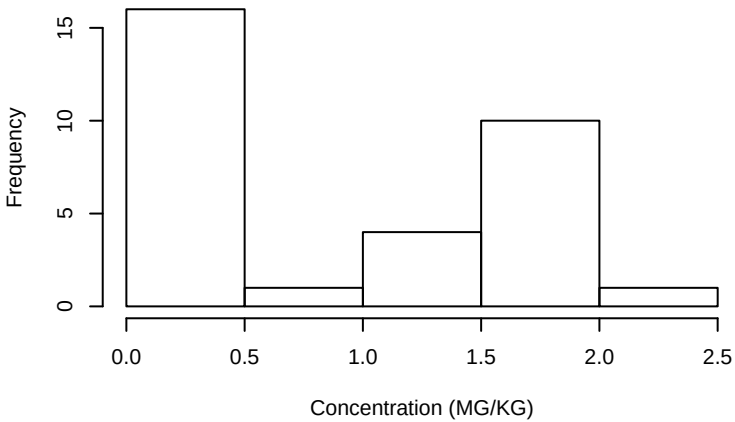
Box Plot



Normal Q−Q Plot



Histogram



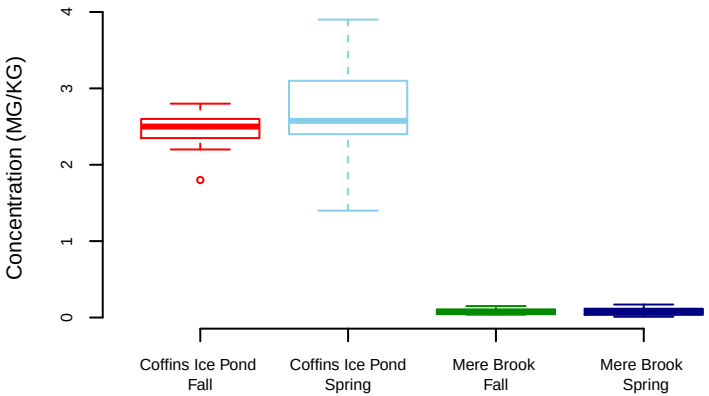
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	1.4	0.92	0.17	0.055
25th Percentile	1.5	1.6	0.26	0.07
Median	1.8	1.6	0.26	0.14
Mean	1.8	1.6	0.26	0.15
75th Percentile	1.9	1.7	0.27	0.19
Maximum	2.3	1.9	0.34	0.3

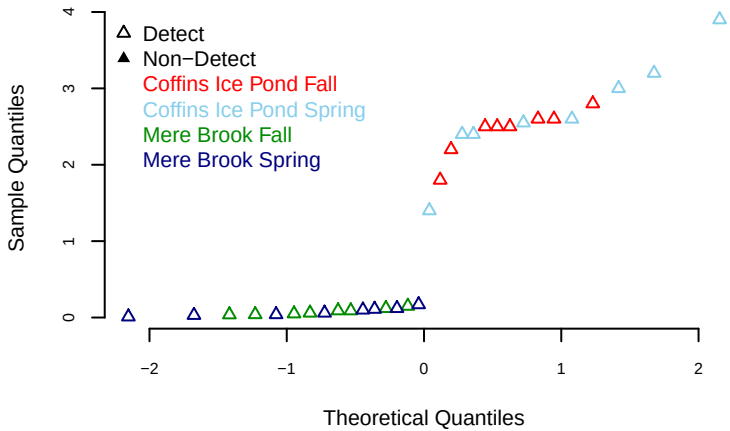
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

CADMIUM

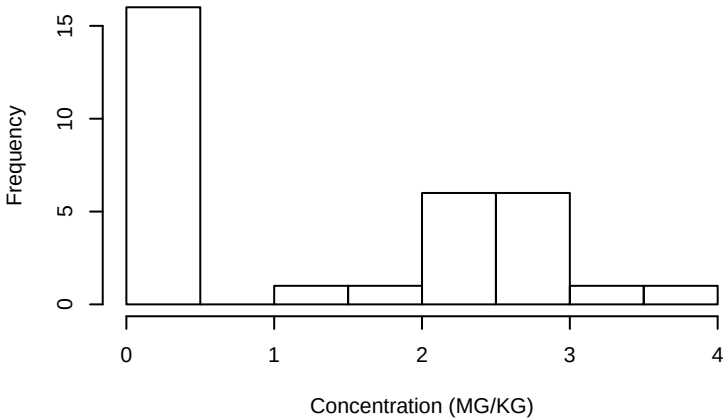
Box Plot



Normal Q−Q Plot



Histogram



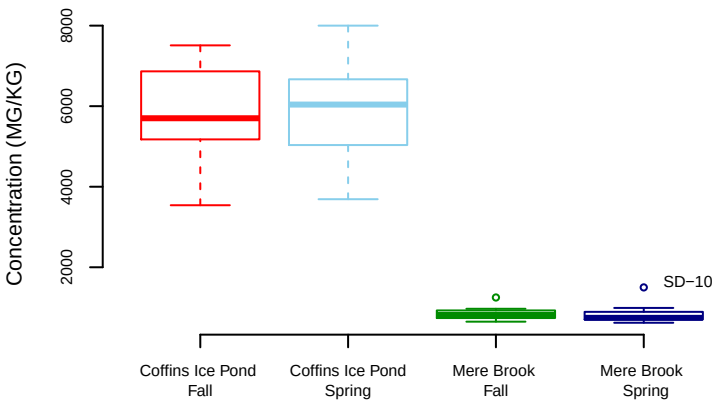
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	1.8	1.4	0.038	0.01
25th Percentile	2.4	2.4	0.048	0.038
Median	2.5	2.6	0.075	0.08
Mean	2.4	2.7	0.08	0.08
75th Percentile	2.6	3	0.098	0.11
Maximum	2.8	3.9	0.15	0.17

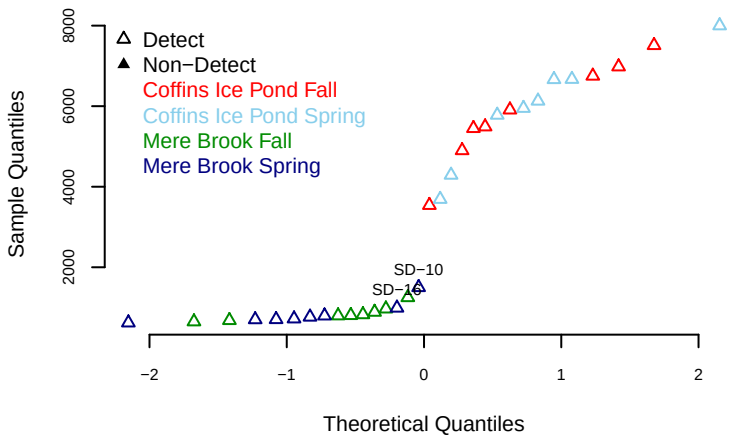
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

CALCIUM

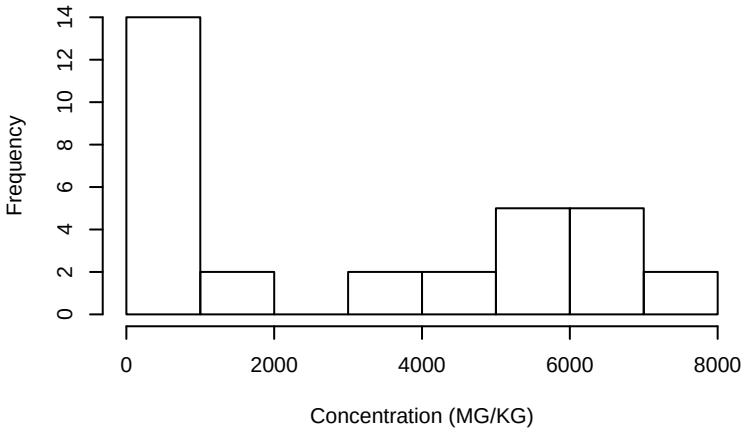
Box Plot



Normal Q−Q Plot



Histogram



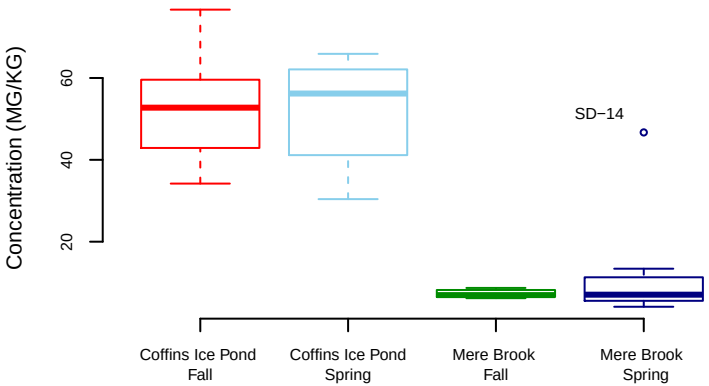
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	3500	3700	650	620
25th Percentile	5300	5400	770	700
Median	5700	6000	820	740
Mean	5800	5900	860	850
75th Percentile	6800	6700	910	840
Maximum	7500	8000	1200	1500

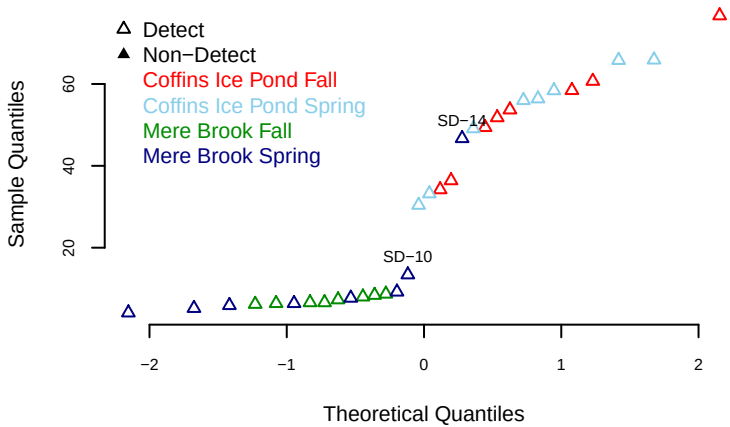
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

CHROMIUM

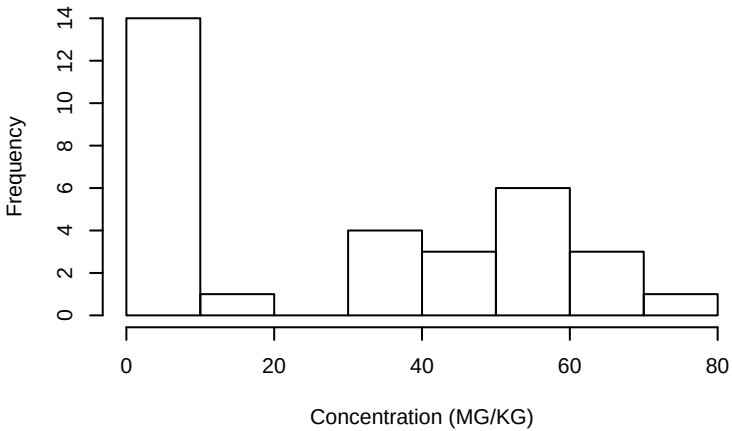
Box Plot



Normal Q−Q Plot



Histogram



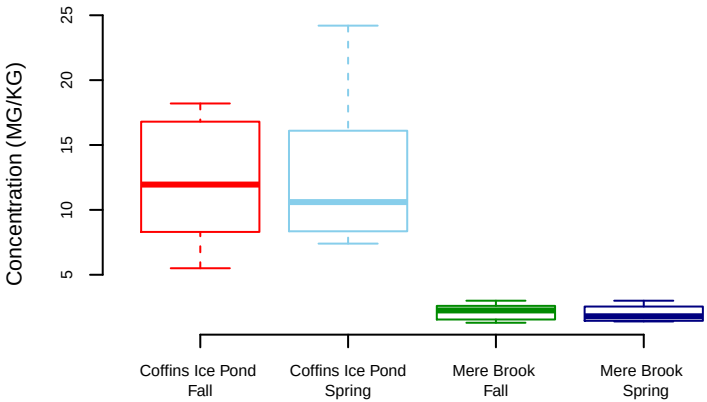
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	34	30	6.2	4.1
25th Percentile	46	45	6.6	5.7
Median	53	56	7	7
Mean	53	52	7.3	12
75th Percentile	59	60	8.1	10
Maximum	77	66	8.7	47

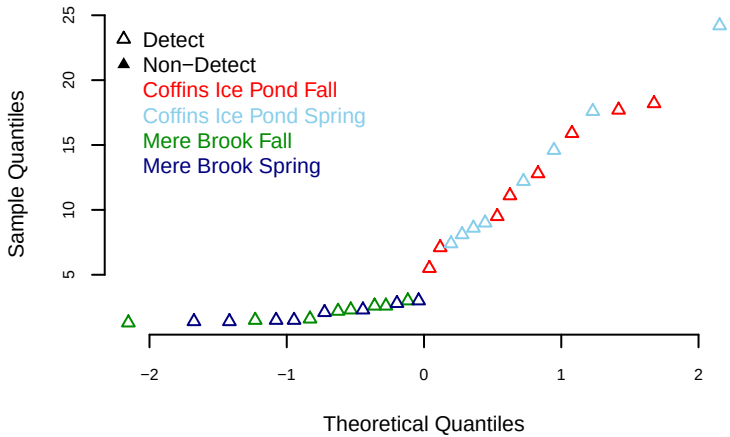
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

COBALT

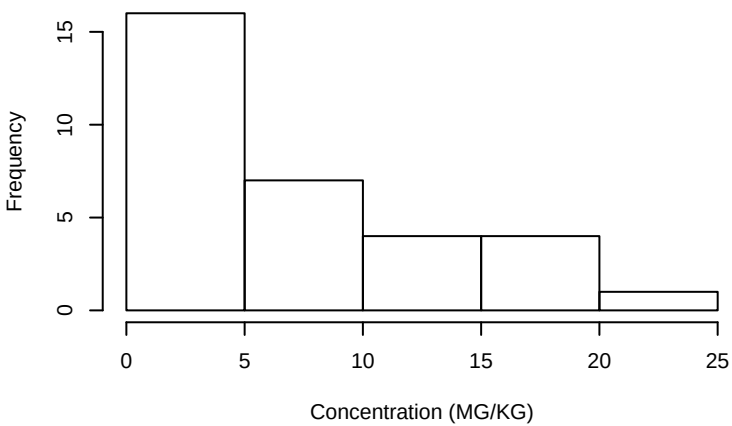
Box Plot



Normal Q−Q Plot



Histogram



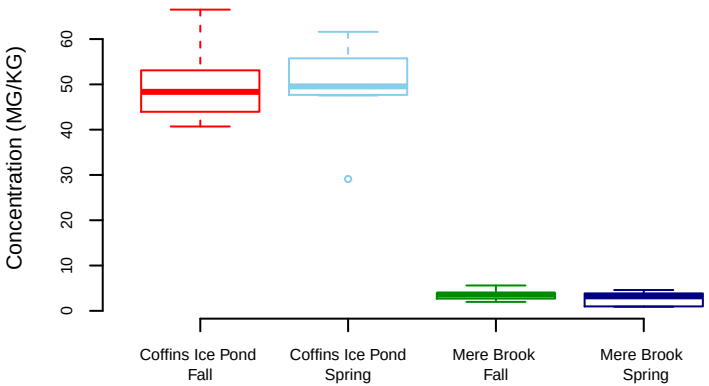
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	5.5	7.4	1.3	1.4
25th Percentile	8.9	8.5	1.6	1.5
Median	12	11	2.2	1.8
Mean	12	13	2.1	2
75th Percentile	16	15	2.6	2.4
Maximum	18	24	3	3

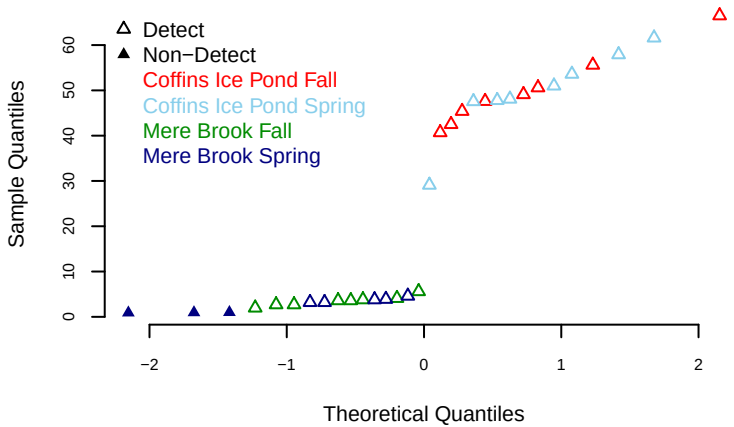
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

COPPER

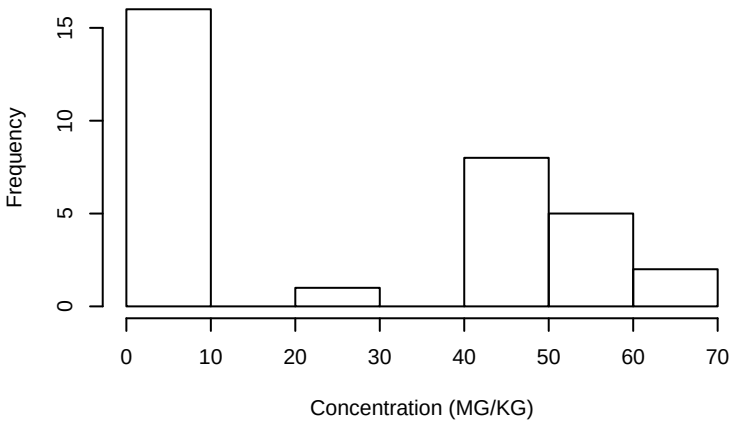
Box Plot



Normal Q−Q Plot



Histogram



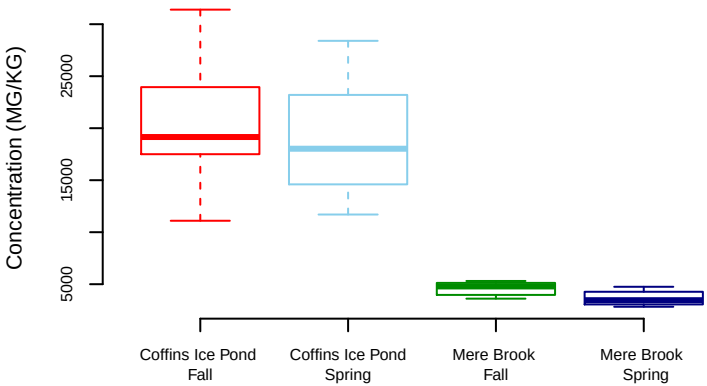
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	41	29	2	0.9
25th Percentile	45	48	2.7	0.99
Median	48	50	3.6	3.2
Mean	50	50	3.5	2.7
75th Percentile	52	55	3.9	3.8
Maximum	66	62	5.6	4.6

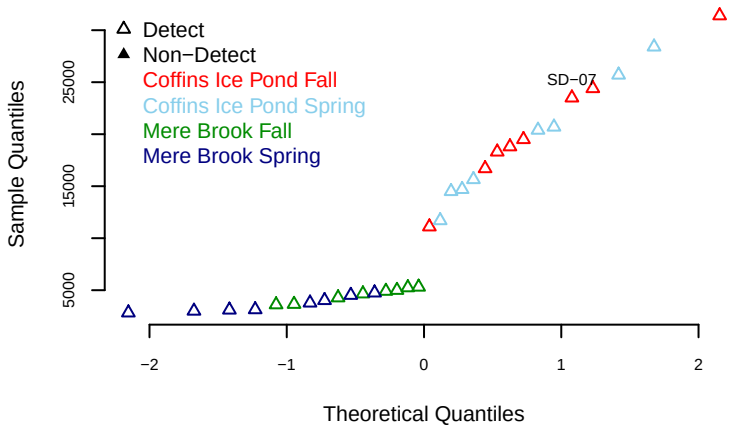
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

IRON

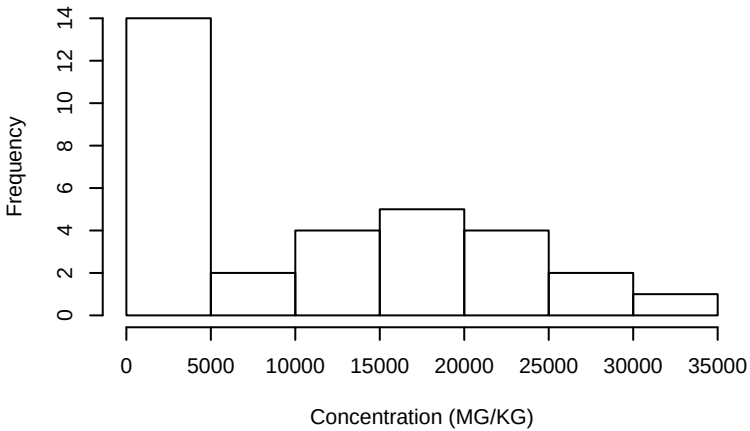
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	11000	12000	3600	2800
25th Percentile	18000	15000	4100	3100
Median	19000	18000	4800	3500
Mean	20000	19000	4600	3600
75th Percentile	24000	22000	5100	4100
Maximum	31000	28000	5300	4800

CP F = Coffins Ice Pond Fall

CP S = Coffins Ice Pond Spring

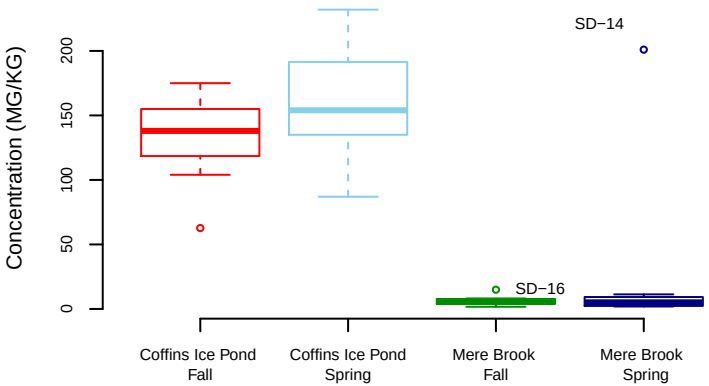
MB F = Mere Brook Fall

MB S = Mere Brook Spring

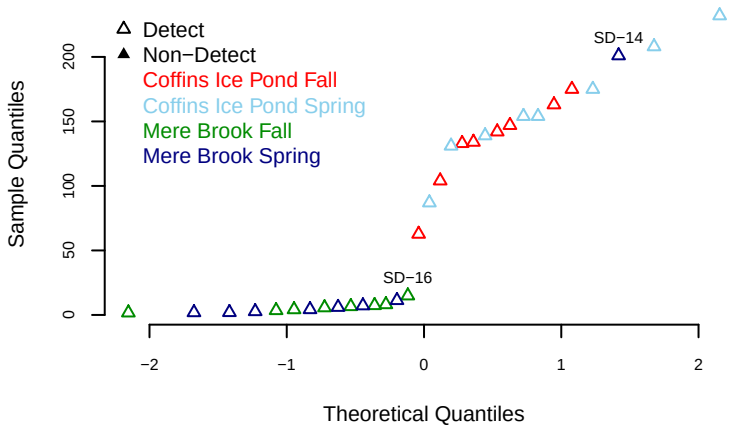
Summary statistics presented using two significant figures

LEAD

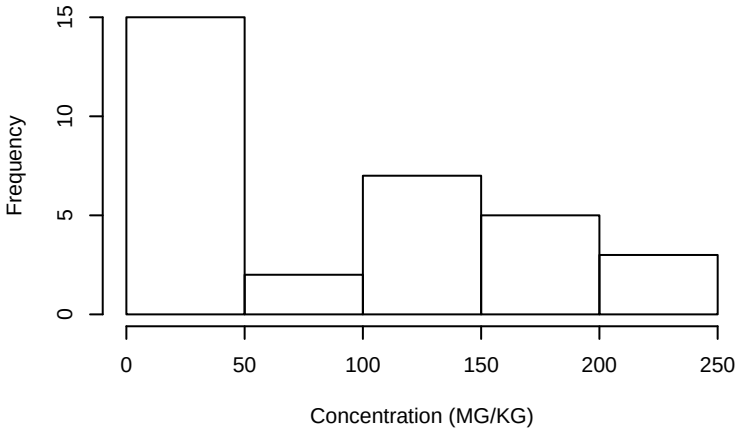
Box Plot



Normal Q−Q Plot



Histogram



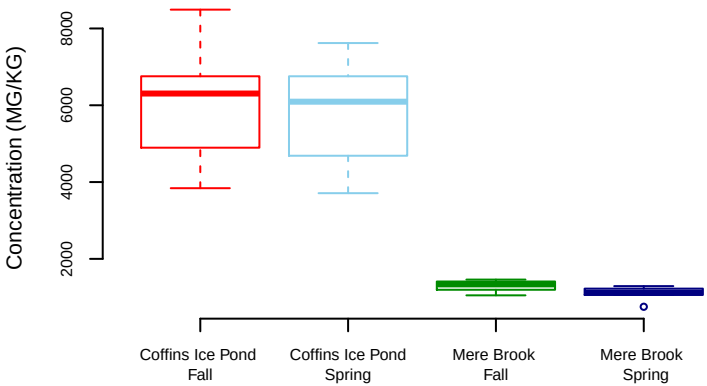
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	63	87	1.7	1.9
25th Percentile	130	140	4	2.5
Median	140	150	6.2	5.1
Mean	130	160	6.5	30
75th Percentile	150	180	7.6	8.2
Maximum	180	230	15	200

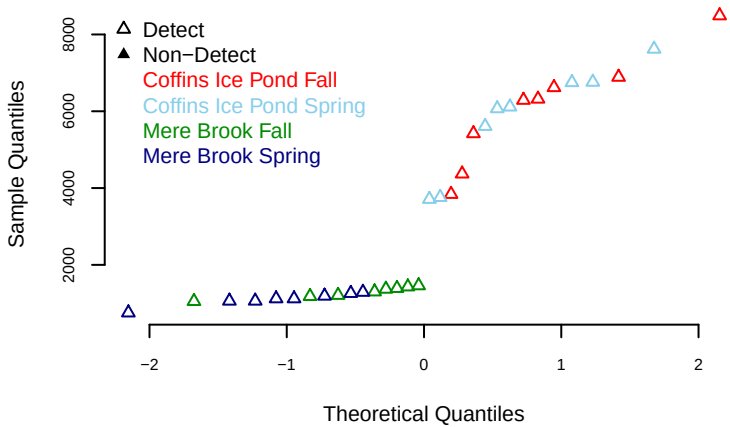
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

MAGNESIUM

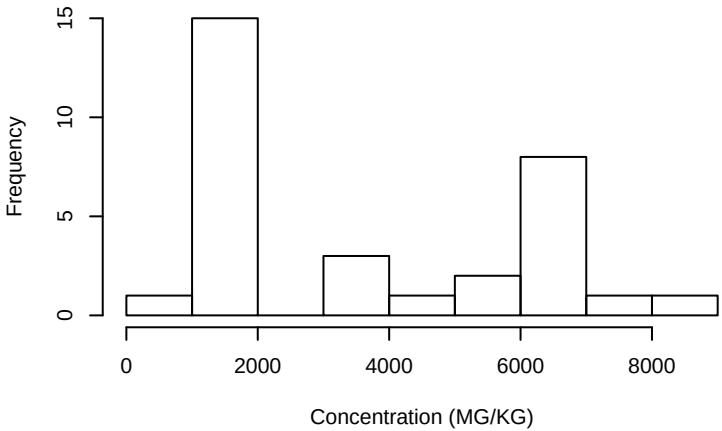
Box Plot



Normal Q−Q Plot



Histogram



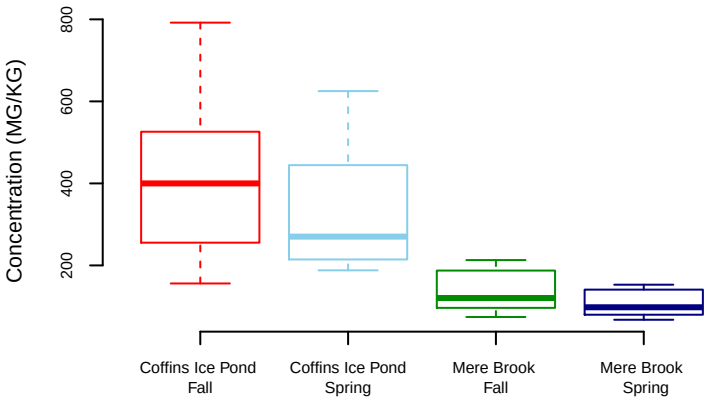
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	3800	3700	1000	750
25th Percentile	5200	5100	1200	1100
Median	6300	6100	1300	1100
Mean	6000	5800	1300	1100
75th Percentile	6700	6800	1400	1200
Maximum	8500	7600	1500	1300

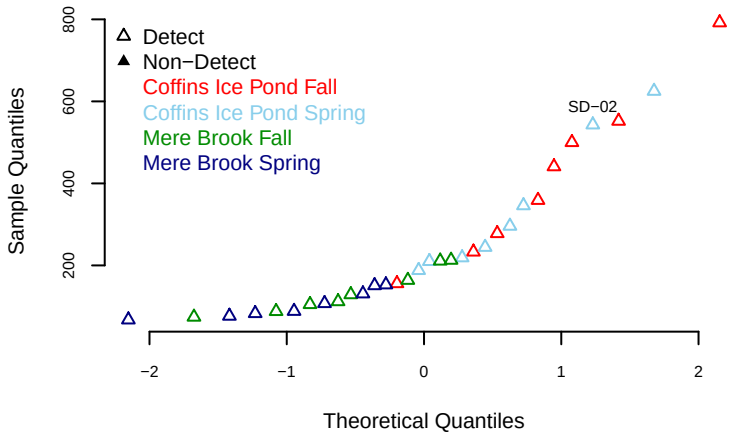
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

MANGANESE

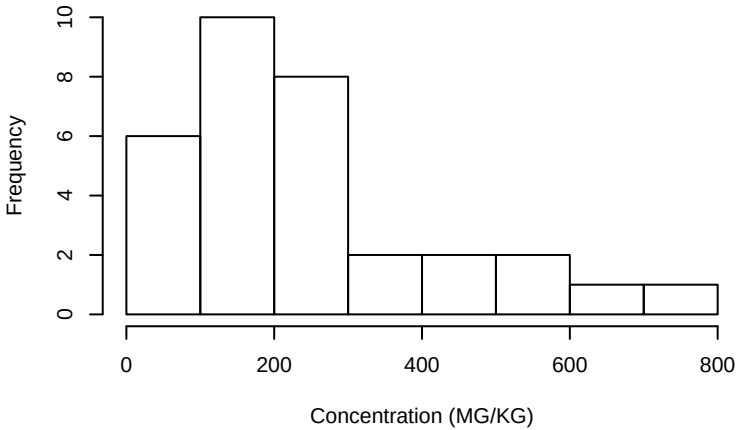
Box Plot



Normal Q−Q Plot



Histogram



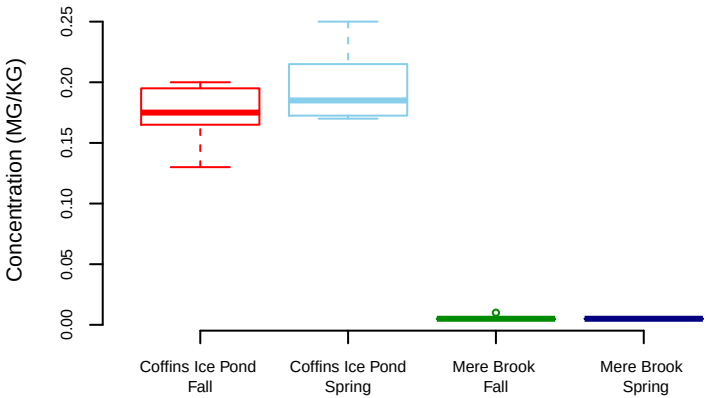
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	160	190	74	68
25th Percentile	270	220	100	81
Median	400	270	120	98
Mean	410	330	140	110
75th Percentile	510	400	180	140
Maximum	790	620	210	150

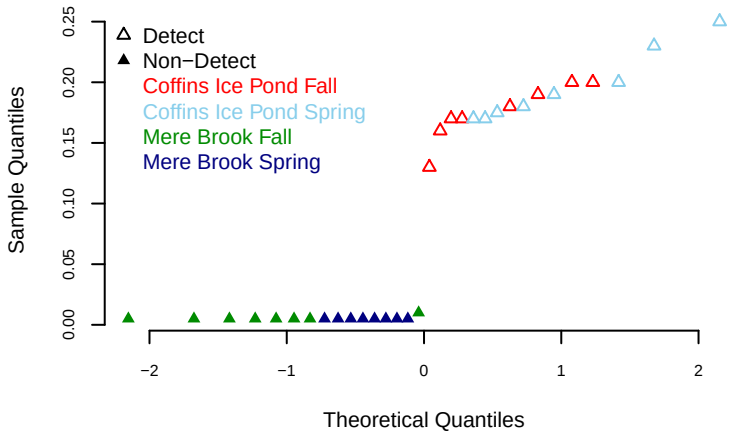
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

MERCURY

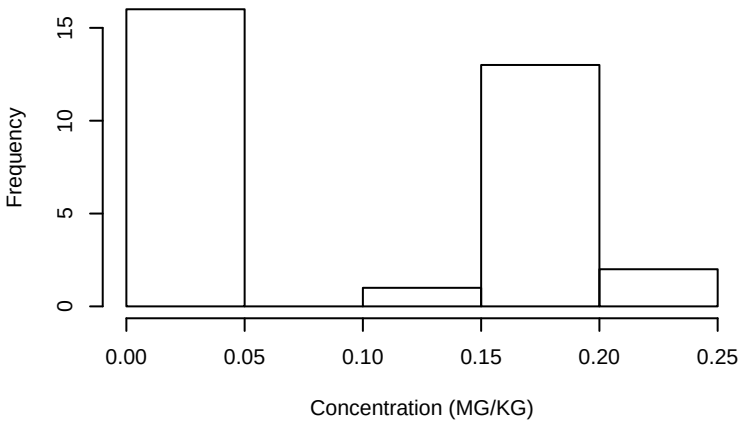
Box Plot



Normal Q−Q Plot



Histogram



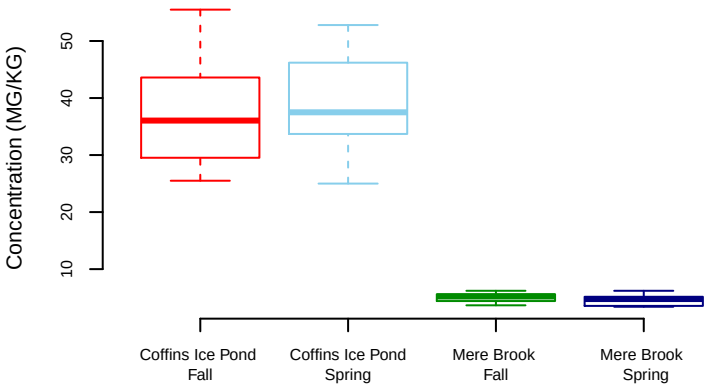
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	0.13	0.17	0.005	0.005
25th Percentile	0.17	0.17	0.005	0.005
Median	0.18	0.18	0.005	0.005
Mean	0.18	0.2	0.0056	0.005
75th Percentile	0.19	0.21	0.005	0.005
Maximum	0.2	0.25	0.01	0.005

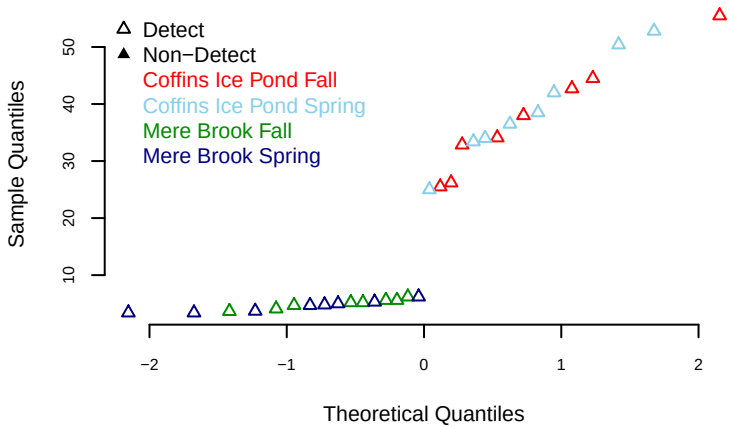
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

NICKEL

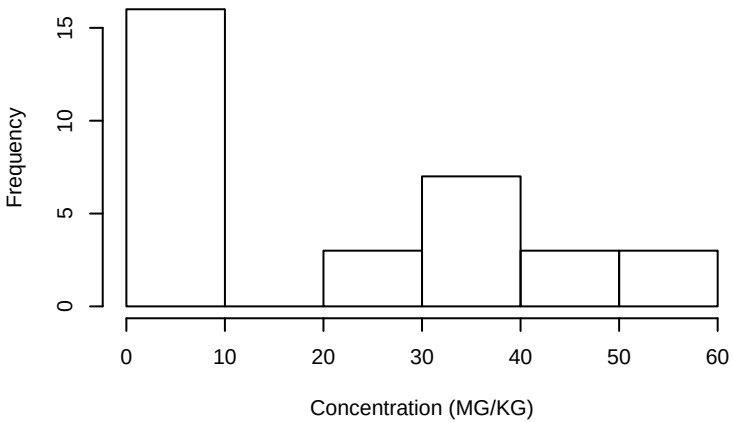
Box Plot



Normal Q−Q Plot



Histogram



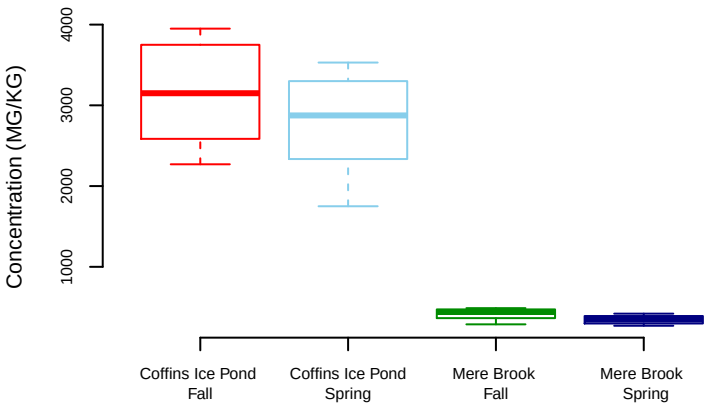
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	26	25	3.6	3.4
25th Percentile	31	34	4.6	3.6
Median	36	38	5.2	4.8
Mean	37	39	5	4.6
75th Percentile	43	44	5.6	5.1
Maximum	56	53	6.2	6.2

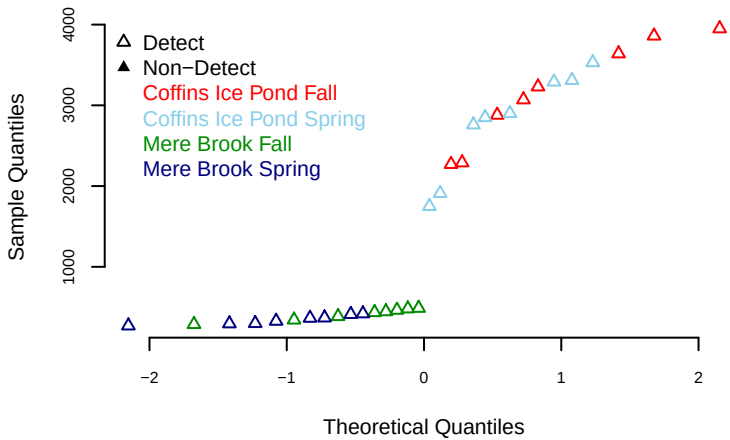
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

POTASSIUM

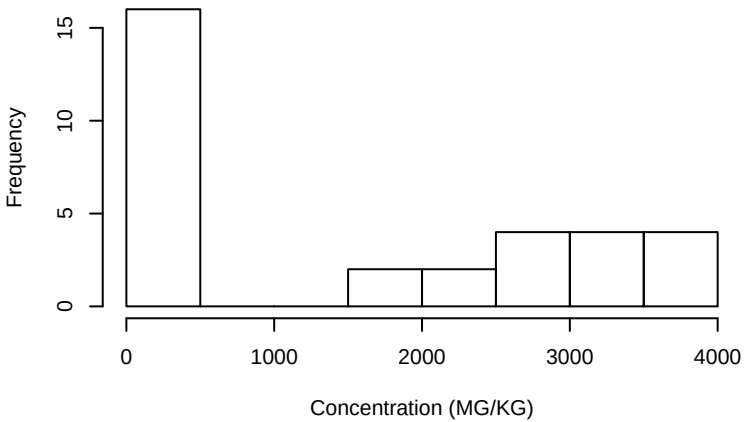
Box Plot



Normal Q−Q Plot



Histogram



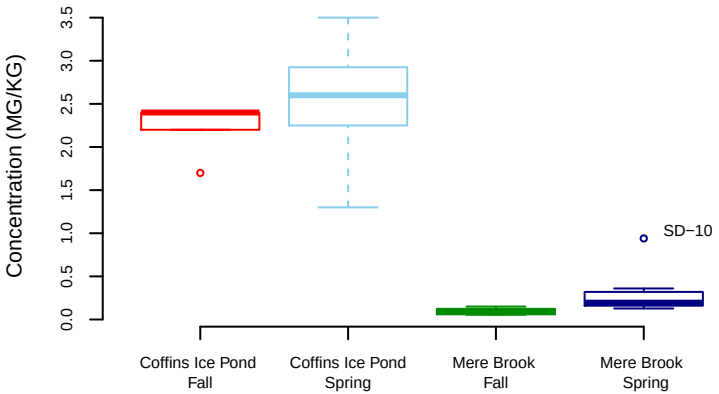
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	2300	1800	290	270
25th Percentile	2700	2500	380	300
Median	3200	2900	440	350
Mean	3100	2800	420	340
75th Percentile	3700	3300	470	380
Maximum	4000	3500	490	420

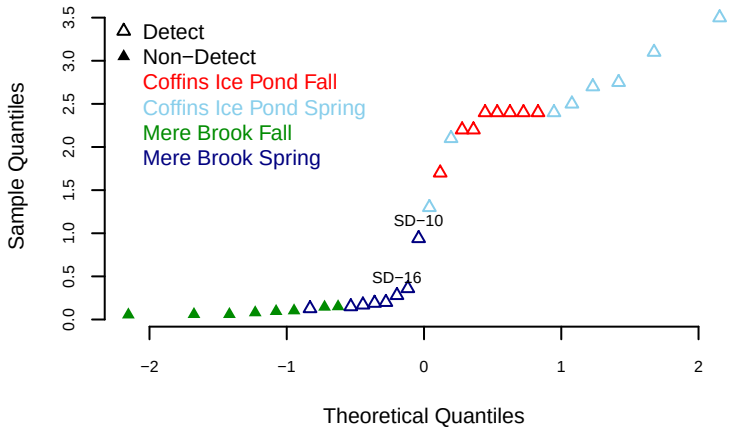
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

SELENIUM

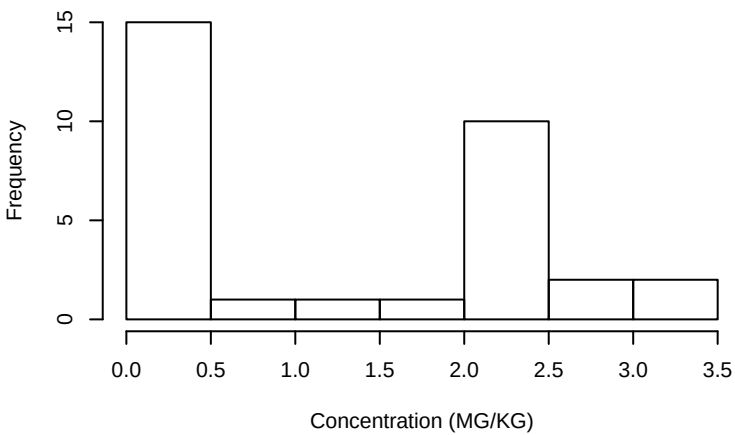
Box Plot



Normal Q−Q Plot



Histogram



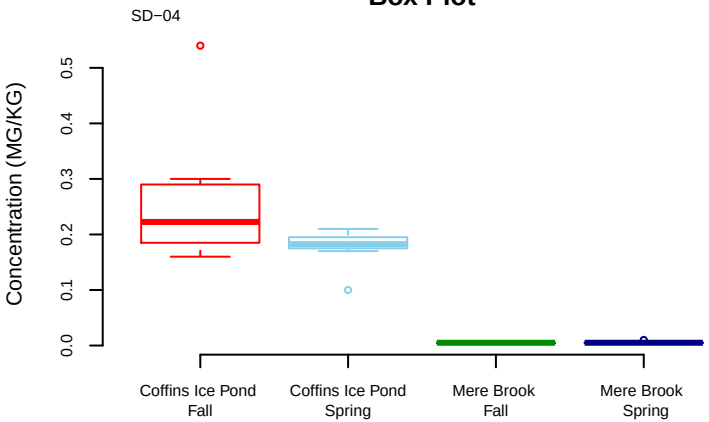
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	1.7	1.3	0.055	0.13
25th Percentile	2.2	2.3	0.06	0.16
Median	2.4	2.6	0.088	0.2
Mean	2.3	2.5	0.093	0.3
75th Percentile	2.4	2.8	0.11	0.3
Maximum	2.4	3.5	0.15	0.94

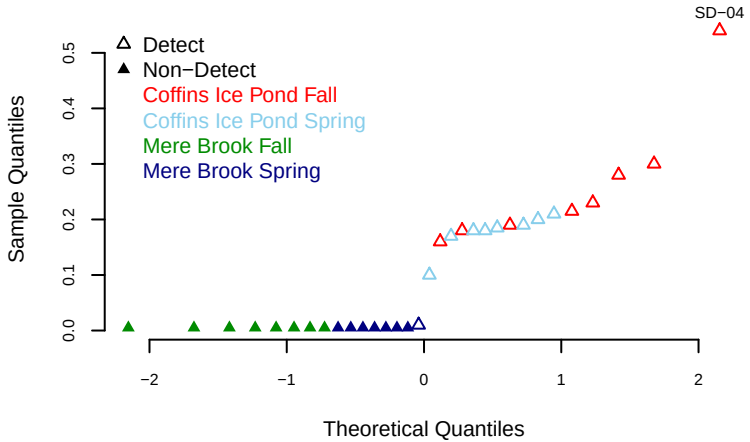
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

SILVER

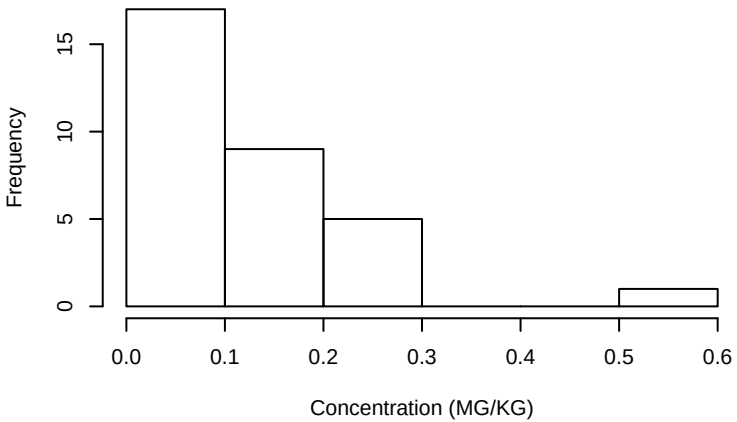
Box Plot



Normal Q−Q Plot



Histogram



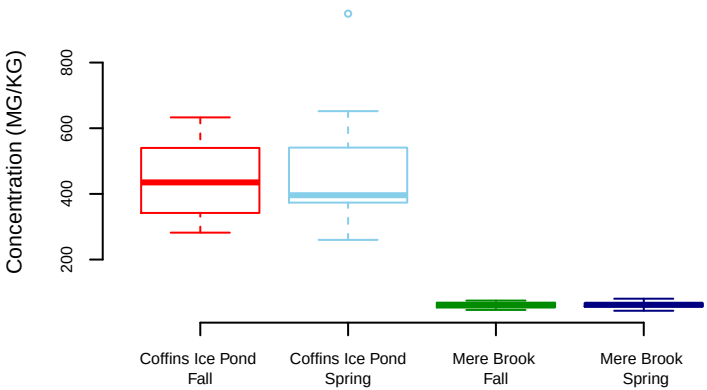
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	0.16	0.1	0.005	0.005
25th Percentile	0.19	0.18	0.005	0.005
Median	0.22	0.18	0.005	0.005
Mean	0.26	0.18	0.005	0.0056
75th Percentile	0.28	0.19	0.005	0.005
Maximum	0.54	0.21	0.005	0.01

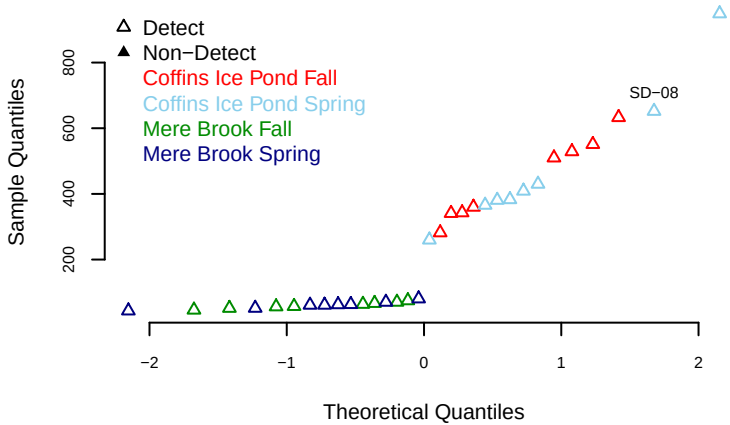
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

SODIUM

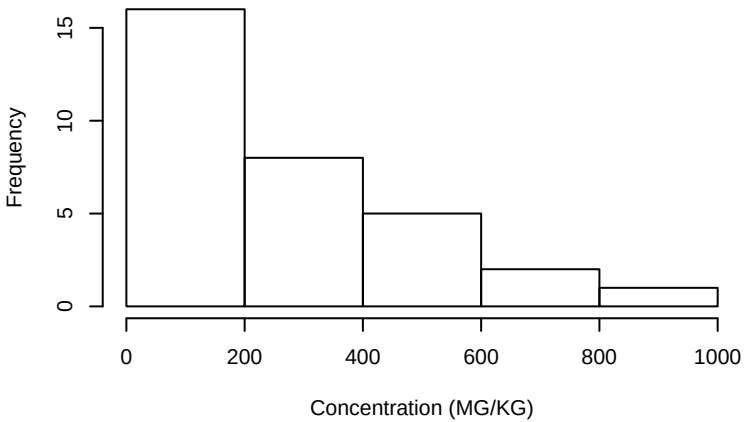
Box Plot



Normal Q−Q Plot



Histogram



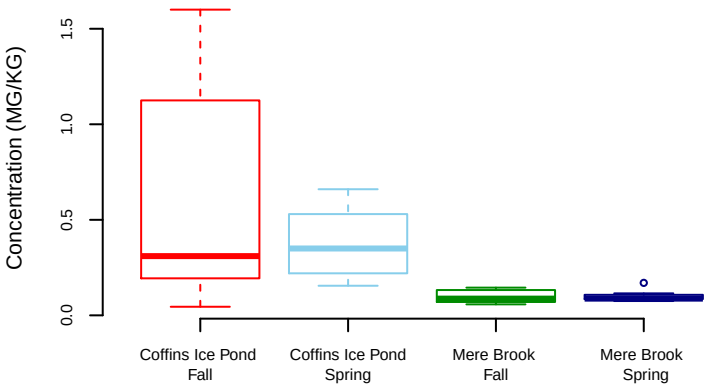
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	280	260	47	44
25th Percentile	340	380	55	59
Median	440	400	61	62
Mean	440	480	61	62
75th Percentile	530	490	68	65
Maximum	630	950	75	81

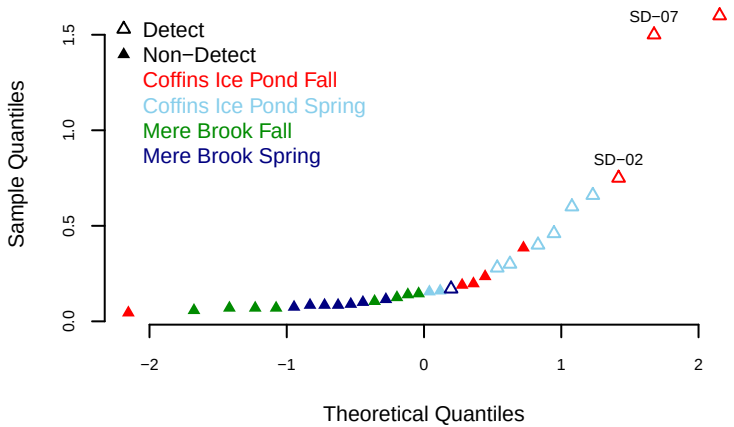
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

THALLIUM

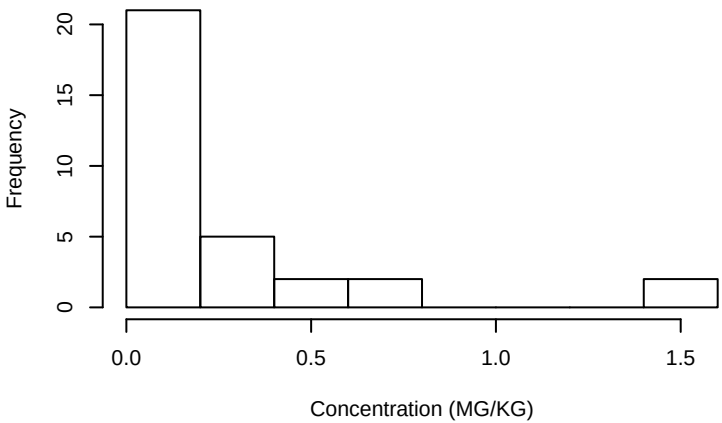
Box Plot



Normal Q−Q Plot



Histogram



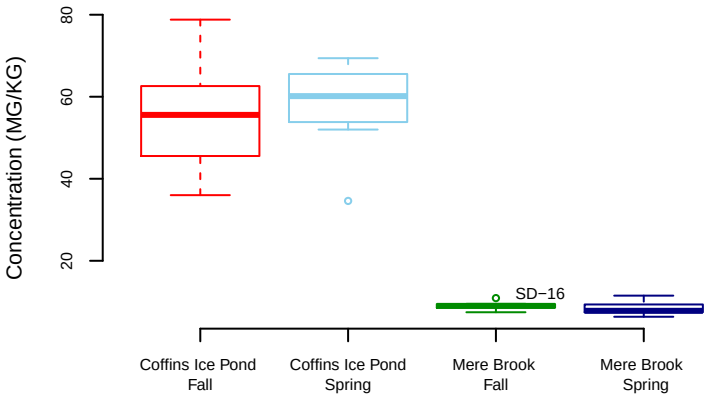
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	0.045	0.16	0.058	0.075
25th Percentile	0.2	0.25	0.07	0.085
Median	0.31	0.35	0.088	0.088
Mean	0.61	0.38	0.098	0.1
75th Percentile	0.94	0.5	0.13	0.1
Maximum	1.6	0.66	0.14	0.17

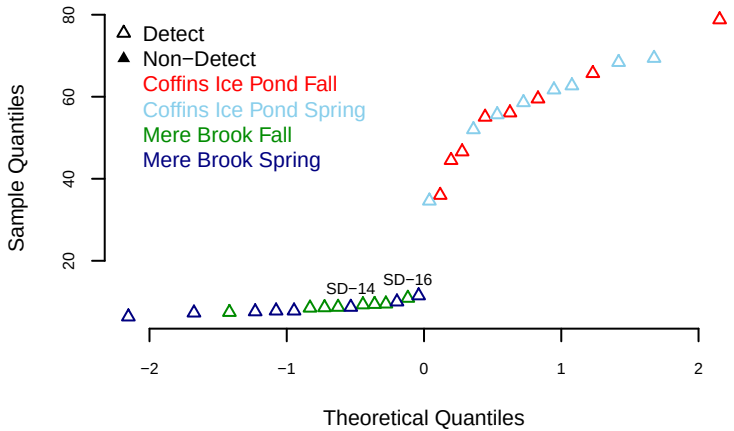
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

VANADIUM

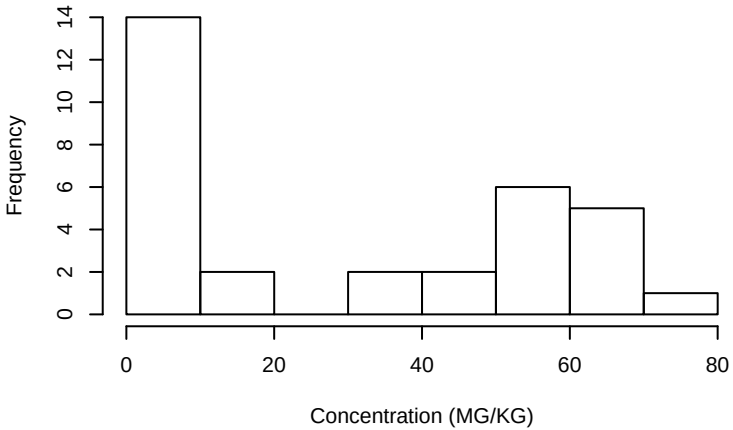
Box Plot



Normal Q−Q Plot



Histogram



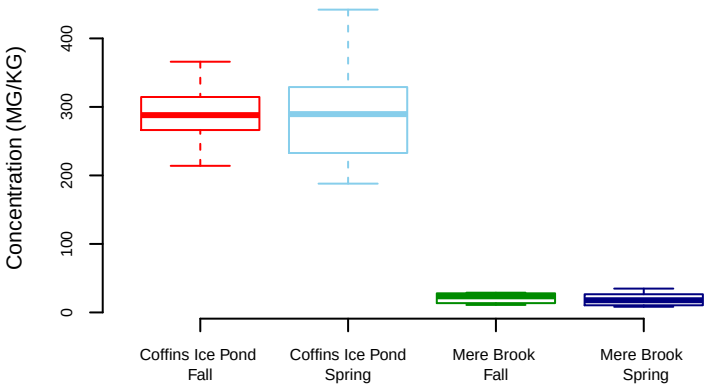
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	36	35	7.4	6.4
25th Percentile	46	55	8.6	7.5
Median	56	60	9	7.8
Mean	55	58	9	8.4
75th Percentile	61	64	9.4	9
Maximum	79	69	11	12

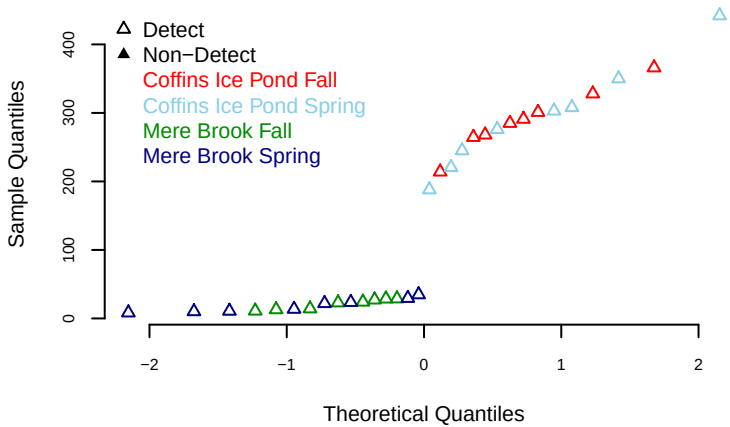
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

ZINC

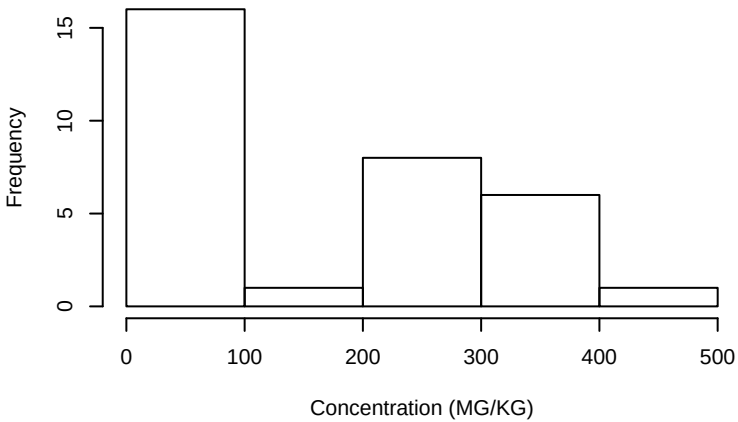
Box Plot



Normal Q−Q Plot



Histogram



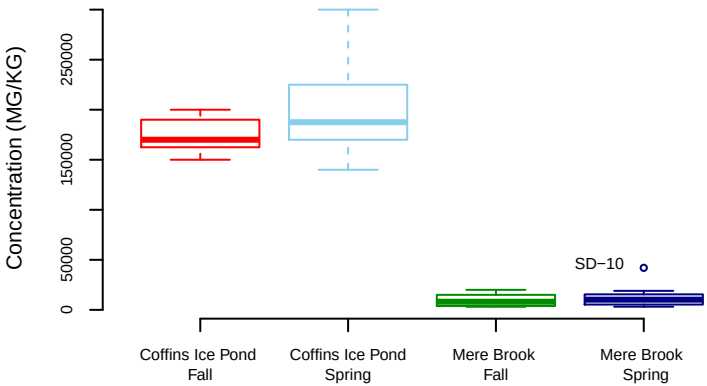
Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	210	190	11	8.3
25th Percentile	270	240	14	11
Median	290	290	24	18
Mean	290	290	21	19
75th Percentile	310	320	28	25
Maximum	370	440	29	35

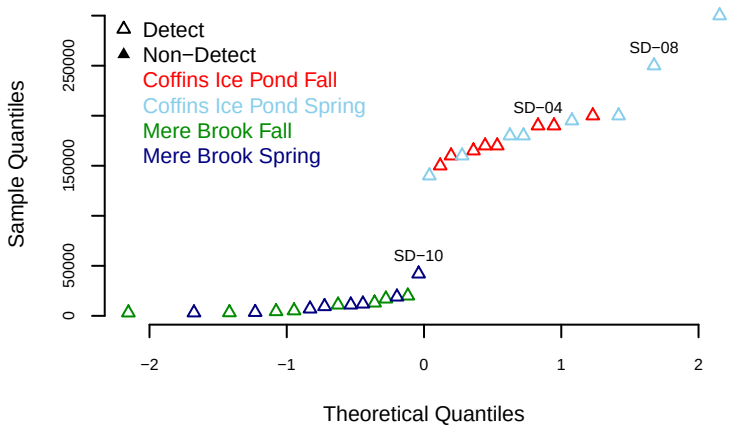
CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

TOTAL ORGANIC CARBON

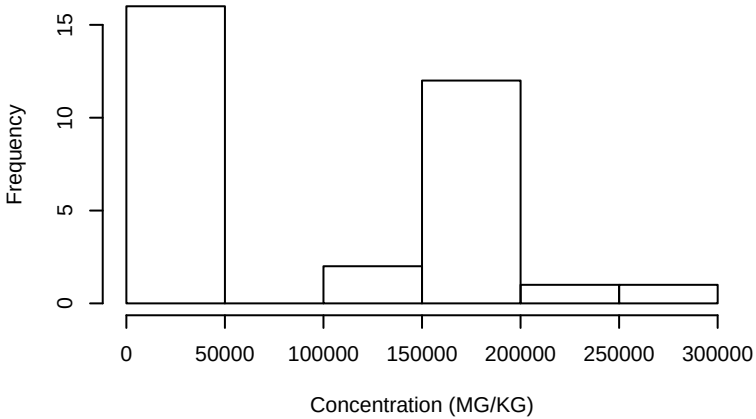
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	CP F	CP S	MB F	MB S
Minimum	150000	140000	3100	3200
25th Percentile	160000	180000	4100	6200
Median	170000	190000	8100	10000
Mean	170000	2e+05	9600	13000
75th Percentile	190000	210000	14000	14000
Maximum	2e+05	3e+05	20000	42000

CP F = Coffins Ice Pond Fall
CP S = Coffins Ice Pond Spring
MB F = Mere Brook Fall
MB S = Mere Brook Spring
Summary statistics presented using two significant figures

A.4.4 SEDIMENT HYPOTHESIS TESTING TO COMPARE DATA GROUPS

APPENDIX A.4.4 HYPOTHESIS TESTING TO COMPARE DATA GROUPS

To determine whether differences exist between sediment data subgroups an appropriate statistical hypothesis test was conducted in accordance with the project SAP (Tt, 2009). Table A.4.4.1 the frequency of detection, data distribution conclusion (see discussion in Appendix A.4.2) and the appropriate test for each chemical subgroup. In Appendix A.4.2 only chemicals that were detected at least once were presented. If a chemical was not detected in at least two samples in a subgroup then the chemical subgroup was not included in the statistical hypothesis test. All tests were conducted using a significance level of 0.05.

Alpha BHC, endosulfan II, endosulfan sulfate, gamma-chlordane, 3,4,5-TP (silvex), dinoseb, MCPP, and antimony were detected infrequently; therefore, formal hypothesis testing was not conducted on these chemicals. For alpha-chlordane, delta-BHC, mercury, silver, and thallium there are only two subgroups to compare. For these chemicals, an appropriate two sample hypothesis test was conducted as discussed below. For the remaining chemicals, there are more than two background data groups to be compared. When there are more than two groups to compare, either a parametric or nonparametric ANOVA can be used to determine if there are differences among groups. The parametric ANOVA test determines if the means of the groups differ while the nonparametric Kruskall Wallis ANOVA test determines if the medians of the groups differ. The parametric ANOVA test is valid only if the population variances are equal (homoscedastic) and either the population distributions are normal or the sample sizes are large. The parametric and nonparametric ANOVA only determine that differences exist, not which groups are different. To determine which groups differ, multiple comparisons are used. For chemicals with more than two subgroups, the residuals were not constant and each subgroup was not normally distributed; therefore, Kruskall Wallis ANOVAs were used to determine differences between the appropriate subgroups. The plots of the residuals to check for constant variance are not presented. Table A.4.4.2 presents the p-value for the Kruskall Wallis ANOVA and the conclusion regarding the comparisons of the subgroups. Table A.4.4.3 presents the p-value for the multiple comparisons for chemicals where differences were detected.

When there are two background data groups to be compared, either a parametric or nonparametric two sample test can determine if the two groups are different. When the two groups are not normally distributed, or there are more than two non-detects, then the non-parametric Gehan Test was applied to determine whether two background data sets belong to populations with identical medians and distributions. When the two groups are not normally distributed, and there are less than two non-detects, then the non-parametric Mann-Whitney test was applied to determine whether two background data sets belong to populations with identical

medians and distributions. If either the Gehan Test or Mann-Whitney concluded that the two data sets were equal then the quantile test or upper ranks test (EPA, 1992, 2006) was applied to determine whether the upper tail of one data set is greater than the upper tail of the other data set. Table A.4.4.4 presents the p-values for the Gehan Test, Mann-Whitney, and Quantile Test for each chemical and the conclusions regarding the comparison of the two groups. For the quantile test if the test statistic is greater than or equal to the critical value then it was concluded that the two data sets do not have equal upper tails. For the Gehan and Mann-Whitney if the p-value is less than 0.05 it was concluded that the two data sets represent different populations.

The SAP stated that at least 15 samples were needed for each background dataset. For most of the chemicals, two subgroups could be combined to provide 16 samples per background dataset. However, based on low frequency of detections, the following chemicals do not have at least 15 samples per subgroup: alpha-BHC, endosulfan II, endosulfan sulfate, gamma chlordane, 2-4-5TP(silvex), dinoseb, MCPP and antimony. Based on the formal hypothesis test the following chemical subgroup combinations do not have at least 15 samples: selenium, Mere Brook spring samples, silver, Coffins Ice Pond fall samples, silver, Coffins Ice Pond spring samples, thallium, Coffins Ice Pond fall samples, and thallium, Coffins Ice Pond spring samples.

Table A.4.4.1
Hypothesis Tests
Sediment
Naval Air Station, Brunswick, Maine

Parameter	Frequency of Detection				Data Distribution				Test
	Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	
PAHs									
2-METHYLNAPHTHALENE	8/8	8/8	2/8	5/8	LogNormal	LogNormal	NA	LogNormal	ANOVA
ACENAPHTHENE	8/8	8/8	5/8	5/8	LogNormal	LogNormal	Nonparametric	LogNormal	ANOVA
ACENAPHTHYLENE	8/8	8/8	6/8	6/8	LogNormal	LogNormal	Normal	Normal	ANOVA
ANTHRACENE	8/8	8/8	7/8	6/8	LogNormal	LogNormal	LogNormal	Normal	ANOVA
BENZO(A)ANTHRACENE	8/8	8/8	7/8	7/8	LogNormal	Normal	Normal	Normal	ANOVA
BENZO(A)PYRENE	8/8	8/8	7/8	7/8	LogNormal	Normal	Normal	Normal	ANOVA
BENZO(B)FLUORANTHENE	8/8	8/8	8/8	7/8	LogNormal	Normal	Normal	Normal	ANOVA
BENZO(G,H,I)PERYLENE	8/8	8/8	7/8	7/8	LogNormal	Normal	Normal	Normal	ANOVA
BENZO(K)FLUORANTHENE	8/8	8/8	7/8	6/8	LogNormal	Normal	Normal	Normal	ANOVA
CHRYSENE	8/8	8/8	8/8	7/8	LogNormal	Normal	Normal	Normal	ANOVA
DIBENZO(A,H)ANTHRACENE	8/8	8/8	7/8	6/8	LogNormal	Normal	Normal	Normal	ANOVA
FLUORANTHENE	8/8	8/8	8/8	7/8	LogNormal	LogNormal	LogNormal	Normal	ANOVA
FLUORENE	8/8	8/8	5/8	6/8	LogNormal	LogNormal	LogNormal	LogNormal	ANOVA
INDENO(1,2,3-CD)PYRENE	8/8	8/8	7/8	7/8	LogNormal	Normal	Normal	Normal	ANOVA
NAPHTHALENE	8/8	8/8	3/8	5/8	LogNormal	Normal	NA	LogNormal	ANOVA
PHENANTHRENE	8/8	8/8	8/8	7/8	LogNormal	LogNormal	LogNormal	Normal	ANOVA
PYRENE	8/8	8/8	7/8	8/8	LogNormal	Normal	LogNormal	Normal	ANOVA
Pesticides/PCBs									
4,4'-DDD	8/8	8/8	7/8	6/8	Normal	LogNormal	Normal	Normal	ANOVA
4,4'-DDE	8/8	8/8	7/8	6/8	Normal	LogNormal	Normal	Normal	ANOVA
4,4'-DDT	8/8	7/8	1/8	5/8	LogNormal	Normal	NA	Normal	ANOVA
ALPHA-BHC	0/8	1/8	0/8	0/8	NA	NA	NA	NA	NA ONLY DETECTED ONCE IN ONE GROUP
ALPHA-CHLORDANE	8/8	7/8	0/8	0/8	Normal	Normal	NA	NA	MANN WHITNEY
DELTA-BHC	7/8	3/8	0/8	0/8	LogNormal	NA	NA	NA	GEHAN
ENDOSULFAN II	1/8	0/8	1/8	0/8	NA	NA	NA	NA	NA ONLY DETECTED ONCE IN TWO GROUPS
ENDOSULFAN SULFATE	0/8	1/8	0/8	1/8	NA	NA	NA	NA	NA ONLY DETECTED ONCE IN TWO GROUPS
GAMMA-CHLORDANE	1/8	1/8	0/8	5/8	NA	NA	NA	Nonparametric	NA LOW FREQUENCY OF DETECTIONS
Herbicides									
2,4,5-TP (SILVEX)	2/8	0/8	0/8	0/8	NA	NA	NA	NA	NA ONLY DETECTED TWICE IN ONE GROUP
DINOSEB	1/8	0/8	0/8	0/8	NA	NA	NA	NA	NA ONLY DETECTED ONCE IN ONE GROUP
MCPP	3/8	0/8	0/8	0/8	NA	NA	NA	NA	NA ONLY DETECTED IN ONE GROUP
Inorganics									
ALUMINUM	8/8	8/8	8/8	8/8	LogNormal	Normal	LogNormal	LogNormal	ANOVA
ANTIMONY	5/8	0/8	1/8	1/8	LogNormal	NA	LogNormal	NA	NA LOW FREQUENCY OF DETECTIONS
ARSENIC	8/8	8/8	6/8	8/8	Normal	LogNormal	Normal	LogNormal	ANOVA
BARIUM	8/8	8/8	8/8	8/8	Normal	LogNormal	LogNormal	LogNormal	ANOVA
BERYLLIUM	8/8	8/8	8/8	5/8	LogNormal	Normal	Normal	LogNormal	ANOVA
CADMIUM	8/8	8/8	8/8	8/8	Normal	Normal	LogNormal	Normal	ANOVA

Table A.4.4.1
Hypothesis Tests
Sediment
Naval Air Station, Brunswick, Maine

Parameter	Frequency of Detection				Data Distribution				Test
	Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	
CALCIUM	8/8	8/8	8/8	8/8	Normal	Normal	LogNormal	Nonparametric	ANOVA
CHROMIUM	8/8	8/8	8/8	8/8	Normal	Normal	LogNormal	LogNormal	ANOVA
COBALT	8/8	8/8	8/8	8/8	Normal	LogNormal	Normal	LogNormal	ANOVA
COPPER	8/8	8/8	8/8	5/8	LogNormal	Normal	LogNormal	Normal	ANOVA
IRON	8/8	8/8	8/8	8/8	Normal	LogNormal	Normal	LogNormal	ANOVA
LEAD	8/8	8/8	8/8	8/8	Normal	Normal	LogNormal	Nonparametric	ANOVA
MAGNESIUM	8/8	8/8	8/8	8/8	Normal	Normal	Normal	Normal	ANOVA
MANGANESE	8/8	8/8	8/8	8/8	LogNormal	LogNormal	LogNormal	LogNormal	ANOVA
MERCURY	8/8	8/8	0/8	0/8	Normal	LogNormal	NA	NA	MANN WHITNEY
NICKEL	8/8	8/8	8/8	8/8	LogNormal	LogNormal	Normal	Normal	ANOVA
POTASSIUM	8/8	8/8	8/8	8/8	Normal	Normal	Normal	LogNormal	ANOVA
SELENIUM	8/8	8/8	0/8	8/8	Nonparametric	Normal	NA	LogNormal	ANOVA
SILVER	8/8	8/8	0/8	1/8	LogNormal	Nonparametric	NA	NA	MANN WHITNEY
SODIUM	8/8	8/8	8/8	8/8	LogNormal	LogNormal	Normal	Normal	ANOVA
THALLIUM	3/8	6/8	0/8	1/8	>50%	Normal	NA	NA	GEHAN
VANADIUM	8/8	8/8	8/8	8/8	LogNormal	Normal	LogNormal	LogNormal	ANOVA
ZINC	8/8	8/8	8/8	8/8	Normal	LogNormal	Normal	LogNormal	ANOVA
Miscellaneous									
TOTAL ORGANIC CARBON	8/8	8/8	8/8	8/8	LogNormal	LogNormal	LogNormal	LogNormal	ANOVA

NA = Not Applicable

Table A.4.4.3
Sediment
Nonparametric Multiple Comparison Test Results
Brunswick, Maine

Table A.4.4.2
Sediment
Kruskal Wallis Test Results
Naval Air Station, Brunswick, Maine

Parameter	Test	P-Value	Conclusion
PAHs			
2-METHYLNAPHTHALENE	KRUSKAL WALLIS ANOVA	0.0350	AT LEAST ONE GROUP DIFFERENT
ACENAPHTHENE	KRUSKAL WALLIS ANOVA	0.0303	AT LEAST ONE GROUP DIFFERENT
ACENAPHTHYLENE	KRUSKAL WALLIS ANOVA	0.0000	AT LEAST ONE GROUP DIFFERENT
ANTHRACENE	KRUSKAL WALLIS ANOVA	0.0002	AT LEAST ONE GROUP DIFFERENT
BENZO(A)ANTHRACENE	KRUSKAL WALLIS ANOVA	0.0000	AT LEAST ONE GROUP DIFFERENT
BENZO(A)PYRENE	KRUSKAL WALLIS ANOVA	0.0000	AT LEAST ONE GROUP DIFFERENT
BENZO(B)FLUORANTHENE	KRUSKAL WALLIS ANOVA	0.0000	AT LEAST ONE GROUP DIFFERENT
BENZO(G,H,I)PERYLENE	KRUSKAL WALLIS ANOVA	0.0000	AT LEAST ONE GROUP DIFFERENT
BENZO(K)FLUORANTHENE	KRUSKAL WALLIS ANOVA	0.0000	AT LEAST ONE GROUP DIFFERENT
CHRYSENE	KRUSKAL WALLIS ANOVA	0.0000	AT LEAST ONE GROUP DIFFERENT
DIBENZO(A,H)ANTHRACENE	KRUSKAL WALLIS ANOVA	0.0000	AT LEAST ONE GROUP DIFFERENT
FLUORANTHENE	KRUSKAL WALLIS ANOVA	0.0000	AT LEAST ONE GROUP DIFFERENT
FLUORENE	KRUSKAL WALLIS ANOVA	0.0000	AT LEAST ONE GROUP DIFFERENT
INDENO(1,2,3-CD)PYRENE	KRUSKAL WALLIS ANOVA	0.0105	AT LEAST ONE GROUP DIFFERENT
NAPHTHALENE	KRUSKAL WALLIS ANOVA	0.0000	AT LEAST ONE GROUP DIFFERENT
PHENANTHRENE	KRUSKAL WALLIS ANOVA	0.0811	ALL GROUPS EQUAL
PYRENE	KRUSKAL WALLIS ANOVA	0.0002	AT LEAST ONE GROUP DIFFERENT
Pesticides/PCBs			
4,4'-DDD	KRUSKAL WALLIS ANOVA	0.0000	AT LEAST ONE GROUP DIFFERENT
4,4'-DDE	KRUSKAL WALLIS ANOVA	0.0000	AT LEAST ONE GROUP DIFFERENT
4,4'-DDT	KRUSKAL WALLIS ANOVA	0.0000	AT LEAST ONE GROUP DIFFERENT
Inorganics			
ALUMINUM	KRUSKAL WALLIS ANOVA	0.0002	AT LEAST ONE GROUP DIFFERENT
ARSENIC	KRUSKAL WALLIS ANOVA	0.0000	AT LEAST ONE GROUP DIFFERENT
BARIUM	KRUSKAL WALLIS ANOVA	0.0000	AT LEAST ONE GROUP DIFFERENT
BERYLLIUM	KRUSKAL WALLIS ANOVA	0.0000	AT LEAST ONE GROUP DIFFERENT
CADMIUM	KRUSKAL WALLIS ANOVA	0.0000	AT LEAST ONE GROUP DIFFERENT
CALCIUM	KRUSKAL WALLIS ANOVA	0.0000	AT LEAST ONE GROUP DIFFERENT
CHROMIUM	KRUSKAL WALLIS ANOVA	0.0000	AT LEAST ONE GROUP DIFFERENT
COBALT	KRUSKAL WALLIS ANOVA	0.0001	AT LEAST ONE GROUP DIFFERENT
COPPER	KRUSKAL WALLIS ANOVA	0.0000	AT LEAST ONE GROUP DIFFERENT
IRON	KRUSKAL WALLIS ANOVA	0.0000	AT LEAST ONE GROUP DIFFERENT
LEAD	KRUSKAL WALLIS ANOVA	0.0000	AT LEAST ONE GROUP DIFFERENT
MAGNESIUM	KRUSKAL WALLIS ANOVA	0.0003	AT LEAST ONE GROUP DIFFERENT
MANGANESE	KRUSKAL WALLIS ANOVA	0.0000	AT LEAST ONE GROUP DIFFERENT
NICKEL	KRUSKAL WALLIS ANOVA	0.0001	AT LEAST ONE GROUP DIFFERENT
POTASSIUM	KRUSKAL WALLIS ANOVA	0.0000	AT LEAST ONE GROUP DIFFERENT
SELENIUM	KRUSKAL WALLIS ANOVA	0.0000	AT LEAST ONE GROUP DIFFERENT
SODIUM	KRUSKAL WALLIS ANOVA	0.0002	AT LEAST ONE GROUP DIFFERENT
VANADIUM	KRUSKAL WALLIS ANOVA	0.0000	AT LEAST ONE GROUP DIFFERENT
ZINC	KRUSKAL WALLIS ANOVA	0.0000	AT LEAST ONE GROUP DIFFERENT
Miscellaneous			
TOTAL ORGANIC CARBON	KRUSKAL WALLIS ANOVA	0.0000	AT LEAST ONE GROUP DIFFERENT

	Mere Brook Spring	0.000101

Conclusion
Coffins Ice Pond in the Fall and Spring are Similar. Mere Brook in the Fall and Spring are Similar
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Coffins Ice Pond in the Fall and Spring are Similar. Mere Brook in the Fall and Spring are Similar
Coffins Ice Pond in the Fall and Spring are Similar. Mere Brook in the Fall and Spring are Similar

Table A.4.4.3
Sediment
Nonparametric Multiple Comparison Test Results
Naval Air Station, Brunswick, Maine

Parameter	P-Values for Nonparametric Multiple Comparisons					Conclusion
CHRYSENE		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall and Spring are Similar. Mere Brook in the Fall and Spring are Similar
	Coffins Ice Pond Fall		1.000000	0.005187	0.005187	
	Coffins Ice Pond Spring	1.000000		0.002886	0.002886	
	Mere Brook Fall	0.005187	0.002886		1.000000	
	Mere Brook Spring	0.005187	0.002886	1.000000		
DIBENZO(A,H)ANTHRACENE		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall and Spring are Similar. Mere Brook in the Fall and Spring are Similar
	Coffins Ice Pond Fall		1.000000	0.006576	0.000787	
	Coffins Ice Pond Spring	1.000000		0.016298	0.002244	
	Mere Brook Fall	0.006576	0.016298		1.000000	
	Mere Brook Spring	0.000787	0.002244	1.000000		
FLUORANTHENE		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall and Spring are Similar. Mere Brook in the Fall and Spring are Similar
	Coffins Ice Pond Fall		1.000000	0.007927	0.000454	
	Coffins Ice Pond Spring	1.000000		0.025030	0.001829	
	Mere Brook Fall	0.007927	0.025030		1.000000	
	Mere Brook Spring	0.000454	0.001829	1.000000		
FLUORENE		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall and Spring are Similar. Mere Brook in the Fall and Spring are Similar
	Coffins Ice Pond Fall		1.000000	0.136151	0.543555	
	Coffins Ice Pond Spring	1.000000		0.023002	0.126921	
	Mere Brook Fall	0.136151	0.023002		1.000000	
	Mere Brook Spring	0.543555	0.126921	1.000000		
INDENO(1,2,3-CD)PYRENE		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall and Spring are Similar. Mere Brook in the Fall and Spring are Similar
	Coffins Ice Pond Fall		1.000000	0.004712	0.008303	
	Coffins Ice Pond Spring	1.000000		0.001738	0.003187	
	Mere Brook Fall	0.004712	0.001738		1.000000	
	Mere Brook Spring	0.008303	0.003187	1.000000		
PHENANTHRENE		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall and Spring are Similar. Mere Brook in the Fall and Spring are Similar
	Coffins Ice Pond Fall		1.000000	0.016298	0.008695	
	Coffins Ice Pond Spring	1.000000		0.013665	0.007223	
	Mere Brook Fall	0.016298	0.013665		1.000000	
	Mere Brook Spring	0.008695	0.007223	1.000000		
PYRENE		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall and Spring are Similar. Mere Brook in the Fall and Spring are Similar
	Coffins Ice Pond Fall		1.000000	0.008303	0.020239	
	Coffins Ice Pond Spring	1.000000		0.000599	0.001738	
	Mere Brook Fall	0.008303	0.000599		1.000000	
	Mere Brook Spring	0.020239	0.001738	1.000000		
Pesticides/PCBs						
4,4'-DDD		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall and Spring are Similar. Mere Brook in the Fall and Spring are Similar
	Coffins Ice Pond Fall		1.000000	0.003518	0.003518	
	Coffins Ice Pond Spring	1.000000		0.004278	0.004278	
	Mere Brook Fall	0.003518	0.004278		1.000000	
	Mere Brook Spring	0.003518	0.004278	1.000000		
4,4'-DDE		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall and Spring are Similar. Mere Brook in the Fall and Spring are Similar
	Coffins Ice Pond Fall		1.000000	0.002483	0.001085	
	Coffins Ice Pond Spring	1.000000		0.012500	0.005984	
	Mere Brook Fall	0.002483	0.012500		1.000000	
	Mere Brook Spring	0.001085	0.005984	1.000000		

Table A.4.4.3
Sediment
Nonparametric Multiple Comparison Test Results
Naval Air Station, Brunswick, Maine

Parameter	P-Values for Nonparametric Multiple Comparisons					Conclusion
4,4'-DDT		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall and Spring are Similar. Mere Brook in the Fall and Spring are Similar
	Coffins Ice Pond Fall		1.000000	0.001412	0.001926	
	Coffins Ice Pond Spring	1.000000		0.068095	0.085284	
	Mere Brook Fall	0.001412	0.068095		1.000000	
	Mere Brook Spring	0.001926	0.085284	1.000000		
Inorganics						
ALUMINUM		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall and Spring are Similar. Mere Brook in the Fall and Spring are Similar
	Coffins Ice Pond Fall		1.000000	0.014284	0.002611	
	Coffins Ice Pond Spring	1.000000		0.005706	0.000925	
	Mere Brook Fall	0.014284	0.005706		1.000000	
	Mere Brook Spring	0.002611	0.000925	1.000000		
ARSENIC		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall and Spring are Similar. Mere Brook in the Fall and Spring are Similar
	Coffins Ice Pond Fall		1.000000	0.004075	0.004075	
	Coffins Ice Pond Spring	1.000000		0.003695	0.003695	
	Mere Brook Fall	0.004075	0.003695		1.000000	
	Mere Brook Spring	0.004075	0.003695	1.000000		
BARIUM		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall and Spring are Similar. Mere Brook in the Fall and Spring are Similar
	Coffins Ice Pond Fall		1.000000	0.005706	0.000925	
	Coffins Ice Pond Spring	1.000000		0.014284	0.002611	
	Mere Brook Fall	0.005706	0.014284		1.000000	
	Mere Brook Spring	0.000925	0.002611	1.000000		
BERYLLIUM		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall and Spring are Similar. Mere Brook in the Fall and Spring are Similar
	Coffins Ice Pond Fall		1.000000	0.012500	0.000128	
	Coffins Ice Pond Spring	1.000000		0.060714	0.001085	
	Mere Brook Fall	0.012500	0.060714		1.000000	
	Mere Brook Spring	0.000128	0.001085	1.000000		
CADMIUM		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall and Spring are Similar. Mere Brook in the Fall and Spring are Similar
	Coffins Ice Pond Fall		1.000000	0.007927	0.007223	
	Coffins Ice Pond Spring	1.000000		0.002027	0.001829	
	Mere Brook Fall	0.007927	0.002027		1.000000	
	Mere Brook Spring	0.007223	0.001829	1.000000		
CALCIUM		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall and Spring are Similar. Mere Brook in the Fall and Spring are Similar
	Coffins Ice Pond Fall		1.000000	0.009104	0.002360	
	Coffins Ice Pond Spring	1.000000		0.006274	0.001567	
	Mere Brook Fall	0.009104	0.006274		1.000000	
	Mere Brook Spring	0.002360	0.001567	1.000000		
CHROMIUM		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall and Spring are Similar. Mere Brook in the Fall and Spring are Similar
	Coffins Ice Pond Fall		1.000000	0.004944	0.005441	
	Coffins Ice Pond Spring	1.000000		0.005984	0.006576	
	Mere Brook Fall	0.004944	0.005984		1.000000	
	Mere Brook Spring	0.005441	0.006576	1.000000		
COBALT		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall and Spring are Similar. Mere Brook in the Fall and Spring are Similar
	Coffins Ice Pond Fall		1.000000	0.005706	0.002133	
	Coffins Ice Pond Spring	1.000000		0.006892	0.002611	
	Mere Brook Fall	0.005706	0.006892		1.000000	
	Mere Brook Spring	0.002133	0.002611	1.000000		

Table A.4.4.3
Sediment
Nonparametric Multiple Comparison Test Results
Naval Air Station, Brunswick, Maine

Parameter	P-Values for Nonparametric Multiple Comparisons					Conclusion
COPPER		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall and Spring are Similar. Mere Brook in the Fall and Spring are Similar
	Coffins Ice Pond Fall		1.000000	0.012500	0.003033	
	Coffins Ice Pond Spring	1.000000		0.004944	0.001085	
	Mere Brook Fall	0.012500	0.004944		1.000000	
	Mere Brook Spring	0.003033	0.001085	1.000000		
IRON		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall and Spring are Similar. Mere Brook in the Fall and Spring are Similar
	Coffins Ice Pond Fall		1.000000	0.018569	0.000273	
	Coffins Ice Pond Spring	1.000000		0.036311	0.000669	
	Mere Brook Fall	0.018569	0.036311		1.000000	
	Mere Brook Spring	0.000273	0.000669	1.000000		
LEAD		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall and Spring are Similar. Mere Brook in the Fall and Spring are Similar
	Coffins Ice Pond Fall		1.000000	0.025030	0.056198	
	Coffins Ice Pond Spring	1.000000		0.003033	0.007927	
	Mere Brook Fall	0.025030	0.003033		1.000000	
	Mere Brook Spring	0.056198	0.007927	1.000000		
MAGNESIUM		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall and Spring are Similar. Mere Brook in the Fall and Spring are Similar
	Coffins Ice Pond Fall		1.000000	0.017025	0.000306	
	Coffins Ice Pond Spring	1.000000		0.033468	0.000745	
	Mere Brook Fall	0.017025	0.033468		1.000000	
	Mere Brook Spring	0.000306	0.000745	1.000000		
MANGANESE		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall and Spring are Similar. Mere Brook in the Fall and Spring are Similar
	Coffins Ice Pond Fall		1.000000	0.011952	0.000831	
	Coffins Ice Pond Spring	1.000000		0.049985	0.004712	
	Mere Brook Fall	0.011952	0.049985		1.000000	
	Mere Brook Spring	0.000831	0.004712	1.000000		
NICKEL		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall and Spring are Similar. Mere Brook in the Fall and Spring are Similar
	Coffins Ice Pond Fall		1.000000	0.011952	0.001738	
	Coffins Ice Pond Spring	1.000000		0.008303	0.001144	
	Mere Brook Fall	0.011952	0.008303		1.000000	
	Mere Brook Spring	0.001738	0.001144	1.000000		
POTASSIUM		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall and Spring are Similar. Mere Brook in the Fall and Spring are Similar
	Coffins Ice Pond Fall		1.000000	0.009104	0.000172	
	Coffins Ice Pond Spring	1.000000		0.049985	0.001567	
	Mere Brook Fall	0.009104	0.049985		1.000000	
	Mere Brook Spring	0.000172	0.001567	1.000000		
SELENIUM		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Spring		Coffins Ice Pond in the Fall and Spring are Similar.
	Coffins Ice Pond Fall		0.915658	0.011875		
	Coffins Ice Pond Spring	0.915658		0.000281		
	Mere Brook Spring	0.011875	0.000281			
SODIUM		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall and Spring are Similar. Mere Brook in the Fall and Spring are Similar
	Coffins Ice Pond Fall		1.000000	0.005706	0.005706	
	Coffins Ice Pond Spring	1.000000		0.002611	0.002611	
	Mere Brook Fall	0.005706	0.002611		1.000000	
	Mere Brook Spring	0.005706	0.002611	1.000000		

Table A.4.4.3
Sediment
Nonparametric Multiple Comparison Test Results
Naval Air Station, Brunswick, Maine

Parameter	P-Values for Nonparametric Multiple Comparisons					Conclusion
		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	
VANADIUM	Coffins Ice Pond Fall		1.000000	0.017782	0.002483	Coffins Ice Pond in the Fall and Spring are Similar. Mere Brook in the Fall and Spring are Similar
	Coffins Ice Pond Spring	1.000000		0.005984	0.000706	
	Mere Brook Fall	0.017782	0.005984		1.000000	
	Mere Brook Spring	0.002483	0.000706	1.000000		
ZINC		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall and Spring are Similar. Mere Brook in the Fall and Spring are Similar
	Coffins Ice Pond Fall		1.000000	0.007567	0.001926	
	Coffins Ice Pond Spring	1.000000		0.007567	0.001926	
	Mere Brook Fall	0.007567	0.007567		1.000000	
	Mere Brook Spring	0.001926	0.001926	1.000000		
MISCELLANEOUS						
TOTAL ORGANIC CARBON		Coffins Ice Pond Fall	Coffins Ice Pond Spring	Mere Brook Fall	Mere Brook Spring	Coffins Ice Pond in the Fall and Spring are Similar. Mere Brook in the Fall and Spring are Similar
	Coffins Ice Pond Fall		1.000000	0.007223	0.013665	
	Coffins Ice Pond Spring	1.000000		0.000976	0.002027	
	Mere Brook Fall	0.007223	0.000976		1.000000	
	Mere Brook Spring	0.013665	0.002027	1.000000		

A.4.5 SEDIMENT UPPER PREDICTION LIMITS

APPENDIX A.4.5 UPPER PREDICTION LIMITS

For the evaluation of site data, either site-wide tests or individual comparison tests will be used to compare site concentrations to background concentrations. Site wide tests are used to compare an average/median site concentration to an average/median background concentration. Individual comparison tests are used to compare individual site data concentrations to a representative background concentration. Site wide comparisons are the preferred method of comparison. If site-wide comparisons cannot be used, then the alternative is to use individual comparison tests.

UPLs will be available for site comparison when a data set to data set comparison is not conducted. UPLs were established for each chemical in each subgroup. The UPL is based on the null hypothesis that individual site concentrations represent background concentrations. Concentrations from one site sample are compared to a threshold level that is statistically derived so as to represent an upper bound of the average background concentration. The 95 percent UPL was based on the t distribution if the data follow a normal distribution; otherwise, a nonparametric 95 percent UPL was estimated.

$$95\%\ \text{Normal UPL} = \bar{x} + t_{((1-\alpha),(n-1))} S \sqrt{1 + \frac{1}{n}}$$

$$95\%\ \text{Nonparametric UPL} = X_m,\ m = (n+1)(1-\alpha)$$

where,
$\bar{x}$ = average concentration
S = standard deviation
n = sample size
α = significance level, 0.05

The data subgroups were combined to calculate 95 percent UPLs based on the recommendations presented in Appendix A.4.4 (Tables A.4.4.2 through A.4.4.4). Table A.4.5.1 presents the 95 percent UPLs for sediment. A UPL was calculated only if there were at least three detected concentrations for a specific chemical.

TABLE A.4.5.1
Upper Prediction Limits
Sediment
Naval Air Station, Brunswick, Maine

Parameter	UPPER PREDICTION LIMITS							
	Coffins Ice Pond Fall		Coffins Ice Pond Spring		Mere Brook Fall		Mere Brook Spring	
	UPL	UPL TYPE	UPL	UPL TYPE	UPL	UPL TYPE	UPL	UPL TYPE
PAHs (ug/kg)								
2-METHYLNAPHTHALENE	57.1	Normal	57.1	Normal	60	Gamma WH	60	Gamma WH
ACENAPHTHENE	113	Gamma WH	113	Gamma WH	279	Gamma WH	292	Gamma WH
ACENAPHTHYLENE	442	Gamma WH	442	Gamma WH	30.4	Normal	30.4	Normal
ANTHRACENE	358	Gamma WH	358	Gamma WH	186	Lognormal	186	Lognormal
BENZO(A)ANTHRACENE	3660	Gamma WH	3660	Gamma WH	314	Normal	314	Normal
BENZO(A)PYRENE	5400	Gamma WH	5400	Gamma WH	316	Normal	316	Normal
BENZO(B)FLUORANTHENE	7480	Gamma WH	7480	Gamma WH	398	Normal	398	Normal
BENZO(G,H,I)PERYLENE	4480	Gamma WH	4480	Gamma WH	221	Normal	221	Normal
BENZO(K)FLUORANTHENE	5400	Gamma WH	5400	Gamma WH	218	Normal	218	Normal
CHRYSENE	6770	Gamma WH	6770	Gamma WH	365	Normal	365	Normal
DIBENZO(A,H)ANTHRACENE	1190	Normal	1190	Normal	69.5	Normal	69.5	Normal
FLUORANTHENE	10060	Gamma WH	10060	Gamma WH	1380	Gamma WH	1380	Gamma WH
FLUORENE	263	Gamma WH	263	Gamma WH	396	Lognormal	396	Lognormal
INDENO(1,2,3-CD)PYRENE	4360	Normal	4360	Normal	257	Normal	257	Normal
NAPHTHALENE	72.9	Gamma WH	72.9	Gamma WH	174	Gamma WH	174	Gamma WH
PHENANTHRENE	4650	Gamma WH	4650	Gamma WH	1210	Gamma WH	1210	Gamma WH
PYRENE	12030	Gamma WH	12030	Gamma WH	858	Normal	858	Normal
Pesticides/PCBs (ug/kg)								
4,4'-DDD	155	Normal	155	Normal	5.4	Normal	5.4	Normal
4,4'-DDE	47.9	Normal	47.9	Normal	2.5	Normal	2.5	Normal
4,4'-DDT	76.3	Gamma WH	76.3	Gamma WH	2.6	Normal	2.6	Normal
ALPHA-CHLORDANE	18.8	Normal	18.8	Normal	ND	ND	ND	ND
DELTA-BHC	4.5	Normal	4.5	Normal	ND	ND	ND	ND
GAMMA-CHLORDANE	NA	NA	NA	NA	ND	ND	1.4	Normal
Herbicides (ug/kg)								
MCPP	41471	Normal	ND	ND	ND	ND	ND	ND
Inorganics (mg/kg)								
ALUMINUM	23500	Normal	23500	Normal	5590	Normal	5590	Normal
ANTIMONY	0.94	Normal	ND	ND	NA	NA	NA	NA
ARSENIC	24.1	Normal	24.1	Normal	3.5	Normal	3.5	Normal
BARIUM	288	Normal	288	Normal	26.6	Normal	26.6	Normal
BERYLLIUM	2.2	Normal	2.2	Normal	0.36	Normal	0.36	Normal
CADMIUM	3.6	Normal	3.6	Normal	0.16	Normal	0.16	Normal
CALCIUM	8170	Normal	8170	Normal	1270	Gamma WH	1270	Gamma WH
CHROMIUM	76	Normal	76	Normal	46.7	Nonparametric	46.7	Nonparametric
COBALT	21.8	Normal	21.8	Normal	3.3	Gamma WH	3.3	Gamma WH
COPPER	65.4	Normal	65.4	Normal	5.4	Normal	5.4	Normal

TABLE A.4.5.1
Upper Prediction Limits
Sediment
Naval Air Station, Brunswick, Maine

Parameter	**UPPER PREDICTION LIMITS**							
	Coffins Ice Pond Fall		Coffins Ice Pond Spring		Mere Brook Fall		Mere Brook Spring	
	UPL	UPL TYPE	UPL	UPL TYPE	UPL	UPL TYPE	UPL	UPL TYPE
IRON	30200	Normal	30200	Normal	5620	Normal	5620	Normal
LEAD	222	Normal	222	Normal	201	Nonparametric	201	Nonparametric
MAGNESIUM	8440	Normal	8440	Normal	1530	Normal	1530	Normal
MANGANESE	705	Normal	705	Normal	205	Normal	205	Normal
MERCURY	0.24	Normal	0.24	Normal	ND	ND	ND	ND
NICKEL	55.1	Normal	55.1	Normal	6.5	Normal	6.5	Normal
POTASSIUM	4150	Normal	4150	Normal	511	Normal	511	Normal
SELENIUM	3.3	Normal	3.3	Normal	ND	ND	0.86	Gamma WH
SILVER	0.54	Nonparametric	0.54	Nonparametric	ND	ND	NA	NA
SODIUM	787	Gamma WH	787	Gamma WH	79.8	Normal	79.8	Normal
THALLIUM	2.3	Gamma WH	2.3	Gamma WH	ND	ND	NA	NA
VANADIUM	78.1	Normal	78.1	Normal	11.2	Normal	11.2	Normal
ZINC	404	Normal	404	Normal	35.5	Normal	35.5	Normal
Miscellaneous (mg/kg)								
TOTAL ORGANIC CARBON	259000	Gamma WH	259000	Gamma WH	31020	Gamma WH	31020	Gamma WH

UPLs were calculated using Pro UCL version 4.1.00.
Chemicals are listed only if there are enough detected samples in one sediment group to calculate a UPL.

ND = Non-Detect
NA = Not enough detected samples to calculate a meaningful UPL.
UPL = 95% Upper Prediction
WH = Wilson Hilferty

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Data Sets with Non-Detects								
2			User Selected Options									
3			From File	MereBrook.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	2-METHYLNAPHTHALENE											
12												
13						General Statistics						
14						Number of Valid Data	16			Number of Detected Data	7	
15						Number of Distinct Detected Data	6			Number of Non-Detect Data	9	
16						Tolerance Factor	2.033			Percent Non-Detects	56.25%	
17												
18						Raw Statistics				Log-transformed Statistics		
19						Minimum Detected	3			Minimum Detected	1.099	
20						Maximum Detected	90			Maximum Detected	4.5	
21						Mean of Detected	29			Mean of Detected	2.541	
22						SD of Detected	37.7			SD of Detected	1.387	
23						Minimum Non-Detect	3			Minimum Non-Detect	1.099	
24						Maximum Non-Detect	4			Maximum Non-Detect	1.386	
25												
26						Data with Multiple Detection Limits				Single Detection Limit Scenario		
27						Note: Data have multiple DLs - Use of KM Method is recommended				Number treated as Non-Detect with Single DL	10	
28						For all methods (except KM, DL/2, and ROS Methods),				Number treated as Detected with Single DL	6	
29						Observations < Largest ND are treated as NDs				Single DL Non-Detect Percentage	62.50%	
30												
31												
32						Warning: There are only 7 Detected Values in this data						
33						Note: It should be noted that even though bootstrap may be performed on this data set						
34						the resulting calculations may not be reliable enough to draw conclusions						
35												
36						It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.						
37												
38						Background Statistics						
39						Normal Distribution Test with Detected Values Only				Lognormal Distribution Test with Detected Values Only		
40						Shapiro Wilk Test Statistic	0.709			Shapiro Wilk Test Statistic	0.843	
41						5% Shapiro Wilk Critical Value	0.803			5% Shapiro Wilk Critical Value	0.803	
42						Data not Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level		
43												
44						Assuming Normal Distribution				Assuming Lognormal Distribution		
45						DL/2 Substitution Method				DL/2 Substitution Method		
46						Mean	13.56			Mean (Log Scale)	1.358	
47						SD	27.68			SD (Log Scale)	1.392	
48						95% UTL 90% Coverage	69.83			95% UTL 90% Coverage	65.8	
49						95% UPL (t)	63.58			95% UPL (t)	48.05	
50						90% Percentile (z)	49.03			90% Percentile (z)	23.13	
51						95% Percentile (z)	59.09			95% Percentile (z)	38.34	
52						99% Percentile (z)	77.95			99% Percentile (z)	98.97	

	A	B	C	D	E	F	G	H	I	J	K	L
53												
54					Maximum Likelihood Estimate(MLE) Method						Log ROS Method	
55					Mean	-16.32					Mean in Original Scale	12.89
56					SD	52.4					SD in Original Scale	28
57				95% UTL with	90% Coverage	90.22				95% UTL with	90% Coverage	201
58										95% BCA UTL with	90% Coverage	90
59									95% Bootstrap (%) UTL with		90% Coverage	90
60					95% UPL (t)	78.37					95% UPL (t)	114
61					90% Percentile (z)	50.84					90% Percentile (z)	30.46
62					95% Percentile (z)	69.88					95% Percentile (z)	75.85
63					99% Percentile (z)	105.6					99% Percentile (z)	419.9
64												
65			**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**			
66					k star (bias corrected)	0.511			Data follow Appr. Gamma Distribution at 5% Significance Level			
67					Theta Star	56.76						
68					nu star	7.152						
69												
70					A-D Test Statistic	0.761			**Nonparametric Statistics**			
71					5% A-D Critical Value	0.738					Kaplan-Meier (KM) Method	
72					K-S Test Statistic	0.312					Mean	14.38
73					5% K-S Critical Value	0.323					SD	26.44
74			Data follow Appx. Gamma Distribution at 5% Significance Level								SE of Mean	7.14
75										95% KM UTL with	90% Coverage	68.13
76			**Assuming Gamma Distribution**								95% KM Chebyshev UPL	133.2
77			Gamma ROS Statistics with Extrapolated Data								95% KM UPL (t)	62.16
78					Mean	12.69					90% Percentile (z)	48.26
79					Median	0.000001					95% Percentile (z)	57.87
80					SD	28.09					99% Percentile (z)	75.89
81					k star	0.114						
82					Theta star	110.9			**Gamma ROS Limits with Extrapolated Data**			
83					Nu star	3.66					95% Wilson Hilferty (WH) Approx. Gamma UPL	59.95
84					95% Percentile of Chisquare (2k)	1.313					95% Hawkins Wixley (HW) Approx. Gamma UPL	69.79
85										95% WH Approx. Gamma UTL with	90% Coverage	77.41
86					90% Percentile	35.45				95% HW Approx. Gamma UTL with	90% Coverage	97.28
87					95% Percentile	72.81						
88					99% Percentile	188.3						
89												
90	Note: DL/2 is not a recommended method.											
91												
92												
93	ACENAPHTHENE											
94												
95					**General Statistics**							
96					Number of Valid Data	16					Number of Detected Data	10
97					Number of Distinct Detected Data	10					Number of Non-Detect Data	6
98					Tolerance Factor	2.033					Percent Non-Detects	37.50%
99												
100			**Raw Statistics**						**Log-transformed Statistics**			
101					Minimum Detected	3					Minimum Detected	1.099
102					Maximum Detected	520					Maximum Detected	6.254
103					Mean of Detected	95.9					Mean of Detected	3.197
104					SD of Detected	165					SD of Detected	1.776

	A	B	C	D	E	F	G	H	I	J	K	L
105					Minimum Non-Detect	2					Minimum Non-Detect	0.693
106					Maximum Non-Detect	3					Maximum Non-Detect	1.099
107												
108	**Data with Multiple Detection Limits**						**Single Detection Limit Scenario**					
109	Note: Data have multiple DLs - Use of KM Method is recommended										Number treated as Non-Detect with Single DL	6
110	For all methods (except KM, DL/2, and ROS Methods),										Number treated as Detected with Single DL	10
111	Observations < Largest ND are treated as NDs										Single DL Non-Detect Percentage	37.50%
112												
113	**Background Statistics**											
114	**Normal Distribution Test with Detected Values Only**						**Lognormal Distribution Test with Detected Values Only**					
115					Shapiro Wilk Test Statistic	0.642					Shapiro Wilk Test Statistic	0.917
116					5% Shapiro Wilk Critical Value	0.842					5% Shapiro Wilk Critical Value	0.842
117	Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level					
118												
119	**Assuming Normal Distribution**						**Assuming Lognormal Distribution**					
120					DL/2 Substitution Method						DL/2 Substitution Method	
121					Mean	60.34					Mean (Log Scale)	2.023
122					SD	136.3					SD (Log Scale)	2.085
123					95% UTL 90% Coverage	337.5					95% UTL 90% Coverage	524.9
124					95% UPL (t)	306.7					95% UPL (t)	327.6
125					90% Percentile (z)	235.1					90% Percentile (z)	109.5
126					95% Percentile (z)	284.6					95% Percentile (z)	233.6
127					99% Percentile (z)	377.5					99% Percentile (z)	967.8
128												
129					Maximum Likelihood Estimate(MLE) Method						Log ROS Method	
130					Mean	7.559					Mean in Original Scale	60.07
131					SD	180.9					SD in Original Scale	136.5
132					95% UTL with 90% Coverage	375.3					95% UTL with 90% Coverage	1233
133											95% BCA UTL with 90% Coverage	520
134											95% Bootstrap (%) UTL with 90% Coverage	520
135					95% UPL (t)	334.4					95% UPL (t)	656.2
136					90% Percentile (z)	239.4					90% Percentile (z)	151.5
137					95% Percentile (z)	305.1					95% Percentile (z)	417.4
138					99% Percentile (z)	428.3					99% Percentile (z)	2794
139												
140	**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**					
141					k star (bias corrected)	0.395	Data appear Gamma Distributed at 5% Significance Level					
142					Theta Star	242.6						
143					nu star	7.906						
144												
145					A-D Test Statistic	0.717	**Nonparametric Statistics**					
146					5% A-D Critical Value	0.783					Kaplan-Meier (KM) Method	
147					K-S Test Statistic	0.267					Mean	61.06
148					5% K-S Critical Value	0.282					SD	131.7
149	Data appear Gamma Distributed at 5% Significance Level										SE of Mean	34.7
150											95% KM UTL with 90% Coverage	328.8
151	**Assuming Gamma Distribution**										95% KM Chebyshev UPL	652.7
152					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	299
153					Mean	59.94					90% Percentile (z)	229.8
154					Median	4.5					95% Percentile (z)	277.7
155					SD	136.5					99% Percentile (z)	367.4
156					k star	0.131						

	A	B	C	D	E	F	G	H	I	J	K	L
157					Theta star	456.7		Gamma ROS Limits with Extrapolated Data				
158					Nu star	4.199				95% Wilson Hilferty (WH) Approx. Gamma UPL		278.9
159				95% Percentile of Chisquare (2k)		1.479				95% Hawkins Wixley (HW) Approx. Gamma UPL		330.8
160										95% WH Approx. Gamma UTL with	90% Coverage	355.2
161					90% Percentile	173.6				95% HW Approx. Gamma UTL with	90% Coverage	450
162					95% Percentile	337.7						
163					99% Percentile	828.1						
164												
165	Note: DL/2 is not a recommended method.											
166												
167												
168	ACENAPHTHYLENE											
169												
170					General Statistics							
171					Number of Valid Data	16				Number of Detected Data		12
172					Number of Distinct Detected Data	11				Number of Non-Detect Data		4
173					Tolerance Factor	2.033				Percent Non-Detects		25.00%
174												
175				Raw Statistics						Log-transformed Statistics		
176					Minimum Detected	3				Minimum Detected		1.099
177					Maximum Detected	28				Maximum Detected		3.332
178					Mean of Detected	14.35				Mean of Detected		2.428
179					SD of Detected	8.961				SD of Detected		0.776
180					Minimum Non-Detect	2				Minimum Non-Detect		0.693
181					Maximum Non-Detect	2				Maximum Non-Detect		0.693
182												
183												
184					Background Statistics							
185				Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only		
186					Shapiro Wilk Test Statistic	0.923				Shapiro Wilk Test Statistic		0.913
187					5% Shapiro Wilk Critical Value	0.859				5% Shapiro Wilk Critical Value		0.859
188				Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
189												
190				Assuming Normal Distribution						Assuming Lognormal Distribution		
191					DL/2 Substitution Method					DL/2 Substitution Method		
192					Mean	11.02				Mean (Log Scale)		1.821
193					SD	9.724				SD (Log Scale)		1.273
194					95% UTL 90% Coverage	30.78				95% UTL 90% Coverage		82.24
195					95% UPL (t)	28.59				95% UPL (t)		61.67
196					90% Percentile (z)	23.48				90% Percentile (z)		31.59
197					95% Percentile (z)	27.01				95% Percentile (z)		50.17
198					99% Percentile (z)	33.64				99% Percentile (z)		119.5
199												
200					Maximum Likelihood Estimate(MLE) Method					Log ROS Method		
201					Mean	9.528				Mean in Original Scale		11.25
202					SD	11.54				SD in Original Scale		9.478
203					95% UTL with 90% Coverage	32.99				95% UTL with 90% Coverage		62.94
204										95% BCA UTL with 90% Coverage		27.5
205										95% Bootstrap (%) UTL with 90% Coverage		28
206					95% UPL (t)	30.39				95% UPL (t)		49.45
207					90% Percentile (z)	24.32				90% Percentile (z)		28.22
208					95% Percentile (z)	28.51				95% Percentile (z)		41.59

	A	B	C	D	E	F	G	H	I	J	K	L
209					99% Percentile (z)	36.38					99% Percentile (z)	86.09
210												
211				Gamma Distribution Test with Detected Values Only					Data Distribution Test with Detected Values Only			
212					k star (bias corrected)	1.759			Data appear Normal at 5% Significance Level			
213					Theta Star	8.158						
214					nu star	42.23						
215												
216					A-D Test Statistic	0.364			Nonparametric Statistics			
217					5% A-D Critical Value	0.741					Kaplan-Meier (KM) Method	
218					K-S Test Statistic	0.151					Mean	11.52
219					5% K-S Critical Value	0.248					SD	8.909
220				Data appear Gamma Distributed at 5% Significance Level							SE of Mean	2.326
221										95% KM UTL with	90% Coverage	29.63
222				Assuming Gamma Distribution							95% KM Chebyshev UPL	51.55
223					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	27.62
224					Mean	10.77					90% Percentile (z)	22.93
225					Median	8.75					95% Percentile (z)	26.17
226					SD	10					99% Percentile (z)	32.24
227					k star	0.193						
228					Theta star	55.92			Gamma ROS Limits with Extrapolated Data			
229					Nu star	6.161					95% Wilson Hilferty (WH) Approx. Gamma UPL	54.53
230					95% Percentile of Chisquare (2k)	2.004					95% Hawkins Wixley (HW) Approx. Gamma UPL	79.21
231											95% WH Approx. Gamma UTL with	90% Coverage 66.38
232					90% Percentile	32.54					95% HW Approx. Gamma UTL with	90% Coverage 102.3
233					95% Percentile	56.02						
234					99% Percentile	121						
235												
236	Note: DL/2 is not a recommended method.											
237												
238												
239	ANTHRACENE											
240												
241					General Statistics							
242					Number of Valid Data	16					Number of Detected Data	13
243					Number of Distinct Detected Data	11					Number of Non-Detect Data	3
244					Tolerance Factor	2.033					Percent Non-Detects	18.75%
245												
246				Raw Statistics					Log-transformed Statistics			
247					Minimum Detected	3					Minimum Detected	1.099
248					Maximum Detected	220					Maximum Detected	5.394
249					Mean of Detected	37.92					Mean of Detected	3
250					SD of Detected	56.86					SD of Detected	1.174
251					Minimum Non-Detect	2					Minimum Non-Detect	0.693
252					Maximum Non-Detect	2					Maximum Non-Detect	0.693
253												
254												
255					Background Statistics							
256				Normal Distribution Test with Detected Values Only					Lognormal Distribution Test with Detected Values Only			
257					Shapiro Wilk Test Statistic	0.545					Shapiro Wilk Test Statistic	0.903
258					5% Shapiro Wilk Critical Value	0.866					5% Shapiro Wilk Critical Value	0.866
259				Data not Normal at 5% Significance Level					Data appear Lognormal at 5% Significance Level			
260												

	A	B	C	D	E	F	G	H	I	J	K	L
261	**Assuming Normal Distribution**						**Assuming Lognormal Distribution**					
262					DL/2 Substitution Method						DL/2 Substitution Method	
263					Mean	31					Mean (Log Scale)	2.437
264					SD	52.99					SD (Log Scale)	1.601
265					95% UTL 90% Coverage	138.7					95% UTL 90% Coverage	296.6
266					95% UPL (t)	126.8					95% UPL (t)	206.6
267					90% Percentile (z)	98.91					90% Percentile (z)	89.05
268					95% Percentile (z)	118.2					95% Percentile (z)	159.3
269					99% Percentile (z)	154.3					99% Percentile (z)	474.4
270												
271				Maximum Likelihood Estimate(MLE) Method							Log ROS Method	
272					Mean	23.67					Mean in Original Scale	31.1
273					SD	59.13					SD in Original Scale	52.93
274				95% UTL with 90% Coverage		143.9					95% UTL with 90% Coverage	261.8
275											95% BCA UTL with 90% Coverage	141.5
276											95% Bootstrap (%) UTL with 90% Coverage	220
277					95% UPL (t)	130.5					95% UPL (t)	186.2
278					90% Percentile (z)	99.45					90% Percentile (z)	84.34
279					95% Percentile (z)	120.9					95% Percentile (z)	145.8
280					99% Percentile (z)	161.2					99% Percentile (z)	407.4
281												
282	**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**					
283					k star (bias corrected)	0.757	Data appear Lognormal at 5% Significance Level					
284					Theta Star	50.11						
285					nu star	19.68						
286												
287					A-D Test Statistic	0.851	**Nonparametric Statistics**					
288					5% A-D Critical Value	0.762					Kaplan-Meier (KM) Method	
289					K-S Test Statistic	0.29					Mean	31.38
290					5% K-S Critical Value	0.244					SD	51.1
291	Data not Gamma Distributed at 5% Significance Level										SE of Mean	13.3
292											95% KM UTL with 90% Coverage	135.3
293	**Assuming Gamma Distribution**										95% KM Chebyshev UPL	261
294				Gamma ROS Statistics with Extrapolated Data							95% KM UPL (t)	123.7
295					Mean	30.81					90% Percentile (z)	96.86
296					Median	21.5					95% Percentile (z)	115.4
297					SD	53.11					99% Percentile (z)	150.2
298					k star	0.208						
299					Theta star	148.1	**Gamma ROS Limits with Extrapolated Data**					
300					Nu star	6.657					95% Wilson Hilferty (WH) Approx. Gamma UPL	142.6
301					95% Percentile of Chisquare (2k)	2.122					95% Hawkins Wixley (HW) Approx. Gamma UPL	187.7
302											95% WH Approx. Gamma UTL with 90% Coverage	173.8
303					90% Percentile	93.19					95% HW Approx. Gamma UTL with 90% Coverage	241
304					95% Percentile	157.1						
305					99% Percentile	332						
306												
307	Note: DL/2 is not a recommended method.											
308												
309												
310	BENZO(A)ANTHRACENE											
311												
312	**General Statistics**											

	A	B	C	D	E	F	G	H	I	J	K	L
313					Number of Valid Data	16					Number of Detected Data	14
314					Number of Distinct Detected Data	13					Number of Non-Detect Data	2
315					Tolerance Factor	2.033					Percent Non-Detects	12.50%
316												
317				**Raw Statistics**						**Log-transformed Statistics**		
318					Minimum Detected	4					Minimum Detected	1.386
319					Maximum Detected	350					Maximum Detected	5.858
320					Mean of Detected	140.5					Mean of Detected	4.493
321					SD of Detected	96.66					SD of Detected	1.265
322					Minimum Non-Detect	3					Minimum Non-Detect	1.099
323					Maximum Non-Detect	4					Maximum Non-Detect	1.386
324												
325				**Data with Multiple Detection Limits**						**Single Detection Limit Scenario**		
326	Note: Data have multiple DLs - Use of KM Method is recommended										Number treated as Non-Detect with Single DL	2
327	For all methods (except KM, DL/2, and ROS Methods),										Number treated as Detected with Single DL	14
328	Observations < Largest ND are treated as NDs										Single DL Non-Detect Percentage	12.50%
329												
330					**Background Statistics**							
331				**Normal Distribution Test with Detected Values Only**						**Lognormal Distribution Test with Detected Values Only**		
332					Shapiro Wilk Test Statistic	0.94					Shapiro Wilk Test Statistic	0.823
333					5% Shapiro Wilk Critical Value	0.874					5% Shapiro Wilk Critical Value	0.874
334				**Data appear Normal at 5% Significance Level**						**Data not Lognormal at 5% Significance Level**		
335												
336				**Assuming Normal Distribution**						**Assuming Lognormal Distribution**		
337					DL/2 Substitution Method						DL/2 Substitution Method	
338					Mean	123.2					Mean (Log Scale)	4
339					SD	101.7					SD (Log Scale)	1.79
340					95% UTL 90% Coverage	329.9					95% UTL 90% Coverage	2080
341					95% UPL (t)	306.9					95% UPL (t)	1388
342					90% Percentile (z)	253.5					90% Percentile (z)	541.7
343					95% Percentile (z)	290.4					95% Percentile (z)	1038
344					99% Percentile (z)	359.8					99% Percentile (z)	3516
345												
346					Maximum Likelihood Estimate(MLE) Method						Log ROS Method	
347					Mean	116.3					Mean in Original Scale	123.8
348					SD	109.4					SD in Original Scale	100.9
349					95% UTL with 90% Coverage	338.8					95% UTL with 90% Coverage	1296
350											95% BCA UTL with 90% Coverage	350
351											95% Bootstrap (%) UTL with 90% Coverage	350
352					95% UPL (t)	314.1					95% UPL (t)	928.8
353					90% Percentile (z)	256.6					90% Percentile (z)	427.9
354					95% Percentile (z)	296.3					95% Percentile (z)	731.2
355					99% Percentile (z)	370.9					99% Percentile (z)	1998
356												
357				**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**		
358					k star (bias corrected)	1.027				Data appear Normal at 5% Significance Level		
359					Theta Star	136.8						
360					nu star	28.76						
361												
362					A-D Test Statistic	0.795				**Nonparametric Statistics**		
363					5% A-D Critical Value	0.755					Kaplan-Meier (KM) Method	
364					K-S Test Statistic	0.26					Mean	123.4

	A	B	C	D	E	F	G	H	I	J	K	L
365					5% K-S Critical Value	0.234					SD	98.13
366	Data not Gamma Distributed at 5% Significance Level										SE of Mean	25.46
367										95% KM UTL with	90% Coverage	322.9
368			Assuming Gamma Distribution								95% KM Chebyshev UPL	564.3
369				Gamma ROS Statistics with Extrapolated Data							95% KM UPL (t)	300.8
370					Mean	122.9					90% Percentile (z)	249.2
371					Median	145					95% Percentile (z)	284.8
372					SD	102					99% Percentile (z)	351.7
373					k star	0.26						
374					Theta star	472.1			Gamma ROS Limits with Extrapolated Data			
375					Nu star	8.333				95% Wilson Hilferty (WH) Approx. Gamma UPL		543.1
376					95% Percentile of Chisquare (2k)	2.49				95% Hawkins Wixley (HW) Approx. Gamma UPL		741.1
377										95% WH Approx. Gamma UTL with	90% Coverage	648.3
378					90% Percentile	367.9				95% HW Approx. Gamma UTL with	90% Coverage	927.8
379					95% Percentile	587.8						
380					99% Percentile	1170						
381												
382	Note: DL/2 is not a recommended method.											
383												
384												
385	BENZO(A)PYRENE											
386												
387					General Statistics							
388					Number of Valid Data	16					Number of Detected Data	14
389					Number of Distinct Detected Data	11					Number of Non-Detect Data	2
390					Tolerance Factor	2.033					Percent Non-Detects	12.50%
391												
392				Raw Statistics						Log-transformed Statistics		
393					Minimum Detected	5					Minimum Detected	1.609
394					Maximum Detected	290					Maximum Detected	5.67
395					Mean of Detected	144.3					Mean of Detected	4.575
396					SD of Detected	89.55					SD of Detected	1.185
397					Minimum Non-Detect	5					Minimum Non-Detect	1.609
398					Maximum Non-Detect	6					Maximum Non-Detect	1.792
399												
400				Data with Multiple Detection Limits						Single Detection Limit Scenario		
401				Note: Data have multiple DLs - Use of KM Method is recommended							Number treated as Non-Detect with Single DL	3
402				For all methods (except KM, DL/2, and ROS Methods),							Number treated as Detected with Single DL	13
403				Observations < Largest ND are treated as NDs							Single DL Non-Detect Percentage	18.75%
404												
405					Background Statistics							
406				Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only		
407					Shapiro Wilk Test Statistic	0.923					Shapiro Wilk Test Statistic	0.793
408					5% Shapiro Wilk Critical Value	0.874					5% Shapiro Wilk Critical Value	0.874
409				Data appear Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level		
410												
411				Assuming Normal Distribution						Assuming Lognormal Distribution		
412					DL/2 Substitution Method						DL/2 Substitution Method	
413					Mean	126.6					Mean (Log Scale)	4.129
414					SD	96.37					SD (Log Scale)	1.644
415					95% UTL	90% Coverage	322.6			95% UTL	90% Coverage	1757
416					95% UPL (t)	300.8					95% UPL (t)	1212

	A	B	C	D	E	F	G	H	I	J	K	L
417					90% Percentile (z)	250.1					90% Percentile (z)	510.7
418					95% Percentile (z)	285.1					95% Percentile (z)	928
419					99% Percentile (z)	350.8					99% Percentile (z)	2845
420												
421				Maximum Likelihood Estimate(MLE) Method							Log ROS Method	
422					Mean	116.2					Mean in Original Scale	127.5
423					SD	110.4					SD in Original Scale	95.19
424				95% UTL with	90% Coverage	340.7				95% UTL with	90% Coverage	1155
425										95% BCA UTL with	90% Coverage	275
426										95% Bootstrap (%) UTL with	90% Coverage	290
427					95% UPL (t)	315.8					95% UPL (t)	849
428					90% Percentile (z)	257.8					90% Percentile (z)	415.3
429					95% Percentile (z)	297.9					95% Percentile (z)	680.9
430					99% Percentile (z)	373.1					99% Percentile (z)	1721
431												
432			**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**			
433					k star (bias corrected)	1.149			Data appear Normal at 5% Significance Level			
434					Theta Star	125.6						
435					nu star	32.18						
436												
437					A-D Test Statistic	1.02			**Nonparametric Statistics**			
438					5% A-D Critical Value	0.752					Kaplan-Meier (KM) Method	
439					K-S Test Statistic	0.272					Mean	126.9
440					5% K-S Critical Value	0.233					SD	92.94
441			Data not Gamma Distributed at 5% Significance Level								SE of Mean	24.11
442										95% KM UTL with	90% Coverage	315.9
443			**Assuming Gamma Distribution**								95% KM Chebyshev UPL	544.5
444				Gamma ROS Statistics with Extrapolated Data							95% KM UPL (t)	294.9
445					Mean	126.3					90% Percentile (z)	246
446					Median	160					95% Percentile (z)	279.8
447					SD	96.85					99% Percentile (z)	343.1
448					k star	0.264						
449					Theta star	478.9			**Gamma ROS Limits with Extrapolated Data**			
450					Nu star	8.437					95% Wilson Hilferty (WH) Approx. Gamma UPL	551.5
451					95% Percentile of Chisquare (2k)	2.512					95% Hawkins Wixley (HW) Approx. Gamma UPL	758.1
452										95% WH Approx. Gamma UTL with	90% Coverage	656.6
453					90% Percentile	377.5				95% HW Approx. Gamma UTL with	90% Coverage	946.8
454					95% Percentile	601.5						
455					99% Percentile	1194						
456												
457	Note: DL/2 is not a recommended method.											
458												
459												
460	BENZO(B)FLUORANTHENE											
461												
462					**General Statistics**							
463					Number of Valid Data	16					Number of Detected Data	15
464					Number of Distinct Detected Data	13					Number of Non-Detect Data	1
465					Tolerance Factor	2.033					Percent Non-Detects	6.25%
466												
467			**Raw Statistics**						**Log-transformed Statistics**			
468					Minimum Detected	4					Minimum Detected	1.386

	A	B	C	D	E	F	G	H	I	J	K	L
469					Maximum Detected	420					Maximum Detected	6.04
470					Mean of Detected	175.5					Mean of Detected	4.603
471					SD of Detected	125.8					SD of Detected	1.442
472					Minimum Non-Detect	4					Minimum Non-Detect	1.386
473					Maximum Non-Detect	4					Maximum Non-Detect	1.386
474												
475												
476					**Background Statistics**							
477				**Normal Distribution Test with Detected Values Only**						**Lognormal Distribution Test with Detected Values Only**		
478					Shapiro Wilk Test Statistic	0.928					Shapiro Wilk Test Statistic	0.81
479					5% Shapiro Wilk Critical Value	0.881					5% Shapiro Wilk Critical Value	0.881
480					Data appear Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level	
481												
482					**Assuming Normal Distribution**						**Assuming Lognormal Distribution**	
483					DL/2 Substitution Method						DL/2 Substitution Method	
484					Mean	164.7					Mean (Log Scale)	4.359
485					SD	129					SD (Log Scale)	1.702
486					95% UTL 90% Coverage	426.9					95% UTL 90% Coverage	2485
487					95% UPL (t)	397.8					95% UPL (t)	1692
488					90% Percentile (z)	330					90% Percentile (z)	691.9
489					95% Percentile (z)	376.8					95% Percentile (z)	1284
490					99% Percentile (z)	464.8					99% Percentile (z)	4094
491												
492					Maximum Likelihood Estimate(MLE) Method						Log ROS Method	
493					Mean	160.8					Mean in Original Scale	164.8
494					SD	131.5					SD in Original Scale	128.8
495					95% UTL with 90% Coverage	428.1					95% UTL with 90% Coverage	2126
496											95% BCA UTL with 90% Coverage	360
497											95% Bootstrap (%) UTL with 90% Coverage	420
498					95% UPL (t)	398.4					95% UPL (t)	1480
499					90% Percentile (z)	329.3					90% Percentile (z)	637.9
500					95% Percentile (z)	377					95% Percentile (z)	1142
501					99% Percentile (z)	466.6					99% Percentile (z)	3401
502												
503				**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**		
504					k star (bias corrected)	0.86					Data appear Normal at 5% Significance Level	
505					Theta Star	204						
506					nu star	25.81						
507												
508					A-D Test Statistic	0.959					**Nonparametric Statistics**	
509					5% A-D Critical Value	0.763					Kaplan-Meier (KM) Method	
510					K-S Test Statistic	0.275					Mean	164.8
511					5% K-S Critical Value	0.228					SD	124.7
512					Data not Gamma Distributed at 5% Significance Level						SE of Mean	32.28
513											95% KM UTL with 90% Coverage	418.4
514					**Assuming Gamma Distribution**						95% KM Chebyshev UPL	725.3
515					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	390.2
516					Mean	164.5					90% Percentile (z)	324.6
517					Median	190					95% Percentile (z)	370
518					SD	129.2					99% Percentile (z)	455
519					k star	0.366						
520					Theta star	450					**Gamma ROS Limits with Extrapolated Data**	

	A	B	C	D	E	F	G	H	I	J	K	L
521					Nu star	11.7		95% Wilson Hilferty (WH) Approx. Gamma UPL				664.7
522				95% Percentile of Chisquare (2k)		3.133		95% Hawkins Wixley (HW) Approx. Gamma UPL				846.4
523								95% WH Approx. Gamma UTL with		90% Coverage		784.8
524					90% Percentile	471.9		95% HW Approx. Gamma UTL with		90% Coverage		1039
525					95% Percentile	705						
526					99% Percentile	1297						
527												
528	Note: DL/2 is not a recommended method.											
529												
530												
531	BENZO(G,H,I)PERYLENE											
532												
533					General Statistics							
534					Number of Valid Data	16				Number of Detected Data		14
535					Number of Distinct Detected Data	11				Number of Non-Detect Data		2
536					Tolerance Factor	2.033				Percent Non-Detects		12.50%
537												
538				Raw Statistics						Log-transformed Statistics		
539					Minimum Detected	4				Minimum Detected		1.386
540					Maximum Detected	210				Maximum Detected		5.347
541					Mean of Detected	104.9				Mean of Detected		4.288
542					SD of Detected	63.33				SD of Detected		1.13
543					Minimum Non-Detect	4				Minimum Non-Detect		1.386
544					Maximum Non-Detect	4				Maximum Non-Detect		1.386
545												
546												
547					Background Statistics							
548				Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only		
549					Shapiro Wilk Test Statistic	0.939				Shapiro Wilk Test Statistic		0.798
550					5% Shapiro Wilk Critical Value	0.874				5% Shapiro Wilk Critical Value		0.874
551				Data appear Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level		
552												
553				Assuming Normal Distribution						Assuming Lognormal Distribution		
554					DL/2 Substitution Method					DL/2 Substitution Method		
555					Mean	92				Mean (Log Scale)		3.838
556					SD	68.63				SD (Log Scale)		1.617
557					95% UTL 90% Coverage	231.5				95% UTL 90% Coverage		1244
558					95% UPL (t)	216				95% UPL (t)		863.1
559					90% Percentile (z)	180				90% Percentile (z)		369
560					95% Percentile (z)	204.9				95% Percentile (z)		664
561					99% Percentile (z)	251.7				99% Percentile (z)		1999
562												
563					Maximum Likelihood Estimate(MLE) Method					Log ROS Method		
564					Mean	87.63				Mean in Original Scale		92.68
565					SD	73.9				SD in Original Scale		67.7
566					95% UTL with 90% Coverage	237.9				95% UTL with 90% Coverage		793.8
567										95% BCA UTL with 90% Coverage		190
568										95% Bootstrap (%) UTL with 90% Coverage		210
569					95% UPL (t)	221.2				95% UPL (t)		589.5
570					90% Percentile (z)	182.3				90% Percentile (z)		295.1
571					95% Percentile (z)	209.2				95% Percentile (z)		476.1
572					99% Percentile (z)	259.6				99% Percentile (z)		1168

	A	B	C	D	E	F	G	H	I	J	K	L
573												
574				Gamma Distribution Test with Detected Values Only					Data Distribution Test with Detected Values Only			
575					k star (bias corrected)	1.238			Data appear Normal at 5% Significance Level			
576					Theta Star	84.68						
577					nu star	34.67						
578												
579					A-D Test Statistic	0.908			Nonparametric Statistics			
580					5% A-D Critical Value	0.751					Kaplan-Meier (KM) Method	
581					K-S Test Statistic	0.242					Mean	92.25
582					5% K-S Critical Value	0.233					SD	66.12
583				Data not Gamma Distributed at 5% Significance Level							SE of Mean	17.15
584										95% KM UTL with	90% Coverage	226.7
585				Assuming Gamma Distribution							95% KM Chebyshev UPL	389.3
586					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	211.7
587					Mean	91.75					90% Percentile (z)	177
588					Median	110					95% Percentile (z)	201
589					SD	68.99					99% Percentile (z)	246.1
590					k star	0.269						
591					Theta star	341.2			Gamma ROS Limits with Extrapolated Data			
592					Nu star	8.604					95% Wilson Hilferty (WH) Approx. Gamma UPL	397.1
593					95% Percentile of Chisquare (2k)	2.546					95% Hawkins Wixley (HW) Approx. Gamma UPL	547.5
594											95% WH Approx. Gamma UTL with 90% Coverage	472
595					90% Percentile	273.8					95% HW Approx. Gamma UTL with 90% Coverage	682.6
596					95% Percentile	434.4						
597					99% Percentile	857.9						
598												
599	Note: DL/2 is not a recommended method.											
600												
601												
602	BENZO(K)FLUORANTHENE											
603												
604					General Statistics							
605					Number of Valid Data	16					Number of Detected Data	13
606					Number of Distinct Detected Data	11					Number of Non-Detect Data	3
607					Tolerance Factor	2.033					Percent Non-Detects	18.75%
608												
609				Raw Statistics					Log-transformed Statistics			
610					Minimum Detected	11					Minimum Detected	2.398
611					Maximum Detected	220					Maximum Detected	5.394
612					Mean of Detected	107.2					Mean of Detected	4.443
613					SD of Detected	57.98					SD of Detected	0.842
614					Minimum Non-Detect	4					Minimum Non-Detect	1.386
615					Maximum Non-Detect	6					Maximum Non-Detect	1.792
616												
617				Data with Multiple Detection Limits					Single Detection Limit Scenario			
618	Note: Data have multiple DLs - Use of KM Method is recommended										Number treated as Non-Detect with Single DL	3
619	For all methods (except KM, DL/2, and ROS Methods),										Number treated as Detected with Single DL	13
620	Observations < Largest ND are treated as NDs										Single DL Non-Detect Percentage	18.75%
621												
622					Background Statistics							
623				Normal Distribution Test with Detected Values Only					Lognormal Distribution Test with Detected Values Only			
624					Shapiro Wilk Test Statistic	0.955					Shapiro Wilk Test Statistic	0.832

	A	B	C	D	E	F	G	H	I	J	K	L
625					5% Shapiro Wilk Critical Value	0.866					5% Shapiro Wilk Critical Value	0.866
626			Data appear Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level			
627												
628			Assuming Normal Distribution						Assuming Lognormal Distribution			
629					DL/2 Substitution Method						DL/2 Substitution Method	
630					Mean	87.53					Mean (Log Scale)	3.779
631					SD	66.85					SD (Log Scale)	1.615
632					95% UTL 90% Coverage	223.4					95% UTL 90% Coverage	1168
633					95% UPL (t)	208.3					95% UPL (t)	810.6
634					90% Percentile (z)	173.2					90% Percentile (z)	346.9
635					95% Percentile (z)	197.5					95% Percentile (z)	623.8
636					99% Percentile (z)	243					99% Percentile (z)	1876
637												
638					Maximum Likelihood Estimate(MLE) Method						Log ROS Method	
639					Mean	80.65					Mean in Original Scale	89.96
640					SD	76.05					SD in Original Scale	63.68
641					95% UTL with 90% Coverage	235.3					95% UTL with 90% Coverage	490.7
642											95% BCA UTL with 90% Coverage	185
643											95% Bootstrap (%) UTL with 90% Coverage	220
644					95% UPL (t)	218.1					95% UPL (t)	389.7
645					90% Percentile (z)	178.1					90% Percentile (z)	228.1
646					95% Percentile (z)	205.7					95% Percentile (z)	330.3
647					99% Percentile (z)	257.6					99% Percentile (z)	661.7
648												
649			Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only			
650					k star (bias corrected)	1.83			Data appear Normal at 5% Significance Level			
651					Theta Star	58.54						
652					nu star	47.59						
653												
654					A-D Test Statistic	0.711			Nonparametric Statistics			
655					5% A-D Critical Value	0.742					Kaplan-Meier (KM) Method	
656					K-S Test Statistic	0.218					Mean	89.13
657					5% K-S Critical Value	0.239					SD	62.69
658			Data appear Gamma Distributed at 5% Significance Level								SE of Mean	16.31
659											95% KM UTL with 90% Coverage	216.6
660			Assuming Gamma Distribution								95% KM Chebyshev UPL	370.8
661					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	202.4
662					Mean	87.06					90% Percentile (z)	169.5
663					Median	101					95% Percentile (z)	192.2
664					SD	67.49					99% Percentile (z)	235
665					k star	0.214						
666					Theta star	407.6			Gamma ROS Limits with Extrapolated Data			
667					Nu star	6.835			95% Wilson Hilferty (WH) Approx. Gamma UPL			408.6
668					95% Percentile of Chisquare (2k)	2.163			95% Hawkins Wixley (HW) Approx. Gamma UPL			592.6
669									95% WH Approx. Gamma UTL with 90% Coverage			490.6
670					90% Percentile	263.2			95% HW Approx. Gamma UTL with 90% Coverage			751.6
671					95% Percentile	440.8						
672					99% Percentile	924.7						
673												
674	Note: DL/2 is not a recommended method.											
675												
676												

	A	B	C	D	E	F	G	H	I	J	K	L
677	CHRYSENE											
678												
679						General Statistics						
680					Number of Valid Data	16					Number of Detected Data	15
681					Number of Distinct Detected Data	14					Number of Non-Detect Data	1
682					Tolerance Factor	2.033					Percent Non-Detects	6.25%
683												
684					Raw Statistics						Log-transformed Statistics	
685					Minimum Detected	4					Minimum Detected	1.386
686					Maximum Detected	350					Maximum Detected	5.858
687					Mean of Detected	162.8					Mean of Detected	4.533
688					SD of Detected	114					SD of Detected	1.439
689					Minimum Non-Detect	3					Minimum Non-Detect	1.099
690					Maximum Non-Detect	3					Maximum Non-Detect	1.099
691												
692												
693						Background Statistics						
694					Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only	
695					Shapiro Wilk Test Statistic	0.92					Shapiro Wilk Test Statistic	0.799
696					5% Shapiro Wilk Critical Value	0.881					5% Shapiro Wilk Critical Value	0.881
697					Data appear Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level	
698												
699					Assuming Normal Distribution						Assuming Lognormal Distribution	
700					DL/2 Substitution Method						DL/2 Substitution Method	
701					Mean	152.7					Mean (Log Scale)	4.275
702					SD	117.3					SD (Log Scale)	1.731
703					95% UTL 90% Coverage	391.2					95% UTL 90% Coverage	2428
704					95% UPL (t)	364.7					95% UPL (t)	1642
705					90% Percentile (z)	303					90% Percentile (z)	661.1
706					95% Percentile (z)	345.6					95% Percentile (z)	1240
707					99% Percentile (z)	425.6					99% Percentile (z)	4035
708												
709					Maximum Likelihood Estimate(MLE) Method						Log ROS Method	
710					Mean	149.2					Mean in Original Scale	152.8
711					SD	119.6					SD in Original Scale	117.1
712					95% UTL with 90% Coverage	392.4					95% UTL with 90% Coverage	1966
713											95% BCA UTL with 90% Coverage	335
714											95% Bootstrap (%) UTL with 90% Coverage	350
715					95% UPL (t)	365.3					95% UPL (t)	1370
716					90% Percentile (z)	302.5					90% Percentile (z)	591.9
717					95% Percentile (z)	345.9					95% Percentile (z)	1057
718					99% Percentile (z)	427.5					99% Percentile (z)	3141
719												
720					Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only	
721					k star (bias corrected)	0.867					Data appear Normal at 5% Significance Level	
722					Theta Star	187.6						
723					nu star	26.02						
724												
725					A-D Test Statistic	1.008					Nonparametric Statistics	
726					5% A-D Critical Value	0.762					Kaplan-Meier (KM) Method	
727					K-S Test Statistic	0.247					Mean	152.8
728					5% K-S Critical Value	0.228					SD	113.4

	A	B	C	D	E	F	G	H	I	J	K	L
729	Data not Gamma Distributed at 5% Significance Level										SE of Mean	29.34
730										95% KM UTL with	90% Coverage	383.3
731			Assuming Gamma Distribution								95% KM Chebyshev UPL	662.3
732				Gamma ROS Statistics with Extrapolated Data							95% KM UPL (t)	357.7
733					Mean	152.6					90% Percentile (z)	298.1
734					Median	185					95% Percentile (z)	339.3
735					SD	117.4					99% Percentile (z)	416.6
736					k star	0.367						
737					Theta star	415.5			Gamma ROS Limits with Extrapolated Data			
738					Nu star	11.75				95% Wilson Hilferty (WH) Approx. Gamma UPL		615.8
739					95% Percentile of Chisquare (2k)	3.143				95% Hawkins Wixley (HW) Approx. Gamma UPL		785.1
740										95% WH Approx. Gamma UTL with	90% Coverage	726.8
741					90% Percentile	437.3				95% HW Approx. Gamma UTL with	90% Coverage	963.5
742					95% Percentile	652.8						
743					99% Percentile	1200						
744												
745	Note: DL/2 is not a recommended method.											
746												
747												
748	DIBENZO(A,H)ANTHRACENE											
749												
750					General Statistics							
751					Number of Valid Data	16					Number of Detected Data	13
752					Number of Distinct Detected Data	12					Number of Non-Detect Data	3
753					Tolerance Factor	2.033					Percent Non-Detects	18.75%
754												
755			Raw Statistics						Log-transformed Statistics			
756					Minimum Detected	4					Minimum Detected	1.386
757					Maximum Detected	62					Maximum Detected	4.127
758					Mean of Detected	35.58					Mean of Detected	3.378
759					SD of Detected	17.29					SD of Detected	0.773
760					Minimum Non-Detect	2					Minimum Non-Detect	0.693
761					Maximum Non-Detect	3					Maximum Non-Detect	1.099
762												
763			Data with Multiple Detection Limits						Single Detection Limit Scenario			
764			Note: Data have multiple DLs - Use of KM Method is recommended								Number treated as Non-Detect with Single DL	3
765			For all methods (except KM, DL/2, and ROS Methods),								Number treated as Detected with Single DL	13
766			Observations < Largest ND are treated as NDs								Single DL Non-Detect Percentage	18.75%
767												
768					Background Statistics							
769			Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only			
770					Shapiro Wilk Test Statistic	0.952					Shapiro Wilk Test Statistic	0.81
771					5% Shapiro Wilk Critical Value	0.866					5% Shapiro Wilk Critical Value	0.866
772			Data appear Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level			
773												
774			Assuming Normal Distribution						Assuming Lognormal Distribution			
775					DL/2 Substitution Method						DL/2 Substitution Method	
776					Mean	29.16					Mean (Log Scale)	2.795
777					SD	20.73					SD (Log Scale)	1.433
778					95% UTL 90% Coverage	71.3					95% UTL 90% Coverage	301.6
779					95% UPL (t)	66.62					95% UPL (t)	218.2
780					90% Percentile (z)	55.72					90% Percentile (z)	102.7

	A	B	C	D	E	F	G	H	I	J	K	L
781					95% Percentile (z)	63.26					95% Percentile (z)	172.9
782					99% Percentile (z)	77.38					99% Percentile (z)	459.3
783												
784				Maximum Likelihood Estimate(MLE) Method							Log ROS Method	
785					Mean	27.19					Mean in Original Scale	30.09
786					SD	23.44					SD in Original Scale	19.46
787				95% UTL with	90% Coverage	74.83				95% UTL with	90% Coverage	146.3
788										95% BCA UTL with	90% Coverage	58.5
789										95% Bootstrap (%) UTL with	90% Coverage	62
790					95% UPL (t)	69.54					95% UPL (t)	118.4
791					90% Percentile (z)	57.22					90% Percentile (z)	72.53
792					95% Percentile (z)	65.74					95% Percentile (z)	101.8
793					99% Percentile (z)	81.71					99% Percentile (z)	192.3
794												
795			**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**			
796					k star (bias corrected)	2.157			Data appear Normal at 5% Significance Level			
797					Theta Star	16.49						
798					nu star	56.08						
799												
800					A-D Test Statistic	0.75			**Nonparametric Statistics**			
801					5% A-D Critical Value	0.74					Kaplan-Meier (KM) Method	
802					K-S Test Statistic	0.262					Mean	29.66
803					5% K-S Critical Value	0.239					SD	19.39
804			Data not Gamma Distributed at 5% Significance Level								SE of Mean	5.047
805										95% KM UTL with	90% Coverage	69.09
806			**Assuming Gamma Distribution**								95% KM Chebyshev UPL	116.8
807				Gamma ROS Statistics with Extrapolated Data							95% KM UPL (t)	64.7
808					Mean	28.91					90% Percentile (z)	54.51
809					Median	36					95% Percentile (z)	61.56
810					SD	21.09					99% Percentile (z)	74.77
811					k star	0.225						
812					Theta star	128.7			**Gamma ROS Limits with Extrapolated Data**			
813					Nu star	7.185					95% Wilson Hilferty (WH) Approx. Gamma UPL	134.8
814					95% Percentile of Chisquare (2k)	2.242					95% Hawkins Wixley (HW) Approx. Gamma UPL	196.4
815											95% WH Approx. Gamma UTL with 90% Coverage	161.6
816					90% Percentile	87.27					95% HW Approx. Gamma UTL with 90% Coverage	248.5
817					95% Percentile	144.3						
818					99% Percentile	298.7						
819												
820	Note: DL/2 is not a recommended method.											
821												
822												
823	FLUORANTHENE											
824												
825					**General Statistics**							
826					Number of Valid Data	16					Number of Detected Data	15
827					Number of Distinct Detected Data	14					Number of Non-Detect Data	1
828					Tolerance Factor	2.033					Percent Non-Detects	6.25%
829												
830			**Raw Statistics**						**Log-transformed Statistics**			
831					Minimum Detected	9					Minimum Detected	2.197
832					Maximum Detected	1400					Maximum Detected	7.244

	A	B	C	D	E	F	G	H	I	J	K	L
833					Mean of Detected	358.5					Mean of Detected	5.221
834					SD of Detected	350.8					SD of Detected	1.496
835					Minimum Non-Detect	3					Minimum Non-Detect	1.099
836					Maximum Non-Detect	3					Maximum Non-Detect	1.099
837												
838												
839					Background Statistics							
840			Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only			
841					Shapiro Wilk Test Statistic	0.814					Shapiro Wilk Test Statistic	0.871
842					5% Shapiro Wilk Critical Value	0.881					5% Shapiro Wilk Critical Value	0.881
843			Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level			
844												
845			Assuming Normal Distribution						Assuming Lognormal Distribution			
846					DL/2 Substitution Method						DL/2 Substitution Method	
847					Mean	336.2					Mean (Log Scale)	4.92
848					SD	350.5					SD (Log Scale)	1.881
849					95% UTL 90% Coverage	1049					95% UTL 90% Coverage	6269
850					95% UPL (t)	969.5					95% UPL (t)	4098
851					90% Percentile (z)	785.3					90% Percentile (z)	1525
852					95% Percentile (z)	912.7					95% Percentile (z)	3021
853					99% Percentile (z)	1152					99% Percentile (z)	10885
854												
855					Maximum Likelihood Estimate(MLE) Method						Log ROS Method	
856					Mean	324.1					Mean in Original Scale	336.5
857					SD	356.5					SD in Original Scale	350.2
858					95% UTL with 90% Coverage	1049					95% UTL with 90% Coverage	4543
859											95% BCA UTL with 90% Coverage	990
860											95% Bootstrap (%) UTL with 90% Coverage	1400
861					95% UPL (t)	968.3					95% UPL (t)	3108
862					90% Percentile (z)	781					90% Percentile (z)	1286
863					95% Percentile (z)	910.5					95% Percentile (z)	2367
864					99% Percentile (z)	1153					99% Percentile (z)	7436
865												
866			Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only			
867					k star (bias corrected)	0.753			Data appear Gamma Distributed at 5% Significance Level			
868					Theta Star	476.1						
869					nu star	22.59						
870												
871					A-D Test Statistic	0.447			Nonparametric Statistics			
872					5% A-D Critical Value	0.769					Kaplan-Meier (KM) Method	
873					K-S Test Statistic	0.156					Mean	336.7
874					5% K-S Critical Value	0.229					SD	338.9
875			Data appear Gamma Distributed at 5% Significance Level								SE of Mean	87.7
876											95% KM UTL with 90% Coverage	1026
877			Assuming Gamma Distribution								95% KM Chebyshev UPL	1859
878					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	949
879					Mean	336.1					90% Percentile (z)	771
880					Median	295					95% Percentile (z)	894.1
881					SD	350.6					99% Percentile (z)	1125
882					k star	0.344						
883					Theta star	975.9			Gamma ROS Limits with Extrapolated Data			
884					Nu star	11.02					95% Wilson Hilferty (WH) Approx. Gamma UPL	1382

	A	B	C	D	E	F	G	H	I	J	K	L
885					95% Percentile of Chisquare (2k)	3.011			95% Hawkins Wixley (HW) Approx. Gamma UPL			1725
886									95% WH Approx. Gamma UTL with		90% Coverage	1640
887					90% Percentile	972.9			95% HW Approx. Gamma UTL with		90% Coverage	2128
888					95% Percentile	1469						
889					99% Percentile	2739						
890												
891	Note: DL/2 is not a recommended method.											
892												
893												
894	FLUORENE											
895												
896					General Statistics							
897					Number of Valid Data	16				Number of Detected Data		11
898					Number of Distinct Detected Data	10				Number of Non-Detect Data		5
899					Tolerance Factor	2.033				Percent Non-Detects		31.25%
900												
901					Raw Statistics					Log-transformed Statistics		
902					Minimum Detected	7				Minimum Detected		1.946
903					Maximum Detected	590				Maximum Detected		6.38
904					Mean of Detected	92.82				Mean of Detected		3.522
905					SD of Detected	172.5				SD of Detected		1.341
906					Minimum Non-Detect	4				Minimum Non-Detect		1.386
907					Maximum Non-Detect	6				Maximum Non-Detect		1.792
908												
909					Data with Multiple Detection Limits					Single Detection Limit Scenario		
910	Note: Data have multiple DLs - Use of KM Method is recommended									Number treated as Non-Detect with Single DL		5
911	For all methods (except KM, DL/2, and ROS Methods),									Number treated as Detected with Single DL		11
912	Observations < Largest ND are treated as NDs									Single DL Non-Detect Percentage		31.25%
913												
914					Background Statistics							
915					Normal Distribution Test with Detected Values Only					Lognormal Distribution Test with Detected Values Only		
916					Shapiro Wilk Test Statistic	0.547				Shapiro Wilk Test Statistic		0.873
917					5% Shapiro Wilk Critical Value	0.85				5% Shapiro Wilk Critical Value		0.85
918					Data not Normal at 5% Significance Level					Data appear Lognormal at 5% Significance Level		
919												
920					Assuming Normal Distribution					Assuming Lognormal Distribution		
921					DL/2 Substitution Method					DL/2 Substitution Method		
922					Mean	64.53				Mean (Log Scale)		2.677
923					SD	147.4				SD (Log Scale)		1.698
924				95% UTL	90% Coverage	364.2			95% UTL	90% Coverage		459.1
925					95% UPL (t)	330.9				95% UPL (t)		312.8
926					90% Percentile (z)	253.4				90% Percentile (z)		128.2
927					95% Percentile (z)	307				95% Percentile (z)		237.5
928					99% Percentile (z)	407.4				99% Percentile (z)		755.4
929												
930					Maximum Likelihood Estimate(MLE) Method					Log ROS Method		
931					Mean	22.02				Mean in Original Scale		64.27
932					SD	182.2				SD in Original Scale		147.5
933				95% UTL with	90% Coverage	392.5			95% UTL with	90% Coverage		611.4
934									95% BCA UTL with	90% Coverage		375
935									95% Bootstrap (%) UTL with	90% Coverage		590
936					95% UPL (t)	351.3				95% UPL (t)		395.9

	A	B	C	D	E	F	G	H	I	J	K	L
937					90% Percentile (z)	255.6					90% Percentile (z)	144.1
938					95% Percentile (z)	321.8					95% Percentile (z)	289.8
939					99% Percentile (z)	446					99% Percentile (z)	1075
940												
941			Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only			
942					k star (bias corrected)	0.505			Data appear Lognormal at 5% Significance Level			
943					Theta Star	183.8						
944					nu star	11.11						
945												
946					A-D Test Statistic	1.17			Nonparametric Statistics			
947					5% A-D Critical Value	0.773					Kaplan-Meier (KM) Method	
948					K-S Test Statistic	0.309					Mean	66
949					5% K-S Critical Value	0.267					SD	142.1
950			Data not Gamma Distributed at 5% Significance Level								SE of Mean	37.26
951										95% KM UTL with	90% Coverage	354.9
952			Assuming Gamma Distribution								95% KM Chebyshev UPL	704.4
953					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	322.8
954					Mean	63.81					90% Percentile (z)	248.1
955					Median	15.5					95% Percentile (z)	299.7
956					SD	147.7					99% Percentile (z)	396.6
957					k star	0.147						
958					Theta star	434.1			Gamma ROS Limits with Extrapolated Data			
959					Nu star	4.704					95% Wilson Hilferty (WH) Approx. Gamma UPL	298.7
960					95% Percentile of Chisquare (2k)	1.625					95% Hawkins Wixley (HW) Approx. Gamma UPL	371.8
961										95% WH Approx. Gamma UTL with	90% Coverage	375.1
962					90% Percentile	188.7				95% HW Approx. Gamma UTL with	90% Coverage	496.2
963					95% Percentile	352.6						
964					99% Percentile	830.2						
965												
966	Note: DL/2 is not a recommended method.											
967												
968												
969	INDENO(1,2,3-CD)PYRENE											
970												
971					General Statistics							
972					Number of Valid Data	16					Number of Detected Data	14
973					Number of Distinct Detected Data	13					Number of Non-Detect Data	2
974					Tolerance Factor	2.033					Percent Non-Detects	12.50%
975												
976					Raw Statistics				Log-transformed Statistics			
977					Minimum Detected	4					Minimum Detected	1.386
978					Maximum Detected	250					Maximum Detected	5.521
979					Mean of Detected	120					Mean of Detected	4.403
980					SD of Detected	74.59					SD of Detected	1.166
981					Minimum Non-Detect	3					Minimum Non-Detect	1.099
982					Maximum Non-Detect	3					Maximum Non-Detect	1.099
983												
984												
985					Background Statistics							
986			Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only			
987					Shapiro Wilk Test Statistic	0.95					Shapiro Wilk Test Statistic	0.803
988					5% Shapiro Wilk Critical Value	0.874					5% Shapiro Wilk Critical Value	0.874

	A	B	C	D	E	F	G	H	I	J	K	L
989	Data appear Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level					
990												
991	Assuming Normal Distribution						Assuming Lognormal Distribution					
992					DL/2 Substitution Method						DL/2 Substitution Method	
993					Mean	105.2					Mean (Log Scale)	3.903
994					SD	80.38					SD (Log Scale)	1.744
995				95% UTL	90% Coverage	268.6				95% UTL	90% Coverage	1719
996					95% UPL (t)	250.5					95% UPL (t)	1159
997					90% Percentile (z)	208.2					90% Percentile (z)	463.5
998					95% Percentile (z)	237.4					95% Percentile (z)	873.6
999					99% Percentile (z)	292.2					99% Percentile (z)	2868
1000												
1001					Maximum Likelihood Estimate(MLE) Method						Log ROS Method	
1002					Mean	99.96					Mean in Original Scale	106
1003					SD	86.69					SD in Original Scale	79.33
1004				95% UTL with	90% Coverage	276.2				95% UTL with	90% Coverage	963.1
1005										95% BCA UTL with	90% Coverage	225
1006										95% Bootstrap (%) UTL with	90% Coverage	250
1007					95% UPL (t)	256.6					95% UPL (t)	708.2
1008					90% Percentile (z)	211.1					90% Percentile (z)	346.5
1009					95% Percentile (z)	242.6					95% Percentile (z)	568
1010					99% Percentile (z)	301.6					99% Percentile (z)	1435
1011												
1012	Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only					
1013					k star (bias corrected)	1.182	Data appear Normal at 5% Significance Level					
1014					Theta Star	101.6						
1015					nu star	33.1						
1016												
1017					A-D Test Statistic	0.846	Nonparametric Statistics					
1018					5% A-D Critical Value	0.752				Kaplan-Meier (KM) Method		
1019					K-S Test Statistic	0.249					Mean	105.5
1020					5% K-S Critical Value	0.233					SD	77.41
1021	Data not Gamma Distributed at 5% Significance Level										SE of Mean	20.08
1022										95% KM UTL with	90% Coverage	262.9
1023	Assuming Gamma Distribution										95% KM Chebyshev UPL	453.4
1024					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	245.4
1025					Mean	105					90% Percentile (z)	204.7
1026					Median	120					95% Percentile (z)	232.9
1027					SD	80.64					99% Percentile (z)	285.6
1028					k star	0.266						
1029					Theta star	394.5	Gamma ROS Limits with Extrapolated Data					
1030					Nu star	8.519				95% Wilson Hilferty (WH) Approx. Gamma UPL		456.8
1031					95% Percentile of Chisquare (2k)	2.529				95% Hawkins Wixley (HW) Approx. Gamma UPL		628.5
1032										95% WH Approx. Gamma UTL with	90% Coverage	543.5
1033					90% Percentile	313.7				95% HW Approx. Gamma UTL with	90% Coverage	784.4
1034					95% Percentile	498.8						
1035					99% Percentile	987.5						
1036												
1037	Note: DL/2 is not a recommended method.											
1038												
1039												
1040	Naphthalene											

	A	B	C	D	E	F	G	H	I	J	K	L
1041												
1042						General Statistics						
1043					Number of Valid Data	16					Number of Detected Data	8
1044					Number of Distinct Detected Data	7					Number of Non-Detect Data	8
1045					Tolerance Factor	2.033					Percent Non-Detects	50.00%
1046												
1047				Raw Statistics						Log-transformed Statistics		
1048					Minimum Detected	3					Minimum Detected	1.099
1049					Maximum Detected	300					Maximum Detected	5.704
1050					Mean of Detected	72.88					Mean of Detected	3.193
1051					SD of Detected	102.3					SD of Detected	1.729
1052					Minimum Non-Detect	3					Minimum Non-Detect	1.099
1053					Maximum Non-Detect	5					Maximum Non-Detect	1.609
1054												
1055				Data with Multiple Detection Limits						Single Detection Limit Scenario		
1056	Note: Data have multiple DLs - Use of KM Method is recommended										Number treated as Non-Detect with Single DL	9
1057	For all methods (except KM, DL/2, and ROS Methods),										Number treated as Detected with Single DL	7
1058	Observations < Largest ND are treated as NDs										Single DL Non-Detect Percentage	56.25%
1059												
1060												
1061						Warning: There are only 8 Detected Values in this data						
1062						Note: It should be noted that even though bootstrap may be performed on this data set						
1063						the resulting calculations may not be reliable enough to draw conclusions						
1064												
1065						It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.						
1066												
1067						Background Statistics						
1068				Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only		
1069					Shapiro Wilk Test Statistic	0.745					Shapiro Wilk Test Statistic	0.89
1070					5% Shapiro Wilk Critical Value	0.818					5% Shapiro Wilk Critical Value	0.818
1071				Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
1072												
1073				Assuming Normal Distribution						Assuming Lognormal Distribution		
1074					DL/2 Substitution Method						DL/2 Substitution Method	
1075					Mean	37.41					Mean (Log Scale)	1.921
1076					SD	78.92					SD (Log Scale)	1.77
1077					95% UTL 90% Coverage	197.9					95% UTL 90% Coverage	249.7
1078					95% UPL (t)	180					95% UPL (t)	167.3
1079					90% Percentile (z)	138.6					90% Percentile (z)	66.01
1080					95% Percentile (z)	167.2					95% Percentile (z)	125.6
1081					99% Percentile (z)	221					99% Percentile (z)	419.7
1082												
1083					Maximum Likelihood Estimate(MLE) Method						Log ROS Method	
1084					Mean	-29.45					Mean in Original Scale	36.71
1085					SD	135.7					SD in Original Scale	79.26
1086					95% UTL with 90% Coverage	246.5					95% UTL with 90% Coverage	659.9
1087											95% BCA UTL with 90% Coverage	215
1088											95% Bootstrap (%) UTL with 90% Coverage	300
1089					95% UPL (t)	215.8					95% UPL (t)	357.9
1090					90% Percentile (z)	144.5					90% Percentile (z)	86.28
1091					95% Percentile (z)	193.8					95% Percentile (z)	230.7
1092					99% Percentile (z)	286.3					99% Percentile (z)	1460

	A	B	C	D	E	F	G	H	I	J	K	L
1093												
1094				Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only		
1095					k star (bias corrected)	0.439				Data appear Gamma Distributed at 5% Significance Level		
1096					Theta Star	166.2						
1097					nu star	7.017						
1098												
1099					A-D Test Statistic	0.502				Nonparametric Statistics		
1100					5% A-D Critical Value	0.758					Kaplan-Meier (KM) Method	
1101					K-S Test Statistic	0.289					Mean	37.94
1102					5% K-S Critical Value	0.308					SD	76.17
1103				Data appear Gamma Distributed at 5% Significance Level							SE of Mean	20.36
1104										95% KM UTL with	90% Coverage	192.8
1105				Assuming Gamma Distribution							95% KM Chebyshev UPL	380.2
1106				Gamma ROS Statistics with Extrapolated Data							95% KM UPL (t)	175.6
1107					Mean	36.44					90% Percentile (z)	135.6
1108					Median	1.5					95% Percentile (z)	163.2
1109					SD	79.39					99% Percentile (z)	215.1
1110					k star	0.117						
1111					Theta star	312.8				Gamma ROS Limits with Extrapolated Data		
1112					Nu star	3.728					95% Wilson Hilferty (WH) Approx. Gamma UPL	174.3
1113					95% Percentile of Chisquare (2k)	1.334					95% Hawkins Wixley (HW) Approx. Gamma UPL	206.1
1114											95% WH Approx. Gamma UTL with 90% Coverage	224.2
1115					90% Percentile	102.4					95% HW Approx. Gamma UTL with 90% Coverage	285.3
1116					95% Percentile	208.7						
1117					99% Percentile	535.6						
1118												
1119	Note: DL/2 is not a recommended method.											
1120												
1121												
1122	PHENANTHRENE											
1123												
1124					General Statistics							
1125					Number of Valid Data	16					Number of Detected Data	15
1126					Number of Distinct Detected Data	14					Number of Non-Detect Data	1
1127					Tolerance Factor	2.033					Percent Non-Detects	6.25%
1128												
1129				Raw Statistics						Log-transformed Statistics		
1130					Minimum Detected	4					Minimum Detected	1.386
1131					Maximum Detected	2200					Maximum Detected	7.696
1132					Mean of Detected	306.6					Mean of Detected	4.718
1133					SD of Detected	537.7					SD of Detected	1.701
1134					Minimum Non-Detect	3					Minimum Non-Detect	1.099
1135					Maximum Non-Detect	3					Maximum Non-Detect	1.099
1136												
1137												
1138					Background Statistics							
1139				Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only		
1140					Shapiro Wilk Test Statistic	0.487					Shapiro Wilk Test Statistic	0.88
1141					5% Shapiro Wilk Critical Value	0.881					5% Shapiro Wilk Critical Value	0.881
1142				Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level		
1143												
1144				Assuming Normal Distribution						Assuming Lognormal Distribution		

	A	B	C	D	E	F	G	H	I	J	K	L
1145					DL/2 Substitution Method						DL/2 Substitution Method	
1146					Mean	287.6					Mean (Log Scale)	4.449
1147					SD	525					SD (Log Scale)	1.966
1148				95% UTL	90% Coverage	1355				95% UTL	90% Coverage	4653
1149					95% UPL (t)	1236					95% UPL (t)	2984
1150					90% Percentile (z)	960.4					90% Percentile (z)	1062
1151					95% Percentile (z)	1151					95% Percentile (z)	2169
1152					99% Percentile (z)	1509					99% Percentile (z)	8282
1153												
1154				Maximum Likelihood Estimate(MLE) Method							Log ROS Method	
1155					Mean	266.3					Mean in Original Scale	287.6
1156					SD	531.1					SD in Original Scale	525
1157				95% UTL with	90% Coverage	1346				95% UTL with	90% Coverage	4269
1158										95% BCA UTL with	90% Coverage	1300
1159										95% Bootstrap (%) UTL with	90% Coverage	2200
1160					95% UPL (t)	1226					95% UPL (t)	2772
1161					90% Percentile (z)	946.9					90% Percentile (z)	1016
1162					95% Percentile (z)	1140					95% Percentile (z)	2034
1163					99% Percentile (z)	1502					99% Percentile (z)	7478
1164												
1165			**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**			
1166					k star (bias corrected)	0.534			Data follow Appr. Gamma Distribution at 5% Significance Level			
1167					Theta Star	574.5						
1168					nu star	16.01						
1169												
1170					A-D Test Statistic	0.855			**Nonparametric Statistics**			
1171					5% A-D Critical Value	0.785					Kaplan-Meier (KM) Method	
1172					K-S Test Statistic	0.225					Mean	287.7
1173					5% K-S Critical Value	0.232					SD	508.2
1174			Data follow Appx. Gamma Distribution at 5% Significance Level								SE of Mean	131.5
1175										95% KM UTL with	90% Coverage	1321
1176				**Assuming Gamma Distribution**							95% KM Chebyshev UPL	2571
1177				Gamma ROS Statistics with Extrapolated Data							95% KM UPL (t)	1206
1178					Mean	287.5					90% Percentile (z)	939.1
1179					Median	215					95% Percentile (z)	1124
1180					SD	525.1					99% Percentile (z)	1470
1181					k star	0.305						
1182					Theta star	942.6			**Gamma ROS Limits with Extrapolated Data**			
1183					Nu star	9.759					95% Wilson Hilferty (WH) Approx. Gamma UPL	1207
1184					95% Percentile of Chisquare (2k)	2.775					95% Hawkins Wixley (HW) Approx. Gamma UPL	1422
1185											95% WH Approx. Gamma UTL with 90% Coverage	1456
1186					90% Percentile	846.2					95% HW Approx. Gamma UTL with 90% Coverage	1781
1187					95% Percentile	1308						
1188					99% Percentile	2506						
1189												
1190	Note: DL/2 is not a recommended method.											
1191												
1192												
1193	PYRENE											
1194												
1195					**General Statistics**							
1196					Number of Valid Data	16					Number of Detected Data	15

	A	B	C	D	E	F	G	H	I	J	K	L
1197					Number of Distinct Detected Data	15					Number of Non-Detect Data	1
1198					Tolerance Factor	2.033					Percent Non-Detects	6.25%
1199												
1200					**Raw Statistics**						**Log-transformed Statistics**	
1201					Minimum Detected	4					Minimum Detected	1.386
1202					Maximum Detected	1000					Maximum Detected	6.908
1203					Mean of Detected	339.6					Mean of Detected	5.15
1204					SD of Detected	285					SD of Detected	1.593
1205					Minimum Non-Detect	6					Minimum Non-Detect	1.792
1206					Maximum Non-Detect	6					Maximum Non-Detect	1.792
1207												
1208												
1209					**Background Statistics**							
1210					**Normal Distribution Test with Detected Values Only**						**Lognormal Distribution Test with Detected Values Only**	
1211					Shapiro Wilk Test Statistic	0.921					Shapiro Wilk Test Statistic	0.852
1212					5% Shapiro Wilk Critical Value	0.881					5% Shapiro Wilk Critical Value	0.881
1213					Data appear Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level	
1214												
1215					**Assuming Normal Distribution**						**Assuming Lognormal Distribution**	
1216					DL/2 Substitution Method						DL/2 Substitution Method	
1217					Mean	318.5					Mean (Log Scale)	4.897
1218					SD	287.9					SD (Log Scale)	1.842
1219					95% UTL 90% Coverage	903.9					95% UTL 90% Coverage	5664
1220					95% UPL (t)	838.8					95% UPL (t)	3735
1221					90% Percentile (z)	687.5					90% Percentile (z)	1419
1222					95% Percentile (z)	792.1					95% Percentile (z)	2771
1223					99% Percentile (z)	988.4					99% Percentile (z)	9724
1224												
1225					Maximum Likelihood Estimate(MLE) Method						Log ROS Method	
1226					Mean	298					Mean in Original Scale	319
1227					SD	309.9					SD in Original Scale	287.4
1228					95% UTL with 90% Coverage	928.1					95% UTL with 90% Coverage	4543
1229											95% BCA UTL with 90% Coverage	860
1230											95% Bootstrap (%) UTL with 90% Coverage	1000
1231					95% UPL (t)	858					95% UPL (t)	3096
1232					90% Percentile (z)	695.2					90% Percentile (z)	1269
1233					95% Percentile (z)	807.8					95% Percentile (z)	2351
1234					99% Percentile (z)	1019					99% Percentile (z)	7475
1235												
1236					**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**	
1237					k star (bias corrected)	0.738					Data appear Normal at 5% Significance Level	
1238					Theta Star	460.2						
1239					nu star	22.13						
1240												
1241					A-D Test Statistic	0.576					**Nonparametric Statistics**	
1242					5% A-D Critical Value	0.769					Kaplan-Meier (KM) Method	
1243					K-S Test Statistic	0.221					Mean	318.6
1244					5% K-S Critical Value	0.229					SD	278.7
1245					Data appear Gamma Distributed at 5% Significance Level						SE of Mean	72.12
1246											95% KM UTL with 90% Coverage	885.2
1247					**Assuming Gamma Distribution**						95% KM Chebyshev UPL	1571
1248					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	822.2

	A	B	C	D	E	F	G	H	I	J	K	L
1249					Mean	318.3					90% Percentile (z)	675.8
1250					Median	322.5					95% Percentile (z)	777
1251					SD	288.1					99% Percentile (z)	967
1252					k star	0.343						
1253					Theta star	929.1			**Gamma ROS Limits with Extrapolated Data**			
1254					Nu star	10.96					95% Wilson Hilferty (WH) Approx. Gamma UPL	1326
1255					95% Percentile of Chisquare (2k)	3.001					95% Hawkins Wixley (HW) Approx. Gamma UPL	1676
1256											95% WH Approx. Gamma UTL with 90% Coverage	1574
1257					90% Percentile	922.2					95% HW Approx. Gamma UTL with 90% Coverage	2070
1258					95% Percentile	1394						
1259					99% Percentile	2601						
1260												
1261	Note: DL/2 is not a recommended method.											
1262												
1263												
1264	**4,4'-DDD**											
1265												
1266					**General Statistics**							
1267					Number of Valid Data	16					Number of Detected Data	13
1268					Number of Distinct Detected Data	11					Number of Non-Detect Data	3
1269					Tolerance Factor	2.033					Percent Non-Detects	18.75%
1270												
1271					**Raw Statistics**						**Log-transformed Statistics**	
1272					Minimum Detected	0.71					Minimum Detected	-0.342
1273					Maximum Detected	5.7					Maximum Detected	1.74
1274					Mean of Detected	2.816					Mean of Detected	0.909
1275					SD of Detected	1.328					SD of Detected	0.566
1276					Minimum Non-Detect	0.13					Minimum Non-Detect	-2.04
1277					Maximum Non-Detect	0.3					Maximum Non-Detect	-1.204
1278												
1279					**Data with Multiple Detection Limits**						**Single Detection Limit Scenario**	
1280	Note: Data have multiple DLs - Use of KM Method is recommended										Number treated as Non-Detect with Single DL	3
1281	For all methods (except KM, DL/2, and ROS Methods),										Number treated as Detected with Single DL	13
1282	Observations < Largest ND are treated as NDs										Single DL Non-Detect Percentage	18.75%
1283												
1284					**Background Statistics**							
1285					**Normal Distribution Test with Detected Values Only**						**Lognormal Distribution Test with Detected Values Only**	
1286					Shapiro Wilk Test Statistic	0.97					Shapiro Wilk Test Statistic	0.927
1287					5% Shapiro Wilk Critical Value	0.866					5% Shapiro Wilk Critical Value	0.866
1288					Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level	
1289												
1290					**Assuming Normal Distribution**						**Assuming Lognormal Distribution**	
1291					DL/2 Substitution Method						DL/2 Substitution Method	
1292					Mean	2.307					Mean (Log Scale)	0.298
1293					SD	1.615					SD (Log Scale)	1.415
1294					95% UTL 90% Coverage	5.59					95% UTL 90% Coverage	23.93
1295					95% UPL (t)	5.225					95% UPL (t)	17.38
1296					90% Percentile (z)	4.377					90% Percentile (z)	8.263
1297					95% Percentile (z)	4.963					95% Percentile (z)	13.82
1298					99% Percentile (z)	6.064					99% Percentile (z)	36.24
1299												
1300					Maximum Likelihood Estimate(MLE) Method						Log ROS Method	

	A	B	C	D	E	F	G	H	I	J	K	L
1301					Mean	2.169				Mean in Original Scale		2.423
1302					SD	1.804				SD in Original Scale		1.458
1303				95% UTL with	90% Coverage	5.837				95% UTL with	90% Coverage	8.351
1304										95% BCA UTL with	90% Coverage	4.85
1305										95% Bootstrap (%) UTL with	90% Coverage	5.7
1306					95% UPL (t)	5.429					95% UPL (t)	7.111
1307					90% Percentile (z)	4.481					90% Percentile (z)	4.894
1308					95% Percentile (z)	5.137					95% Percentile (z)	6.337
1309					99% Percentile (z)	6.366					99% Percentile (z)	10.29
1310												
1311			**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**			
1312					k star (bias corrected)	3.212			Data appear Normal at 5% Significance Level			
1313					Theta Star	0.877						
1314					nu star	83.51						
1315												
1316					A-D Test Statistic	0.31			**Nonparametric Statistics**			
1317					5% A-D Critical Value	0.737				Kaplan-Meier (KM) Method		
1318					K-S Test Statistic	0.164					Mean	2.421
1319					5% K-S Critical Value	0.238					SD	1.413
1320			Data appear Gamma Distributed at 5% Significance Level								SE of Mean	0.368
1321										95% KM UTL with	90% Coverage	5.295
1322			**Assuming Gamma Distribution**								95% KM Chebyshev UPL	8.772
1323				Gamma ROS Statistics with Extrapolated Data							95% KM UPL (t)	4.975
1324					Mean	2.288					90% Percentile (z)	4.233
1325					Median	2.5					95% Percentile (z)	4.746
1326					SD	1.643					99% Percentile (z)	5.71
1327					k star	0.255						
1328					Theta star	8.963			**Gamma ROS Limits with Extrapolated Data**			
1329					Nu star	8.169				95% Wilson Hilferty (WH) Approx. Gamma UPL		10.46
1330				95% Percentile of Chisquare (2k)		2.456				95% Hawkins Wixley (HW) Approx. Gamma UPL		15.21
1331										95% WH Approx. Gamma UTL with	90% Coverage	12.5
1332					90% Percentile	6.857				95% HW Approx. Gamma UTL with	90% Coverage	19.17
1333					95% Percentile	11.01						
1334					99% Percentile	22.02						
1335												
1336	Note: DL/2 is not a recommended method.											
1337												
1338												
1339	**4,4'-DDE**											
1340												
1341					**General Statistics**							
1342					Number of Valid Data	16				Number of Detected Data		13
1343					Number of Distinct Detected Data	12				Number of Non-Detect Data		3
1344					Tolerance Factor	2.033				Percent Non-Detects		18.75%
1345												
1346				**Raw Statistics**					**Log-transformed Statistics**			
1347					Minimum Detected	0.39				Minimum Detected		-0.942
1348					Maximum Detected	2.4				Maximum Detected		0.875
1349					Mean of Detected	1.356				Mean of Detected		0.201
1350					SD of Detected	0.557				SD of Detected		0.516
1351					Minimum Non-Detect	0.13				Minimum Non-Detect		-2.04
1352					Maximum Non-Detect	0.28				Maximum Non-Detect		-1.273

	A	B	C	D	E	F	G	H	I	J	K	L
1353												
1354	**Data with Multiple Detection Limits**						**Single Detection Limit Scenario**					
1355	Note: Data have multiple DLs - Use of KM Method is recommended						Number treated as Non-Detect with Single DL					3
1356	For all methods (except KM, DL/2, and ROS Methods),						Number treated as Detected with Single DL					13
1357	Observations < Largest ND are treated as NDs						Single DL Non-Detect Percentage					18.75%
1358												
1359	**Background Statistics**											
1360	**Normal Distribution Test with Detected Values Only**						**Lognormal Distribution Test with Detected Values Only**					
1361					Shapiro Wilk Test Statistic	0.979					Shapiro Wilk Test Statistic	0.892
1362					5% Shapiro Wilk Critical Value	0.866					5% Shapiro Wilk Critical Value	0.866
1363	Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level					
1364												
1365	**Assuming Normal Distribution**						**Assuming Lognormal Distribution**					
1366					DL/2 Substitution Method						DL/2 Substitution Method	
1367					Mean	1.12					Mean (Log Scale)	-0.284
1368					SD	0.712					SD (Log Scale)	1.15
1369					95% UTL 90% Coverage	2.567					95% UTL 90% Coverage	7.8
1370					95% UPL (t)	2.406					95% UPL (t)	6.015
1371					90% Percentile (z)	2.032					90% Percentile (z)	3.287
1372					95% Percentile (z)	2.29					95% Percentile (z)	4.991
1373					99% Percentile (z)	2.775					99% Percentile (z)	10.93
1374												
1375					Maximum Likelihood Estimate(MLE) Method						Log ROS Method	
1376					Mean	1.08					Mean in Original Scale	1.178
1377					SD	0.764					SD in Original Scale	0.628
1378					95% UTL with 90% Coverage	2.633					95% UTL with 90% Coverage	3.658
1379											95% BCA UTL with 90% Coverage	2.15
1380											95% Bootstrap (%) UTL with 90% Coverage	2.4
1381					95% UPL (t)	2.46					95% UPL (t)	3.165
1382					90% Percentile (z)	2.059					90% Percentile (z)	2.261
1383					95% Percentile (z)	2.337					95% Percentile (z)	2.853
1384					99% Percentile (z)	2.857					99% Percentile (z)	4.414
1385												
1386	**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**					
1387					k star (bias corrected)	3.906	Data appear Normal at 5% Significance Level					
1388					Theta Star	0.347						
1389					nu star	101.5						
1390												
1391					A-D Test Statistic	0.429	**Nonparametric Statistics**					
1392					5% A-D Critical Value	0.736					Kaplan-Meier (KM) Method	
1393					K-S Test Statistic	0.187					Mean	1.175
1394					5% K-S Critical Value	0.237					SD	0.612
1395	Data appear Gamma Distributed at 5% Significance Level										SE of Mean	0.159
1396											95% KM UTL with 90% Coverage	2.42
1397	**Assuming Gamma Distribution**										95% KM Chebyshev UPL	3.927
1398					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	2.282
1399					Mean	1.102					90% Percentile (z)	1.96
1400					Median	1.25					95% Percentile (z)	2.182
1401					SD	0.74					99% Percentile (z)	2.6
1402					k star	0.267						
1403					Theta star	4.132	**Gamma ROS Limits with Extrapolated Data**					
1404					Nu star	8.531					95% Wilson Hilferty (WH) Approx. Gamma UPL	5.013

	A	B	C	D	E	F	G	H	I	J	K	L
1405					95% Percentile of Chisquare (2k)	2.531			95% Hawkins Wixley (HW) Approx. Gamma UPL			7.296
1406									95% WH Approx. Gamma UTL with		90% Coverage	5.981
1407					90% Percentile	3.29			95% HW Approx. Gamma UTL with		90% Coverage	9.18
1408					95% Percentile	5.23						
1409					99% Percentile	10.35						
1410												
1411	Note: DL/2 is not a recommended method.											
1412												
1413												
1414	4,4'-DDT											
1415												
1416					General Statistics							
1417					Number of Valid Data	16			Number of Detected Data			6
1418					Number of Distinct Detected Data	5			Number of Non-Detect Data			10
1419					Tolerance Factor	2.033			Percent Non-Detects			62.50%
1420												
1421					Raw Statistics				Log-transformed Statistics			
1422					Minimum Detected	1.4			Minimum Detected			0.336
1423					Maximum Detected	2.6			Maximum Detected			0.956
1424					Mean of Detected	1.883			Mean of Detected			0.603
1425					SD of Detected	0.515			SD of Detected			0.268
1426					Minimum Non-Detect	0.21			Minimum Non-Detect			-1.561
1427					Maximum Non-Detect	1.5			Maximum Non-Detect			0.405
1428												
1429					Data with Multiple Detection Limits				Single Detection Limit Scenario			
1430	Note: Data have multiple DLs - Use of KM Method is recommended								Number treated as Non-Detect with Single DL			12
1431	For all methods (except KM, DL/2, and ROS Methods),								Number treated as Detected with Single DL			4
1432	Observations < Largest ND are treated as NDs								Single DL Non-Detect Percentage			75.00%
1433												
1434												
1435					Warning: There are only 6 Detected Values in this data							
1436					Note: It should be noted that even though bootstrap may be performed on this data set							
1437					the resulting calculations may not be reliable enough to draw conclusions							
1438												
1439					It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.							
1440												
1441					Background Statistics							
1442					Normal Distribution Test with Detected Values Only				Lognormal Distribution Test with Detected Values Only			
1443					Shapiro Wilk Test Statistic	0.876			Shapiro Wilk Test Statistic			0.885
1444					5% Shapiro Wilk Critical Value	0.788			5% Shapiro Wilk Critical Value			0.788
1445					Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level			
1446												
1447					Assuming Normal Distribution				Assuming Lognormal Distribution			
1448					DL/2 Substitution Method				DL/2 Substitution Method			
1449					Mean	0.981			Mean (Log Scale)			-0.445
1450					SD	0.808			SD (Log Scale)			1.065
1451					95% UTL 90% Coverage	2.623			95% UTL 90% Coverage			5.59
1452					95% UPL (t)	2.441			95% UPL (t)			4.394
1453					90% Percentile (z)	2.016			90% Percentile (z)			2.511
1454					95% Percentile (z)	2.31			95% Percentile (z)			3.697
1455					99% Percentile (z)	2.86			99% Percentile (z)			7.64
1456												

	A	B	C	D	E	F	G	H	I	J	K	L
1457					Maximum Likelihood Estimate(MLE) Method						Log ROS Method	
1458					Mean	0.863					Mean in Original Scale	1.211
1459					SD	0.973					SD in Original Scale	0.619
1460				95% UTL with	90% Coverage	2.84				95% UTL with	90% Coverage	2.721
1461									95% BCA UTL with		90% Coverage	2.6
1462								95% Bootstrap (%) UTL with			90% Coverage	2.6
1463					95% UPL (t)	2.62					95% UPL (t)	2.458
1464					90% Percentile (z)	2.109					90% Percentile (z)	1.942
1465					95% Percentile (z)	2.462					95% Percentile (z)	2.286
1466					99% Percentile (z)	3.125					99% Percentile (z)	3.104
1467												
1468			**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**			
1469					k star (bias corrected)	8.414			Data appear Normal at 5% Significance Level			
1470					Theta Star	0.224						
1471					nu star	101						
1472												
1473					A-D Test Statistic	0.408			**Nonparametric Statistics**			
1474					5% A-D Critical Value	0.698					Kaplan-Meier (KM) Method	
1475					K-S Test Statistic	0.214					Mean	1.581
1476					5% K-S Critical Value	0.332					SD	0.371
1477			Data appear Gamma Distributed at 5% Significance Level								SE of Mean	0.102
1478										95% KM UTL with	90% Coverage	2.336
1479			**Assuming Gamma Distribution**								95% KM Chebyshev UPL	3.249
1480					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	2.252
1481					Mean	0.706					90% Percentile (z)	2.057
1482					Median	0.000001					95% Percentile (z)	2.192
1483					SD	0.988					99% Percentile (z)	2.445
1484					k star	0.123						
1485					Theta star	5.721			**Gamma ROS Limits with Extrapolated Data**			
1486					Nu star	3.951					95% Wilson Hilferty (WH) Approx. Gamma UPL	3.881
1487					95% Percentile of Chisquare (2k)	1.404					95% Hawkins Wixley (HW) Approx. Gamma UPL	4.846
1488											95% WH Approx. Gamma UTL with 90% Coverage	4.997
1489					90% Percentile	2.016					95% HW Approx. Gamma UTL with 90% Coverage	6.755
1490					95% Percentile	4.015						
1491					99% Percentile	10.07						
1492												
1493	Note: DL/2 is not a recommended method.											
1494												
1495												
1496	GammaChlordaneSpring											
1497												
1498					**General Statistics**							
1499					Number of Valid Data	8					Number of Detected Data	5
1500					Number of Distinct Detected Data	4					Number of Non-Detect Data	3
1501					Tolerance Factor	2.582					Percent Non-Detects	37.50%
1502												
1503			**Raw Statistics**						**Log-transformed Statistics**			
1504					Minimum Detected	0.7					Minimum Detected	-0.357
1505					Maximum Detected	0.93					Maximum Detected	-0.0726
1506					Mean of Detected	0.816					Mean of Detected	-0.209
1507					SD of Detected	0.0994					SD of Detected	0.122
1508					Minimum Non-Detect	0.15					Minimum Non-Detect	-1.897

	A	B	C	D	E	F	G	H	I	J	K	L
1509					Maximum Non-Detect	0.21					Maximum Non-Detect	-1.561
1510												
1511				Data with Multiple Detection Limits						Single Detection Limit Scenario		
1512	Note: Data have multiple DLs - Use of KM Method is recommended										Number treated as Non-Detect with Single DL	3
1513	For all methods (except KM, DL/2, and ROS Methods),										Number treated as Detected with Single DL	5
1514	Observations < Largest ND are treated as NDs										Single DL Non-Detect Percentage	37.50%
1515												
1516												
1517				Warning: There are only 4 Distinct Detected Values in this data								
1518				Note: It should be noted that even though bootstrap may be performed on this data set								
1519				the resulting calculations may not be reliable enough to draw conclusions								
1520												
1521				It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.								
1522												
1523				Background Statistics								
1524				Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only		
1525					Shapiro Wilk Test Statistic	0.881					Shapiro Wilk Test Statistic	0.889
1526					5% Shapiro Wilk Critical Value	0.762					5% Shapiro Wilk Critical Value	0.762
1527				Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
1528												
1529				Assuming Normal Distribution						Assuming Lognormal Distribution		
1530					DL/2 Substitution Method						DL/2 Substitution Method	
1531					Mean	0.543					Mean (Log Scale)	-1.052
1532					SD	0.385					SD (Log Scale)	1.171
1533					95% UTL 90% Coverage	1.536					95% UTL 90% Coverage	7.175
1534					95% UPL (t)	1.316					95% UPL (t)	3.671
1535					90% Percentile (z)	1.036					90% Percentile (z)	1.566
1536					95% Percentile (z)	1.176					95% Percentile (z)	2.395
1537					99% Percentile (z)	1.438					99% Percentile (z)	5.319
1538												
1539					Maximum Likelihood Estimate(MLE) Method						Log ROS Method	
1540					Mean	0.483					Mean in Original Scale	0.73
1541					SD	0.458					SD in Original Scale	0.14
1542					95% UTL with 90% Coverage	1.665					95% UTL with 90% Coverage	1.175
1543											95% BCA UTL with 90% Coverage	0.93
1544											95% Bootstrap (%) UTL with 90% Coverage	0.93
1545					95% UPL (t)	1.403					95% UPL (t)	1.054
1546					90% Percentile (z)	1.07					90% Percentile (z)	0.917
1547					95% Percentile (z)	1.236					95% Percentile (z)	0.983
1548					99% Percentile (z)	1.548					99% Percentile (z)	1.119
1549												
1550				Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only		
1551					k star (bias corrected)	34.01				Data appear Normal at 5% Significance Level		
1552					Theta Star	0.024						
1553					nu star	340.1						
1554												
1555					A-D Test Statistic	0.442				Nonparametric Statistics		
1556					5% A-D Critical Value	0.678					Kaplan-Meier (KM) Method	
1557					K-S Test Statistic	0.289					Mean	0.773
1558					5% K-S Critical Value	0.357					SD	0.09
1559				Data appear Gamma Distributed at 5% Significance Level							SE of Mean	0.0356
1560											95% KM UTL with 90% Coverage	1.005

	A	B	C	D	E	F	G	H	I	J	K	L
1561				Assuming Gamma Distribution							95% KM Chebyshev UPL	1.188
1562					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	0.953
1563					Mean	0.66					90% Percentile (z)	0.888
1564					Median	0.735					95% Percentile (z)	0.92
1565					SD	0.227					99% Percentile (z)	0.982
1566					k star	5.536						
1567					Theta star	0.119				Gamma ROS Limits with Extrapolated Data		
1568					Nu star	88.58					95% Wilson Hilferty (WH) Approx. Gamma UPL	1.23
1569					95% Percentile of Chisquare (2k)	19.77					95% Hawkins Wixley (HW) Approx. Gamma UPL	1.25
1570											95% WH Approx. Gamma UTL with 90% Coverage	1.449
1571					90% Percentile	1.036					95% HW Approx. Gamma UTL with 90% Coverage	1.488
1572					95% Percentile	1.18						
1573					99% Percentile	1.481						
1574												
1575	Note: DL/2 is not a recommended method.											
1576												
1577												
1578	ARSENIC											
1579												
1580					General Statistics							
1581					Number of Valid Data	16					Number of Detected Data	14
1582					Number of Distinct Detected Data	13					Number of Non-Detect Data	2
1583					Tolerance Factor	2.033					Percent Non-Detects	12.50%
1584												
1585					Raw Statistics						Log-transformed Statistics	
1586					Minimum Detected	1					Minimum Detected	0
1587					Maximum Detected	3.2					Maximum Detected	1.163
1588					Mean of Detected	2.123					Mean of Detected	0.69
1589					SD of Detected	0.73					SD of Detected	0.381
1590					Minimum Non-Detect	1.2					Minimum Non-Detect	0.182
1591					Maximum Non-Detect	1.2					Maximum Non-Detect	0.182
1592												
1593												
1594					Background Statistics							
1595					Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only	
1596					Shapiro Wilk Test Statistic	0.947					Shapiro Wilk Test Statistic	0.925
1597					5% Shapiro Wilk Critical Value	0.874					5% Shapiro Wilk Critical Value	0.874
1598					Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level	
1599												
1600					Assuming Normal Distribution						Assuming Lognormal Distribution	
1601					DL/2 Substitution Method						DL/2 Substitution Method	
1602					Mean	1.933					Mean (Log Scale)	0.54
1603					SD	0.856					SD (Log Scale)	0.542
1604					95% UTL 90% Coverage	3.672					95% UTL 90% Coverage	5.17
1605					95% UPL (t)	3.479					95% UPL (t)	4.574
1606					90% Percentile (z)	3.029					90% Percentile (z)	3.439
1607					95% Percentile (z)	3.34					95% Percentile (z)	4.189
1608					99% Percentile (z)	3.923					99% Percentile (z)	6.062
1609												
1610					Maximum Likelihood Estimate(MLE) Method						Log ROS Method	
1611					Mean	1.899					Mean in Original Scale	1.995
1612					SD	0.893					SD in Original Scale	0.766

	A	B	C	D	E	F	G	H	I	J	K	L
1613					95% UTL with 90% Coverage	3.714				95% UTL with	90% Coverage	4.274
1614										95% BCA UTL with	90% Coverage	3.1
1615									95% Bootstrap (%) UTL with		90% Coverage	3.2
1616					95% UPL (t)	3.512					95% UPL (t)	3.894
1617					90% Percentile (z)	3.043					90% Percentile (z)	3.136
1618					95% Percentile (z)	3.367					95% Percentile (z)	3.642
1619					99% Percentile (z)	3.976					99% Percentile (z)	4.823
1620												
1621			**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**			
1622					k star (bias corrected)	6.445			Data appear Normal at 5% Significance Level			
1623					Theta Star	0.329						
1624					nu star	180.5						
1625												
1626					A-D Test Statistic	0.353			**Nonparametric Statistics**			
1627					5% A-D Critical Value	0.736					Kaplan-Meier (KM) Method	
1628					K-S Test Statistic	0.125					Mean	1.989
1629					5% K-S Critical Value	0.229					SD	0.748
1630			Data appear Gamma Distributed at 5% Significance Level								SE of Mean	0.194
1631										95% KM UTL with	90% Coverage	3.509
1632			**Assuming Gamma Distribution**								95% KM Chebyshev UPL	5.348
1633					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	3.34
1634					Mean	1.958					90% Percentile (z)	2.947
1635					Median	2.05					95% Percentile (z)	3.219
1636					SD	0.821					99% Percentile (z)	3.728
1637					k star	4.143						
1638					Theta star	0.473			**Gamma ROS Limits with Extrapolated Data**			
1639					Nu star	132.6					95% Wilson Hilferty (WH) Approx. Gamma UPL	3.874
1640					95% Percentile of Chisquare (2k)	15.91					95% Hawkins Wixley (HW) Approx. Gamma UPL	3.967
1641											95% WH Approx. Gamma UTL with 90% Coverage	4.203
1642					90% Percentile	3.247					95% HW Approx. Gamma UTL with 90% Coverage	4.331
1643					95% Percentile	3.761						
1644					99% Percentile	4.855						
1645												
1646	Note: DL/2 is not a recommended method.											
1647												
1648												
1649	**BERYLLIUM**											
1650												
1651					**General Statistics**							
1652					Number of Valid Data	16					Number of Detected Data	13
1653					Number of Distinct Detected Data	10					Number of Non-Detect Data	3
1654					Tolerance Factor	2.033					Percent Non-Detects	18.75%
1655												
1656			**Raw Statistics**						**Log-transformed Statistics**			
1657					Minimum Detected	0.1					Minimum Detected	-2.303
1658					Maximum Detected	0.34					Maximum Detected	-1.079
1659					Mean of Detected	0.235					Mean of Detected	-1.49
1660					SD of Detected	0.0648					SD of Detected	0.324
1661					Minimum Non-Detect	0.11					Minimum Non-Detect	-2.207
1662					Maximum Non-Detect	0.14					Maximum Non-Detect	-1.966
1663												
1664			**Data with Multiple Detection Limits**						**Single Detection Limit Scenario**			

	A	B	C	D	E	F	G	H	I	J	K	L
1665	Note: Data have multiple DLs - Use of KM Method is recommended										Number treated as Non-Detect with Single DL	4
1666	For all methods (except KM, DL/2, and ROS Methods),										Number treated as Detected with Single DL	12
1667	Observations < Largest ND are treated as NDs										Single DL Non-Detect Percentage	25.00%
1668												
1669					Background Statistics							
1670				Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only		
1671					Shapiro Wilk Test Statistic	0.958					Shapiro Wilk Test Statistic	0.885
1672					5% Shapiro Wilk Critical Value	0.866					5% Shapiro Wilk Critical Value	0.866
1673				Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
1674												
1675				Assuming Normal Distribution						Assuming Lognormal Distribution		
1676					DL/2 Substitution Method						DL/2 Substitution Method	
1677					Mean	0.203					Mean (Log Scale)	-1.725
1678					SD	0.0899					SD (Log Scale)	0.583
1679					95% UTL 90% Coverage	0.386					95% UTL 90% Coverage	0.584
1680					95% UPL (t)	0.366					95% UPL (t)	0.511
1681					90% Percentile (z)	0.318					90% Percentile (z)	0.376
1682					95% Percentile (z)	0.351					95% Percentile (z)	0.465
1683					99% Percentile (z)	0.412					99% Percentile (z)	0.692
1684												
1685					Maximum Likelihood Estimate(MLE) Method						Log ROS Method	
1686					Mean	0.209					Mean in Original Scale	0.215
1687					SD	0.0812					SD in Original Scale	0.0731
1688					95% UTL with 90% Coverage	0.374					95% UTL with 90% Coverage	0.433
1689											95% BCA UTL with 90% Coverage	0.32
1690											95% Bootstrap (%) UTL with 90% Coverage	0.34
1691					95% UPL (t)	0.355					95% UPL (t)	0.398
1692					90% Percentile (z)	0.313					90% Percentile (z)	0.327
1693					95% Percentile (z)	0.342					95% Percentile (z)	0.375
1694					99% Percentile (z)	0.397					99% Percentile (z)	0.484
1695												
1696				Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only		
1697					k star (bias corrected)	9.111				Data appear Normal at 5% Significance Level		
1698					Theta Star	0.0258						
1699					nu star	236.9						
1700												
1701					A-D Test Statistic	0.5				Nonparametric Statistics		
1702					5% A-D Critical Value	0.734					Kaplan-Meier (KM) Method	
1703					K-S Test Statistic	0.211					Mean	0.21
1704					5% K-S Critical Value	0.237					SD	0.0771
1705				Data appear Gamma Distributed at 5% Significance Level							SE of Mean	0.0201
1706											95% KM UTL with 90% Coverage	0.367
1707				Assuming Gamma Distribution							95% KM Chebyshev UPL	0.556
1708					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	0.349
1709					Mean	0.206					90% Percentile (z)	0.309
1710					Median	0.225					95% Percentile (z)	0.337
1711					SD	0.0857					99% Percentile (z)	0.389
1712					k star	3.774						
1713					Theta star	0.0547				Gamma ROS Limits with Extrapolated Data		
1714					Nu star	120.8					95% Wilson Hilferty (WH) Approx. Gamma UPL	0.419
1715					95% Percentile of Chisquare (2k)	14.86					95% Hawkins Wixley (HW) Approx. Gamma UPL	0.432
1716											95% WH Approx. Gamma UTL with 90% Coverage	0.456

	A	B	C	D	E	F	G	H	I	J	K	L
1717					90% Percentile	0.349			95% HW Approx. Gamma UTL with		90% Coverage	0.474
1718					95% Percentile	0.406						
1719					99% Percentile	0.529						
1720												
1721	Note: DL/2 is not a recommended method.											
1722												
1723												
1724	COPPER											
1725												
1726						General Statistics						
1727					Number of Valid Data	16					Number of Detected Data	13
1728					Number of Distinct Detected Data	9					Number of Non-Detect Data	3
1729					Tolerance Factor	2.033					Percent Non-Detects	18.75%
1730												
1731					Raw Statistics						Log-transformed Statistics	
1732					Minimum Detected	1.975					Minimum Detected	0.681
1733					Maximum Detected	5.6					Maximum Detected	1.723
1734					Mean of Detected	3.598					Mean of Detected	1.25
1735					SD of Detected	0.913					SD of Detected	0.262
1736					Minimum Non-Detect	1.8					Minimum Non-Detect	0.588
1737					Maximum Non-Detect	2					Maximum Non-Detect	0.693
1738												
1739					Data with Multiple Detection Limits						Single Detection Limit Scenario	
1740	Note: Data have multiple DLs - Use of KM Method is recommended										Number treated as Non-Detect with Single DL	4
1741	For all methods (except KM, DL/2, and ROS Methods),										Number treated as Detected with Single DL	12
1742	Observations < Largest ND are treated as NDs										Single DL Non-Detect Percentage	25.00%
1743												
1744						Background Statistics						
1745					Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only	
1746					Shapiro Wilk Test Statistic	0.966					Shapiro Wilk Test Statistic	0.964
1747					5% Shapiro Wilk Critical Value	0.866					5% Shapiro Wilk Critical Value	0.866
1748					Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level	
1749												
1750					Assuming Normal Distribution						Assuming Lognormal Distribution	
1751					DL/2 Substitution Method						DL/2 Substitution Method	
1752					Mean	3.102					Mean (Log Scale)	1.006
1753					SD	1.344					SD (Log Scale)	0.575
1754					95% UTL 90% Coverage	5.834					95% UTL 90% Coverage	8.802
1755					95% UPL (t)	5.53					95% UPL (t)	7.729
1756					90% Percentile (z)	4.824					90% Percentile (z)	5.713
1757					95% Percentile (z)	5.312					95% Percentile (z)	7.04
1758					99% Percentile (z)	6.228					99% Percentile (z)	10.42
1759												
1760					Maximum Likelihood Estimate(MLE) Method						Log ROS Method	
1761					Mean	3.123					Mean in Original Scale	3.29
1762					SD	1.286					SD in Original Scale	1.051
1763					95% UTL with 90% Coverage	5.737					95% UTL with 90% Coverage	6.14
1764											95% BCA UTL with 90% Coverage	5.1
1765											95% Bootstrap (%) UTL with 90% Coverage	5.6
1766					95% UPL (t)	5.447					95% UPL (t)	5.697
1767					90% Percentile (z)	4.771					90% Percentile (z)	4.787
1768					95% Percentile (z)	5.238					95% Percentile (z)	5.399

	A	B	C	D	E	F	G	H	I	J	K	L
1769					99% Percentile (z)	6.115					99% Percentile (z)	6.767
1770												
1771				Gamma Distribution Test with Detected Values Only					Data Distribution Test with Detected Values Only			
1772					k star (bias corrected)	12.7			Data appear Normal at 5% Significance Level			
1773					Theta Star	0.283						
1774					nu star	330.3						
1775												
1776					A-D Test Statistic	0.269			Nonparametric Statistics			
1777					5% A-D Critical Value	0.733					Kaplan-Meier (KM) Method	
1778					K-S Test Statistic	0.149					Mean	3.294
1779					5% K-S Critical Value	0.236					SD	1.013
1780				Data appear Gamma Distributed at 5% Significance Level							SE of Mean	0.264
1781										95% KM UTL with	90% Coverage	5.353
1782				Assuming Gamma Distribution							95% KM Chebyshev UPL	7.846
1783					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	5.124
1784					Mean	3.071					90% Percentile (z)	4.592
1785					Median	3.4					95% Percentile (z)	4.96
1786					SD	1.401					99% Percentile (z)	5.651
1787					k star	2.711						
1788					Theta star	1.133			Gamma ROS Limits with Extrapolated Data			
1789					Nu star	86.76					95% Wilson Hilferty (WH) Approx. Gamma UPL	6.908
1790					95% Percentile of Chisquare (2k)	11.72					95% Hawkins Wixley (HW) Approx. Gamma UPL	7.241
1791											95% WH Approx. Gamma UTL with 90% Coverage	7.605
1792					90% Percentile	5.571					95% HW Approx. Gamma UTL with 90% Coverage	8.052
1793					95% Percentile	6.638						
1794					99% Percentile	8.963						
1795												
1796	Note: DL/2 is not a recommended method.											
1797												
1798												
1799	SeleniumSpring											
1800												
1801					General Statistics							
1802					Total Number of Observations	8					Number of Distinct Observations	8
1803					Tolerance Factor	2.582						
1804												
1805				Raw Statistics					Log-Transformed Statistics			
1806					Minimum	0.128					Minimum	-2.06
1807					Maximum	0.94					Maximum	-0.0619
1808					Second Largest	0.36					Second Largest	-1.022
1809					First Quartile	0.165					First Quartile	-1.803
1810					Median	0.195					Median	-1.635
1811					Third Quartile	0.3					Third Quartile	-1.21
1812					Mean	0.302					Mean	-1.419
1813					SD	0.269					SD	0.641
1814					Coefficient of Variation	0.889						
1815					Skewness	2.42						
1816												
1817												
1818				Warning: There are only 8 Values in this data								
1819				Note: It should be noted that even though bootstrap methods may be performed on this data set,								
1820				the resulting calculations may not be reliable enough to draw conclusions								

	A	B	C	D	E	F	G	H	I	J	K	L
1821												
1822	The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.											
1823												
1824	Background Statistics											
1825	Normal Distribution Test						Lognormal Distribution Test					
1826					Shapiro Wilk Test Statistic	0.662				Shapiro Wilk Test Statistic		0.863
1827					Shapiro Wilk Critical Value	0.818				Shapiro Wilk Critical Value		0.818
1828	Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level					
1829												
1830	Assuming Normal Distribution						Assuming Lognormal Distribution					
1831				95% UTL with	90% Coverage	0.996				95% UTL with	90% Coverage	1.267
1832					95% UPL (t)	0.842					95% UPL (t)	0.878
1833					90% Percentile (z)	0.646					90% Percentile (z)	0.55
1834					95% Percentile (z)	0.744					95% Percentile (z)	0.695
1835					99% Percentile (z)	0.927					99% Percentile (z)	1.075
1836												
1837	Gamma Distribution Test						Data Distribution Test					
1838					k star	1.582	Data Follow Appr. Gamma Distribution at 5% Significance Level					
1839					Theta Star	0.191						
1840					MLE of Mean	0.302						
1841					MLE of Standard Deviation	0.24						
1842					nu star	25.32						
1843												
1844					A-D Test Statistic	0.75	Nonparametric Statistics					
1845					5% A-D Critical Value	0.723				90% Percentile		0.534
1846					K-S Test Statistic	0.271				95% Percentile		0.737
1847					5% K-S Critical Value	0.297				99% Percentile		0.899
1848	Data follow Appx. Gamma Distribution at 5% Significance Level											
1849												
1850	Assuming Gamma Distribution								95% UTL with	90% Coverage		0.94
1851					90% Percentile	0.622			95% Percentile Bootstrap UTL with	90% Coverage		0.94
1852					95% Percentile	0.773			95% BCA Bootstrap UTL with	90% Coverage		0.94
1853					99% Percentile	1.115				95% UPL		0.94
1854										95% Chebyshev UPL		1.544
1855					95% WH Approx. Gamma UPL	0.846				Upper Threshold Limit Based upon IQR		0.503
1856					95% HW Approx. Gamma UPL	0.851						
1857			95% WH Approx. Gamma UTL with		90% Coverage	1.105						
1858			95% HW Approx. Gamma UTL with		90% Coverage	1.134						
1859												
1860												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	CoffinsIcePond.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	2-METHYLNAPHTHALENE											
12												
13						General Statistics						
14						Total Number of Observations	16			Number of Distinct Observations		14
15						Tolerance Factor	2.033					
16												
17						Raw Statistics				Log-Transformed Statistics		
18						Minimum	11			Minimum		2.398
19						Maximum	56			Maximum		4.025
20						Second Largest	53			Second Largest		3.97
21						First Quartile	22.5			First Quartile		3.106
22						Median	30.25			Median		3.409
23						Third Quartile	41			Third Quartile		3.713
24						Mean	32.09			Mean		3.37
25						SD	13.82			SD		0.478
26						Coefficient of Variation	0.431					
27						Skewness	0.228					
28												
29						Background Statistics						
30						Normal Distribution Test				Lognormal Distribution Test		
31						Shapiro Wilk Test Statistic	0.961			Shapiro Wilk Test Statistic		0.954
32						Shapiro Wilk Critical Value	0.887			Shapiro Wilk Critical Value		0.887
33						Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level		
34												
35						Assuming Normal Distribution				Assuming Lognormal Distribution		
36						95% UTL with 90% Coverage	60.19			95% UTL with 90% Coverage		76.83
37						95% UPL (t)	57.07			95% UPL (t)		68.96
38						90% Percentile (z)	49.81			90% Percentile (z)		53.65
39						95% Percentile (z)	54.83			95% Percentile (z)		63.82
40						99% Percentile (z)	64.25			99% Percentile (z)		88.39
41												
42						Gamma Distribution Test				Data Distribution Test		
43						k star	4.289			Data appear Normal at 5% Significance Level		
44						Theta Star	7.482					
45						MLE of Mean	32.09					
46						MLE of Standard Deviation	15.5					
47						nu star	137.3					
48												
49						A-D Test Statistic	0.234			Nonparametric Statistics		
50						5% A-D Critical Value	0.741			90% Percentile		50.5
51						K-S Test Statistic	0.122			95% Percentile		53.75
52						5% K-S Critical Value	0.216			99% Percentile		55.55

	A	B	C	D	E	F	G	H	I	J	K	L
53	Data appear Gamma Distributed at 5% Significance Level											
54												
55	Assuming Gamma Distribution						95% UTL with 90% Coverage					56
56					90% Percentile	52.86	95% Percentile Bootstrap UTL with 90% Coverage					56
57					95% Percentile	61.08	95% BCA Bootstrap UTL with 90% Coverage					56
58					99% Percentile	78.59	95% UPL					56
59							95% Chebyshev UPL					94.19
60				95% WH Approx. Gamma UPL		62.86	Upper Threshold Limit Based upon IQR					68.75
61				95% HW Approx. Gamma UPL		64.08						
62			95% WH Approx. Gamma UTL with 90% Coverage			68.14						
63			95% HW Approx. Gamma UTL with 90% Coverage			69.83						
64												
65												
66												
67	ACENAPHTHENE											
68												
69	General Statistics											
70				Total Number of Observations		16	Number of Distinct Observations					16
71				Tolerance Factor		2.033						
72												
73	Raw Statistics						Log-Transformed Statistics					
74				Minimum		12	Minimum					2.485
75				Maximum		170	Maximum					5.136
76				Second Largest		79	Second Largest					4.369
77				First Quartile		31.75	First Quartile					3.458
78				Median		43.5	Median					3.773
79				Third Quartile		53.25	Third Quartile					3.974
80				Mean		50.59	Mean					3.763
81				SD		35.57	SD					0.566
82				Coefficient of Variation		0.703						
83				Skewness		2.755						
84												
85	Background Statistics											
86	Normal Distribution Test						Lognormal Distribution Test					
87				Shapiro Wilk Test Statistic		0.697	Shapiro Wilk Test Statistic					0.934
88				Shapiro Wilk Critical Value		0.887	Shapiro Wilk Critical Value					0.887
89	Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level					
90												
91	Assuming Normal Distribution						Assuming Lognormal Distribution					
92			95% UTL with 90% Coverage			122.9	95% UTL with 90% Coverage					136.1
93				95% UPL (t)		114.9	95% UPL (t)					119.8
94				90% Percentile (z)		96.18	90% Percentile (z)					88.96
95				95% Percentile (z)		109.1	95% Percentile (z)					109.3
96				99% Percentile (z)		133.3	99% Percentile (z)					160.7
97												
98	Gamma Distribution Test						Data Distribution Test					
99				k star		2.695	Data appear Gamma Distributed at 5% Significance Level					
100				Theta Star		18.77						
101				MLE of Mean		50.59						
102				MLE of Standard Deviation		30.82						
103				nu star		86.24						
104												

	A	B	C	D	E	F	G	H	I	J	K	L
105					A-D Test Statistic	0.709	Nonparametric Statistics					
106					5% A-D Critical Value	0.744					90% Percentile	71.5
107					K-S Test Statistic	0.196					95% Percentile	101.8
108					5% K-S Critical Value	0.217					99% Percentile	156.4
109	Data appear Gamma Distributed at 5% Significance Level											
110												
111	Assuming Gamma Distribution									95% UTL with	90% Coverage	170
112					90% Percentile	91.9			95% Percentile Bootstrap UTL with		90% Coverage	170
113					95% Percentile	109.5			95% BCA Bootstrap UTL with		90% Coverage	124.5
114					99% Percentile	148					95% UPL	170
115											95% Chebyshev UPL	210.4
116					95% WH Approx. Gamma UPL	112.8					Upper Threshold Limit Based upon IQR	85.5
117					95% HW Approx. Gamma UPL	113.7						
118				95% WH Approx. Gamma UTL with	90% Coverage	124.2						
119				95% HW Approx. Gamma UTL with	90% Coverage	126						
120												
121												
122												
123	ACENAPHTHYLENE											
124												
125	General Statistics											
126					Total Number of Observations	16					Number of Distinct Observations	13
127					Tolerance Factor	2.033						
128												
129	Raw Statistics						Log-Transformed Statistics					
130					Minimum	120					Minimum	4.787
131					Maximum	470					Maximum	6.153
132					Second Largest	470					Second Largest	6.153
133					First Quartile	183.8					First Quartile	5.214
134					Median	220					Median	5.394
135					Third Quartile	260					Third Quartile	5.553
136					Mean	247.2					Mean	5.44
137					SD	102.9					SD	0.374
138					Coefficient of Variation	0.416						
139					Skewness	1.348						
140												
141	Background Statistics											
142	Normal Distribution Test						Lognormal Distribution Test					
143					Shapiro Wilk Test Statistic	0.834					Shapiro Wilk Test Statistic	0.934
144					Shapiro Wilk Critical Value	0.887					Shapiro Wilk Critical Value	0.887
145	Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level					
146												
147	Assuming Normal Distribution						Assuming Lognormal Distribution					
148				95% UTL with	90% Coverage	456.3				95% UTL with	90% Coverage	493.3
149					95% UPL (t)	433.1					95% UPL (t)	453.3
150					90% Percentile (z)	379					90% Percentile (z)	372.4
151					95% Percentile (z)	416.4					95% Percentile (z)	426.6
152					99% Percentile (z)	486.5					99% Percentile (z)	550.6
153												
154	Gamma Distribution Test						Data Distribution Test					
155					k star	5.999	Data Follow Appr. Gamma Distribution at 5% Significance Level					
156					Theta Star	41.21						

	A	B	C	D	E	F	G	H	I	J	K	L
157					MLE of Mean	247.2						
158					MLE of Standard Deviation	100.9						
159					nu star	192						
160												
161					A-D Test Statistic	0.682				Nonparametric Statistics		
162					5% A-D Critical Value	0.74					90% Percentile	405
163					K-S Test Statistic	0.232					95% Percentile	470
164					5% K-S Critical Value	0.215					99% Percentile	470
165	Data follow Appx. Gamma Distribution at 5% Significance Level											
166												
167			Assuming Gamma Distribution							95% UTL with	90% Coverage	470
168					90% Percentile	382.1				95% Percentile Bootstrap UTL with	90% Coverage	470
169					95% Percentile	433.1				95% BCA Bootstrap UTL with	90% Coverage	470
170					99% Percentile	540.1					95% UPL	470
171											95% Chebyshev UPL	709.3
172					95% WH Approx. Gamma UPL	442.4					Upper Threshold Limit Based upon IQR	374.4
173					95% HW Approx. Gamma UPL	444.6						
174				95% WH Approx. Gamma UTL with	90% Coverage	474.5						
175				95% HW Approx. Gamma UTL with	90% Coverage	478.4						
176												
177												
178												
179	ANTHRACENE											
180												
181					General Statistics							
182					Total Number of Observations	16					Number of Distinct Observations	15
183					Tolerance Factor	2.033						
184												
185				Raw Statistics						Log-Transformed Statistics		
186					Minimum	79					Minimum	4.369
187					Maximum	450					Maximum	6.109
188					Second Largest	270					Second Largest	5.598
189					First Quartile	135					First Quartile	4.903
190					Median	170					Median	5.136
191					Third Quartile	228.8					Third Quartile	5.432
192					Mean	187.4					Mean	5.142
193					SD	89.64					SD	0.431
194					Coefficient of Variation	0.478						
195					Skewness	1.728						
196												
197					Background Statistics							
198				Normal Distribution Test						Lognormal Distribution Test		
199					Shapiro Wilk Test Statistic	0.855					Shapiro Wilk Test Statistic	0.979
200					Shapiro Wilk Critical Value	0.887					Shapiro Wilk Critical Value	0.887
201				Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
202												
203				Assuming Normal Distribution						Assuming Lognormal Distribution		
204					95% UTL with	90% Coverage	369.6				95% UTL with	90% Coverage	411.2
205					95% UPL (t)	349.4					95% UPL (t)	373
206					90% Percentile (z)	302.3					90% Percentile (z)	297.4
207					95% Percentile (z)	334.8					95% Percentile (z)	347.8
208					99% Percentile (z)	395.9					99% Percentile (z)	466.6

	A	B	C	D	E	F	G	H	I	J	K	L
209												
210				Gamma Distribution Test						Data Distribution Test		
211					k star	4.639				Data appear Gamma Distributed at 5% Significance Level		
212					Theta Star	40.39						
213					MLE of Mean	187.4						
214					MLE of Standard Deviation	87						
215					nu star	148.4						
216												
217					A-D Test Statistic	0.291				Nonparametric Statistics		
218					5% A-D Critical Value	0.741					90% Percentile	265
219					K-S Test Statistic	0.169					95% Percentile	315
220					5% K-S Critical Value	0.216					99% Percentile	423
221			Data appear Gamma Distributed at 5% Significance Level									
222												
223				Assuming Gamma Distribution							95% UTL with 90% Coverage	450
224					90% Percentile	303.9					95% Percentile Bootstrap UTL with 90% Coverage	450
225					95% Percentile	349.5					95% BCA Bootstrap UTL with 90% Coverage	450
226					99% Percentile	446.3					95% UPL	450
227											95% Chebyshev UPL	590.2
228					95% WH Approx. Gamma UPL	358.2					Upper Threshold Limit Based upon IQR	369.4
229					95% HW Approx. Gamma UPL	360.9						
230					95% WH Approx. Gamma UTL with 90% Coverage	387.2						
231					95% HW Approx. Gamma UTL with 90% Coverage	391.8						
232												
233												
234												
235	BENZO(A)ANTHRACENE											
236												
237					General Statistics							
238					Total Number of Observations	16					Number of Distinct Observations	11
239					Tolerance Factor	2.033						
240												
241				Raw Statistics						Log-Transformed Statistics		
242					Minimum	620					Minimum	6.43
243					Maximum	5100					Maximum	8.537
244					Second Largest	2700					Second Largest	7.901
245					First Quartile	1100					First Quartile	7.003
246					Median	1500					Median	7.313
247					Third Quartile	1900					Third Quartile	7.55
248					Mean	1741					Mean	7.332
249					SD	1053					SD	0.509
250					Coefficient of Variation	0.605						
251					Skewness	2.323						
252												
253					Background Statistics							
254				Normal Distribution Test						Lognormal Distribution Test		
255					Shapiro Wilk Test Statistic	0.769					Shapiro Wilk Test Statistic	0.956
256					Shapiro Wilk Critical Value	0.887					Shapiro Wilk Critical Value	0.887
257				Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
258												
259				Assuming Normal Distribution						Assuming Lognormal Distribution		
260					95% UTL with 90% Coverage	3882					95% UTL with 90% Coverage	4306

	A	B	C	D	E	F	G	H	I	J	K	L
261					95% UPL (t)	3644					95% UPL (t)	3838
262					90% Percentile (z)	3091					90% Percentile (z)	2937
263					95% Percentile (z)	3473					95% Percentile (z)	3533
264					99% Percentile (z)	4191					99% Percentile (z)	4999
265												
266			Gamma Distribution Test						Data Distribution Test			
267					k star	3.295			Data appear Gamma Distributed at 5% Significance Level			
268					Theta Star	528.5						
269					MLE of Mean	1741						
270					MLE of Standard Deviation	959.3						
271					nu star	105.4						
272												
273					A-D Test Statistic	0.477			Nonparametric Statistics			
274					5% A-D Critical Value	0.742					90% Percentile	2550
275					K-S Test Statistic	0.178					95% Percentile	3300
276					5% K-S Critical Value	0.216					99% Percentile	4740
277		Data appear Gamma Distributed at 5% Significance Level										
278												
279			Assuming Gamma Distribution								95% UTL with 90% Coverage	5100
280					90% Percentile	3028					95% Percentile Bootstrap UTL with 90% Coverage	5100
281					95% Percentile	3558					95% BCA Bootstrap UTL with 90% Coverage	5100
282					99% Percentile	4703					95% UPL	5100
283											95% Chebyshev UPL	6472
284					95% WH Approx. Gamma UPL	3660					Upper Threshold Limit Based upon IQR	3100
285					95% HW Approx. Gamma UPL	3688						
286					95% WH Approx. Gamma UTL with 90% Coverage	4002						
287					95% HW Approx. Gamma UTL with 90% Coverage	4054						
288												
289												
290												
291	BENZO(A)PYRENE											
292												
293					General Statistics							
294					Total Number of Observations	16					Number of Distinct Observations	13
295					Tolerance Factor	2.033						
296												
297			Raw Statistics						Log-Transformed Statistics			
298					Minimum	1000					Minimum	6.908
299					Maximum	7400					Maximum	8.909
300					Second Largest	3900					Second Largest	8.269
301					First Quartile	1900					First Quartile	7.545
302					Median	2450					Median	7.804
303					Third Quartile	3025					Third Quartile	8.015
304					Mean	2681					Mean	7.783
305					SD	1476					SD	0.473
306					Coefficient of Variation	0.551						
307					Skewness	2.28						
308												
309					Background Statistics							
310			Normal Distribution Test						Lognormal Distribution Test			
311					Shapiro Wilk Test Statistic	0.781					Shapiro Wilk Test Statistic	0.959
312					Shapiro Wilk Critical Value	0.887					Shapiro Wilk Critical Value	0.887

	A	B	C	D	E	F	G	H	I	J	K	L
313	Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level					
314												
315	Assuming Normal Distribution						Assuming Lognormal Distribution					
316					95% UTL with 90% Coverage	5682				95% UTL with 90% Coverage		6281
317					95% UPL (t)	5349				95% UPL (t)		5644
318					90% Percentile (z)	4573				90% Percentile (z)		4401
319					95% Percentile (z)	5109				95% Percentile (z)		5227
320					99% Percentile (z)	6115				99% Percentile (z)		7216
321												
322	Gamma Distribution Test						Data Distribution Test					
323					k star	3.833	Data appear Gamma Distributed at 5% Significance Level					
324					Theta Star	699.4						
325					MLE of Mean	2681						
326					MLE of Standard Deviation	1369						
327					nu star	122.7						
328												
329					A-D Test Statistic	0.439	Nonparametric Statistics					
330					5% A-D Critical Value	0.742				90% Percentile		3600
331					K-S Test Statistic	0.144				95% Percentile		4775
332					5% K-S Critical Value	0.216				99% Percentile		6875
333	Data appear Gamma Distributed at 5% Significance Level											
334												
335	Assuming Gamma Distribution									95% UTL with 90% Coverage		7400
336					90% Percentile	4517				95% Percentile Bootstrap UTL with 90% Coverage		7400
337					95% Percentile	5257				95% BCA Bootstrap UTL with 90% Coverage		5650
338					99% Percentile	6839				95% UPL		7400
339										95% Chebyshev UPL		9314
340					95% WH Approx. Gamma UPL	5395				Upper Threshold Limit Based upon IQR		4713
341					95% HW Approx. Gamma UPL	5436						
342					95% WH Approx. Gamma UTL with 90% Coverage	5869						
343					95% HW Approx. Gamma UTL with 90% Coverage	5941						
344												
345												
346												
347	BENZO(B)FLUORANTHENE											
348												
349	General Statistics											
350					Total Number of Observations	16				Number of Distinct Observations		15
351					Tolerance Factor	2.033						
352												
353	Raw Statistics						Log-Transformed Statistics					
354					Minimum	1100				Minimum		7.003
355					Maximum	8900				Maximum		9.094
356					Second Largest	4900				Second Largest		8.497
357					First Quartile	2350				First Quartile		7.755
358					Median	3700				Median		8.216
359					Third Quartile	4525				Third Quartile		8.417
360					Mean	3672				Mean		8.094
361					SD	1832				SD		0.508
362					Coefficient of Variation	0.499						
363					Skewness	1.375						
364												

	A	B	C	D	E	F	G	H	I	J	K	L
365						Background Statistics						
366				Normal Distribution Test						Lognormal Distribution Test		
367					Shapiro Wilk Test Statistic	0.882					Shapiro Wilk Test Statistic	0.953
368					Shapiro Wilk Critical Value	0.887					Shapiro Wilk Critical Value	0.887
369				Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
370												
371				Assuming Normal Distribution						Assuming Lognormal Distribution		
372					95% UTL with 90% Coverage	7397					95% UTL with 90% Coverage	9198
373					95% UPL (t)	6983					95% UPL (t)	8200
374					90% Percentile (z)	6020					90% Percentile (z)	6279
375					95% Percentile (z)	6686					95% Percentile (z)	7552
376					99% Percentile (z)	7935					99% Percentile (z)	10677
377												
378				Gamma Distribution Test						Data Distribution Test		
379					k star	3.712				Data appear Gamma Distributed at 5% Significance Level		
380					Theta Star	989.2						
381					MLE of Mean	3672						
382					MLE of Standard Deviation	1906						
383					nu star	118.8						
384												
385					A-D Test Statistic	0.367				Nonparametric Statistics		
386					5% A-D Critical Value	0.742					90% Percentile	4850
387					K-S Test Statistic	0.15					95% Percentile	5900
388					5% K-S Critical Value	0.216					99% Percentile	8300
389				Data appear Gamma Distributed at 5% Significance Level								
390												
391				Assuming Gamma Distribution							95% UTL with 90% Coverage	8900
392					90% Percentile	6227					95% Percentile Bootstrap UTL with 90% Coverage	8900
393					95% Percentile	7261					95% BCA Bootstrap UTL with 90% Coverage	6900
394					99% Percentile	9479					95% UPL	8900
395											95% Chebyshev UPL	11905
396					95% WH Approx. Gamma UPL	7479					Upper Threshold Limit Based upon IQR	7788
397					95% HW Approx. Gamma UPL	7613						
398					95% WH Approx. Gamma UTL with 90% Coverage	8145						
399					95% HW Approx. Gamma UTL with 90% Coverage	8339						
400												
401												
402												
403	BENZO(G,H,I)PERYLENE											
404												
405						General Statistics						
406					Total Number of Observations	16					Number of Distinct Observations	14
407					Tolerance Factor	2.033						
408												
409				Raw Statistics						Log-Transformed Statistics		
410					Minimum	1000					Minimum	6.908
411					Maximum	5700					Maximum	8.648
412					Second Largest	3300					Second Largest	8.102
413					First Quartile	1750					First Quartile	7.466
414					Median	2300					Median	7.74
415					Third Quartile	2725					Third Quartile	7.91
416					Mean	2372					Mean	7.685

	A	B	C	D	E	F	G	H	I	J	K	L
417					SD	1097					SD	0.426
418					Coefficient of Variation	0.462						
419					Skewness	1.827						
420												
421					Background Statistics							
422				Normal Distribution Test						Lognormal Distribution Test		
423					Shapiro Wilk Test Statistic	0.841					Shapiro Wilk Test Statistic	0.96
424					Shapiro Wilk Critical Value	0.887					Shapiro Wilk Critical Value	0.887
425				Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
426												
427				Assuming Normal Distribution						Assuming Lognormal Distribution		
428					95% UTL with 90% Coverage	4601					95% UTL with 90% Coverage	5173
429					95% UPL (t)	4354					95% UPL (t)	4698
430					90% Percentile (z)	3777					90% Percentile (z)	3755
431					95% Percentile (z)	4176					95% Percentile (z)	4384
432					99% Percentile (z)	4923					99% Percentile (z)	5861
433												
434				Gamma Distribution Test						Data Distribution Test		
435					k star	4.858				Data appear Gamma Distributed at 5% Significance Level		
436					Theta Star	488.3						
437					MLE of Mean	2372						
438					MLE of Standard Deviation	1076						
439					nu star	155.5						
440												
441					A-D Test Statistic	0.354				Nonparametric Statistics		
442					5% A-D Critical Value	0.741					90% Percentile	3075
443					K-S Test Statistic	0.15					95% Percentile	3900
444					5% K-S Critical Value	0.216					99% Percentile	5340
445				Data appear Gamma Distributed at 5% Significance Level								
446												
447				Assuming Gamma Distribution							95% UTL with 90% Coverage	5700
448					90% Percentile	3813					95% Percentile Bootstrap UTL with 90% Coverage	5700
449					95% Percentile	4373					95% BCA Bootstrap UTL with 90% Coverage	4500
450					99% Percentile	5560					95% UPL	5700
451											95% Chebyshev UPL	7299
452					95% WH Approx. Gamma UPL	4478					Upper Threshold Limit Based upon IQR	4188
453					95% HW Approx. Gamma UPL	4519						
454					95% WH Approx. Gamma UTL with 90% Coverage	4834						
455					95% HW Approx. Gamma UTL with 90% Coverage	4898						
456												
457												
458												
459	BENZO(K)FLUORANTHENE											
460												
461					General Statistics							
462					Total Number of Observations	16					Number of Distinct Observations	13
463					Tolerance Factor	2.033						
464												
465				Raw Statistics						Log-Transformed Statistics		
466					Minimum	790					Minimum	6.672
467					Maximum	9500					Maximum	9.159
468					Second Largest	3100					Second Largest	8.039

	A	B	C	D	E	F	G	H	I	J	K	L
469					First Quartile	1375					First Quartile	7.226
470					Median	1750					Median	7.467
471					Third Quartile	2600					Third Quartile	7.863
472					Mean	2256					Mean	7.512
473					SD	2051					SD	0.594
474					Coefficient of Variation	0.909						
475					Skewness	3.272						
476												
477					Background Statistics							
478			Normal Distribution Test						Lognormal Distribution Test			
479					Shapiro Wilk Test Statistic	0.585					Shapiro Wilk Test Statistic	0.905
480					Shapiro Wilk Critical Value	0.887					Shapiro Wilk Critical Value	0.887
481			Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level			
482												
483			Assuming Normal Distribution						Assuming Lognormal Distribution			
484					95% UTL with 90% Coverage	6425					95% UTL with 90% Coverage	6128
485					95% UPL (t)	5961					95% UPL (t)	5358
486					90% Percentile (z)	4884					90% Percentile (z)	3920
487					95% Percentile (z)	5629					95% Percentile (z)	4865
488					99% Percentile (z)	7027					99% Percentile (z)	7295
489												
490			Gamma Distribution Test						Data Distribution Test			
491					k star	2.111			Data Follow Appr. Gamma Distribution at 5% Significance Level			
492					Theta Star	1069						
493					MLE of Mean	2256						
494					MLE of Standard Deviation	1552						
495					nu star	67.55						
496												
497					A-D Test Statistic	0.938			Nonparametric Statistics			
498					5% A-D Critical Value	0.747					90% Percentile	2950
499					K-S Test Statistic	0.209					95% Percentile	4700
500					5% K-S Critical Value	0.217					99% Percentile	8540
501			Data follow Appx. Gamma Distribution at 5% Significance Level									
502												
503			Assuming Gamma Distribution								95% UTL with 90% Coverage	9500
504					90% Percentile	4332					95% Percentile Bootstrap UTL with 90% Coverage	9500
505					95% Percentile	5260					95% BCA Bootstrap UTL with 90% Coverage	9500
506					99% Percentile	7313					95% UPL	9500
507											95% Chebyshev UPL	11470
508					95% WH Approx. Gamma UPL	5399					Upper Threshold Limit Based upon IQR	4438
509					95% HW Approx. Gamma UPL	5366						
510					95% WH Approx. Gamma UTL with 90% Coverage	6006						
511					95% HW Approx. Gamma UTL with 90% Coverage	6003						
512												
513												
514												
515	CHRYSENE											
516												
517					General Statistics							
518					Total Number of Observations	16					Number of Distinct Observations	14
519					Tolerance Factor	2.033						
520												

	A	B	C	D	E	F	G	H	I	J	K	L
521					Raw Statistics						Log-Transformed Statistics	
522					Minimum	980					Minimum	6.888
523					Maximum	10000					Maximum	9.21
524					Second Largest	3800					Second Largest	8.243
525					First Quartile	2275					First Quartile	7.73
526					Median	2900					Median	7.972
527					Third Quartile	3625					Third Quartile	8.196
528					Mean	3186					Mean	7.931
529					SD	2016					SD	0.523
530					Coefficient of Variation	0.633						
531					Skewness	2.729						
532												
533					Background Statistics							
534					Normal Distribution Test						Lognormal Distribution Test	
535					Shapiro Wilk Test Statistic	0.695					Shapiro Wilk Test Statistic	0.921
536					Shapiro Wilk Critical Value	0.887					Shapiro Wilk Critical Value	0.887
537					Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level	
538												
539					Assuming Normal Distribution						Assuming Lognormal Distribution	
540					95% UTL with 90% Coverage	7286					95% UTL with 90% Coverage	8052
541					95% UPL (t)	6830					95% UPL (t)	7155
542					90% Percentile (z)	5770					90% Percentile (z)	5436
543					95% Percentile (z)	6503					95% Percentile (z)	6573
544					99% Percentile (z)	7877					99% Percentile (z)	9387
545												
546					Gamma Distribution Test						Data Distribution Test	
547					k star	3.16					Data Follow Appr. Gamma Distribution at 5% Significance Level	
548					Theta Star	1008						
549					MLE of Mean	3186						
550					MLE of Standard Deviation	1792						
551					nu star	101.1						
552												
553					A-D Test Statistic	0.719					Nonparametric Statistics	
554					5% A-D Critical Value	0.742					90% Percentile	3800
555					K-S Test Statistic	0.238					95% Percentile	5350
556					5% K-S Critical Value	0.216					99% Percentile	9070
557					Data follow Appx. Gamma Distribution at 5% Significance Level							
558												
559					Assuming Gamma Distribution						95% UTL with 90% Coverage	10000
560					90% Percentile	5590					95% Percentile Bootstrap UTL with 90% Coverage	10000
561					95% Percentile	6588					95% BCA Bootstrap UTL with 90% Coverage	6900
562					99% Percentile	8747					95% UPL	10000
563											95% Chebyshev UPL	12246
564					95% WH Approx. Gamma UPL	6771					Upper Threshold Limit Based upon IQR	5650
565					95% HW Approx. Gamma UPL	6828						
566					95% WH Approx. Gamma UTL with 90% Coverage	7415						
567					95% HW Approx. Gamma UTL with 90% Coverage	7517						
568												
569												
570												
571	DIBENZO(A,H)ANTHRACENE											
572												

	A	B	C	D	E	F	G	H	I	J	K	L
573						General Statistics						
574					Total Number of Observations	16					Number of Distinct Observations	15
575					Tolerance Factor	2.033						
576												
577				Raw Statistics						Log-Transformed Statistics		
578					Minimum	120					Minimum	4.787
579					Maximum	1400					Maximum	7.244
580					Second Largest	1100					Second Largest	7.003
581					First Quartile	353.8					First Quartile	5.869
582					Median	570					Median	6.345
583					Third Quartile	662.5					Third Quartile	6.496
584					Mean	600					Mean	6.248
585					SD	327					SD	0.596
586					Coefficient of Variation	0.545						
587					Skewness	1.038						
588												
589						Background Statistics						
590				Normal Distribution Test						Lognormal Distribution Test		
591					Shapiro Wilk Test Statistic	0.921					Shapiro Wilk Test Statistic	0.953
592					Shapiro Wilk Critical Value	0.887					Shapiro Wilk Critical Value	0.887
593				Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
594												
595				Assuming Normal Distribution						Assuming Lognormal Distribution		
596					95% UTL with 90% Coverage	1265					95% UTL with 90% Coverage	1736
597					95% UPL (t)	1191					95% UPL (t)	1517
598					90% Percentile (z)	1019					90% Percentile (z)	1109
599					95% Percentile (z)	1138					95% Percentile (z)	1378
600					99% Percentile (z)	1361					99% Percentile (z)	2068
601												
602				Gamma Distribution Test						Data Distribution Test		
603					k star	2.899				Data appear Normal at 5% Significance Level		
604					Theta Star	207						
605					MLE of Mean	600						
606					MLE of Standard Deviation	352.4						
607					nu star	92.78						
608												
609					A-D Test Statistic	0.269				Nonparametric Statistics		
610					5% A-D Critical Value	0.743					90% Percentile	1028
611					K-S Test Statistic	0.162					95% Percentile	1175
612					5% K-S Critical Value	0.216					99% Percentile	1355
613				Data appear Gamma Distributed at 5% Significance Level								
614												
615				Assuming Gamma Distribution							95% UTL with 90% Coverage	1400
616					90% Percentile	1072					95% Percentile Bootstrap UTL with 90% Coverage	1400
617					95% Percentile	1272					95% BCA Bootstrap UTL with 90% Coverage	1400
618					99% Percentile	1704					95% UPL	1400
619											95% Chebyshev UPL	2069
620					95% WH Approx. Gamma UPL	1317					Upper Threshold Limit Based upon IQR	1126
621					95% HW Approx. Gamma UPL	1352						
622					95% WH Approx. Gamma UTL with 90% Coverage	1447						
623					95% HW Approx. Gamma UTL with 90% Coverage	1496						
624												

	A	B	C	D	E	F	G	H	I	J	K	L
625												
626												
627	FLUORANTHENE											
628												
629						General Statistics						
630					Total Number of Observations	16					Number of Distinct Observations	15
631					Tolerance Factor	2.033						
632												
633					Raw Statistics						Log-Transformed Statistics	
634					Minimum	1700					Minimum	7.438
635					Maximum	15000					Maximum	9.616
636					Second Largest	7600					Second Largest	8.936
637					First Quartile	3175					First Quartile	8.063
638					Median	3850					Median	8.254
639					Third Quartile	5050					Third Quartile	8.527
640					Mean	4734					Mean	8.326
641					SD	3108					SD	0.504
642					Coefficient of Variation	0.657						
643					Skewness	2.652						
644												
645						Background Statistics						
646					Normal Distribution Test						Lognormal Distribution Test	
647					Shapiro Wilk Test Statistic	0.711					Shapiro Wilk Test Statistic	0.945
648					Shapiro Wilk Critical Value	0.887					Shapiro Wilk Critical Value	0.887
649					Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level	
650												
651					Assuming Normal Distribution						Assuming Lognormal Distribution	
652					95% UTL with 90% Coverage	11053					95% UTL with 90% Coverage	11507
653					95% UPL (t)	10351					95% UPL (t)	10268
654					90% Percentile (z)	8718					90% Percentile (z)	7880
655					95% Percentile (z)	9847					95% Percentile (z)	9463
656					99% Percentile (z)	11965					99% Percentile (z)	13339
657												
658					Gamma Distribution Test						Data Distribution Test	
659					k star	3.154					Data appear Gamma Distributed at 5% Significance Level	
660					Theta Star	1501						
661					MLE of Mean	4734						
662					MLE of Standard Deviation	2666						
663					nu star	100.9						
664												
665					A-D Test Statistic	0.654					Nonparametric Statistics	
666					5% A-D Critical Value	0.742					90% Percentile	6875
667					K-S Test Statistic	0.173					95% Percentile	9450
668					5% K-S Critical Value	0.216					99% Percentile	13890
669					Data appear Gamma Distributed at 5% Significance Level							
670												
671					Assuming Gamma Distribution						95% UTL with 90% Coverage	15000
672					90% Percentile	8309					95% Percentile Bootstrap UTL with 90% Coverage	15000
673					95% Percentile	9795					95% BCA Bootstrap UTL with 90% Coverage	11300
674					99% Percentile	13007					95% UPL	15000
675											95% Chebyshev UPL	18700
676					95% WH Approx. Gamma UPL	10058					Upper Threshold Limit Based upon IQR	7863

	A	B	C	D	E	F	G	H	I	J	K	L
677					95% HW Approx. Gamma UPL	10078						
678				95% WH Approx. Gamma UTL with	90% Coverage	11016						
679				95% HW Approx. Gamma UTL with	90% Coverage	11090						
680												
681												
682												
683	FLUORENE											
684												
685					General Statistics							
686					Total Number of Observations	16				Number of Distinct Observations		16
687					Tolerance Factor	2.033						
688												
689				Raw Statistics						Log-Transformed Statistics		
690					Minimum	35				Minimum		3.555
691					Maximum	360				Maximum		5.886
692					Second Largest	230				Second Largest		5.438
693					First Quartile	76.75				First Quartile		4.341
694					Median	94				Median		4.543
695					Third Quartile	127.5				Third Quartile		4.843
696					Mean	119.1				Mean		4.626
697					SD	79.17				SD		0.548
698					Coefficient of Variation	0.665						
699					Skewness	2.184						
700												
701					Background Statistics							
702				Normal Distribution Test						Lognormal Distribution Test		
703					Shapiro Wilk Test Statistic	0.766				Shapiro Wilk Test Statistic		0.96
704					Shapiro Wilk Critical Value	0.887				Shapiro Wilk Critical Value		0.887
705				Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
706												
707				Assuming Normal Distribution						Assuming Lognormal Distribution		
708					95% UTL with 90% Coverage	280				95% UTL with 90% Coverage		311.1
709					95% UPL (t)	262.1				95% UPL (t)		274.9
710					90% Percentile (z)	220.5				90% Percentile (z)		206.1
711					95% Percentile (z)	249.3				95% Percentile (z)		251.5
712					99% Percentile (z)	303.2				99% Percentile (z)		365.4
713												
714				Gamma Distribution Test						Data Distribution Test		
715					k star	2.811				Data appear Gamma Distributed at 5% Significance Level		
716					Theta Star	42.36						
717					MLE of Mean	119.1						
718					MLE of Standard Deviation	71.02						
719					nu star	89.94						
720												
721					A-D Test Statistic	0.606				Nonparametric Statistics		
722					5% A-D Critical Value	0.743				90% Percentile		195
723					K-S Test Statistic	0.19				95% Percentile		262.5
724					5% K-S Critical Value	0.216				99% Percentile		340.5
725				Data appear Gamma Distributed at 5% Significance Level								
726												
727				Assuming Gamma Distribution						95% UTL with 90% Coverage		360
728					90% Percentile	214.3				95% Percentile Bootstrap UTL with 90% Coverage		360

	A	B	C	D	E	F	G	H	I	J	K	L
729					95% Percentile	254.6			95% BCA Bootstrap UTL with		90% Coverage	360
730					99% Percentile	342.4					95% UPL	360
731											95% Chebyshev UPL	474.8
732				95% WH Approx. Gamma UPL		262.5				Upper Threshold Limit Based upon IQR		203.6
733				95% HW Approx. Gamma UPL		264.4						
734			95% WH Approx. Gamma UTL with		90% Coverage	288.8						
735			95% HW Approx. Gamma UTL with		90% Coverage	292.5						
736												
737												
738												
739	INDENO(1,2,3-CD)PYRENE											
740												
741					General Statistics							
742				Total Number of Observations		16				Number of Distinct Observations		13
743				Tolerance Factor		2.033						
744												
745				Raw Statistics						Log-Transformed Statistics		
746				Minimum		1000				Minimum		6.908
747				Maximum		5300				Maximum		8.575
748				Second Largest		3400				Second Largest		8.132
749				First Quartile		1825				First Quartile		7.507
750				Median		2500				Median		7.823
751				Third Quartile		2913				Third Quartile		7.977
752				Mean		2478				Mean		7.734
753				SD		1041				SD		0.424
754				Coefficient of Variation		0.42						
755				Skewness		1.101						
756												
757					Background Statistics							
758				Normal Distribution Test						Lognormal Distribution Test		
759				Shapiro Wilk Test Statistic		0.912				Shapiro Wilk Test Statistic		0.962
760				Shapiro Wilk Critical Value		0.887				Shapiro Wilk Critical Value		0.887
761				Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
762												
763				Assuming Normal Distribution						Assuming Lognormal Distribution		
764				95% UTL with	90% Coverage	4594				95% UTL with	90% Coverage	5405
765				95% UPL (t)		4359				95% UPL (t)		4911
766				90% Percentile (z)		3812				90% Percentile (z)		3931
767				95% Percentile (z)		4190				95% Percentile (z)		4585
768				99% Percentile (z)		4900				99% Percentile (z)		6120
769												
770				Gamma Distribution Test						Data Distribution Test		
771				k star		5.155				Data appear Normal at 5% Significance Level		
772				Theta Star		480.8						
773				MLE of Mean		2478						
774				MLE of Standard Deviation		1092						
775				nu star		164.9						
776												
777				A-D Test Statistic		0.314				Nonparametric Statistics		
778				5% A-D Critical Value		0.741				90% Percentile		3250
779				K-S Test Statistic		0.113				95% Percentile		3875
780				5% K-S Critical Value		0.216				99% Percentile		5015

	A	B	C	D	E	F	G	H	I	J	K	L
781	Data appear Gamma Distributed at 5% Significance Level											
782												
783	Assuming Gamma Distribution						95% UTL with 90% Coverage					5300
784					90% Percentile	3939	95% Percentile Bootstrap UTL with 90% Coverage					5300
785					95% Percentile	4503	95% BCA Bootstrap UTL with 90% Coverage					5300
786					99% Percentile	5692	95% UPL					5300
787							95% Chebyshev UPL					7155
788				95% WH Approx. Gamma UPL		4613	Upper Threshold Limit Based upon IQR					4544
789				95% HW Approx. Gamma UPL		4672						
790			95% WH Approx. Gamma UTL with 90% Coverage			4971						
791			95% HW Approx. Gamma UTL with 90% Coverage			5056						
792												
793												
794												
795	NAPHTHALENE											
796												
797	General Statistics											
798				Total Number of Observations		16	Number of Distinct Observations					15
799				Tolerance Factor		2.033						
800												
801	Raw Statistics						Log-Transformed Statistics					
802				Minimum		15	Minimum					2.708
803				Maximum		100	Maximum					4.605
804				Second Largest		50	Second Largest					3.912
805				First Quartile		24	First Quartile					3.175
806				Median		31.75	Median					3.458
807				Third Quartile		42.38	Third Quartile					3.746
808				Mean		36.13	Mean					3.475
809				SD		20.18	SD					0.47
810				Coefficient of Variation		0.559						
811				Skewness		2.22						
812												
813	Background Statistics											
814	Normal Distribution Test						Lognormal Distribution Test					
815				Shapiro Wilk Test Statistic		0.782	Shapiro Wilk Test Statistic					0.959
816				Shapiro Wilk Critical Value		0.887	Shapiro Wilk Critical Value					0.887
817	Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level					
818												
819	Assuming Normal Distribution						Assuming Lognormal Distribution					
820			95% UTL with 90% Coverage			77.15	95% UTL with 90% Coverage					83.89
821				95% UPL (t)		72.59	95% UPL (t)					75.44
822				90% Percentile (z)		61.99	90% Percentile (z)					58.95
823				95% Percentile (z)		69.32	95% Percentile (z)					69.91
824				99% Percentile (z)		83.07	99% Percentile (z)					96.28
825												
826	Gamma Distribution Test						Data Distribution Test					
827				k star		3.793	Data appear Gamma Distributed at 5% Significance Level					
828				Theta Star		9.523						
829				MLE of Mean		36.13						
830				MLE of Standard Deviation		18.55						
831				nu star		121.4						
832												

	A	B	C	D	E	F	G	H	I	J	K	L
833					A-D Test Statistic	0.402	Nonparametric Statistics					
834					5% A-D Critical Value	0.742					90% Percentile	48.5
835					K-S Test Statistic	0.124					95% Percentile	62.5
836					5% K-S Critical Value	0.216					99% Percentile	92.5
837	Data appear Gamma Distributed at 5% Significance Level											
838												
839	Assuming Gamma Distribution									95% UTL with	90% Coverage	100
840					90% Percentile	60.99			95% Percentile Bootstrap UTL with		90% Coverage	100
841					95% Percentile	71.02			95% BCA Bootstrap UTL with		90% Coverage	100
842					99% Percentile	92.51					95% UPL	100
843											95% Chebyshev UPL	126.8
844					95% WH Approx. Gamma UPL	72.91					Upper Threshold Limit Based upon IQR	69.94
845					95% HW Approx. Gamma UPL	73.33						
846				95% WH Approx. Gamma UTL with	90% Coverage	79.34						
847				95% HW Approx. Gamma UTL with	90% Coverage	80.16						
848												
849												
850												
851	PHENANTHRENE											
852												
853					General Statistics							
854					Total Number of Observations	16					Number of Distinct Observations	13
855					Tolerance Factor	2.033						
856												
857				Raw Statistics						Log-Transformed Statistics		
858					Minimum	520					Minimum	6.254
859					Maximum	7000					Maximum	8.854
860					Second Largest	2900					Second Largest	7.972
861					First Quartile	1375					First Quartile	7.226
862					Median	1600					Median	7.378
863					Third Quartile	2450					Third Quartile	7.803
864					Mean	2061					Mean	7.464
865					SD	1472					SD	0.575
866					Coefficient of Variation	0.715						
867					Skewness	2.723						
868												
869					Background Statistics							
870				Normal Distribution Test						Lognormal Distribution Test		
871					Shapiro Wilk Test Statistic	0.705					Shapiro Wilk Test Statistic	0.951
872					Shapiro Wilk Critical Value	0.887					Shapiro Wilk Critical Value	0.887
873				Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
874												
875				Assuming Normal Distribution						Assuming Lognormal Distribution		
876					95% UTL with	90% Coverage	5054				95% UTL with	90% Coverage	5617
877					95% UPL (t)	4721					95% UPL (t)	4932
878					90% Percentile (z)	3948					90% Percentile (z)	3645
879					95% Percentile (z)	4482					95% Percentile (z)	4492
880					99% Percentile (z)	5486					99% Percentile (z)	6650
881												
882				Gamma Distribution Test						Data Distribution Test		
883					k star	2.599				Data appear Gamma Distributed at 5% Significance Level		
884					Theta Star	793						

	A	B	C	D	E	F	G	H	I	J	K	L
885					MLE of Mean	2061						
886					MLE of Standard Deviation	1278						
887					nu star	83.15						
888												
889					A-D Test Statistic	0.571				Nonparametric Statistics		
890					5% A-D Critical Value	0.744					90% Percentile	2750
891					K-S Test Statistic	0.157					95% Percentile	3925
892					5% K-S Critical Value	0.217					99% Percentile	6385
893		Data appear Gamma Distributed at 5% Significance Level										
894												
895			Assuming Gamma Distribution							95% UTL with	90% Coverage	7000
896					90% Percentile	3774			95% Percentile Bootstrap UTL with		90% Coverage	7000
897					95% Percentile	4510			95% BCA Bootstrap UTL with		90% Coverage	4950
898					99% Percentile	6119					95% UPL	7000
899											95% Chebyshev UPL	8676
900					95% WH Approx. Gamma UPL	4647					Upper Threshold Limit Based upon IQR	4063
901					95% HW Approx. Gamma UPL	4686						
902				95% WH Approx. Gamma UTL with	90% Coverage	5127						
903				95% HW Approx. Gamma UTL with	90% Coverage	5202						
904												
905												
906												
907	PYRENE											
908												
909					General Statistics							
910					Total Number of Observations	16					Number of Distinct Observations	16
911					Tolerance Factor	2.033						
912												
913				Raw Statistics						Log-Transformed Statistics		
914					Minimum	1500					Minimum	7.313
915					Maximum	15000					Maximum	9.616
916					Second Largest	8000					Second Largest	8.987
917					First Quartile	3700					First Quartile	8.211
918					Median	5550					Median	8.622
919					Third Quartile	6425					Third Quartile	8.762
920					Mean	5656					Mean	8.506
921					SD	3152					SD	0.545
922					Coefficient of Variation	0.557						
923					Skewness	1.703						
924												
925					Background Statistics							
926				Normal Distribution Test						Lognormal Distribution Test		
927					Shapiro Wilk Test Statistic	0.858					Shapiro Wilk Test Statistic	0.969
928					Shapiro Wilk Critical Value	0.887					Shapiro Wilk Critical Value	0.887
929				Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
930												
931				Assuming Normal Distribution						Assuming Lognormal Distribution		
932					95% UTL with	90% Coverage	12064			95% UTL with	90% Coverage	14988
933					95% UPL (t)	11351					95% UPL (t)	13250
934					90% Percentile (z)	9695					90% Percentile (z)	9949
935					95% Percentile (z)	10840					95% Percentile (z)	12129
936					99% Percentile (z)	12988					99% Percentile (z)	17588

	A	B	C	D	E	F	G	H	I	J	K	L
937												
938				Gamma Distribution Test						Data Distribution Test		
939					k star	3.198				Data appear Gamma Distributed at 5% Significance Level		
940					Theta Star	1769						
941					MLE of Mean	5656						
942					MLE of Standard Deviation	3163						
943					nu star	102.3						
944												
945					A-D Test Statistic	0.29				Nonparametric Statistics		
946					5% A-D Critical Value	0.742				90% Percentile		7950
947					K-S Test Statistic	0.137				95% Percentile		9750
948					5% K-S Critical Value	0.216				99% Percentile		13950
949			Data appear Gamma Distributed at 5% Significance Level									
950												
951				Assuming Gamma Distribution						95% UTL with 90% Coverage		15000
952					90% Percentile	9898				95% Percentile Bootstrap UTL with 90% Coverage		15000
953					95% Percentile	11657				95% BCA Bootstrap UTL with 90% Coverage		15000
954					99% Percentile	15457				95% UPL		15000
955										95% Chebyshev UPL		19817
956					95% WH Approx. Gamma UPL	12028				Upper Threshold Limit Based upon IQR		10513
957					95% HW Approx. Gamma UPL	12245						
958					95% WH Approx. Gamma UTL with 90% Coverage	13168						
959					95% HW Approx. Gamma UTL with 90% Coverage	13489						
960												
961												
962												
963	4,4'-DDD											
964												
965					General Statistics							
966					Total Number of Observations	16				Number of Distinct Observations		14
967					Tolerance Factor	2.033						
968												
969				Raw Statistics						Log-Transformed Statistics		
970					Minimum	34				Minimum		3.526
971					Maximum	190				Maximum		5.247
972					Second Largest	130				Second Largest		4.868
973					First Quartile	55.25				First Quartile		4.012
974					Median	80.5				Median		4.388
975					Third Quartile	93.5				Third Quartile		4.533
976					Mean	83.25				Mean		4.327
977					SD	39.47				SD		0.446
978					Coefficient of Variation	0.474						
979					Skewness	1.361						
980												
981					Background Statistics							
982				Normal Distribution Test						Lognormal Distribution Test		
983					Shapiro Wilk Test Statistic	0.892				Shapiro Wilk Test Statistic		0.98
984					Shapiro Wilk Critical Value	0.887				Shapiro Wilk Critical Value		0.887
985			Data appear Normal at 5% Significance Level							Data appear Lognormal at 5% Significance Level		
986												
987				Assuming Normal Distribution						Assuming Lognormal Distribution		
988					95% UTL with 90% Coverage	163.5				95% UTL with 90% Coverage		187.3

	A	B	C	D	E	F	G	H	I	J	K	L
989					95% UPL (t)	154.6					95% UPL (t)	169.4
990					90% Percentile (z)	133.8					90% Percentile (z)	134
991					95% Percentile (z)	148.2					95% Percentile (z)	157.6
992					99% Percentile (z)	175.1					99% Percentile (z)	213.5
993												
994				Gamma Distribution Test						Data Distribution Test		
995					k star	4.451				Data appear Normal at 5% Significance Level		
996					Theta Star	18.71						
997					MLE of Mean	83.25						
998					MLE of Standard Deviation	39.46						
999					nu star	142.4						
1000												
1001					A-D Test Statistic	0.273				Nonparametric Statistics		
1002					5% A-D Critical Value	0.741					90% Percentile	125
1003					K-S Test Statistic	0.142					95% Percentile	145
1004					5% K-S Critical Value	0.216					99% Percentile	181
1005		Data appear Gamma Distributed at 5% Significance Level										
1006												
1007				Assuming Gamma Distribution						95% UTL with	90% Coverage	190
1008					90% Percentile	136.1				95% Percentile Bootstrap UTL with	90% Coverage	190
1009					95% Percentile	156.9				95% BCA Bootstrap UTL with	90% Coverage	190
1010					99% Percentile	201.2					95% UPL	190
1011											95% Chebyshev UPL	260.6
1012					95% WH Approx. Gamma UPL	161.1					Upper Threshold Limit Based upon IQR	150.9
1013					95% HW Approx. Gamma UPL	162.7						
1014					95% WH Approx. Gamma UTL with 90% Coverage	174.4						
1015					95% HW Approx. Gamma UTL with 90% Coverage	176.9						
1016												
1017												
1018												
1019	4,4'-DDE											
1020												
1021					General Statistics							
1022					Total Number of Observations	16					Number of Distinct Observations	15
1023					Tolerance Factor	2.033						
1024												
1025				Raw Statistics						Log-Transformed Statistics		
1026					Minimum	15					Minimum	2.708
1027					Maximum	53					Maximum	3.97
1028					Second Largest	45					Second Largest	3.807
1029					First Quartile	20					First Quartile	2.996
1030					Median	27.5					Median	3.314
1031					Third Quartile	33.75					Third Quartile	3.518
1032					Mean	28.97					Mean	3.306
1033					SD	10.49					SD	0.357
1034					Coefficient of Variation	0.362						
1035					Skewness	0.793						
1036												
1037					Background Statistics							
1038				Normal Distribution Test						Lognormal Distribution Test		
1039					Shapiro Wilk Test Statistic	0.947					Shapiro Wilk Test Statistic	0.981
1040					Shapiro Wilk Critical Value	0.887					Shapiro Wilk Critical Value	0.887

	A	B	C	D	E	F	G	H	I	J	K	L
1041	Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level					
1042												
1043	Assuming Normal Distribution						Assuming Lognormal Distribution					
1044					95% UTL with 90% Coverage	50.29					95% UTL with 90% Coverage	56.43
1045					95% UPL (t)	47.92					95% UPL (t)	52.05
1046					90% Percentile (z)	42.41					90% Percentile (z)	43.14
1047					95% Percentile (z)	46.22					95% Percentile (z)	49.12
1048					99% Percentile (z)	53.37					99% Percentile (z)	62.66
1049												
1050	Gamma Distribution Test						Data Distribution Test					
1051					k star	6.968	Data appear Normal at 5% Significance Level					
1052					Theta Star	4.158						
1053					MLE of Mean	28.97						
1054					MLE of Standard Deviation	10.97						
1055					nu star	223						
1056												
1057					A-D Test Statistic	0.169	Nonparametric Statistics					
1058					5% A-D Critical Value	0.74					90% Percentile	41.75
1059					K-S Test Statistic	0.129					95% Percentile	47
1060					5% K-S Critical Value	0.215					99% Percentile	51.8
1061	Data appear Gamma Distributed at 5% Significance Level											
1062												
1063	Assuming Gamma Distribution										95% UTL with 90% Coverage	53
1064					90% Percentile	43.62					95% Percentile Bootstrap UTL with 90% Coverage	53
1065					95% Percentile	49.06					95% BCA Bootstrap UTL with 90% Coverage	49
1066					99% Percentile	60.38					95% UPL	53
1067											95% Chebyshev UPL	76.1
1068					95% WH Approx. Gamma UPL	50.06					Upper Threshold Limit Based upon IQR	54.38
1069					95% HW Approx. Gamma UPL	50.48						
1070					95% WH Approx. Gamma UTL with 90% Coverage	53.47						
1071					95% HW Approx. Gamma UTL with 90% Coverage	54.09						
1072												
1073												
1074												
1075	ALUMINUM											
1076												
1077	General Statistics											
1078					Total Number of Observations	16					Number of Distinct Observations	16
1079					Tolerance Factor	2.033						
1080												
1081	Raw Statistics						Log-Transformed Statistics					
1082					Minimum	10600					Minimum	9.269
1083					Maximum	22800					Maximum	10.03
1084					Second Largest	21300					Second Largest	9.966
1085					First Quartile	17000					First Quartile	9.739
1086					Median	18275					Median	9.813
1087					Third Quartile	19950					Third Quartile	9.901
1088					Mean	18084					Mean	9.788
1089					SD	3015					SD	0.186
1090					Coefficient of Variation	0.167						
1091					Skewness	-0.907						
1092												

	A	B	C	D	E	F	G	H	I	J	K	L
1093						Background Statistics						
1094					Normal Distribution Test					Lognormal Distribution Test		
1095					Shapiro Wilk Test Statistic	0.937				Shapiro Wilk Test Statistic		0.876
1096					Shapiro Wilk Critical Value	0.887				Shapiro Wilk Critical Value		0.887
1097					Data appear Normal at 5% Significance Level					Data not Lognormal at 5% Significance Level		
1098												
1099					Assuming Normal Distribution					Assuming Lognormal Distribution		
1100					95% UTL with 90% Coverage	24213				95% UTL with 90% Coverage		26007
1101					95% UPL (t)	23532				95% UPL (t)		24936
1102					90% Percentile (z)	21948				90% Percentile (z)		22613
1103					95% Percentile (z)	23043				95% Percentile (z)		24195
1104					99% Percentile (z)	25097				99% Percentile (z)		27466
1105												
1106					Gamma Distribution Test					Data Distribution Test		
1107					k star	27.26				Data appear Normal at 5% Significance Level		
1108					Theta Star	663.5						
1109					MLE of Mean	18084						
1110					MLE of Standard Deviation	3464						
1111					nu star	872.2						
1112												
1113					A-D Test Statistic	0.613				Nonparametric Statistics		
1114					5% A-D Critical Value	0.736				90% Percentile		21200
1115					K-S Test Statistic	0.212				95% Percentile		21675
1116					5% K-S Critical Value	0.215				99% Percentile		22575
1117					Data appear Gamma Distributed at 5% Significance Level							
1118												
1119					Assuming Gamma Distribution					95% UTL with 90% Coverage		22800
1120					90% Percentile	22641				95% Percentile Bootstrap UTL with 90% Coverage		22800
1121					95% Percentile	24134				95% BCA Bootstrap UTL with 90% Coverage		22800
1122					99% Percentile	27102				95% UPL		22800
1123										95% Chebyshev UPL		31629
1124					95% WH Approx. Gamma UPL	24346				Upper Threshold Limit Based upon IQR		24375
1125					95% HW Approx. Gamma UPL	24479						
1126					95% WH Approx. Gamma UTL with 90% Coverage	25246						
1127					95% HW Approx. Gamma UTL with 90% Coverage	25417						
1128												
1129												
1130												
1131	ARSENIC											
1132												
1133						General Statistics						
1134					Total Number of Observations	16				Number of Distinct Observations		15
1135					Tolerance Factor	2.033						
1136												
1137					Raw Statistics					Log-Transformed Statistics		
1138					Minimum	8.3				Minimum		2.116
1139					Maximum	23.5				Maximum		3.157
1140					Second Largest	22.6				Second Largest		3.118
1141					First Quartile	12.65				First Quartile		2.538
1142					Median	16.4				Median		2.796
1143					Third Quartile	18.1				Third Quartile		2.896
1144					Mean	16.13				Mean		2.742

	A	B	C	D	E	F	G	H	I	J	K	L
1145					SD	4.415					SD	0.293
1146					Coefficient of Variation	0.274						
1147					Skewness	0.0229						
1148												
1149					Background Statistics							
1150				Normal Distribution Test						Lognormal Distribution Test		
1151					Shapiro Wilk Test Statistic	0.964					Shapiro Wilk Test Statistic	0.951
1152					Shapiro Wilk Critical Value	0.887					Shapiro Wilk Critical Value	0.887
1153				Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
1154												
1155				Assuming Normal Distribution						Assuming Lognormal Distribution		
1156					95% UTL with 90% Coverage	25.1					95% UTL with 90% Coverage	28.14
1157					95% UPL (t)	24.1					95% UPL (t)	26.34
1158					90% Percentile (z)	21.78					90% Percentile (z)	22.59
1159					95% Percentile (z)	23.39					95% Percentile (z)	25.12
1160					99% Percentile (z)	26.4					99% Percentile (z)	30.66
1161												
1162				Gamma Distribution Test						Data Distribution Test		
1163					k star	10.83				Data appear Normal at 5% Significance Level		
1164					Theta Star	1.489						
1165					MLE of Mean	16.13						
1166					MLE of Standard Deviation	4.9						
1167					nu star	346.5						
1168												
1169					A-D Test Statistic	0.299				Nonparametric Statistics		
1170					5% A-D Critical Value	0.738					90% Percentile	22.35
1171					K-S Test Statistic	0.139					95% Percentile	22.83
1172					5% K-S Critical Value	0.215					99% Percentile	23.37
1173				Data appear Gamma Distributed at 5% Significance Level								
1174												
1175				Assuming Gamma Distribution							95% UTL with 90% Coverage	23.5
1176					90% Percentile	22.64					95% Percentile Bootstrap UTL with 90% Coverage	23.5
1177					95% Percentile	24.94					95% BCA Bootstrap UTL with 90% Coverage	23.5
1178					99% Percentile	29.65					95% UPL	23.5
1179											95% Chebyshev UPL	35.96
1180					95% WH Approx. Gamma UPL	25.33					Upper Threshold Limit Based upon IQR	26.28
1181					95% HW Approx. Gamma UPL	25.55						
1182					95% WH Approx. Gamma UTL with 90% Coverage	26.75						
1183					95% HW Approx. Gamma UTL with 90% Coverage	27.05						
1184												
1185												
1186												
1187	BARIUM											
1188												
1189					General Statistics							
1190					Total Number of Observations	16					Number of Distinct Observations	16
1191					Tolerance Factor	2.033						
1192												
1193				Raw Statistics						Log-Transformed Statistics		
1194					Minimum	58.1					Minimum	4.062
1195					Maximum	290					Maximum	5.67
1196					Second Largest	251					Second Largest	5.525

	A	B	C	D	E	F	G	H	I	J	K	L
1197					First Quartile	113.5					First Quartile	4.731
1198					Median	178					Median	5.182
1199					Third Quartile	220.8					Third Quartile	5.397
1200					Mean	171.7					Mean	5.068
1201					SD	64.36					SD	0.428
1202					Coefficient of Variation	0.375						
1203					Skewness	0.0102						
1204												
1205					Background Statistics							
1206			Normal Distribution Test						Lognormal Distribution Test			
1207					Shapiro Wilk Test Statistic	0.965					Shapiro Wilk Test Statistic	0.93
1208					Shapiro Wilk Critical Value	0.887					Shapiro Wilk Critical Value	0.887
1209			Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level			
1210												
1211			Assuming Normal Distribution						Assuming Lognormal Distribution			
1212					95% UTL with 90% Coverage	302.5					95% UTL with 90% Coverage	379.3
1213					95% UPL (t)	288					95% UPL (t)	344.3
1214					90% Percentile (z)	254.1					90% Percentile (z)	275
1215					95% Percentile (z)	277.5					95% Percentile (z)	321.2
1216					99% Percentile (z)	321.4					99% Percentile (z)	430
1217												
1218			Gamma Distribution Test						Data Distribution Test			
1219					k star	5.416			Data appear Normal at 5% Significance Level			
1220					Theta Star	31.7						
1221					MLE of Mean	171.7						
1222					MLE of Standard Deviation	73.76						
1223					nu star	173.3						
1224												
1225					A-D Test Statistic	0.4			Nonparametric Statistics			
1226					5% A-D Critical Value	0.741					90% Percentile	239.5
1227					K-S Test Statistic	0.138					95% Percentile	260.8
1228					5% K-S Critical Value	0.216					99% Percentile	284.2
1229			Data appear Gamma Distributed at 5% Significance Level									
1230												
1231			Assuming Gamma Distribution						95% UTL with 90% Coverage			290
1232					90% Percentile	270.4			95% Percentile Bootstrap UTL with 90% Coverage			290
1233					95% Percentile	308.2			95% BCA Bootstrap UTL with 90% Coverage			290
1234					99% Percentile	387.8					95% UPL	290
1235											95% Chebyshev UPL	460.8
1236					95% WH Approx. Gamma UPL	315.9			Upper Threshold Limit Based upon IQR			381.6
1237					95% HW Approx. Gamma UPL	321.6						
1238					95% WH Approx. Gamma UTL with 90% Coverage	339.8						
1239					95% HW Approx. Gamma UTL with 90% Coverage	347.6						
1240												
1241												
1242												
1243	BERYLLIUM											
1244												
1245					General Statistics							
1246					Total Number of Observations	16			Number of Distinct Observations			8
1247					Tolerance Factor	2.033						
1248												

	A	B	C	D	E	F	G	H	I	J	K	L
1249					Raw Statistics						Log-Transformed Statistics	
1250					Minimum	0.92					Minimum	-0.0834
1251					Maximum	2.3					Maximum	0.833
1252					Second Largest	2					Second Largest	0.693
1253					First Quartile	1.5					First Quartile	0.405
1254					Median	1.6					Median	0.47
1255					Third Quartile	1.9					Third Quartile	0.642
1256					Mean	1.673					Mean	0.496
1257					SD	0.317					SD	0.208
1258					Coefficient of Variation	0.19						
1259					Skewness	-0.361						
1260												
1261												
1262					Background Statistics							
1263					Normal Distribution Test						Lognormal Distribution Test	
1264					Shapiro Wilk Test Statistic	0.947					Shapiro Wilk Test Statistic	0.893
1265					Shapiro Wilk Critical Value	0.887					Shapiro Wilk Critical Value	0.887
1266					Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level	
1267												
1268					Assuming Normal Distribution						Assuming Lognormal Distribution	
1269					95% UTL with 90% Coverage	2.318					95% UTL with 90% Coverage	2.505
1270					95% UPL (t)	2.246					95% UPL (t)	2.39
1271					90% Percentile (z)	2.08					90% Percentile (z)	2.143
1272					95% Percentile (z)	2.195					95% Percentile (z)	2.311
1273					99% Percentile (z)	2.411					99% Percentile (z)	2.662
1274												
1275					Gamma Distribution Test						Data Distribution Test	
1276					k star	21.74					Data appear Normal at 5% Significance Level	
1277					Theta Star	0.077						
1278					MLE of Mean	1.673						
1279					MLE of Standard Deviation	0.359						
1280					nu star	695.5						
1281												
1282					A-D Test Statistic	0.524					Nonparametric Statistics	
1283					5% A-D Critical Value	0.736					90% Percentile	1.95
1284					K-S Test Statistic	0.144					95% Percentile	2.075
1285					5% K-S Critical Value	0.215					99% Percentile	2.255
1286					Data appear Gamma Distributed at 5% Significance Level							
1287												
1288					Assuming Gamma Distribution						95% UTL with 90% Coverage	2.3
1289					90% Percentile	2.146					95% Percentile Bootstrap UTL with 90% Coverage	2.3
1290					95% Percentile	2.304					95% BCA Bootstrap UTL with 90% Coverage	2.15
1291					99% Percentile	2.619					95% UPL	2.3
1292											95% Chebyshev UPL	3.098
1293					95% WH Approx. Gamma UPL	2.327					Upper Threshold Limit Based upon IQR	2.5
1294					95% HW Approx. Gamma UPL	2.341						
1295					95% WH Approx. Gamma UTL with 90% Coverage	2.422						
1296					95% HW Approx. Gamma UTL with 90% Coverage	2.44						
1297												
1298												
1299												
1300	CADMIUM											

	A	B	C	D	E	F	G	H	I	J	K	L
1301												
1302						General Statistics						
1303					Total Number of Observations	16				Number of Distinct Observations		11
1304					Tolerance Factor	2.033						
1305												
1306				Raw Statistics						Log-Transformed Statistics		
1307					Minimum	1.4				Minimum		0.336
1308					Maximum	3.9				Maximum		1.361
1309					Second Largest	3.2				Second Largest		1.163
1310					First Quartile	2.4				First Quartile		0.875
1311					Median	2.525				Median		0.926
1312					Third Quartile	2.65				Third Quartile		0.974
1313					Mean	2.559				Mean		0.917
1314					SD	0.552				SD		0.227
1315					Coefficient of Variation	0.216						
1316					Skewness	0.326						
1317												
1318						Background Statistics						
1319				Normal Distribution Test						Lognormal Distribution Test		
1320					Shapiro Wilk Test Statistic	0.918				Shapiro Wilk Test Statistic		0.898
1321					Shapiro Wilk Critical Value	0.887				Shapiro Wilk Critical Value		0.887
1322				Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
1323												
1324				Assuming Normal Distribution						Assuming Lognormal Distribution		
1325					95% UTL with 90% Coverage	3.682				95% UTL with 90% Coverage		3.969
1326					95% UPL (t)	3.557				95% UPL (t)		3.77
1327					90% Percentile (z)	3.267				90% Percentile (z)		3.346
1328					95% Percentile (z)	3.468				95% Percentile (z)		3.634
1329					99% Percentile (z)	3.844				99% Percentile (z)		4.242
1330												
1331				Gamma Distribution Test						Data Distribution Test		
1332					k star	17.81				Data appear Normal at 5% Significance Level		
1333					Theta Star	0.144						
1334					MLE of Mean	2.559						
1335					MLE of Standard Deviation	0.607						
1336					nu star	569.8						
1337												
1338					A-D Test Statistic	0.763				Nonparametric Statistics		
1339					5% A-D Critical Value	0.736				90% Percentile		3.1
1340					K-S Test Statistic	0.223				95% Percentile		3.375
1341					5% K-S Critical Value	0.215				99% Percentile		3.795
1342				Data not Gamma Distributed at 5% Significance Level								
1343												
1344				Assuming Gamma Distribution						95% UTL with 90% Coverage		3.9
1345					90% Percentile	3.361				95% Percentile Bootstrap UTL with 90% Coverage		3.9
1346					95% Percentile	3.632				95% BCA Bootstrap UTL with 90% Coverage		3.55
1347					99% Percentile	4.177				95% UPL		3.9
1348										95% Chebyshev UPL		5.041
1349					95% WH Approx. Gamma UPL	3.673				Upper Threshold Limit Based upon IQR		3.025
1350					95% HW Approx. Gamma UPL	3.694						
1351					95% WH Approx. Gamma UTL with 90% Coverage	3.837						
1352					95% HW Approx. Gamma UTL with 90% Coverage	3.866						

	A	B	C	D	E	F	G	H	I	J	K	L
1353												
1354												
1355												
1356	CALCIUM											
1357												
1358						General Statistics						
1359					Total Number of Observations	16				Number of Distinct Observations		16
1360					Tolerance Factor	2.033						
1361												
1362				Raw Statistics						Log-Transformed Statistics		
1363					Minimum	3540				Minimum		8.172
1364					Maximum	8000				Maximum		8.987
1365					Second Largest	7510				Second Largest		8.924
1366					First Quartile	5313				First Quartile		8.577
1367					Median	5930				Median		8.688
1368					Third Quartile	6690				Third Quartile		8.808
1369					Mean	5857				Mean		8.651
1370					SD	1279				SD		0.237
1371					Coefficient of Variation	0.218						
1372					Skewness	-0.359						
1373												
1374						Background Statistics						
1375				Normal Distribution Test						Lognormal Distribution Test		
1376					Shapiro Wilk Test Statistic	0.965				Shapiro Wilk Test Statistic		0.927
1377					Shapiro Wilk Critical Value	0.887				Shapiro Wilk Critical Value		0.887
1378				Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
1379												
1380				Assuming Normal Distribution						Assuming Lognormal Distribution		
1381					95% UTL with 90% Coverage	8456				95% UTL with 90% Coverage		9246
1382					95% UPL (t)	8167				95% UPL (t)		8765
1383					90% Percentile (z)	7495				90% Percentile (z)		7739
1384					95% Percentile (z)	7960				95% Percentile (z)		8434
1385					99% Percentile (z)	8831				99% Percentile (z)		9912
1386												
1387				Gamma Distribution Test						Data Distribution Test		
1388					k star	16.56				Data appear Normal at 5% Significance Level		
1389					Theta Star	353.7						
1390					MLE of Mean	5857						
1391					MLE of Standard Deviation	1439						
1392					nu star	529.8						
1393												
1394					A-D Test Statistic	0.396				Nonparametric Statistics		
1395					5% A-D Critical Value	0.736				90% Percentile		7245
1396					K-S Test Statistic	0.153				95% Percentile		7633
1397					5% K-S Critical Value	0.215				99% Percentile		7927
1398				Data appear Gamma Distributed at 5% Significance Level								
1399												
1400				Assuming Gamma Distribution						95% UTL with 90% Coverage		8000
1401					90% Percentile	7760				95% Percentile Bootstrap UTL with 90% Coverage		8000
1402					95% Percentile	8407				95% BCA Bootstrap UTL with 90% Coverage		8000
1403					99% Percentile	9714				95% UPL		8000
1404										95% Chebyshev UPL		11602

	A	B	C	D	E	F	G	H	I	J	K	L
1405					95% WH Approx. Gamma UPL	8509				Upper Threshold Limit Based upon IQR		8756
1406					95% HW Approx. Gamma UPL	8566						
1407				95% WH Approx. Gamma UTL with	90% Coverage	8904						
1408				95% HW Approx. Gamma UTL with	90% Coverage	8980						
1409												
1410												
1411												
1412	CHROMIUM											
1413												
1414						General Statistics						
1415					Total Number of Observations	16				Number of Distinct Observations		16
1416					Tolerance Factor	2.033						
1417												
1418				Raw Statistics						Log-Transformed Statistics		
1419					Minimum	30.4					Minimum	3.414
1420					Maximum	76.7					Maximum	4.34
1421					Second Largest	65.9					Second Largest	4.188
1422					First Quartile	45.93					First Quartile	3.819
1423					Median	54.85					Median	4.004
1424					Third Quartile	59.01					Third Quartile	4.078
1425					Mean	52.28					Mean	3.924
1426					SD	13.13					SD	0.272
1427					Coefficient of Variation	0.251						
1428					Skewness	-0.225						
1429												
1430						Background Statistics						
1431				Normal Distribution Test						Lognormal Distribution Test		
1432					Shapiro Wilk Test Statistic	0.945					Shapiro Wilk Test Statistic	0.908
1433					Shapiro Wilk Critical Value	0.887					Shapiro Wilk Critical Value	0.887
1434				Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
1435												
1436				Assuming Normal Distribution						Assuming Lognormal Distribution		
1437					95% UTL with	90% Coverage 78.97					95% UTL with	90% Coverage 88.03
1438					95% UPL (t)	76					95% UPL (t)	82.77
1439					90% Percentile (z)	69.11					90% Percentile (z)	71.74
1440					95% Percentile (z)	73.87					95% Percentile (z)	79.2
1441					99% Percentile (z)	82.82					99% Percentile (z)	95.35
1442												
1443				Gamma Distribution Test						Data Distribution Test		
1444					k star	12.56				Data appear Normal at 5% Significance Level		
1445					Theta Star	4.163						
1446					MLE of Mean	52.28						
1447					MLE of Standard Deviation	14.75						
1448					nu star	401.9						
1449												
1450					A-D Test Statistic	0.622				Nonparametric Statistics		
1451					5% A-D Critical Value	0.738					90% Percentile	65.85
1452					K-S Test Statistic	0.187					95% Percentile	68.6
1453					5% K-S Critical Value	0.215					99% Percentile	75.08
1454				Data appear Gamma Distributed at 5% Significance Level								
1455												
1456				Assuming Gamma Distribution							95% UTL with	90% Coverage 76.7

	A	B	C	D	E	F	G	H	I	J	K	L
1457					90% Percentile	71.86			95% Percentile Bootstrap UTL with		90% Coverage	76.7
1458					95% Percentile	78.68			95% BCA Bootstrap UTL with		90% Coverage	76.7
1459					99% Percentile	92.57					95% UPL	76.7
1460											95% Chebyshev UPL	111.3
1461				95% WH Approx. Gamma UPL		79.81					Upper Threshold Limit Based upon IQR	78.64
1462				95% HW Approx. Gamma UPL		80.47						
1463			95% WH Approx. Gamma UTL with		90% Coverage	84.01						
1464			95% HW Approx. Gamma UTL with		90% Coverage	84.89						
1465												
1466												
1467												
1468	COBALT											
1469												
1470					General Statistics							
1471				Total Number of Observations		16				Number of Distinct Observations		16
1472				Tolerance Factor		2.033						
1473												
1474				Raw Statistics						Log-Transformed Statistics		
1475				Minimum		5.5				Minimum		1.705
1476				Maximum		24.2				Maximum		3.186
1477				Second Largest		18.2				Second Largest		2.901
1478				First Quartile		8.475				First Quartile		2.137
1479				Median		11.65				Median		2.454
1480				Third Quartile		16.33				Third Quartile		2.792
1481				Mean		12.47				Mean		2.443
1482				SD		5.167				SD		0.415
1483				Coefficient of Variation		0.414						
1484				Skewness		0.716						
1485												
1486					Background Statistics							
1487				Normal Distribution Test						Lognormal Distribution Test		
1488				Shapiro Wilk Test Statistic		0.938				Shapiro Wilk Test Statistic		0.974
1489				Shapiro Wilk Critical Value		0.887				Shapiro Wilk Critical Value		0.887
1490				Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
1491												
1492				Assuming Normal Distribution						Assuming Lognormal Distribution		
1493				95% UTL with	90% Coverage	22.97				95% UTL with	90% Coverage	26.77
1494				95% UPL (t)		21.81				95% UPL (t)		24.37
1495				90% Percentile (z)		19.09				90% Percentile (z)		19.59
1496				95% Percentile (z)		20.97				95% Percentile (z)		22.78
1497				99% Percentile (z)		24.49				99% Percentile (z)		30.23
1498												
1499				Gamma Distribution Test						Data Distribution Test		
1500				k star		5.256				Data appear Normal at 5% Significance Level		
1501				Theta Star		2.372						
1502				MLE of Mean		12.47						
1503				MLE of Standard Deviation		5.438						
1504				nu star		168.2						
1505												
1506				A-D Test Statistic		0.266				Nonparametric Statistics		
1507				5% A-D Critical Value		0.741				90% Percentile		17.95
1508				K-S Test Statistic		0.137				95% Percentile		19.7

	A	B	C	D	E	F	G	H	I	J	K	L
1509					5% K-S Critical Value	0.216					99% Percentile	23.3
1510			Data appear Gamma Distributed at 5% Significance Level									
1511												
1512			Assuming Gamma Distribution								95% UTL with 90% Coverage	24.2
1513					90% Percentile	19.75				95% Percentile Bootstrap UTL with	90% Coverage	24.2
1514					95% Percentile	22.55				95% BCA Bootstrap UTL with	90% Coverage	21.2
1515					99% Percentile	28.45					95% UPL	24.2
1516											95% Chebyshev UPL	35.69
1517					95% WH Approx. Gamma UPL	23.1					Upper Threshold Limit Based upon IQR	28.1
1518					95% HW Approx. Gamma UPL	23.37						
1519				95% WH Approx. Gamma UTL with	90% Coverage	24.88						
1520				95% HW Approx. Gamma UTL with	90% Coverage	25.27						
1521												
1522												
1523												
1524	COPPER											
1525												
1526					General Statistics							
1527					Total Number of Observations	16					Number of Distinct Observations	16
1528					Tolerance Factor	2.033						
1529												
1530				Raw Statistics						Log-Transformed Statistics		
1531					Minimum	29.1					Minimum	3.371
1532					Maximum	66.5					Maximum	4.197
1533					Second Largest	61.6					Second Largest	4.121
1534					First Quartile	47.01					First Quartile	3.85
1535					Median	48.6					Median	3.884
1536					Third Quartile	54.1					Third Quartile	3.991
1537					Mean	49.67					Mean	3.89
1538					SD	8.698					SD	0.189
1539					Coefficient of Variation	0.175						
1540					Skewness	-0.3						
1541												
1542					Background Statistics							
1543				Normal Distribution Test						Lognormal Distribution Test		
1544					Shapiro Wilk Test Statistic	0.962					Shapiro Wilk Test Statistic	0.915
1545					Shapiro Wilk Critical Value	0.887					Shapiro Wilk Critical Value	0.887
1546				Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
1547												
1548				Assuming Normal Distribution						Assuming Lognormal Distribution		
1549					95% UTL with 90% Coverage	67.35					95% UTL with 90% Coverage	71.77
1550					95% UPL (t)	65.38					95% UPL (t)	68.77
1551					90% Percentile (z)	60.81					90% Percentile (z)	62.27
1552					95% Percentile (z)	63.97					95% Percentile (z)	66.7
1553					99% Percentile (z)	69.9					99% Percentile (z)	75.85
1554												
1555				Gamma Distribution Test						Data Distribution Test		
1556					k star	25.95				Data appear Normal at 5% Significance Level		
1557					Theta Star	1.914						
1558					MLE of Mean	49.67						
1559					MLE of Standard Deviation	9.749						
1560					nu star	830.5						

	A	B	C	D	E	F	G	H	I	J	K	L
1561												
1562					A-D Test Statistic	0.413			Nonparametric Statistics			
1563					5% A-D Critical Value	0.736					90% Percentile	59.75
1564					K-S Test Statistic	0.177					95% Percentile	62.83
1565					5% K-S Critical Value	0.215					99% Percentile	65.77
1566		Data appear Gamma Distributed at 5% Significance Level										
1567												
1568			Assuming Gamma Distribution							95% UTL with	90% Coverage	66.5
1569					90% Percentile	62.5			95% Percentile Bootstrap UTL with		90% Coverage	66.5
1570					95% Percentile	66.71			95% BCA Bootstrap UTL with		90% Coverage	64.05
1571					99% Percentile	75.11					95% UPL	66.5
1572											95% Chebyshev UPL	88.75
1573					95% WH Approx. Gamma UPL	67.31					Upper Threshold Limit Based upon IQR	64.73
1574					95% HW Approx. Gamma UPL	67.64						
1575				95% WH Approx. Gamma UTL with	90% Coverage	69.86						
1576				95% HW Approx. Gamma UTL with	90% Coverage	70.28						
1577												
1578												
1579												
1580	IRON											
1581												
1582					General Statistics							
1583					Total Number of Observations	16					Number of Distinct Observations	16
1584					Tolerance Factor	2.033						
1585												
1586					Raw Statistics				Log-Transformed Statistics			
1587					Minimum	11100					Minimum	9.315
1588					Maximum	31400					Maximum	10.35
1589					Second Largest	28400					Second Largest	10.25
1590					First Quartile	15413					First Quartile	9.643
1591					Median	19150					Median	9.86
1592					Third Quartile	23725					Third Quartile	10.07
1593					Mean	19716					Mean	9.848
1594					SD	5801					SD	0.299
1595					Coefficient of Variation	0.294						
1596					Skewness	0.43						
1597												
1598					Background Statistics							
1599					Normal Distribution Test				Lognormal Distribution Test			
1600					Shapiro Wilk Test Statistic	0.971					Shapiro Wilk Test Statistic	0.98
1601					Shapiro Wilk Critical Value	0.887					Shapiro Wilk Critical Value	0.887
1602					Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level			
1603												
1604					Assuming Normal Distribution				Assuming Lognormal Distribution			
1605					95% UTL with	90% Coverage	31509				95% UTL with	90% Coverage	34771
1606					95% UPL (t)	30198					95% UPL (t)	32496
1607					90% Percentile (z)	27150					90% Percentile (z)	27766
1608					95% Percentile (z)	29258					95% Percentile (z)	30957
1609					99% Percentile (z)	33211					99% Percentile (z)	37963
1610												
1611					Gamma Distribution Test				Data Distribution Test			
1612					k star	10.02			Data appear Normal at 5% Significance Level			

	A	B	C	D	E	F	G	H	I	J	K	L
1613					Theta Star	1967						
1614					MLE of Mean	19716						
1615					MLE of Standard Deviation	6228						
1616					nu star	320.7						
1617												
1618					A-D Test Statistic	0.134			Nonparametric Statistics			
1619					5% A-D Critical Value	0.738					90% Percentile	27050
1620					K-S Test Statistic	0.0822					95% Percentile	29150
1621					5% K-S Critical Value	0.215					99% Percentile	30950
1622		Data appear Gamma Distributed at 5% Significance Level										
1623												
1624			Assuming Gamma Distribution							95% UTL with	90% Coverage	31400
1625					90% Percentile	27998			95% Percentile Bootstrap UTL with		90% Coverage	31400
1626					95% Percentile	30950			95% BCA Bootstrap UTL with		90% Coverage	31400
1627					99% Percentile	37009					95% UPL	31400
1628											95% Chebyshev UPL	45781
1629					95% WH Approx. Gamma UPL	31456					Upper Threshold Limit Based upon IQR	36194
1630					95% HW Approx. Gamma UPL	31682						
1631				95% WH Approx. Gamma UTL with	90% Coverage	33284						
1632				95% HW Approx. Gamma UTL with	90% Coverage	33604						
1633												
1634												
1635												
1636	LEAD											
1637												
1638					General Statistics							
1639					Total Number of Observations	16					Number of Distinct Observations	14
1640					Tolerance Factor	2.033						
1641												
1642			Raw Statistics						Log-Transformed Statistics			
1643					Minimum	62.7					Minimum	4.138
1644					Maximum	232					Maximum	5.447
1645					Second Largest	208					Second Largest	5.338
1646					First Quartile	132.5					First Quartile	4.887
1647					Median	144.5					Median	4.973
1648					Third Quartile	166					Third Quartile	5.112
1649					Mean	146.3					Mean	4.942
1650					SD	41.73					SD	0.319
1651					Coefficient of Variation	0.285						
1652					Skewness	0.0429						
1653												
1654					Background Statistics							
1655			Normal Distribution Test						Lognormal Distribution Test			
1656					Shapiro Wilk Test Statistic	0.97					Shapiro Wilk Test Statistic	0.922
1657					Shapiro Wilk Critical Value	0.887					Shapiro Wilk Critical Value	0.887
1658			Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level			
1659												
1660			Assuming Normal Distribution						Assuming Lognormal Distribution			
1661				95% UTL with	90% Coverage	231.1				95% UTL with	90% Coverage	267.8
1662					95% UPL (t)	221.7					95% UPL (t)	249.2
1663					90% Percentile (z)	199.8					90% Percentile (z)	210.7
1664					95% Percentile (z)	214.9					95% Percentile (z)	236.6

	A	B	C	D	E	F	G	H	I	J	K	L
1665					99% Percentile (z)	243.4					99% Percentile (z)	294
1666												
1667				Gamma Distribution Test						Data Distribution Test		
1668					k star	9.52				Data appear Normal at 5% Significance Level		
1669					Theta Star	15.37						
1670					MLE of Mean	146.3						
1671					MLE of Standard Deviation	47.41						
1672					nu star	304.6						
1673												
1674					A-D Test Statistic	0.425				Nonparametric Statistics		
1675					5% A-D Critical Value	0.739					90% Percentile	191.5
1676					K-S Test Statistic	0.205					95% Percentile	214
1677					5% K-S Critical Value	0.215					99% Percentile	228.4
1678		Data appear Gamma Distributed at 5% Significance Level										
1679												
1680				Assuming Gamma Distribution						95% UTL with	90% Coverage	232
1681					90% Percentile	209.4			95% Percentile Bootstrap UTL with		90% Coverage	232
1682					95% Percentile	232			95% BCA Bootstrap UTL with		90% Coverage	220
1683					99% Percentile	278.5					95% UPL	232
1684											95% Chebyshev UPL	333.8
1685					95% WH Approx. Gamma UPL	235.9				Upper Threshold Limit Based upon IQR		216.3
1686					95% HW Approx. Gamma UPL	238.7						
1687				95% WH Approx. Gamma UTL with	90% Coverage	249.9						
1688				95% HW Approx. Gamma UTL with	90% Coverage	253.6						
1689												
1690												
1691												
1692	MAGNESIUM											
1693												
1694					General Statistics							
1695					Total Number of Observations	16				Number of Distinct Observations		16
1696					Tolerance Factor	2.033						
1697												
1698				Raw Statistics						Log-Transformed Statistics		
1699					Minimum	3710					Minimum	8.219
1700					Maximum	8490					Maximum	9.047
1701					Second Largest	7620					Second Largest	8.939
1702					First Quartile	5158					First Quartile	8.544
1703					Median	6203					Median	8.733
1704					Third Quartile	6753					Third Quartile	8.818
1705					Mean	5915					Mean	8.656
1706					SD	1398					SD	0.255
1707					Coefficient of Variation	0.236						
1708					Skewness	-0.247						
1709												
1710					Background Statistics							
1711				Normal Distribution Test						Lognormal Distribution Test		
1712					Shapiro Wilk Test Statistic	0.934					Shapiro Wilk Test Statistic	0.896
1713					Shapiro Wilk Critical Value	0.887					Shapiro Wilk Critical Value	0.887
1714				Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
1715												
1716				Assuming Normal Distribution						Assuming Lognormal Distribution		

	A	B	C	D	E	F	G	H	I	J	K	L
1717					95% UTL with 90% Coverage	8756				95% UTL with 90% Coverage		9647
1718					95% UPL (t)	8440					95% UPL (t)	9107
1719					90% Percentile (z)	7706					90% Percentile (z)	7966
1720					95% Percentile (z)	8214					95% Percentile (z)	8739
1721					99% Percentile (z)	9166					99% Percentile (z)	10396
1722												
1723			Gamma Distribution Test						Data Distribution Test			
1724					k star	14.26			Data appear Normal at 5% Significance Level			
1725					Theta Star	414.8						
1726					MLE of Mean	5915						
1727					MLE of Standard Deviation	1566						
1728					nu star	456.3						
1729												
1730					A-D Test Statistic	0.68			Nonparametric Statistics			
1731					5% A-D Critical Value	0.737					90% Percentile	7255
1732					K-S Test Statistic	0.2					95% Percentile	7838
1733					5% K-S Critical Value	0.215					99% Percentile	8360
1734		Data appear Gamma Distributed at 5% Significance Level										
1735												
1736			Assuming Gamma Distribution								95% UTL with 90% Coverage	8490
1737					90% Percentile	7990					95% Percentile Bootstrap UTL with 90% Coverage	8490
1738					95% Percentile	8704					95% BCA Bootstrap UTL with 90% Coverage	8490
1739					99% Percentile	10154					95% UPL	8490
1740											95% Chebyshev UPL	12194
1741					95% WH Approx. Gamma UPL	8820					Upper Threshold Limit Based upon IQR	9145
1742					95% HW Approx. Gamma UPL	8884						
1743					95% WH Approx. Gamma UTL with 90% Coverage	9258						
1744					95% HW Approx. Gamma UTL with 90% Coverage	9344						
1745												
1746												
1747												
1748	MANGANESE											
1749												
1750					General Statistics							
1751					Total Number of Observations	16					Number of Distinct Observations	16
1752					Tolerance Factor	2.033						
1753												
1754			Raw Statistics						Log-Transformed Statistics			
1755					Minimum	156					Minimum	5.05
1756					Maximum	792					Maximum	6.675
1757					Second Largest	625					Second Largest	6.438
1758					First Quartile	229.5					First Quartile	5.436
1759					Median	321					Median	5.768
1760					Third Quartile	510.8					Third Quartile	6.235
1761					Mean	373.9					Mean	5.815
1762					SD	183.4					SD	0.48
1763					Coefficient of Variation	0.49						
1764					Skewness	0.871						
1765												
1766					Background Statistics							
1767			Normal Distribution Test						Lognormal Distribution Test			
1768					Shapiro Wilk Test Statistic	0.913					Shapiro Wilk Test Statistic	0.964

	A	B	C	D	E	F	G	H	I	J	K	L
1769					Shapiro Wilk Critical Value	0.887					Shapiro Wilk Critical Value	0.887
1770				Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
1771												
1772				Assuming Normal Distribution						Assuming Lognormal Distribution		
1773					95% UTL with 90% Coverage	746.7					95% UTL with 90% Coverage	889.5
1774					95% UPL (t)	705.2					95% UPL (t)	798.1
1775					90% Percentile (z)	608.9					90% Percentile (z)	620.3
1776					95% Percentile (z)	675.5					95% Percentile (z)	738.4
1777					99% Percentile (z)	800.5					99% Percentile (z)	1024
1778												
1779				Gamma Distribution Test						Data Distribution Test		
1780					k star	3.914				Data appear Normal at 5% Significance Level		
1781					Theta Star	95.53						
1782					MLE of Mean	373.9						
1783					MLE of Standard Deviation	189						
1784					nu star	125.3						
1785												
1786					A-D Test Statistic	0.343				Nonparametric Statistics		
1787					5% A-D Critical Value	0.741					90% Percentile	588.5
1788					K-S Test Statistic	0.136					95% Percentile	666.8
1789					5% K-S Critical Value	0.216					99% Percentile	767
1790				Data appear Gamma Distributed at 5% Significance Level								
1791												
1792				Assuming Gamma Distribution							95% UTL with 90% Coverage	792
1793					90% Percentile	627.3					95% Percentile Bootstrap UTL with 90% Coverage	792
1794					95% Percentile	729					95% BCA Bootstrap UTL with 90% Coverage	708.5
1795					99% Percentile	946.5					95% UPL	792
1796											95% Chebyshev UPL	1198
1797					95% WH Approx. Gamma UPL	750.7					Upper Threshold Limit Based upon IQR	932.6
1798					95% HW Approx. Gamma UPL	760.2						
1799					95% WH Approx. Gamma UTL with 90% Coverage	816.2						
1800					95% HW Approx. Gamma UTL with 90% Coverage	830.8						
1801												
1802												
1803												
1804	MERCURY											
1805												
1806					General Statistics							
1807					Total Number of Observations	16					Number of Distinct Observations	9
1808					Tolerance Factor	2.033						
1809												
1810				Raw Statistics						Log-Transformed Statistics		
1811					Minimum	0.13					Minimum	-2.04
1812					Maximum	0.25					Maximum	-1.386
1813					Second Largest	0.23					Second Largest	-1.47
1814					First Quartile	0.17					First Quartile	-1.772
1815					Median	0.18					Median	-1.715
1816					Third Quartile	0.2					Third Quartile	-1.609
1817					Mean	0.185					Mean	-1.696
1818					SD	0.0279					SD	0.149
1819					Coefficient of Variation	0.151						
1820					Skewness	0.591						

	A	B	C	D	E	F	G	H	I	J	K	L
1821												
1822												
1823						Background Statistics						
1824				Normal Distribution Test						Lognormal Distribution Test		
1825						Shapiro Wilk Test Statistic	0.932				Shapiro Wilk Test Statistic	0.942
1826						Shapiro Wilk Critical Value	0.887				Shapiro Wilk Critical Value	0.887
1827				Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
1828												
1829				Assuming Normal Distribution						Assuming Lognormal Distribution		
1830					95% UTL with	90% Coverage	0.242				95% UTL with 90% Coverage	0.249
1831						95% UPL (t)	0.236				95% UPL (t)	0.24
1832						90% Percentile (z)	0.221				90% Percentile (z)	0.222
1833						95% Percentile (z)	0.231				95% Percentile (z)	0.235
1834						99% Percentile (z)	0.25				99% Percentile (z)	0.26
1835												
1836				Gamma Distribution Test						Data Distribution Test		
1837						k star	38.97			Data appear Normal at 5% Significance Level		
1838						Theta Star	0.00476					
1839						MLE of Mean	0.185					
1840						MLE of Standard Deviation	0.0297					
1841						nu star	1247					
1842												
1843						A-D Test Statistic	0.484			Nonparametric Statistics		
1844						5% A-D Critical Value	0.735				90% Percentile	0.215
1845						K-S Test Statistic	0.17				95% Percentile	0.235
1846						5% K-S Critical Value	0.214				99% Percentile	0.247
1847				Data appear Gamma Distributed at 5% Significance Level								
1848												
1849				Assuming Gamma Distribution							95% UTL with 90% Coverage	0.25
1850						90% Percentile	0.224				95% Percentile Bootstrap UTL with 90% Coverage	0.25
1851						95% Percentile	0.237				95% BCA Bootstrap UTL with 90% Coverage	0.24
1852						99% Percentile	0.261				95% UPL	0.25
1853											95% Chebyshev UPL	0.311
1854						95% WH Approx. Gamma UPL	0.238				Upper Threshold Limit Based upon IQR	0.245
1855						95% HW Approx. Gamma UPL	0.239					
1856						95% WH Approx. Gamma UTL with 90% Coverage	0.246					
1857						95% HW Approx. Gamma UTL with 90% Coverage	0.246					
1858												
1859												
1860												
1861	NICKEL											
1862												
1863						General Statistics						
1864						Total Number of Observations	16				Number of Distinct Observations	16
1865						Tolerance Factor	2.033					
1866												
1867				Raw Statistics						Log-Transformed Statistics		
1868						Minimum	25				Minimum	3.219
1869						Maximum	55.5				Maximum	4.016
1870						Second Largest	52.8				Second Largest	3.967
1871						First Quartile	33.26				First Quartile	3.504
1872						Median	37.25				Median	3.617

	A	B	C	D	E	F	G	H	I	J	K	L
1873					Third Quartile	43.15					Third Quartile	3.765
1874					Mean	38.25					Mean	3.616
1875					SD	9.325					SD	0.246
1876					Coefficient of Variation	0.244						
1877					Skewness	0.36						
1878												
1879					Background Statistics							
1880			Normal Distribution Test						Lognormal Distribution Test			
1881					Shapiro Wilk Test Statistic	0.95					Shapiro Wilk Test Statistic	0.954
1882					Shapiro Wilk Critical Value	0.887					Shapiro Wilk Critical Value	0.887
1883			Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level			
1884												
1885			Assuming Normal Distribution						Assuming Lognormal Distribution			
1886					95% UTL with 90% Coverage	57.2					95% UTL with 90% Coverage	61.34
1887					95% UPL (t)	55.1					95% UPL (t)	58.02
1888					90% Percentile (z)	50.2					90% Percentile (z)	50.98
1889					95% Percentile (z)	53.58					95% Percentile (z)	55.75
1890					99% Percentile (z)	59.94					99% Percentile (z)	65.93
1891												
1892			Gamma Distribution Test						Data Distribution Test			
1893					k star	14.63			Data appear Normal at 5% Significance Level			
1894					Theta Star	2.614						
1895					MLE of Mean	38.25						
1896					MLE of Standard Deviation	10						
1897					nu star	468.1						
1898												
1899					A-D Test Statistic	0.265			Nonparametric Statistics			
1900					5% A-D Critical Value	0.737					90% Percentile	51.6
1901					K-S Test Statistic	0.111					95% Percentile	53.48
1902					5% K-S Critical Value	0.215					99% Percentile	55.1
1903			Data appear Gamma Distributed at 5% Significance Level									
1904												
1905			Assuming Gamma Distribution								95% UTL with 90% Coverage	55.5
1906					90% Percentile	51.49					95% Percentile Bootstrap UTL with 90% Coverage	55.5
1907					95% Percentile	56.04					95% BCA Bootstrap UTL with 90% Coverage	55.5
1908					99% Percentile	65.26					95% UPL	55.5
1909											95% Chebyshev UPL	80.14
1910					95% WH Approx. Gamma UPL	56.76					Upper Threshold Limit Based upon IQR	57.98
1911					95% HW Approx. Gamma UPL	57.04						
1912					95% WH Approx. Gamma UTL with 90% Coverage	59.55						
1913					95% HW Approx. Gamma UTL with 90% Coverage	59.95						
1914												
1915												
1916												
1917	POTASSIUM											
1918												
1919					General Statistics							
1920					Total Number of Observations	16					Number of Distinct Observations	16
1921					Tolerance Factor	2.033						
1922												
1923			Raw Statistics						Log-Transformed Statistics			
1924					Minimum	1750					Minimum	7.467

	A	B	C	D	E	F	G	H	I	J	K	L
1925					Maximum	3950					Maximum	8.281
1926					Second Largest	3860					Second Largest	8.258
1927					First Quartile	2643					First Quartile	7.876
1928					Median	2985					Median	8.001
1929					Third Quartile	3365					Third Quartile	8.121
1930					Mean	2968					Mean	7.97
1931					SD	655.6					SD	0.24
1932					Coefficient of Variation	0.221						
1933					Skewness	-0.386						
1934												
1935					Background Statistics							
1936					Normal Distribution Test						Lognormal Distribution Test	
1937					Shapiro Wilk Test Statistic	0.96					Shapiro Wilk Test Statistic	0.927
1938					Shapiro Wilk Critical Value	0.887					Shapiro Wilk Critical Value	0.887
1939					Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level	
1940												
1941					Assuming Normal Distribution						Assuming Lognormal Distribution	
1942					95% UTL with 90% Coverage	4301					95% UTL with 90% Coverage	4713
1943					95% UPL (t)	4153					95% UPL (t)	4464
1944					90% Percentile (z)	3808					90% Percentile (z)	3935
1945					95% Percentile (z)	4046					95% Percentile (z)	4294
1946					99% Percentile (z)	4493					99% Percentile (z)	5057
1947												
1948					Gamma Distribution Test						Data Distribution Test	
1949					k star	16.14					Data appear Normal at 5% Significance Level	
1950					Theta Star	183.9						
1951					MLE of Mean	2968						
1952					MLE of Standard Deviation	738.8						
1953					nu star	516.5						
1954												
1955					A-D Test Statistic	0.389					Nonparametric Statistics	
1956					5% A-D Critical Value	0.737					90% Percentile	3750
1957					K-S Test Statistic	0.153					95% Percentile	3883
1958					5% K-S Critical Value	0.215					99% Percentile	3937
1959					Data appear Gamma Distributed at 5% Significance Level							
1960												
1961					Assuming Gamma Distribution						95% UTL with 90% Coverage	3950
1962					90% Percentile	3945					95% Percentile Bootstrap UTL with 90% Coverage	3950
1963					95% Percentile	4279					95% BCA Bootstrap UTL with 90% Coverage	3950
1964					99% Percentile	4951					95% UPL	3950
1965											95% Chebyshev UPL	5914
1966					95% WH Approx. Gamma UPL	4331					Upper Threshold Limit Based upon IQR	4449
1967					95% HW Approx. Gamma UPL	4361						
1968					95% WH Approx. Gamma UTL with 90% Coverage	4534						
1969					95% HW Approx. Gamma UTL with 90% Coverage	4574						
1970												
1971												
1972												
1973	SELENIUM											
1974												
1975					General Statistics							
1976					Total Number of Observations	16					Number of Distinct Observations	10

	A	B	C	D	E	F	G	H	I	J	K	L
1977					Tolerance Factor	2.033						
1978												
1979				**Raw Statistics**						**Log-Transformed Statistics**		
1980					Minimum	1.3					Minimum	0.262
1981					Maximum	3.5					Maximum	1.253
1982					Second Largest	3.1					Second Largest	1.131
1983					First Quartile	2.2					First Quartile	0.788
1984					Median	2.4					Median	0.875
1985					Third Quartile	2.55					Third Quartile	0.936
1986					Mean	2.403					Mean	0.854
1987					SD	0.503					SD	0.225
1988					Coefficient of Variation	0.209						
1989					Skewness	-0.0046						
1990												
1991					**Background Statistics**							
1992				**Normal Distribution Test**						**Lognormal Distribution Test**		
1993					Shapiro Wilk Test Statistic	0.929					Shapiro Wilk Test Statistic	0.892
1994					Shapiro Wilk Critical Value	0.887					Shapiro Wilk Critical Value	0.887
1995				Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
1996												
1997				**Assuming Normal Distribution**						**Assuming Lognormal Distribution**		
1998					95% UTL with 90% Coverage	3.425					95% UTL with 90% Coverage	3.716
1999					95% UPL (t)	3.312					95% UPL (t)	3.532
2000					90% Percentile (z)	3.048					90% Percentile (z)	3.137
2001					95% Percentile (z)	3.23					95% Percentile (z)	3.405
2002					99% Percentile (z)	3.573					99% Percentile (z)	3.971
2003												
2004				**Gamma Distribution Test**						**Data Distribution Test**		
2005					k star	18.31				Data appear Normal at 5% Significance Level		
2006					Theta Star	0.131						
2007					MLE of Mean	2.403						
2008					MLE of Standard Deviation	0.562						
2009					nu star	586.1						
2010												
2011					A-D Test Statistic	0.757				**Nonparametric Statistics**		
2012					5% A-D Critical Value	0.736					90% Percentile	2.925
2013					K-S Test Statistic	0.213					95% Percentile	3.2
2014					5% K-S Critical Value	0.215					99% Percentile	3.44
2015				Data follow Appx. Gamma Distribution at 5% Significance Level								
2016												
2017				**Assuming Gamma Distribution**							95% UTL with 90% Coverage	3.5
2018					90% Percentile	3.145					95% Percentile Bootstrap UTL with 90% Coverage	3.5
2019					95% Percentile	3.395					95% BCA Bootstrap UTL with 90% Coverage	3.5
2020					99% Percentile	3.898					95% UPL	3.5
2021											95% Chebyshev UPL	4.662
2022					95% WH Approx. Gamma UPL	3.433					Upper Threshold Limit Based upon IQR	3.075
2023					95% HW Approx. Gamma UPL	3.454						
2024					95% WH Approx. Gamma UTL with 90% Coverage	3.585						
2025					95% HW Approx. Gamma UTL with 90% Coverage	3.614						
2026												
2027												
2028												

	A	B	C	D	E	F	G	H	I	J	K	L
2029	SILVER											
2030												
2031						General Statistics						
2032					Total Number of Observations	16				Number of Distinct Observations		13
2033					Tolerance Factor	2.033						
2034												
2035				Raw Statistics						Log-Transformed Statistics		
2036					Minimum	0.1				Minimum		-2.303
2037					Maximum	0.54				Maximum		-0.616
2038					Second Largest	0.3				Second Largest		-1.204
2039					First Quartile	0.18				First Quartile		-1.715
2040					Median	0.19				Median		-1.661
2041					Third Quartile	0.219				Third Quartile		-1.52
2042					Mean	0.219				Mean		-1.583
2043					SD	0.0971				SD		0.354
2044					Coefficient of Variation	0.442						
2045					Skewness	2.615						
2046												
2047						Background Statistics						
2048				Normal Distribution Test						Lognormal Distribution Test		
2049					Shapiro Wilk Test Statistic	0.702				Shapiro Wilk Test Statistic		0.869
2050					Shapiro Wilk Critical Value	0.887				Shapiro Wilk Critical Value		0.887
2051				Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level		
2052												
2053				Assuming Normal Distribution						Assuming Lognormal Distribution		
2054					95% UTL with 90% Coverage	0.417				95% UTL with 90% Coverage		0.422
2055					95% UPL (t)	0.395				95% UPL (t)		0.389
2056					90% Percentile (z)	0.344				90% Percentile (z)		0.323
2057					95% Percentile (z)	0.379				95% Percentile (z)		0.368
2058					99% Percentile (z)	0.445				99% Percentile (z)		0.468
2059												
2060				Gamma Distribution Test						Data Distribution Test		
2061					k star	6.313				Data do not follow a Discernable Distribution (0.05)		
2062					Theta Star	0.0348						
2063					MLE of Mean	0.219						
2064					MLE of Standard Deviation	0.0873						
2065					nu star	202						
2066												
2067					A-D Test Statistic	1.166				Nonparametric Statistics		
2068					5% A-D Critical Value	0.74				90% Percentile		0.29
2069					K-S Test Statistic	0.224				95% Percentile		0.36
2070					5% K-S Critical Value	0.215				99% Percentile		0.504
2071				Data not Gamma Distributed at 5% Significance Level								
2072												
2073				Assuming Gamma Distribution						95% UTL with 90% Coverage		0.54
2074					90% Percentile	0.336				95% Percentile Bootstrap UTL with 90% Coverage		0.54
2075					95% Percentile	0.38				95% BCA Bootstrap UTL with 90% Coverage		0.42
2076					99% Percentile	0.472				95% UPL		0.54
2077										95% Chebyshev UPL		0.656
2078					95% WH Approx. Gamma UPL	0.387				Upper Threshold Limit Based upon IQR		0.277
2079					95% HW Approx. Gamma UPL	0.387						
2080					95% WH Approx. Gamma UTL with 90% Coverage	0.414						

	A	B	C	D	E	F	G	H	I	J	K	L
2081				95% HW Approx. Gamma UTL with	90% Coverage	0.415						
2082												
2083												
2084												
2085	**SODIUM**											
2086												
2087					**General Statistics**							
2088					Total Number of Observations	16				Number of Distinct Observations		16
2089					Tolerance Factor	2.033						
2090												
2091				**Raw Statistics**						**Log-Transformed Statistics**		
2092					Minimum	260					Minimum	5.561
2093					Maximum	949					Maximum	6.855
2094					Second Largest	652					Second Largest	6.48
2095					First Quartile	355.8					First Quartile	5.874
2096					Median	396					Median	5.981
2097					Third Quartile	534.5					Third Quartile	6.281
2098					Mean	461.2					Mean	6.077
2099					SD	174.3					SD	0.337
2100					Coefficient of Variation	0.378						
2101					Skewness	1.568						
2102												
2103					**Background Statistics**							
2104				**Normal Distribution Test**						**Lognormal Distribution Test**		
2105					Shapiro Wilk Test Statistic	0.861					Shapiro Wilk Test Statistic	0.955
2106					Shapiro Wilk Critical Value	0.887					Shapiro Wilk Critical Value	0.887
2107				**Data not Normal at 5% Significance Level**						**Data appear Lognormal at 5% Significance Level**		
2108												
2109				**Assuming Normal Distribution**						**Assuming Lognormal Distribution**		
2110					95% UTL with 90% Coverage	815.4					95% UTL with 90% Coverage	864.6
2111					95% UPL (t)	776.1					95% UPL (t)	801.2
2112					90% Percentile (z)	684.5					90% Percentile (z)	671.2
2113					95% Percentile (z)	747.8					95% Percentile (z)	758.6
2114					99% Percentile (z)	866.6					99% Percentile (z)	954.5
2115												
2116				**Gamma Distribution Test**						**Data Distribution Test**		
2117					k star	7.329				**Data appear Gamma Distributed at 5% Significance Level**		
2118					Theta Star	62.93						
2119					MLE of Mean	461.2						
2120					MLE of Standard Deviation	170.4						
2121					nu star	234.5						
2122												
2123					A-D Test Statistic	0.447				**Nonparametric Statistics**		
2124					5% A-D Critical Value	0.739					90% Percentile	642.5
2125					K-S Test Statistic	0.165					95% Percentile	726.3
2126					5% K-S Critical Value	0.215					99% Percentile	904.5
2127				**Data appear Gamma Distributed at 5% Significance Level**								
2128												
2129				**Assuming Gamma Distribution**							95% UTL with 90% Coverage	949
2130					90% Percentile	688.5					95% Percentile Bootstrap UTL with 90% Coverage	949
2131					95% Percentile	772.4					95% BCA Bootstrap UTL with 90% Coverage	800.5
2132					99% Percentile	946.7					95% UPL	949

	A	B	C	D	E	F	G	H	I	J	K	L
2133											95% Chebyshev UPL	1244
2134					95% WH Approx. Gamma UPL	786.8					Upper Threshold Limit Based upon IQR	802.6
2135					95% HW Approx. Gamma UPL	789.7						
2136				95% WH Approx. Gamma UTL with	90% Coverage	839.2						
2137				95% HW Approx. Gamma UTL with	90% Coverage	844.4						
2138												
2139												
2140												
2141	VANADIUM											
2142												
2143						General Statistics						
2144					Total Number of Observations	16					Number of Distinct Observations	16
2145					Tolerance Factor	2.033						
2146												
2147				Raw Statistics						Log-Transformed Statistics		
2148					Minimum	34.6					Minimum	3.544
2149					Maximum	78.8					Maximum	4.367
2150					Second Largest	69.4					Second Largest	4.24
2151					First Quartile	50.65					First Quartile	3.924
2152					Median	57.35					Median	4.049
2153					Third Quartile	63.45					Third Quartile	4.15
2154					Mean	56.58					Mean	4.013
2155					SD	11.93					SD	0.227
2156					Coefficient of Variation	0.211						
2157					Skewness	-0.284						
2158												
2159						Background Statistics						
2160				Normal Distribution Test						Lognormal Distribution Test		
2161					Shapiro Wilk Test Statistic	0.973					Shapiro Wilk Test Statistic	0.935
2162					Shapiro Wilk Critical Value	0.887					Shapiro Wilk Critical Value	0.887
2163				Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
2164												
2165				Assuming Normal Distribution						Assuming Lognormal Distribution		
2166					95% UTL with	90% Coverage	80.83				95% UTL with	90% Coverage	87.74
2167					95% UPL (t)	78.13					95% UPL (t)	83.35
2168					90% Percentile (z)	71.87					90% Percentile (z)	73.98
2169					95% Percentile (z)	76.2					95% Percentile (z)	80.34
2170					99% Percentile (z)	84.33					99% Percentile (z)	93.78
2171												
2172				Gamma Distribution Test						Data Distribution Test		
2173					k star	17.93				Data appear Normal at 5% Significance Level		
2174					Theta Star	3.155						
2175					MLE of Mean	56.58						
2176					MLE of Standard Deviation	13.36						
2177					nu star	573.9						
2178												
2179					A-D Test Statistic	0.359				Nonparametric Statistics		
2180					5% A-D Critical Value	0.736					90% Percentile	68.9
2181					K-S Test Statistic	0.165					95% Percentile	71.75
2182					5% K-S Critical Value	0.215					99% Percentile	77.39
2183				Data appear Gamma Distributed at 5% Significance Level								
2184												

	A	B	C	D	E	F	G	H	I	J	K	L
2185					Assuming Gamma Distribution					95% UTL with	90% Coverage	78.8
2186					90% Percentile	74.24			95% Percentile Bootstrap UTL with		90% Coverage	78.8
2187					95% Percentile	80.2			95% BCA Bootstrap UTL with		90% Coverage	74.1
2188					99% Percentile	92.21					95% UPL	78.8
2189											95% Chebyshev UPL	110.2
2190				95% WH Approx. Gamma UPL		81.12				Upper Threshold Limit Based upon IQR		82.65
2191				95% HW Approx. Gamma UPL		81.62						
2192			95% WH Approx. Gamma UTL with		90% Coverage	84.75						
2193			95% HW Approx. Gamma UTL with		90% Coverage	85.41						
2194												
2195												
2196												
2197	ZINC											
2198												
2199					General Statistics							
2200				Total Number of Observations		16				Number of Distinct Observations		16
2201				Tolerance Factor		2.033						
2202												
2203				Raw Statistics						Log-Transformed Statistics		
2204				Minimum		188				Minimum		5.236
2205				Maximum		442				Maximum		6.091
2206				Second Largest		366				Second Largest		5.903
2207				First Quartile		259.6				First Quartile		5.559
2208				Median		288				Median		5.663
2209				Third Quartile		313				Third Quartile		5.746
2210				Mean		290.6				Mean		5.651
2211				SD		62.68				SD		0.214
2212				Coefficient of Variation		0.216						
2213				Skewness		0.669						
2214												
2215					Background Statistics							
2216				Normal Distribution Test						Lognormal Distribution Test		
2217				Shapiro Wilk Test Statistic		0.966				Shapiro Wilk Test Statistic		0.987
2218				Shapiro Wilk Critical Value		0.887				Shapiro Wilk Critical Value		0.887
2219				Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
2220												
2221				Assuming Normal Distribution						Assuming Lognormal Distribution		
2222				95% UTL with	90% Coverage	418				95% UTL with	90% Coverage	439.2
2223				95% UPL (t)		403.9				95% UPL (t)		418.5
2224				90% Percentile (z)		370.9				90% Percentile (z)		374.1
2225				95% Percentile (z)		393.7				95% Percentile (z)		404.2
2226				99% Percentile (z)		436.4				99% Percentile (z)		467.6
2227												
2228				Gamma Distribution Test						Data Distribution Test		
2229				k star		19.18				Data appear Normal at 5% Significance Level		
2230				Theta Star		15.16						
2231				MLE of Mean		290.6						
2232				MLE of Standard Deviation		66.37						
2233				nu star		613.7						
2234												
2235				A-D Test Statistic		0.171				Nonparametric Statistics		
2236				5% A-D Critical Value		0.736				90% Percentile		358

	A	B	C	D	E	F	G	H	I	J	K	L
2237					K-S Test Statistic	0.112					95% Percentile	385
2238					5% K-S Critical Value	0.215					99% Percentile	430.6
2239		Data appear Gamma Distributed at 5% Significance Level										
2240												
2241				Assuming Gamma Distribution						95% UTL with	90% Coverage	442
2242					90% Percentile	378.3			95% Percentile Bootstrap UTL with		90% Coverage	442
2243					95% Percentile	407.7			95% BCA Bootstrap UTL with		90% Coverage	442
2244					99% Percentile	466.9					95% UPL	442
2245											95% Chebyshev UPL	572.2
2246				95% WH Approx. Gamma UPL		412.1				Upper Threshold Limit Based upon IQR		393.1
2247				95% HW Approx. Gamma UPL		413.5						
2248		95% WH Approx. Gamma UTL with			90% Coverage	430						
2249		95% HW Approx. Gamma UTL with			90% Coverage	432						
2250												
2251												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Data Sets with Non-Detects								
2			User Selected Options									
3			From File	CoffinsIcePond.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	4,4'-DDT											
12												
13						General Statistics						
14						Number of Valid Data	16			Number of Detected Data	15	
15						Number of Distinct Detected Data	13			Number of Non-Detect Data	1	
16						Tolerance Factor	2.033			Percent Non-Detects	6.25%	
17												
18						Raw Statistics				Log-transformed Statistics		
19						Minimum Detected	10			Minimum Detected	2.303	
20						Maximum Detected	64			Maximum Detected	4.159	
21						Mean of Detected	25.33			Mean of Detected	3.096	
22						SD of Detected	14.36			SD of Detected	0.537	
23						Minimum Non-Detect	0.36			Minimum Non-Detect	-1.022	
24						Maximum Non-Detect	0.36			Maximum Non-Detect	-1.022	
25												
26												
27						Background Statistics						
28						Normal Distribution Test with Detected Values Only				Lognormal Distribution Test with Detected Values Only		
29						Shapiro Wilk Test Statistic	0.874			Shapiro Wilk Test Statistic	0.96	
30						5% Shapiro Wilk Critical Value	0.881			5% Shapiro Wilk Critical Value	0.881	
31						Data not Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level		
32												
33						Assuming Normal Distribution				Assuming Lognormal Distribution		
34						DL/2 Substitution Method				DL/2 Substitution Method		
35						Mean	23.76			Mean (Log Scale)	2.795	
36						SD	15.23			SD (Log Scale)	1.31	
37						95% UTL 90% Coverage	54.72			95% UTL 90% Coverage	234.6	
38						95% UPL (t)	51.28			95% UPL (t)	174.5	
39						90% Percentile (z)	43.28			90% Percentile (z)	87.67	
40						95% Percentile (z)	48.81			95% Percentile (z)	141.1	
41						99% Percentile (z)	59.19			99% Percentile (z)	344.4	
42												
43						Maximum Likelihood Estimate(MLE) Method				Log ROS Method		
44						Mean	23.34			Mean in Original Scale	24.12	
45						SD	15.56			SD in Original Scale	14.7	
46						95% UTL with 90% Coverage	54.98			95% UTL with 90% Coverage	71.04	
47										95% BCA UTL with 90% Coverage	64	
48										95% Bootstrap (%) UTL with 90% Coverage	64	
49						95% UPL (t)	51.46			95% UPL (t)	61.82	
50						90% Percentile (z)	43.28			90% Percentile (z)	44.75	
51						95% Percentile (z)	48.94			95% Percentile (z)	55.96	
52						99% Percentile (z)	59.54			99% Percentile (z)	85.08	

	A	B	C	D	E	F	G	H	I	J	K	L
53												
54	Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only					
55					k star (bias corrected)	3.105	Data appear Gamma Distributed at 5% Significance Level					
56					Theta Star	8.159						
57					nu star	93.14						
58												
59					A-D Test Statistic	0.315	Nonparametric Statistics					
60					5% A-D Critical Value	0.741				Kaplan-Meier (KM) Method		
61					K-S Test Statistic	0.177				Mean		24.38
62					5% K-S Critical Value	0.223				SD		13.93
63	Data appear Gamma Distributed at 5% Significance Level									SE of Mean		3.606
64									95% KM UTL with	90% Coverage		52.7
65	Assuming Gamma Distribution									95% KM Chebyshev UPL		86.98
66			Gamma ROS Statistics with Extrapolated Data							95% KM UPL (t)		49.55
67					Mean	23.75				90% Percentile (z)		42.23
68					Median	20				95% Percentile (z)		47.29
69					SD	15.25				99% Percentile (z)		56.79
70					k star	0.492						
71					Theta star	48.3	Gamma ROS Limits with Extrapolated Data					
72					Nu star	15.74				95% Wilson Hilferty (WH) Approx. Gamma UPL		76.29
73					95% Percentile of Chisquare (2k)	3.801				95% Hawkins Wixley (HW) Approx. Gamma UPL		99.1
74										95% WH Approx. Gamma UTL with	90% Coverage	87.39
75					90% Percentile	64.48				95% HW Approx. Gamma UTL with	90% Coverage	117.6
76					95% Percentile	91.78						
77					99% Percentile	159						
78												
79	Note: DL/2 is not a recommended method.											
80												
81												
82	ALPHA-CHLORDANE											
83												
84	General Statistics											
85					Number of Valid Data	16				Number of Detected Data		15
86					Number of Distinct Detected Data	13				Number of Non-Detect Data		1
87					Tolerance Factor	2.033				Percent Non-Detects		6.25%
88												
89	Raw Statistics						Log-transformed Statistics					
90					Minimum Detected	3				Minimum Detected		1.099
91					Maximum Detected	18				Maximum Detected		2.89
92					Mean of Detected	10.34				Mean of Detected		2.234
93					SD of Detected	4.43				SD of Detected		0.495
94					Minimum Non-Detect	0.24				Minimum Non-Detect		-1.427
95					Maximum Non-Detect	0.24				Maximum Non-Detect		-1.427
96												
97												
98	Background Statistics											
99	Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only					
100					Shapiro Wilk Test Statistic	0.952				Shapiro Wilk Test Statistic		0.922
101					5% Shapiro Wilk Critical Value	0.881				5% Shapiro Wilk Critical Value		0.881
102	Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level					
103												
104	Assuming Normal Distribution						Assuming Lognormal Distribution					

	A	B	C	D	E	F	G	H	I	J	K	L
105					DL/2 Substitution Method						DL/2 Substitution Method	
106					Mean	9.701					Mean (Log Scale)	1.962
107					SD	4.984					SD (Log Scale)	1.189
108				95% UTL	90% Coverage	19.83				95% UTL	90% Coverage	79.76
109					95% UPL (t)	18.71					95% UPL (t)	60.96
110					90% Percentile (z)	16.09					90% Percentile (z)	32.64
111					95% Percentile (z)	17.9					95% Percentile (z)	50.27
112					99% Percentile (z)	21.3					99% Percentile (z)	113
113												
114				Maximum Likelihood Estimate(MLE) Method							Log ROS Method	
115					Mean	9.584					Mean in Original Scale	9.874
116					SD	5.094					SD in Original Scale	4.667
117				95% UTL with	90% Coverage	19.94				95% UTL with	90% Coverage	27.15
118										95% BCA UTL with	90% Coverage	17
119										95% Bootstrap (%) UTL with	90% Coverage	18
120					95% UPL (t)	18.79					95% UPL (t)	23.91
121					90% Percentile (z)	16.11					90% Percentile (z)	17.81
122					95% Percentile (z)	17.96					95% Percentile (z)	21.83
123					99% Percentile (z)	21.43					99% Percentile (z)	32
124												
125				**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**		
126					k star (bias corrected)	4.087				Data appear Normal at 5% Significance Level		
127					Theta Star	2.53						
128					nu star	122.6						
129												
130					A-D Test Statistic	0.435				**Nonparametric Statistics**		
131					5% A-D Critical Value	0.739					Kaplan-Meier (KM) Method	
132					K-S Test Statistic	0.166					Mean	9.881
133					5% K-S Critical Value	0.222					SD	4.508
134				Data appear Gamma Distributed at 5% Significance Level							SE of Mean	1.167
135										95% KM UTL with	90% Coverage	19.05
136				**Assuming Gamma Distribution**							95% KM Chebyshev UPL	30.14
137				Gamma ROS Statistics with Extrapolated Data							95% KM UPL (t)	18.03
138					Mean	9.694					90% Percentile (z)	15.66
139					Median	10.5					95% Percentile (z)	17.3
140					SD	5					99% Percentile (z)	20.37
141					k star	0.525						
142					Theta star	18.47				**Gamma ROS Limits with Extrapolated Data**		
143					Nu star	16.79					95% Wilson Hilferty (WH) Approx. Gamma UPL	30.41
144					95% Percentile of Chisquare (2k)	3.962					95% Hawkins Wixley (HW) Approx. Gamma UPL	39.98
145											95% WH Approx. Gamma UTL with 90% Coverage	34.69
146					90% Percentile	25.96					95% HW Approx. Gamma UTL with 90% Coverage	47.29
147					95% Percentile	36.6						
148					99% Percentile	62.65						
149												
150	Note: DL/2 is not a recommended method.											
151												
152												
153	**DELTA-BHC**											
154												
155						**General Statistics**						
156					Number of Valid Data	16					Number of Detected Data	10

	A	B	C	D	E	F	G	H	I	J	K	L
157					Number of Distinct Detected Data	9					Number of Non-Detect Data	6
158					Tolerance Factor	2.033					Percent Non-Detects	37.50%
159												
160					**Raw Statistics**						**Log-transformed Statistics**	
161					Minimum Detected	1.5					Minimum Detected	0.405
162					Maximum Detected	4.9					Maximum Detected	1.589
163					Mean of Detected	2.55					Mean of Detected	0.861
164					SD of Detected	1.098					SD of Detected	0.399
165					Minimum Non-Detect	0.32					Minimum Non-Detect	-1.139
166					Maximum Non-Detect	2.8					Maximum Non-Detect	1.03
167												
168					**Data with Multiple Detection Limits**						**Single Detection Limit Scenario**	
169	Note: Data have multiple DLs - Use of KM Method is recommended										Number treated as Non-Detect with Single DL	12
170	For all methods (except KM, DL/2, and ROS Methods),										Number treated as Detected with Single DL	4
171	Observations < Largest ND are treated as NDs										Single DL Non-Detect Percentage	75.00%
172												
173					**Background Statistics**							
174					**Normal Distribution Test with Detected Values Only**						**Lognormal Distribution Test with Detected Values Only**	
175					Shapiro Wilk Test Statistic	0.852					Shapiro Wilk Test Statistic	0.901
176					5% Shapiro Wilk Critical Value	0.842					5% Shapiro Wilk Critical Value	0.842
177					Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level	
178												
179					**Assuming Normal Distribution**						**Assuming Lognormal Distribution**	
180					DL/2 Substitution Method						DL/2 Substitution Method	
181					Mean	1.735					Mean (Log Scale)	0.00976
182					SD	1.409					SD (Log Scale)	1.277
183					95% UTL 90% Coverage	4.601					95% UTL 90% Coverage	13.53
184					95% UPL (t)	4.282					95% UPL (t)	10.14
185					90% Percentile (z)	3.542					90% Percentile (z)	5.185
186					95% Percentile (z)	4.054					95% Percentile (z)	8.244
187					99% Percentile (z)	5.014					99% Percentile (z)	19.68
188												
189					Maximum Likelihood Estimate(MLE) Method						Log ROS Method	
190					Mean	1.819					Mean in Original Scale	1.968
191					SD	1.458					SD in Original Scale	1.157
192					95% UTL with 90% Coverage	4.783					95% UTL with 90% Coverage	5.183
193											95% BCA UTL with 90% Coverage	4.1
194											95% Bootstrap (%) UTL with 90% Coverage	4.9
195					95% UPL (t)	4.453					95% UPL (t)	4.58
196					90% Percentile (z)	3.687					90% Percentile (z)	3.434
197					95% Percentile (z)	4.217					95% Percentile (z)	4.191
198					99% Percentile (z)	5.211					99% Percentile (z)	6.087
199												
200					**Gamma Distribution Test with Detected Values Only**						**Data Distribution Test with Detected Values Only**	
201					k star (bias corrected)	4.834					Data appear Normal at 5% Significance Level	
202					Theta Star	0.527						
203					nu star	96.68						
204												
205					A-D Test Statistic	0.553					**Nonparametric Statistics**	
206					5% A-D Critical Value	0.728					Kaplan-Meier (KM) Method	
207					K-S Test Statistic	0.226					Mean	2.166
208					5% K-S Critical Value	0.267					SD	0.963

	A	B	C	D	E	F	G	H	I	J	K	L
209	Data appear Gamma Distributed at 5% Significance Level										SE of Mean	0.254
210										95% KM UTL with	90% Coverage	4.125
211			Assuming Gamma Distribution								95% KM Chebyshev UPL	6.495
212				Gamma ROS Statistics with Extrapolated Data							95% KM UPL (t)	3.907
213					Mean	1.645					90% Percentile (z)	3.401
214					Median	1.65					95% Percentile (z)	3.751
215					SD	1.489					99% Percentile (z)	4.408
216					k star	0.184						
217					Theta star	8.945			Gamma ROS Limits with Extrapolated Data			
218					Nu star	5.886				95% Wilson Hilferty (WH) Approx. Gamma UPL		8.819
219				95% Percentile of Chisquare (2k)		1.936				95% Hawkins Wixley (HW) Approx. Gamma UPL		13
220										95% WH Approx. Gamma UTL with	90% Coverage	10.82
221					90% Percentile	4.967				95% HW Approx. Gamma UTL with	90% Coverage	16.99
222					95% Percentile	8.659						
223					99% Percentile	18.97						
224												
225	Note: DL/2 is not a recommended method.											
226												
227												
228	MCPP Fall											
229												
230					General Statistics							
231					Number of Valid Data	8				Number of Detected Data		3
232					Number of Distinct Detected Data	3				Number of Non-Detect Data		5
233					Warning: Data set has only 3 Detected Values.							
234					This is not enough to compute meaningful and reliable test statistics and estimates.							
235					No statistics will be produced!							
236												
237					Tolerance Factor	2.582				Percent Non-Detects		62.50%
238												
239				Raw Statistics					Log-transformed Statistics			
240					Minimum Detected	5900				Minimum Detected		8.683
241					Maximum Detected	32000				Maximum Detected		10.37
242					Mean of Detected	20300				Mean of Detected		9.7
243					SD of Detected	13258				SD of Detected		0.896
244					Minimum Non-Detect	3400				Minimum Non-Detect		8.132
245					Maximum Non-Detect	4600				Maximum Non-Detect		8.434
246												
247				Data with Multiple Detection Limits					Single Detection Limit Scenario			
248	Note: Data have multiple DLs - Use of KM Method is recommended									Number treated as Non-Detect with Single DL		5
249	For all methods (except KM, DL/2, and ROS Methods),									Number treated as Detected with Single DL		3
250	Observations < Largest ND are treated as NDs									Single DL Non-Detect Percentage		62.50%
251												
252												
253					Warning: There are only 3 Distinct Detected Values in this data set							
254					The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.							
255					Those methods will return a 'N/A' value on your output display!							
256												
257					It is necessary to have 4 or more Distinct Values for bootstrap methods.							
258					However, results obtained using 4 to 9 distinct values may not be reliable.							
259					It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.							
260												

	A	B	C	D	E	F	G	H	I	J	K	L
261					Background Statistics							
262				Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only		
263					Shapiro Wilk Test Statistic	0.969					Shapiro Wilk Test Statistic	0.89
264					5% Shapiro Wilk Critical Value	0.767					5% Shapiro Wilk Critical Value	0.767
265				Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
266												
267				Assuming Normal Distribution						Assuming Lognormal Distribution		
268					DL/2 Substitution Method						DL/2 Substitution Method	
269					Mean	8766					Mean (Log Scale)	8.333
270					SD	11895					SD (Log Scale)	1.233
271					95% UTL 90% Coverage	39478					95% UTL 90% Coverage	100293
272					95% UPL (t)	32668					95% UPL (t)	49523
273					90% Percentile (z)	24009					90% Percentile (z)	20189
274					95% Percentile (z)	28331					95% Percentile (z)	31594
275					99% Percentile (z)	36437					99% Percentile (z)	73184
276												
277					Maximum Likelihood Estimate(MLE) Method						Log ROS Method	
278					Mean	-1883					Mean in Original Scale	8100
279					SD	21574					SD in Original Scale	12343
280					95% UTL with 90% Coverage	53822					95% UTL with 90% Coverage	197920
281											95% BCA UTL with 90% Coverage	32000
282											95% Bootstrap (%) UTL with 90% Coverage	32000
283					95% UPL (t)	41471					95% UPL (t)	73816
284					90% Percentile (z)	25765					90% Percentile (z)	21062
285					95% Percentile (z)	33604					95% Percentile (z)	39384
286					99% Percentile (z)	48306					99% Percentile (z)	127413
287												
288				Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only		
289					k star (bias corrected)	N/A				Data appear Normal at 5% Significance Level		
290					Theta Star	N/A						
291					nu star	N/A						
292												
293					A-D Test Statistic	N/A				Nonparametric Statistics		
294					5% A-D Critical Value	N/A					Kaplan-Meier (KM) Method	
295					K-S Test Statistic	N/A					Mean	11300
296					5% K-S Critical Value	N/A					SD	9620
297				Data not Gamma Distributed at 5% Significance Level							SE of Mean	4166
298											95% KM UTL with 90% Coverage	36139
299				Assuming Gamma Distribution							95% KM Chebyshev UPL	55776
300					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	30631
301					Mean	N/A					90% Percentile (z)	23628
302					Median	N/A					95% Percentile (z)	27123
303					SD	N/A					99% Percentile (z)	33679
304					k star	N/A						
305					Theta star	N/A				Gamma ROS Limits with Extrapolated Data		
306					Nu star	N/A					95% Wilson Hilferty (WH) Approx. Gamma UPL	N/A
307					95% Percentile of Chisquare (2k)	N/A					95% Hawkins Wixley (HW) Approx. Gamma UPL	N/A
308											95% WH Approx. Gamma UTL with 90% Coverage	N/A
309					90% Percentile	N/A					95% HW Approx. Gamma UTL with 90% Coverage	N/A
310					95% Percentile	N/A						
311					99% Percentile	N/A						
312												

	A	B	C	D	E	F	G	H	I	J	K	L
313	Note: DL/2 is not a recommended method.											
314												
315												
316	ANTIMONY Fall											
317												
318					General Statistics							
319					Number of Valid Data	8			Number of Detected Data			5
320					Number of Distinct Detected Data	5			Number of Non-Detect Data			3
321					Tolerance Factor	2.582			Percent Non-Detects			37.50%
322												
323					Raw Statistics				Log-transformed Statistics			
324					Minimum Detected	0.26			Minimum Detected			-1.347
325					Maximum Detected	0.76			Maximum Detected			-0.274
326					Mean of Detected	0.501			Mean of Detected			-0.782
327					SD of Detected	0.223			SD of Detected			0.491
328					Minimum Non-Detect	0.1			Minimum Non-Detect			-2.303
329					Maximum Non-Detect	0.39			Maximum Non-Detect			-0.942
330												
331					Data with Multiple Detection Limits				Single Detection Limit Scenario			
332	Note: Data have multiple DLs - Use of KM Method is recommended								Number treated as Non-Detect with Single DL			5
333	For all methods (except KM, DL/2, and ROS Methods),								Number treated as Detected with Single DL			3
334	Observations < Largest ND are treated as NDs								Single DL Non-Detect Percentage			62.50%
335												
336												
337					Warning: There are only 5 Detected Values in this data							
338					Note: It should be noted that even though bootstrap may be performed on this data set							
339					the resulting calculations may not be reliable enough to draw conclusions							
340												
341					It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.							
342												
343					Background Statistics							
344					Normal Distribution Test with Detected Values Only				Lognormal Distribution Test with Detected Values Only			
345					Shapiro Wilk Test Statistic	0.9			Shapiro Wilk Test Statistic			0.871
346					5% Shapiro Wilk Critical Value	0.762			5% Shapiro Wilk Critical Value			0.762
347					Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level			
348												
349					Assuming Normal Distribution				Assuming Lognormal Distribution			
350					DL/2 Substitution Method				DL/2 Substitution Method			
351					Mean	0.366			Mean (Log Scale)			-1.282
352					SD	0.255			SD (Log Scale)			0.883
353					95% UTL 90% Coverage	1.023			95% UTL 90% Coverage			2.716
354					95% UPL (t)	0.878			95% UPL (t)			1.638
355					90% Percentile (z)	0.692			90% Percentile (z)			0.861
356					95% Percentile (z)	0.785			95% Percentile (z)			1.187
357					99% Percentile (z)	0.958			99% Percentile (z)			2.167
358												
359					Maximum Likelihood Estimate(MLE) Method				Log ROS Method			
360					Mean	0.315			Mean in Original Scale			0.389
361					SD	0.312			SD in Original Scale			0.231
362					95% UTL with 90% Coverage	1.12			95% UTL with 90% Coverage			1.56
363									95% BCA UTL with 90% Coverage			0.76
364									95% Bootstrap (%) UTL with 90% Coverage			0.76

	A	B	C	D	E	F	G	H	I	J	K	L
365					95% UPL (t)	0.941					95% UPL (t)	1.107
366					90% Percentile (z)	0.714					90% Percentile (z)	0.717
367					95% Percentile (z)	0.828					95% Percentile (z)	0.89
368					99% Percentile (z)	1.04					99% Percentile (z)	1.338
369												
370				Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only		
371					k star (bias corrected)	2.407				Data appear Normal at 5% Significance Level		
372					Theta Star	0.208						
373					nu star	24.07						
374												
375					A-D Test Statistic	0.419				Nonparametric Statistics		
376					5% A-D Critical Value	0.68					Kaplan-Meier (KM) Method	
377					K-S Test Statistic	0.261					Mean	0.413
378					5% K-S Critical Value	0.358					SD	0.195
379				Data appear Gamma Distributed at 5% Significance Level							SE of Mean	0.077
380										95% KM UTL with	90% Coverage	0.915
381				Assuming Gamma Distribution							95% KM Chebyshev UPL	1.312
382					Gamma ROS Statistics with Extrapolated Data						95% KM UPL (t)	0.804
383					Mean	0.354					90% Percentile (z)	0.662
384					Median	0.273					95% Percentile (z)	0.733
385					SD	0.269					99% Percentile (z)	0.865
386					k star	0.335						
387					Theta star	1.055				Gamma ROS Limits with Extrapolated Data		
388					Nu star	5.363				95% Wilson Hilferty (WH) Approx. Gamma UPL		1.72
389					95% Percentile of Chisquare (2k)	2.957				95% Hawkins Wixley (HW) Approx. Gamma UPL		2.478
390										95% WH Approx. Gamma UTL with	90% Coverage	2.525
391					90% Percentile	1.028				95% HW Approx. Gamma UTL with	90% Coverage	4.048
392					95% Percentile	1.56						
393					99% Percentile	2.925						
394												
395	Note: DL/2 is not a recommended method.											
396												
397												
398	THALLIUM											
399												
400					General Statistics							
401					Number of Valid Data	16					Number of Detected Data	9
402					Number of Distinct Detected Data	9					Number of Non-Detect Data	7
403					Tolerance Factor	2.033					Percent Non-Detects	43.75%
404												
405				Raw Statistics						Log-transformed Statistics		
406					Minimum Detected	0.28					Minimum Detected	-1.273
407					Maximum Detected	1.6					Maximum Detected	0.47
408					Mean of Detected	0.728					Mean of Detected	-0.501
409					SD of Detected	0.493					SD of Detected	0.628
410					Minimum Non-Detect	0.09					Minimum Non-Detect	-2.408
411					Maximum Non-Detect	0.77					Maximum Non-Detect	-0.261
412												
413				Data with Multiple Detection Limits						Single Detection Limit Scenario		
414	Note: Data have multiple DLs - Use of KM Method is recommended									Number treated as Non-Detect with Single DL		14
415	For all methods (except KM, DL/2, and ROS Methods),									Number treated as Detected with Single DL		2
416	Observations < Largest ND are treated as NDs									Single DL Non-Detect Percentage		87.50%

	A	B	C	D	E	F	G	H	I	J	K	L
417												
418												
419	Warning: There are only 9 Detected Values in this data											
420	Note: It should be noted that even though bootstrap may be performed on this data set											
421	the resulting calculations may not be reliable enough to draw conclusions											
422												
423	It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.											
424												
425	Background Statistics											
426	Normal Distribution Test with Detected Values Only						Lognormal Distribution Test with Detected Values Only					
427					Shapiro Wilk Test Statistic	0.811				Shapiro Wilk Test Statistic		0.923
428					5% Shapiro Wilk Critical Value	0.829				5% Shapiro Wilk Critical Value		0.829
429	Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level					
430												
431	Assuming Normal Distribution						Assuming Lognormal Distribution					
432					DL/2 Substitution Method					DL/2 Substitution Method		
433					Mean	0.495				Mean (Log Scale)		-1.062
434					SD	0.456				SD (Log Scale)		0.902
435					95% UTL 90% Coverage	1.422				95% UTL 90% Coverage		2.166
436					95% UPL (t)	1.319				95% UPL (t)		1.766
437					90% Percentile (z)	1.079				90% Percentile (z)		1.099
438					95% Percentile (z)	1.245				95% Percentile (z)		1.526
439					99% Percentile (z)	1.556				99% Percentile (z)		2.822
440												
441					Maximum Likelihood Estimate(MLE) Method	N/A				Log ROS Method		
442										Mean in Original Scale		0.509
443										SD in Original Scale		0.444
444										Mean in Log Scale		-0.947
445										SD in Log Scale		0.721
446										95% UTL 90% Coverage		1.682
447										95% UPL (t)		1.429
448										90% Percentile (z)		0.978
449										95% Percentile (z)		1.271
450										99% Percentile (z)		2.079
451												
452	Gamma Distribution Test with Detected Values Only						Data Distribution Test with Detected Values Only					
453					k star (bias corrected)	1.998	Data appear Gamma Distributed at 5% Significance Level					
454					Theta Star	0.364						
455					nu star	35.96						
456												
457					A-D Test Statistic	0.449	Nonparametric Statistics					
458					5% A-D Critical Value	0.727				Kaplan-Meier (KM) Method		
459					K-S Test Statistic	0.18				Mean		0.543
460					5% K-S Critical Value	0.281				SD		0.409
461	Data appear Gamma Distributed at 5% Significance Level									SE of Mean		0.109
462										95% KM UTL with 90% Coverage		1.376
463	Assuming Gamma Distribution									95% KM Chebyshev UPL		2.383
464					Gamma ROS Statistics with Extrapolated Data					95% KM UPL (t)		1.283
465					Mean	0.435				90% Percentile (z)		1.068
466					Median	0.305				95% Percentile (z)		1.217
467					SD	0.503				99% Percentile (z)		1.496
468					k star	0.193						

	A	B	C	D	E	F	G	H	I	J	K	L
469					Theta star	2.249	**Gamma ROS Limits with Extrapolated Data**					
470					Nu star	6.185			95% Wilson Hilferty (WH) Approx. Gamma UPL			2.292
471				95% Percentile of Chisquare (2k)		2.009			95% Hawkins Wixley (HW) Approx. Gamma UPL			3.238
472									95% WH Approx. Gamma UTL with		90% Coverage	2.823
473					90% Percentile	1.314			95% HW Approx. Gamma UTL with		90% Coverage	4.241
474					95% Percentile	2.26						
475					99% Percentile	4.877						
476												
477	Note: DL/2 is not a recommended method.											
478												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	WorkSheet.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	TOTAL ORGANIC CARBON											
12												
13						General Statistics						
14						Total Number of Observations	16			Number of Distinct Observations	11	
15						Tolerance Factor	2.033					
16												
17						Raw Statistics				Log-Transformed Statistics		
18						Minimum	140000			Minimum	11.85	
19						Maximum	300000			Maximum	12.61	
20						Second Largest	250000			Second Largest	12.43	
21						First Quartile	163750			First Quartile	12.01	
22						Median	180000			Median	12.1	
23						Third Quartile	196250			Third Quartile	12.19	
24						Mean	187500			Mean	12.12	
25						SD	39455			SD	0.189	
26						Coefficient of Variation	0.21					
27						Skewness	1.796					
28												
29						Background Statistics						
30						Normal Distribution Test				Lognormal Distribution Test		
31						Shapiro Wilk Test Statistic	0.83			Shapiro Wilk Test Statistic	0.906	
32						Shapiro Wilk Critical Value	0.887			Shapiro Wilk Critical Value	0.887	
33						Data not Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level		
34												
35						Assuming Normal Distribution				Assuming Lognormal Distribution		
36						95% UTL with 90% Coverage	267711			95% UTL with 90% Coverage	270212	
37						95% UPL (t)	258795			95% UPL (t)	258941	
38						90% Percentile (z)	238063			90% Percentile (z)	234520	
39						95% Percentile (z)	252397			95% Percentile (z)	251145	
40						99% Percentile (z)	279285			99% Percentile (z)	285576	
41												
42						Gamma Distribution Test				Data Distribution Test		
43						k star	22.95			Data Follow Appr. Gamma Distribution at 5% Significance Level		
44						Theta Star	8171					
45						MLE of Mean	187500					
46						MLE of Standard Deviation	39142					
47						nu star	734.3					
48												
49						A-D Test Statistic	0.69			Nonparametric Statistics		
50						5% A-D Critical Value	0.736			90% Percentile	225000	
51						K-S Test Statistic	0.216			95% Percentile	262500	
52						5% K-S Critical Value	0.215			99% Percentile	292500	
53						Data follow Appx. Gamma Distribution at 5% Significance Level						
54												
55						Assuming Gamma Distribution				95% UTL with 90% Coverage	300000	

	A	B	C	D	E	F	G	H	I	J	K	L
56					90% Percentile	239085			95% Percentile Bootstrap UTL with		90% Coverage	300000
57					95% Percentile	256183			95% BCA Bootstrap UTL with		90% Coverage	275000
58					99% Percentile	290355					95% UPL	300000
59											95% Chebyshev UPL	364772
60				95% WH Approx. Gamma UPL		258568				Upper Threshold Limit Based upon IQR		245000
61				95% HW Approx. Gamma UPL		258626						
62			95% WH Approx. Gamma UTL with		90% Coverage	268911						
63			95% HW Approx. Gamma UTL with		90% Coverage	269184						
64												
65												

	A	B	C	D	E	F	G	H	I	J	K	L
1				General Background Statistics for Full Data Sets								
2			User Selected Options									
3			From File	MereBrook.wst								
4			Full Precision	OFF								
5			Confidence Coefficient	95%								
6			Coverage	90%								
7			Different or Future K Values	1								
8			Number of Bootstrap Operations	2000								
9												
10												
11	ALUMINUM											
12												
13						General Statistics						
14						Total Number of Observations	16			Number of Distinct Observations	16	
15						Tolerance Factor	2.033					
16												
17						Raw Statistics				Log-Transformed Statistics		
18						Minimum	2265			Minimum	7.725	
19						Maximum	6400			Maximum	8.764	
20						Second Largest	4990			Second Largest	8.515	
21						First Quartile	3409			First Quartile	8.134	
22						Median	3715			Median	8.22	
23						Third Quartile	4275			Third Quartile	8.36	
24						Mean	3896			Mean	8.242	
25						SD	936.2			SD	0.232	
26						Coefficient of Variation	0.24					
27						Skewness	1.111					
28												
29						Background Statistics						
30						Normal Distribution Test				Lognormal Distribution Test		
31						Shapiro Wilk Test Statistic	0.921			Shapiro Wilk Test Statistic	0.963	
32						Shapiro Wilk Critical Value	0.887			Shapiro Wilk Critical Value	0.887	
33						Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level		
34												
35						Assuming Normal Distribution				Assuming Lognormal Distribution		
36						95% UTL with 90% Coverage	5799			95% UTL with 90% Coverage	6088	
37						95% UPL (t)	5587			95% UPL (t)	5777	
38						90% Percentile (z)	5095			90% Percentile (z)	5113	
39						95% Percentile (z)	5435			95% Percentile (z)	5563	
40						99% Percentile (z)	6073			99% Percentile (z)	6517	
41												
42						Gamma Distribution Test				Data Distribution Test		
43						k star	16.09			Data appear Normal at 5% Significance Level		
44						Theta Star	242.2					
45						MLE of Mean	3896					
46						MLE of Standard Deviation	971.3					
47						nu star	514.7					
48												
49						A-D Test Statistic	0.356			Nonparametric Statistics		
50						5% A-D Critical Value	0.737			90% Percentile	4795	
51						K-S Test Statistic	0.16			95% Percentile	5343	
52						5% K-S Critical Value	0.215			99% Percentile	6189	
53						Data appear Gamma Distributed at 5% Significance Level						
54												
55						Assuming Gamma Distribution				95% UTL with 90% Coverage	6400	

	A	B	C	D	E	F	G	H	I	J	K	L
56					90% Percentile	5181				95% Percentile Bootstrap UTL with	90% Coverage	6400
57					95% Percentile	5619				95% BCA Bootstrap UTL with	90% Coverage	6400
58					99% Percentile	6503					95% UPL	6400
59											95% Chebyshev UPL	8102
60					95% WH Approx. Gamma UPL	5685					Upper Threshold Limit Based upon IQR	5574
61					95% HW Approx. Gamma UPL	5704						
62				95% WH Approx. Gamma UTL with	90% Coverage	5952						
63				95% HW Approx. Gamma UTL with	90% Coverage	5981						
64												
65												
66												
67	**BARIUM**											
68												
69					**General Statistics**							
70					Total Number of Observations	16					Number of Distinct Observations	14
71					Tolerance Factor	2.033						
72												
73				**Raw Statistics**						**Log-Transformed Statistics**		
74					Minimum	10.35					Minimum	2.337
75					Maximum	27.8					Maximum	3.325
76					Second Largest	25.4					Second Largest	3.235
77					First Quartile	12.74					First Quartile	2.544
78					Median	17.35					Median	2.852
79					Third Quartile	20.9					Third Quartile	3.04
80					Mean	17.52					Mean	2.825
81					SD	5.037					SD	0.288
82					Coefficient of Variation	0.288						
83					Skewness	0.481						
84												
85					**Background Statistics**							
86				**Normal Distribution Test**						**Lognormal Distribution Test**		
87					Shapiro Wilk Test Statistic	0.951					Shapiro Wilk Test Statistic	0.963
88					Shapiro Wilk Critical Value	0.887					Shapiro Wilk Critical Value	0.887
89				**Data appear Normal at 5% Significance Level**						**Data appear Lognormal at 5% Significance Level**		
90												
91				**Assuming Normal Distribution**						**Assuming Lognormal Distribution**		
92					95% UTL with	90% Coverage 27.76					95% UTL with	90% Coverage 30.28
93					95% UPL (t)	26.62					95% UPL (t)	28.37
94					90% Percentile (z)	23.97					90% Percentile (z)	24.39
95					95% Percentile (z)	25.8					95% Percentile (z)	27.08
96					99% Percentile (z)	29.24					99% Percentile (z)	32.96
97												
98				**Gamma Distribution Test**						**Data Distribution Test**		
99					k star	10.67				**Data appear Normal at 5% Significance Level**		
100					Theta Star	1.642						
101					MLE of Mean	17.52						
102					MLE of Standard Deviation	5.363						
103					nu star	341.4						
104												
105					A-D Test Statistic	0.283				**Nonparametric Statistics**		
106					5% A-D Critical Value	0.738					90% Percentile	23.55
107					K-S Test Statistic	0.147					95% Percentile	26
108					5% K-S Critical Value	0.215					99% Percentile	27.44
109				**Data appear Gamma Distributed at 5% Significance Level**								
110												

	A	B	C	D	E	F	G	H	I	J	K	L
111	Assuming Gamma Distribution						95% UTL with 90% Coverage					27.8
112					90% Percentile	24.65	95% Percentile Bootstrap UTL with 90% Coverage					27.8
113					95% Percentile	27.17	95% BCA Bootstrap UTL with 90% Coverage					26.6
114					99% Percentile	32.34					95% UPL	27.8
115											95% Chebyshev UPL	40.15
116					95% WH Approx. Gamma UPL	27.6	Upper Threshold Limit Based upon IQR					33.14
117					95% HW Approx. Gamma UPL	27.77						
118					95% WH Approx. Gamma UTL with 90% Coverage	29.16						
119					95% HW Approx. Gamma UTL with 90% Coverage	29.4						
120												
121												
122												
123	CADMIUM											
124												
125	General Statistics											
126					Total Number of Observations	16	Number of Distinct Observations					12
127					Tolerance Factor	2.033						
128												
129	Raw Statistics						Log-Transformed Statistics					
130					Minimum	0.01	Minimum					-4.605
131					Maximum	0.17	Maximum					-1.772
132					Second Largest	0.15	Second Largest					-1.897
133					First Quartile	0.04	First Quartile					-3.219
134					Median	0.075	Median					-2.611
135					Third Quartile	0.113	Third Quartile					-2.186
136					Mean	0.0798	Mean					-2.731
137					SD	0.046	SD					0.731
138					Coefficient of Variation	0.577						
139					Skewness	0.418						
140												
141	Background Statistics											
142	Normal Distribution Test						Lognormal Distribution Test					
143					Shapiro Wilk Test Statistic	0.954	Shapiro Wilk Test Statistic					0.922
144					Shapiro Wilk Critical Value	0.887	Shapiro Wilk Critical Value					0.887
145	Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level					
146												
147	Assuming Normal Distribution						Assuming Lognormal Distribution					
148					95% UTL with 90% Coverage	0.173	95% UTL with 90% Coverage					0.288
149					95% UPL (t)	0.163	95% UPL (t)					0.244
150					90% Percentile (z)	0.139	90% Percentile (z)					0.166
151					95% Percentile (z)	0.156	95% Percentile (z)					0.217
152					99% Percentile (z)	0.187	99% Percentile (z)					0.357
153												
154	Gamma Distribution Test						Data Distribution Test					
155					k star	2.169	Data appear Normal at 5% Significance Level					
156					Theta Star	0.0368						
157					MLE of Mean	0.0798						
158					MLE of Standard Deviation	0.0542						
159					nu star	69.4						
160												
161					A-D Test Statistic	0.285	Nonparametric Statistics					
162					5% A-D Critical Value	0.747	90% Percentile					0.135
163					K-S Test Statistic	0.157	95% Percentile					0.155
164					5% K-S Critical Value	0.217	99% Percentile					0.167
165	Data appear Gamma Distributed at 5% Significance Level											

	A	B	C	D	E	F	G	H	I	J	K	L
166												
167				Assuming Gamma Distribution						95% UTL with	90% Coverage	0.17
168					90% Percentile	0.152			95% Percentile Bootstrap UTL with		90% Coverage	0.17
169					95% Percentile	0.185			95% BCA Bootstrap UTL with		90% Coverage	0.16
170					99% Percentile	0.256					95% UPL	0.17
171											95% Chebyshev UPL	0.287
172					95% WH Approx. Gamma UPL	0.193					Upper Threshold Limit Based upon IQR	0.221
173					95% HW Approx. Gamma UPL	0.201						
174				95% WH Approx. Gamma UTL with	90% Coverage	0.214						
175				95% HW Approx. Gamma UTL with	90% Coverage	0.226						
176												
177												
178												
179	CALCIUM											
180												
181					General Statistics							
182					Total Number of Observations	16					Number of Distinct Observations	16
183					Tolerance Factor	2.033						
184												
185				Raw Statistics						Log-Transformed Statistics		
186					Minimum	622					Minimum	6.433
187					Maximum	1500					Maximum	7.313
188					Second Largest	1250					Second Largest	7.131
189					First Quartile	704.1					First Quartile	6.557
190					Median	796.5					Median	6.68
191					Third Quartile	907.5					Third Quartile	6.81
192					Mean	854.2					Mean	6.721
193					SD	232.8					SD	0.237
194					Coefficient of Variation	0.273						
195					Skewness	1.803						
196												
197					Background Statistics							
198				Normal Distribution Test						Lognormal Distribution Test		
199					Shapiro Wilk Test Statistic	0.808					Shapiro Wilk Test Statistic	0.89
200					Shapiro Wilk Critical Value	0.887					Shapiro Wilk Critical Value	0.887
201				Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
202												
203				Assuming Normal Distribution						Assuming Lognormal Distribution		
204					95% UTL with	90% Coverage	1328				95% UTL with	90% Coverage	1345
205					95% UPL (t)	1275					95% UPL (t)	1275
206					90% Percentile (z)	1153					90% Percentile (z)	1125
207					95% Percentile (z)	1237					95% Percentile (z)	1226
208					99% Percentile (z)	1396					99% Percentile (z)	1442
209												
210				Gamma Distribution Test						Data Distribution Test		
211					k star	14.26				Data Follow Appr. Gamma Distribution at 5% Significance Level		
212					Theta Star	59.89						
213					MLE of Mean	854.2						
214					MLE of Standard Deviation	226.2						
215					nu star	456.5						
216												
217					A-D Test Statistic	0.799				Nonparametric Statistics		
218					5% A-D Critical Value	0.737					90% Percentile	1120
219					K-S Test Statistic	0.211					95% Percentile	1313
220					5% K-S Critical Value	0.215					99% Percentile	1463

	A	B	C	D	E	F	G	H	I	J	K	L
221	Data follow Appx. Gamma Distribution at 5% Significance Level											
222												
223	Assuming Gamma Distribution						95% UTL with 90% Coverage					1500
224					90% Percentile	1154	95% Percentile Bootstrap UTL with 90% Coverage					1500
225					95% Percentile	1257	95% BCA Bootstrap UTL with 90% Coverage					1375
226					99% Percentile	1466					95% UPL	1500
227											95% Chebyshev UPL	1900
228				95% WH Approx. Gamma UPL		1272	Upper Threshold Limit Based upon IQR					1213
229				95% HW Approx. Gamma UPL		1273						
230			95% WH Approx. Gamma UTL with 90% Coverage			1336						
231			95% HW Approx. Gamma UTL with 90% Coverage			1338						
232												
233												
234												
235	CHROMIUM											
236												
237	General Statistics											
238				Total Number of Observations		16	Number of Distinct Observations					14
239				Tolerance Factor		2.033						
240												
241	Raw Statistics						Log-Transformed Statistics					
242				Minimum		4.1	Minimum					1.411
243				Maximum		46.7	Maximum					3.844
244				Second Largest		13.4	Second Largest					2.595
245				First Quartile		6.35	First Quartile					1.848
246				Median		6.95	Median					1.937
247				Third Quartile		8.475	Third Quartile					2.137
248				Mean		9.8	Mean					2.075
249				SD		10.06	SD					0.54
250				Coefficient of Variation		1.026						
251				Skewness		3.723						
252												
253	Background Statistics											
254	Normal Distribution Test						Lognormal Distribution Test					
255				Shapiro Wilk Test Statistic		0.448	Shapiro Wilk Test Statistic					0.733
256				Shapiro Wilk Critical Value		0.887	Shapiro Wilk Critical Value					0.887
257	Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level					
258												
259	Assuming Normal Distribution						Assuming Lognormal Distribution					
260				95% UTL with 90% Coverage		30.25	95% UTL with 90% Coverage					23.9
261				95% UPL (t)		27.97	95% UPL (t)					21.15
262				90% Percentile (z)		22.69	90% Percentile (z)					15.92
263				95% Percentile (z)		26.34	95% Percentile (z)					19.38
264				99% Percentile (z)		33.2	99% Percentile (z)					28.01
265												
266	Gamma Distribution Test						Data Distribution Test					
267				k star		2.129	Data do not follow a Discernable Distribution (0.05)					
268				Theta Star		4.604						
269				MLE of Mean		9.8						
270				MLE of Standard Deviation		6.717						
271				nu star		68.11						
272												
273				A-D Test Statistic		2.255	Nonparametric Statistics					
274				5% A-D Critical Value		0.747				90% Percentile		11.3
275				K-S Test Statistic		0.331				95% Percentile		21.73

	A	B	C	D	E	F	G	H	I	J	K	L
276					5% K-S Critical Value	0.217					99% Percentile	41.71
277		Data not Gamma Distributed at 5% Significance Level										
278												
279				Assuming Gamma Distribution							95% UTL with 90% Coverage	46.7
280					90% Percentile	18.78					95% Percentile Bootstrap UTL with 90% Coverage	46.7
281					95% Percentile	22.79					95% BCA Bootstrap UTL with 90% Coverage	30.05
282					99% Percentile	31.66					95% UPL	46.7
283											95% Chebyshev UPL	54.99
284					95% WH Approx. Gamma UPL	23.15					Upper Threshold Limit Based upon IQR	11.66
285					95% HW Approx. Gamma UPL	22.61						
286					95% WH Approx. Gamma UTL with 90% Coverage	25.74						
287					95% HW Approx. Gamma UTL with 90% Coverage	25.22						
288												
289												
290												
291	COBALT											
292												
293					General Statistics							
294					Total Number of Observations	16					Number of Distinct Observations	10
295					Tolerance Factor	2.033						
296												
297				Raw Statistics						Log-Transformed Statistics		
298					Minimum	1.3					Minimum	0.262
299					Maximum	3					Maximum	1.099
300					Second Largest	3					Second Largest	1.099
301					First Quartile	1.5					First Quartile	0.405
302					Median	2.15					Median	0.765
303					Third Quartile	2.6					Third Quartile	0.956
304					Mean	2.069					Mean	0.685
305					SD	0.613					SD	0.302
306					Coefficient of Variation	0.296						
307					Skewness	0.207						
308												
309					Background Statistics							
310				Normal Distribution Test						Lognormal Distribution Test		
311					Shapiro Wilk Test Statistic	0.887					Shapiro Wilk Test Statistic	0.885
312					Shapiro Wilk Critical Value	0.887					Shapiro Wilk Critical Value	0.887
313				Data not Normal at 5% Significance Level						Data not Lognormal at 5% Significance Level		
314												
315				Assuming Normal Distribution						Assuming Lognormal Distribution		
316					95% UTL with 90% Coverage	3.315					95% UTL with 90% Coverage	3.664
317					95% UPL (t)	3.176					95% UPL (t)	3.422
318					90% Percentile (z)	2.854					90% Percentile (z)	2.92
319					95% Percentile (z)	3.077					95% Percentile (z)	3.259
320					99% Percentile (z)	3.495					99% Percentile (z)	4.003
321												
322				Gamma Distribution Test						Data Distribution Test		
323					k star	9.8				Data Follow Appr. Gamma Distribution at 5% Significance Level		
324					Theta Star	0.211						
325					MLE of Mean	2.069						
326					MLE of Standard Deviation	0.661						
327					nu star	313.6						
328												
329					A-D Test Statistic	0.779				Nonparametric Statistics		
330					5% A-D Critical Value	0.738					90% Percentile	2.9

	A	B	C	D	E	F	G	H	I	J	K	L
331					K-S Test Statistic	0.213					95% Percentile	3
332					5% K-S Critical Value	0.215					99% Percentile	3
333	Data follow Appx. Gamma Distribution at 5% Significance Level											
334												
335				Assuming Gamma Distribution							95% UTL with 90% Coverage	3
336					90% Percentile	2.948				95% Percentile Bootstrap UTL with	90% Coverage	3
337					95% Percentile	3.262				95% BCA Bootstrap UTL with	90% Coverage	3
338					99% Percentile	3.907					95% UPL	3
339											95% Chebyshev UPL	4.822
340					95% WH Approx. Gamma UPL	3.317					Upper Threshold Limit Based upon IQR	4.25
341					95% HW Approx. Gamma UPL	3.34						
342				95% WH Approx. Gamma UTL with	90% Coverage	3.512						
343				95% HW Approx. Gamma UTL with	90% Coverage	3.545						
344												
345												
346												
347	IRON											
348												
349					General Statistics							
350					Total Number of Observations	16					Number of Distinct Observations	16
351					Tolerance Factor	2.033						
352												
353				Raw Statistics						Log-Transformed Statistics		
354					Minimum	2830					Minimum	7.948
355					Maximum	5310					Maximum	8.577
356					Second Largest	5250					Second Largest	8.566
357					First Quartile	3493					First Quartile	8.157
358					Median	4150					Median	8.33
359					Third Quartile	4790					Third Quartile	8.474
360					Mean	4114					Mean	8.302
361					SD	835.7					SD	0.21
362					Coefficient of Variation	0.203						
363					Skewness	-0.109						
364												
365					Background Statistics							
366				Normal Distribution Test						Lognormal Distribution Test		
367					Shapiro Wilk Test Statistic	0.935					Shapiro Wilk Test Statistic	0.927
368					Shapiro Wilk Critical Value	0.887					Shapiro Wilk Critical Value	0.887
369				Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
370												
371				Assuming Normal Distribution						Assuming Lognormal Distribution		
372					95% UTL with 90% Coverage	5813					95% UTL with 90% Coverage	6184
373					95% UPL (t)	5624					95% UPL (t)	5897
374					90% Percentile (z)	5185					90% Percentile (z)	5279
375					95% Percentile (z)	5488					95% Percentile (z)	5699
376					99% Percentile (z)	6058					99% Percentile (z)	6578
377												
378				Gamma Distribution Test						Data Distribution Test		
379					k star	20.22				Data appear Normal at 5% Significance Level		
380					Theta Star	203.4						
381					MLE of Mean	4114						
382					MLE of Standard Deviation	914.8						
383					nu star	647.1						
384												
385					A-D Test Statistic	0.424				Nonparametric Statistics		

	A–E	F	G–K	L
386	5% A-D Critical Value	0.736	90% Percentile	5125
387	K-S Test Statistic	0.144	95% Percentile	5265
388	5% K-S Critical Value	0.215	99% Percentile	5301
389	Data appear Gamma Distributed at 5% Significance Level			
390				
391	**Assuming Gamma Distribution**		95% UTL with 90% Coverage	5310
392	90% Percentile	5321	95% Percentile Bootstrap UTL with 90% Coverage	5310
393	95% Percentile	5725	95% BCA Bootstrap UTL with 90% Coverage	5310
394	99% Percentile	6535	95% UPL	5310
395			95% Chebyshev UPL	7869
396	95% WH Approx. Gamma UPL	5786	Upper Threshold Limit Based upon IQR	6736
397	95% HW Approx. Gamma UPL	5812		
398	95% WH Approx. Gamma UTL with 90% Coverage	6031		
399	95% HW Approx. Gamma UTL with 90% Coverage	6066		
400				
401				
402				
403	**LEAD**			
404				
405	**General Statistics**			
406	Total Number of Observations	16	Number of Distinct Observations	16
407	Tolerance Factor	2.033		
408				
409	**Raw Statistics**		**Log-Transformed Statistics**	
410	Minimum	1.7	Minimum	0.531
411	Maximum	201	Maximum	5.303
412	Second Largest	14.9	Second Largest	2.701
413	First Quartile	3.3	First Quartile	1.188
414	Median	5.85	Median	1.766
415	Third Quartile	7.575	Third Quartile	2.024
416	Mean	18.03	Mean	1.807
417	SD	48.92	SD	1.126
418	Coefficient of Variation	2.714		
419	Skewness	3.964		
420				
421	**Background Statistics**			
422	**Normal Distribution Test**		**Lognormal Distribution Test**	
423	Shapiro Wilk Test Statistic	0.334	Shapiro Wilk Test Statistic	0.812
424	Shapiro Wilk Critical Value	0.887	Shapiro Wilk Critical Value	0.887
425	Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
426				
427	**Assuming Normal Distribution**		**Assuming Lognormal Distribution**	
428	95% UTL with 90% Coverage	117.5	95% UTL with 90% Coverage	60.14
429	95% UPL (t)	106.4	95% UPL (t)	46.62
430	90% Percentile (z)	80.72	90% Percentile (z)	25.8
431	95% Percentile (z)	98.5	95% Percentile (z)	38.84
432	99% Percentile (z)	131.8	99% Percentile (z)	83.68
433				
434	**Gamma Distribution Test**		**Data Distribution Test**	
435	k star	0.507	Data do not follow a Discernable Distribution (0.05)	
436	Theta Star	35.53		
437	MLE of Mean	18.03		
438	MLE of Standard Deviation	25.31		
439	nu star	16.24		
440				

	A	B	C	D	E	F	G	H	I	J	K	L
441					A-D Test Statistic	2.592	Nonparametric Statistics					
442					5% A-D Critical Value	0.79					90% Percentile	13.1
443					K-S Test Statistic	0.342					95% Percentile	61.43
444					5% K-S Critical Value	0.226					99% Percentile	173.1
445		Data not Gamma Distributed at 5% Significance Level										
446												
447			Assuming Gamma Distribution							95% UTL with	90% Coverage	201
448					90% Percentile	48.63			95% Percentile Bootstrap UTL with		90% Coverage	201
449					95% Percentile	68.89			95% BCA Bootstrap UTL with		90% Coverage	108
450					99% Percentile	118.7					95% UPL	201
451											95% Chebyshev UPL	237.8
452					95% WH Approx. Gamma UPL	62.13					Upper Threshold Limit Based upon IQR	13.99
453					95% HW Approx. Gamma UPL	57.15						
454				95% WH Approx. Gamma UTL with	90% Coverage	74.5						
455				95% HW Approx. Gamma UTL with	90% Coverage	69.57						
456												
457												
458												
459	MAGNESIUM											
460												
461					General Statistics							
462					Total Number of Observations	16					Number of Distinct Observations	14
463					Tolerance Factor	2.033						
464												
465				Raw Statistics						Log-Transformed Statistics		
466					Minimum	752.5					Minimum	6.623
467					Maximum	1460					Maximum	7.286
468					Second Largest	1430					Second Largest	7.265
469					First Quartile	1105					First Quartile	7.007
470					Median	1200					Median	7.09
471					Third Quartile	1318					Third Quartile	7.183
472					Mean	1203					Mean	7.081
473					SD	179.3					SD	0.163
474					Coefficient of Variation	0.149						
475					Skewness	-0.791						
476												
477					Background Statistics							
478				Normal Distribution Test						Lognormal Distribution Test		
479					Shapiro Wilk Test Statistic	0.942					Shapiro Wilk Test Statistic	0.89
480					Shapiro Wilk Critical Value	0.887					Shapiro Wilk Critical Value	0.887
481				Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
482												
483				Assuming Normal Distribution						Assuming Lognormal Distribution		
484					95% UTL with	90% Coverage	1567				95% UTL with	90% Coverage	1655
485					95% UPL (t)	1527					95% UPL (t)	1595
486					90% Percentile (z)	1432					90% Percentile (z)	1464
487					95% Percentile (z)	1498					95% Percentile (z)	1554
488					99% Percentile (z)	1620					99% Percentile (z)	1736
489												
490				Gamma Distribution Test						Data Distribution Test		
491					k star	35.04				Data appear Normal at 5% Significance Level		
492					Theta Star	34.33						
493					MLE of Mean	1203						
494					MLE of Standard Deviation	203.2						
495					nu star	1121						

	A	B	C	D	E	F	G	H	I	J	K	L
496												
497					A-D Test Statistic	0.39				Nonparametric Statistics		
498					5% A-D Critical Value	0.736					90% Percentile	1410
499					K-S Test Statistic	0.144					95% Percentile	1438
500					5% K-S Critical Value	0.214					99% Percentile	1456
501		Data appear Gamma Distributed at 5% Significance Level										
502												
503				Assuming Gamma Distribution						95% UTL with	90% Coverage	1460
504					90% Percentile	1469			95% Percentile Bootstrap UTL with		90% Coverage	1460
505					95% Percentile	1555			95% BCA Bootstrap UTL with		90% Coverage	1460
506					99% Percentile	1725					95% UPL	1460
507											95% Chebyshev UPL	2008
508					95% WH Approx. Gamma UPL	1567					Upper Threshold Limit Based upon IQR	1636
509					95% HW Approx. Gamma UPL	1573						
510				95% WH Approx. Gamma UTL with	90% Coverage	1619						
511				95% HW Approx. Gamma UTL with	90% Coverage	1627						
512												
513												
514												
515	MANGANESE											
516												
517					General Statistics							
518					Total Number of Observations	16					Number of Distinct Observations	16
519					Tolerance Factor	2.033						
520												
521				Raw Statistics						Log-Transformed Statistics		
522					Minimum	67.5					Minimum	4.212
523					Maximum	213					Maximum	5.361
524					Second Largest	211					Second Largest	5.352
525					First Quartile	86.75					First Quartile	4.463
526					Median	109.7					Median	4.698
527					Third Quartile	151.5					Third Quartile	5.021
528					Mean	122.1					Mean	4.743
529					SD	45.91					SD	0.362
530					Coefficient of Variation	0.376						
531					Skewness	0.838						
532												
533					Background Statistics							
534				Normal Distribution Test						Lognormal Distribution Test		
535					Shapiro Wilk Test Statistic	0.904					Shapiro Wilk Test Statistic	0.951
536					Shapiro Wilk Critical Value	0.887					Shapiro Wilk Critical Value	0.887
537				Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
538												
539				Assuming Normal Distribution						Assuming Lognormal Distribution		
540					95% UTL with	90% Coverage	215.5				95% UTL with	90% Coverage	239.3
541					95% UPL (t)	205.1					95% UPL (t)	220.5
542					90% Percentile (z)	181					90% Percentile (z)	182.4
543					95% Percentile (z)	197.7					95% Percentile (z)	208
544					99% Percentile (z)	228.9					99% Percentile (z)	266.1
545												
546				Gamma Distribution Test						Data Distribution Test		
547					k star	6.666				Data appear Normal at 5% Significance Level		
548					Theta Star	18.32						
549					MLE of Mean	122.1						
550					MLE of Standard Deviation	47.3						

	A	B	C	D	E	F	G	H	I	J	K	L
551					nu star	213.3						
552												
553					A-D Test Statistic	0.345	Nonparametric Statistics					
554					5% A-D Critical Value	0.74					90% Percentile	187.5
555					K-S Test Statistic	0.15					95% Percentile	211.5
556					5% K-S Critical Value	0.215					99% Percentile	212.7
557	Data appear Gamma Distributed at 5% Significance Level											
558												
559			Assuming Gamma Distribution							95% UTL with	90% Coverage	213
560					90% Percentile	185.3			95% Percentile Bootstrap UTL with		90% Coverage	213
561					95% Percentile	208.9			95% BCA Bootstrap UTL with		90% Coverage	213
562					99% Percentile	258.1					95% UPL	213
563											95% Chebyshev UPL	328.4
564					95% WH Approx. Gamma UPL	213.3					Upper Threshold Limit Based upon IQR	248.6
565					95% HW Approx. Gamma UPL	214.8						
566					95% WH Approx. Gamma UTL with 90% Coverage	228.1						
567					95% HW Approx. Gamma UTL with 90% Coverage	230.5						
568												
569												
570												
571	NICKEL											
572												
573					General Statistics							
574					Total Number of Observations	16					Number of Distinct Observations	11
575					Tolerance Factor	2.033						
576												
577				Raw Statistics						Log-Transformed Statistics		
578					Minimum	3.4					Minimum	1.224
579					Maximum	6.2					Maximum	1.825
580					Second Largest	6.2					Second Largest	1.825
581					First Quartile	4					First Quartile	1.385
582					Median	4.9					Median	1.589
583					Third Quartile	5.375					Third Quartile	1.681
584					Mean	4.797					Mean	1.55
585					SD	0.923					SD	0.201
586					Coefficient of Variation	0.192						
587					Skewness	-0.174						
588												
589					Background Statistics							
590				Normal Distribution Test						Lognormal Distribution Test		
591					Shapiro Wilk Test Statistic	0.934					Shapiro Wilk Test Statistic	0.917
592					Shapiro Wilk Critical Value	0.887					Shapiro Wilk Critical Value	0.887
593				Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
594												
595				Assuming Normal Distribution						Assuming Lognormal Distribution		
596					95% UTL with 90% Coverage	6.673					95% UTL with 90% Coverage	7.081
597					95% UPL (t)	6.464					95% UPL (t)	6.767
598					90% Percentile (z)	5.979					90% Percentile (z)	6.09
599					95% Percentile (z)	6.315					95% Percentile (z)	6.551
600					99% Percentile (z)	6.944					99% Percentile (z)	7.51
601												
602				Gamma Distribution Test						Data Distribution Test		
603					k star	22.36				Data appear Normal at 5% Significance Level		
604					Theta Star	0.215						
605					MLE of Mean	4.797						

	A	B	C	D	E	F	G	H	I	J	K	L
606					MLE of Standard Deviation	1.014						
607					nu star	715.5						
608												
609					A-D Test Statistic	0.483	Nonparametric Statistics					
610					5% A-D Critical Value	0.736					90% Percentile	5.9
611					K-S Test Statistic	0.17					95% Percentile	6.2
612					5% K-S Critical Value	0.215					99% Percentile	6.2
613	Data appear Gamma Distributed at 5% Significance Level											
614												
615	Assuming Gamma Distribution									95% UTL with	90% Coverage	6.2
616					90% Percentile	6.134			95% Percentile Bootstrap UTL with		90% Coverage	6.2
617					95% Percentile	6.578			95% BCA Bootstrap UTL with		90% Coverage	6.2
618					99% Percentile	7.466					95% UPL	6.2
619											95% Chebyshev UPL	8.943
620					95% WH Approx. Gamma UPL	6.644					Upper Threshold Limit Based upon IQR	7.438
621					95% HW Approx. Gamma UPL	6.672						
622					95% WH Approx. Gamma UTL with 90% Coverage	6.913						
623					95% HW Approx. Gamma UTL with 90% Coverage	6.952						
624												
625												
626												
627	POTASSIUM											
628												
629					General Statistics							
630					Total Number of Observations	16					Number of Distinct Observations	16
631					Tolerance Factor	2.033						
632												
633				Raw Statistics						Log-Transformed Statistics		
634					Minimum	270					Minimum	5.598
635					Maximum	488					Maximum	6.19
636					Second Largest	481					Second Largest	6.176
637					First Quartile	321					First Quartile	5.771
638					Median	377.5					Median	5.933
639					Third Quartile	437.8					Third Quartile	6.082
640					Mean	380.7					Mean	5.925
641					SD	71.87					SD	0.194
642					Coefficient of Variation	0.189						
643					Skewness	-0.0292						
644												
645					Background Statistics							
646				Normal Distribution Test						Lognormal Distribution Test		
647					Shapiro Wilk Test Statistic	0.947					Shapiro Wilk Test Statistic	0.943
648					Shapiro Wilk Critical Value	0.887					Shapiro Wilk Critical Value	0.887
649				Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
650												
651				Assuming Normal Distribution						Assuming Lognormal Distribution		
652					95% UTL with 90% Coverage	526.8					95% UTL with 90% Coverage	554.6
653					95% UPL (t)	510.5					95% UPL (t)	530.9
654					90% Percentile (z)	472.8					90% Percentile (z)	479.5
655					95% Percentile (z)	498.9					95% Percentile (z)	514.5
656					99% Percentile (z)	547.9					99% Percentile (z)	587
657												
658				Gamma Distribution Test						Data Distribution Test		
659					k star	23.7				Data appear Normal at 5% Significance Level		
660					Theta Star	16.06						

	A	B	C	D	E	F	G	H	I	J	K	L
661					MLE of Mean	380.7						
662					MLE of Standard Deviation	78.19						
663					nu star	758.5						
664												
665					A-D Test Statistic	0.326	Nonparametric Statistics					
666					5% A-D Critical Value	0.736					90% Percentile	472.5
667					K-S Test Statistic	0.13					95% Percentile	482.8
668					5% K-S Critical Value	0.215					99% Percentile	487
669	Data appear Gamma Distributed at 5% Significance Level											
670												
671	Assuming Gamma Distribution									95% UTL with	90% Coverage	488
672					90% Percentile	483.7			95% Percentile Bootstrap UTL with		90% Coverage	488
673					95% Percentile	517.7			95% BCA Bootstrap UTL with		90% Coverage	488
674					99% Percentile	585.7					95% UPL	488
675											95% Chebyshev UPL	703.6
676					95% WH Approx. Gamma UPL	522.7					Upper Threshold Limit Based upon IQR	612.9
677					95% HW Approx. Gamma UPL	524.6						
678				95% WH Approx. Gamma UTL with	90% Coverage	543.3						
679				95% HW Approx. Gamma UTL with	90% Coverage	545.9						
680												
681												
682												
683	SODIUM											
684												
685					General Statistics							
686					Total Number of Observations	16					Number of Distinct Observations	16
687					Tolerance Factor	2.033						
688												
689					Raw Statistics						Log-Transformed Statistics	
690					Minimum	44.1					Minimum	3.786
691					Maximum	80.8					Maximum	4.392
692					Second Largest	75.1					Second Largest	4.319
693					First Quartile	55.5					First Quartile	4.016
694					Median	62.35					Median	4.133
695					Third Quartile	67.88					Third Quartile	4.217
696					Mean	61.7					Mean	4.11
697					SD	10.02					SD	0.166
698					Coefficient of Variation	0.162						
699					Skewness	0.00554						
700												
701					Background Statistics							
702					Normal Distribution Test						Lognormal Distribution Test	
703					Shapiro Wilk Test Statistic	0.984					Shapiro Wilk Test Statistic	0.975
704					Shapiro Wilk Critical Value	0.887					Shapiro Wilk Critical Value	0.887
705					Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level	
706												
707					Assuming Normal Distribution						Assuming Lognormal Distribution	
708					95% UTL with	90% Coverage	82.06				95% UTL with	90% Coverage	85.44
709					95% UPL (t)	79.8					95% UPL (t)	82.29
710					90% Percentile (z)	74.54					90% Percentile (z)	75.4
711					95% Percentile (z)	78.18					95% Percentile (z)	80.1
712					99% Percentile (z)	85					99% Percentile (z)	89.71
713												
714					Gamma Distribution Test						Data Distribution Test	
715					k star	32.08					Data appear Normal at 5% Significance Level	

	A	B	C	D	E	F	G	H	I	J	K	L
716					Theta Star	1.923						
717					MLE of Mean	61.7						
718					MLE of Standard Deviation	10.89						
719					nu star	1027						
720												
721					A-D Test Statistic	0.191			Nonparametric Statistics			
722					5% A-D Critical Value	0.736					90% Percentile	72.85
723					K-S Test Statistic	0.138					95% Percentile	76.53
724					5% K-S Critical Value	0.215					99% Percentile	79.95
725			Data appear Gamma Distributed at 5% Significance Level									
726												
727			Assuming Gamma Distribution							95% UTL with	90% Coverage	80.8
728					90% Percentile	76.01				95% Percentile Bootstrap UTL with	90% Coverage	80.8
729					95% Percentile	80.64				95% BCA Bootstrap UTL with	90% Coverage	77.95
730					99% Percentile	89.83					95% UPL	80.8
731											95% Chebyshev UPL	106.7
732					95% WH Approx. Gamma UPL	81.29					Upper Threshold Limit Based upon IQR	86.44
733					95% HW Approx. Gamma UPL	81.52						
734				95% WH Approx. Gamma UTL with	90% Coverage	84.08						
735				95% HW Approx. Gamma UTL with	90% Coverage	84.39						
736												
737												
738												
739	VANADIUM											
740												
741					General Statistics							
742					Total Number of Observations	16					Number of Distinct Observations	14
743					Tolerance Factor	2.033						
744												
745			Raw Statistics						Log-Transformed Statistics			
746					Minimum	6.35					Minimum	1.848
747					Maximum	11.5					Maximum	2.442
748					Second Largest	10.9					Second Largest	2.389
749					First Quartile	7.75					First Quartile	2.048
750					Median	8.65					Median	2.158
751					Third Quartile	9.425					Third Quartile	2.243
752					Mean	8.713					Mean	2.153
753					SD	1.361					SD	0.155
754					Coefficient of Variation	0.156						
755					Skewness	0.434						
756												
757					Background Statistics							
758			Normal Distribution Test						Lognormal Distribution Test			
759					Shapiro Wilk Test Statistic	0.972					Shapiro Wilk Test Statistic	0.982
760					Shapiro Wilk Critical Value	0.887					Shapiro Wilk Critical Value	0.887
761			Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level			
762												
763			Assuming Normal Distribution						Assuming Lognormal Distribution			
764					95% UTL with	90% Coverage	11.48				95% UTL with	90% Coverage	11.81
765					95% UPL (t)	11.17					95% UPL (t)	11.4
766					90% Percentile (z)	10.46					90% Percentile (z)	10.51
767					95% Percentile (z)	10.95					95% Percentile (z)	11.12
768					99% Percentile (z)	11.88					99% Percentile (z)	12.36
769												
770			Gamma Distribution Test						Data Distribution Test			

	A	B	C	D	E	F	G	H	I	J	K	L
771					k star	36.08	Data appear Normal at 5% Significance Level					
772					Theta Star	0.241						
773					MLE of Mean	8.713						
774					MLE of Standard Deviation	1.45						
775					nu star	1155						
776												
777					A-D Test Statistic	0.2	Nonparametric Statistics					
778					5% A-D Critical Value	0.736					90% Percentile	10.45
779					K-S Test Statistic	0.125					95% Percentile	11.05
780					5% K-S Critical Value	0.214					99% Percentile	11.41
781	Data appear Gamma Distributed at 5% Significance Level											
782												
783	Assuming Gamma Distribution									95% UTL with	90% Coverage	11.5
784					90% Percentile	10.62				95% Percentile Bootstrap UTL with	90% Coverage	11.5
785					95% Percentile	11.23				95% BCA Bootstrap UTL with	90% Coverage	11.5
786					99% Percentile	12.44					95% UPL	11.5
787											95% Chebyshev UPL	14.83
788					95% WH Approx. Gamma UPL	11.31				Upper Threshold Limit Based upon IQR		11.94
789					95% HW Approx. Gamma UPL	11.33						
790				95% WH Approx. Gamma UTL with	90% Coverage	11.68						
791				95% HW Approx. Gamma UTL with	90% Coverage	11.71						
792												
793												
794												
795	ZINC											
796												
797					General Statistics							
798					Total Number of Observations	16				Number of Distinct Observations		16
799					Tolerance Factor	2.033						
800												
801				Raw Statistics						Log-Transformed Statistics		
802					Minimum	8.3					Minimum	2.116
803					Maximum	34.8					Maximum	3.55
804					Second Largest	29.5					Second Largest	3.384
805					First Quartile	12.5					First Quartile	2.523
806					Median	22.5					Median	3.113
807					Third Quartile	27.55					Third Quartile	3.316
808					Mean	20.16					Mean	2.91
809					SD	8.481					SD	0.463
810					Coefficient of Variation	0.421						
811					Skewness	0.0668						
812												
813					Background Statistics							
814				Normal Distribution Test						Lognormal Distribution Test		
815					Shapiro Wilk Test Statistic	0.915					Shapiro Wilk Test Statistic	0.905
816					Shapiro Wilk Critical Value	0.887					Shapiro Wilk Critical Value	0.887
817				Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level		
818												
819				Assuming Normal Distribution						Assuming Lognormal Distribution		
820					95% UTL with	90% Coverage	37.41				95% UTL with	90% Coverage	47.03
821					95% UPL (t)	35.49					95% UPL (t)	42.36
822					90% Percentile (z)	31.03					90% Percentile (z)	33.21
823					95% Percentile (z)	34.11					95% Percentile (z)	39.3
824					99% Percentile (z)	39.89					99% Percentile (z)	53.88
825												

	A	B	C	D	E	F	G	H	I	J	K	L
826	Gamma Distribution Test						Data Distribution Test					
827					k star	4.49	Data appear Normal at 5% Significance Level					
828					Theta Star	4.491						
829					MLE of Mean	20.16						
830					MLE of Standard Deviation	9.516						
831					nu star	143.7						
832												
833					A-D Test Statistic	0.702	Nonparametric Statistics					
834					5% A-D Critical Value	0.741					90% Percentile	29.15
835					K-S Test Statistic	0.199					95% Percentile	30.83
836					5% K-S Critical Value	0.216					99% Percentile	34.01
837	Data appear Gamma Distributed at 5% Significance Level											
838												
839	Assuming Gamma Distribution									95% UTL with	90% Coverage	34.8
840					90% Percentile	32.91				95% Percentile Bootstrap UTL with	90% Coverage	34.8
841					95% Percentile	37.93				95% BCA Bootstrap UTL with	90% Coverage	32.15
842					99% Percentile	48.58					95% UPL	34.8
843											95% Chebyshev UPL	58.27
844					95% WH Approx. Gamma UPL	39.02					Upper Threshold Limit Based upon IQR	50.13
845					95% HW Approx. Gamma UPL	39.7						
846					95% WH Approx. Gamma UTL with 90% Coverage	42.23						
847					95% HW Approx. Gamma UTL with 90% Coverage	43.2						
848												
849												
850												
851	Total Organic Carbon											
852												
853					General Statistics							
854					Total Number of Observations	16					Number of Distinct Observations	15
855					Tolerance Factor	2.033						
856												
857	Raw Statistics						Log-Transformed Statistics					
858					Minimum	3100					Minimum	8.039
859					Maximum	42000					Maximum	10.65
860					Second Largest	20000					Second Largest	9.903
861					First Quartile	4200					First Quartile	8.339
862					Median	10200					Median	9.227
863					Third Quartile	14000					Third Quartile	9.54
864					Mean	11509					Mean	9.059
865					SD	9922					SD	0.783
866					Coefficient of Variation	0.862						
867					Skewness	2.076						
868												
869					Background Statistics							
870	Normal Distribution Test						Lognormal Distribution Test					
871					Shapiro Wilk Test Statistic	0.781					Shapiro Wilk Test Statistic	0.939
872					Shapiro Wilk Critical Value	0.887					Shapiro Wilk Critical Value	0.887
873	Data not Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level					
874												
875	Assuming Normal Distribution						Assuming Lognormal Distribution					
876					95% UTL with 90% Coverage	31681					95% UTL with 90% Coverage	42265
877					95% UPL (t)	29438					95% UPL (t)	35409
878					90% Percentile (z)	24225					90% Percentile (z)	23463
879					95% Percentile (z)	27830					95% Percentile (z)	31186
880					99% Percentile (z)	34591					99% Percentile (z)	53181

	A	B	C	D	E	F	G	H	I	J	K	L
881												
882				**Gamma Distribution Test**					**Data Distribution Test**			
883					k star	1.557			Data appear Gamma Distributed at 5% Significance Level			
884					Theta Star	7393						
885					MLE of Mean	11509						
886					MLE of Standard Deviation	9224						
887					nu star	49.82						
888												
889					A-D Test Statistic	0.412			**Nonparametric Statistics**			
890					5% A-D Critical Value	0.751					90% Percentile	19500
891					K-S Test Statistic	0.133					95% Percentile	25500
892					5% K-S Critical Value	0.218					99% Percentile	38700
893			Data appear Gamma Distributed at 5% Significance Level									
894												
895				**Assuming Gamma Distribution**							95% UTL with 90% Coverage	42000
896					90% Percentile	23767					95% Percentile Bootstrap UTL with 90% Coverage	42000
897					95% Percentile	29611					95% BCA Bootstrap UTL with 90% Coverage	42000
898					99% Percentile	42776					95% UPL	42000
899											95% Chebyshev UPL	56089
900					95% WH Approx. Gamma UPL	31019					Upper Threshold Limit Based upon IQR	28700
901					95% HW Approx. Gamma UPL	31733						
902					95% WH Approx. Gamma UTL with 90% Coverage	34976						
903					95% HW Approx. Gamma UTL with 90% Coverage	36159						
904												
905												

APPENDIX B

DATA QUALITY REVIEW

B.1 SOIL DATA QUALITY REVIEW
B.2 GROUNDWATER, SURFACE WATER AND SEDIMENT DATA QUALITY REVIEW

B.1 SOIL DATA QUALITY REVIEW

APPENDIX B.1

SOIL ANALYTICAL DATA QUALITY REVIEW
BACKGROUND STUDY
NAS BRUNSWICK, BRUNSWICK, MAINE

A description of the data review processes used to determine whether analytical laboratory data were of acceptable technical quality for use in decision making is presented in this DQR. The review began with data verification and validation. Verification is a process used to ensure that contractual requirements were satisfied. Validation is a comparison of data quality indicators (DQIs) against prescribed acceptance criteria to assess analytical method performance. The DQIs used are measures to assess the bias and precision of the analytical calibrations and sample analyses. Together, verification and validation are the first steps in evaluating data completeness, accuracy, sensitivity, comparability, and representativeness. The data review process culminates with a data usability assessment which will be presented in the Background Study Report during which the final usability of the data is established relative to the intended data use.

1.0 DATA VALIDATION PROCESS

All of the results from analytical laboratory samples were validated according to several specifications. Assignment of data qualification flags conformed to rules established in USEPA Region 1 Laboratory Data Validation Functional Guidelines for Evaluating Organic Analyses – Part II (December 1996) and Part III (February 2004), USEPA Region I Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses – Part VI (November 2008), and Department of Defense (DoD) document entitled Quality Systems Manual (QSM) for Environmental Laboratories (January 1996 or April 2009) to the greatest extent practicable for non-contract laboratory program data. Numerical criteria used in conjunction with these rules were specified in the Background Study Sampling and Analysis Plan (Background Study SAP) (Tt, 2009).

If no qualifier is assigned to a result that has been validated, the data user is assured that no analytical performance deficiencies were identified during validation. The qualification flags used are defined below:

U – Indicates that the chemical was not detected at the numerical detection limit noted. Non-detected results are reported with a "U" qualifier when received from the laboratory. Additionally, a "U" qualifier is added to a result (reported by the laboratory) if the detected concentration is determined to be attributable to contamination introduced during field sampling or laboratory analysis.

UJ – Indicates that the chemical was not detected. However, the detection limit (sample-specific quantitation limit) is considered to be estimated based on problems encountered during laboratory analysis. The associated numerical detection limit is regarded as inaccurate.

J – Indicates that the chemical was detected. However, the associated numerical result is not an accurate representation of the amount that is actually present in the sample. The laboratory reported concentration is considered to be an estimate of the true concentration.

UR – Indicates that the chemical may or may not be present. The non-detected analytical result reported by the laboratory is considered to be unreliable and unusable. The "UR" qualifier is applied in cases of gross technical deficiencies (i.e., holding times missed by a factor of two times the specified time limit, severe calibration noncompliances, and extremely low quality control [QC] recoveries).

R – Indicates that the chemical may or may not be present. The analytical result reported by the laboratory is considered to be unreliable and unusable. The "R" qualifier is applied in cases of gross technical deficiencies (i.e., holding times missed by a factor of two times the specified time limit, severe calibration noncompliances, and extremely low QC recoveries).

The preceding data qualifiers may be categorized as indicative of major or minor problems. Major problems are defined as issues that result in the rejection of data and qualification with "UR" or "R" data validation qualifiers. Rejected data are considered invalid and are not used for decision making purposes unless used in a qualitative way and the use is justified and documented. Less severe deficiencies, associated with "U", "J", and "UJ" data validation qualifiers, are defined as issues resulting in the estimation of data. Estimated analytical results are considered to be suitable for decision-making purposes unless the data use requirements are very stringent and the qualifier indicates a deficiency that is incompatible with the intended data use. Also, a "U" qualifier does not necessarily indicate that a data deficiency exists because all non-detect values are flagged with the "U" qualifier regardless of whether a quality deficiency has been detected.

No soil data were rejected during validation for the Background Study. Qualified data and the reason for corresponding qualification are presented in Table B.1.1. Any impacts to the project based on the results of the data evaluation are discussed in the remainder of this review.

2.0 DATA VALIDATION OUTPUTS

After laboratory data were validated, a list was developed of non-conformities requiring data qualifier flags that were used to alert the data user to inaccurate or imprecise data. For situations in which several QC criteria were out of specification, the data validator made professional judgments and or comments on the

validity of the overall data package. The reviewer then prepared a technical memorandum presenting qualification of the data, if necessary, and the rationale for making such qualifications. The net result was a data package that had been carefully reviewed for its adherence to prescribed technical requirements. Data validators incorporated data qualifiers into the electronic database and submitted the information to the TtNUS data management group. Pertinent quality estimates are summarized in a more quantitative format in the following sections.

3.0 GENERAL DATA QUALITY REVIEW

The DQR provided herein is designed to provide an overall quantitative measure of analytical performance not provided by data validation. The analytical performance quantitative evaluations are frequently analyte-specific and reflect deficiencies such as biases associated with the quantification of particular analytes in a particular sample matrix. The data user must be aware that different chemicals in the same analytical fraction (e.g. antimony and lead in the metals fraction) may exhibit different degrees of quality.

3.1 Completeness

Completeness is a measure of the number of valid samples or measurements that are available relative to the number of samples or measurements that were intended to be generated. For this project, completeness was measured on two different bases: samples collected and laboratory measurements.

- Sample completeness was a measure of the usable samples collected as compared to those intended to be collected.

- Laboratory measurement completeness was a measure of the amount of usable, valid laboratory measurements per matrix obtained for each target analyte.

Usable, valid samples (or results) were those judged, after data assessment, to represent the sampling populations and to have not been disqualified for use through data validation or additional data review. Completeness was determined using the following equation:

$$\%C = \frac{V}{T} \times 100$$

where %C = percent completeness
V = number of samples (or results) determined to be valid
T = total number of planned samples (or results)

According to Worksheet #14 of the Background Study SAP, 15 surface and 15 subsurface soil samples were to be collected for each of predominant geological units present on-site, which include uppers and and transition sand in order to provide sufficient data for statistical analysis. Therefore, a total 60 samples [30 surface soil (2 soil types X 15 samples per soil type) and 30 subsurface soil (2 soil types X 15 samples per soil type)] were required according to the Background Study SAP.

Data provided for this review included surface and subsurface soil from the upper sand and transitional sand geological units. Eighteen (including one field duplicate) surface soil and 19 subsurface soil samples (including two field duplicates) were collected for the upper sand geological unit. Eighteen (including three field duplicates) surface soil and 16 subsurface soil samples (including one field duplicate) were collected for the transitional sand geological unit. Over 100 percent of the planned samples were collected for upper and transitional sand.

The percent completeness for laboratory measurements was 100 percent for all fractions because all samples sent to the laboratory were analyzed for the appropriate target analytes and no data was qualified as rejected.

In summary, sample and laboratory percent completenesses for this project were at least 100 percent. The percent completeness goals for this project of 95 percent as defined in Worksheet #12 of the Background Study SAP were met for the upper sand and transitional sand geological units.

3.2 Sensitivity

The majority of the method detection limits (MDLs) reported by the laboratory were less than the screening levels specified in the laboratory scope-of-work. Several metal analytes were qualified due to laboratory blank contamination thereby increasing expected detection limits; however, none of the detection limits elevated due to laboratory blank contamination exceeded corresponding screening concentrations as listed in the Background SAP. Most pesticides and some selenium non-detected results exceeded detection limits as presented in Table B.1.2 which indicates the number and percentage of non-detected results that exceed corresponding screening levels listed in the Background Study SAP. Data usability issues for compounds with detection limits greater than minimum screening criteria will be evaluated on a site-specific basis in corresponding reports.

3.3 Laboratory Accuracy

Accuracy in the laboratory was measured through the comparison of a spiked sample or Laboratory control sample/laboratory control sample duplicate (LCS/LCSD) result to a known or calculated value and

is expressed as a percent recovery (%R). Accuracy was also assessed by monitoring the analytical recovery of select surrogate compounds added to samples that are analyzed by organic chromatographic methods and the analytical recovery of calibration standards for all analyses. LCSs were used to assess the accuracy of laboratory operations with minimal sample matrix effects. Matrix spike/matrix spike duplicate (MS/MSD) and surrogate compound analyses measure the combined accuracy effects of the sample matrix, sample preparation, and sample measurement. LCS and MS analyses were performed at a frequency of one per 20 associated samples of like matrix. Laboratory accuracy was assessed by comparing calculated percent recovery (%R) values to accuracy control limits specified by the laboratory using the appropriate SW-846 Method.

Percent recovery is calculated using the following equation:

$$\%R = \frac{Ss - So}{S} \times 100$$

where	%R	=	percent recovery
	Ss	=	result of spiked sample
	So	=	result of non-spiked sample
	S	=	concentration of spiked amount.

Results reported for 2-methylnapthlene, antimony, calcium, magnesium, manganese, potassium, and total organic carbon (TOC) were qualified due to MS percent recovery noncompliance (See Table B.1.1 for a list of specific samples and corresponding analytes qualified). None of the data qualify due to MS/MSD noncompliance were qualified as rejected; therefore, all data qualified due to MS/MSD noncompliance is considered usable however the MS/MSD analyses indicate result biases as follows. Two 2-methylnapthlene MS/MSD analyses yielded MS %Rs less than quality control criteria. The MS/MSD analyses indicate that the non-detected 2-methylnaphthalne results qualified due to MS noncompliance are biased low. Five antimony MS/MSD analyses yielded MS %Rs less than quality control criteria. The MS/MSD analyses indicate that antimony results qualified due to MS noncompliance are biased low. Five calcium MS/MSD analyses yielded MS %Rs greater than quality control criteria. The MS/MSD analyses indicate that positive calcium results qualified due to MS/MSD noncompliance are be biased high. One potassium MS/MSD analysis yielded MS %Rs greater than the upper quality control limit. The noncompliant MS/MSD analysis indicates that positive potassium results qualified due to MS noncompliance are be biased high. Three MS analyses yielded MS %Rs for manganese greater than the corresponding upper quality control limit and one MS analysis yielded a MS %R less than the lower quality control limit. Matrix spike quality control samples indicate that manganese data qualified due to MS noncompliance is generally biased high. Two MS/MSD analyses yielded MS %Rs greater than the upper quality control limit for magnesium. Matrix spike quality control samples indicate that magnesium

data qualified due to MS noncompliance is biased high. Two MS/MSD analyses yielded MS %Rs greater than the upper quality control limit for TOC. Matrix spike quality control samples indicate that TOC data qualified due to MS noncompliance is biased high.

Copper, 2-methylnaphthalene, acenaphthene, benzo(g,h,i)perylene, fluorene, and naphthalene results were qualified due to noncompliant LCS/LCSD %Rs. None of the data qualify due to LCS/LCSD noncompliance were qualified as rejected therefore all data qualified due to LCS/LSCD noncompliance is considered usable; however, the LCS/LCSD analyses indicate result biases as follows. One LCS yielded a %R slightly greater than the upper quality control limit for copper indicating the copper results qualified due to LCS noncompliance are biased slightly high. Two LCS analyses yielded %Rs for 2-methylnaphthalene less than the corresponding quality control limit indicating that 2-methylnaphthalene results qualified due to LCS noncompliance are biased low. Two LCS analyses yielded %Rs for acenaphthene slightly less than the corresponding quality control limit indicating that acenaphtene results qualified due to LCS noncompliance are biased low. One LCS yielded a %R slightly less than the lower quality control limit for benzo(g,h,i)perylene indicating the benzo(g,h,i)perylene results qualified due to LCS noncompliance are biased slightly low. Two LCS analyses yielded %Rs for fluorene slightly less than the corresponding quality control limit indicating that fluorene results qualified due to LCS noncompliance are biased slightly low. One LCS analysis yielded a %R less than the lower quality control limit for naphthalene indicating the naphthalene results qualified due to LCS noncompliance are biased low.

Benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene were qualified due to a single noncompliant surrogate (perylene-d12) recovery. The positive affected results qualified are usable as estimated values, which noncompliant surrogate data indicates are biased high.

The ICP Interference Check Sample (ICS) is evaluated to verify the laboratory's interelement and background correction factors, and to account for potential spectral overlaps and stray light interferences caused by the interfering analytes aluminum, calcium, iron, and magnesium when analyzing samples using ICP-AES instrumentation. Lead, nickel, and silver were qualified due to ICP ICS non-compliances, indicating that matrix effects may have biased associated qualified sample results. No data was qualified as rejected due to ICP ICS non-compliances therefore the qualified data are considered usable; however, ICP ICS sample results indicate bias for associated qualified results as follows. Three ICP ICS analyses indicated that interfering elements were suppressing silver results; therefore, that data indicates that silver results qualified due to ICP interference are biased low. One ICP ICS analysis indicated that interfering elements were suppressing lead results; therefore, that data indicates that lead results qualified due to ICP interference are biased low. One ICP ICS analysis indicated that interfering elements were elevating

nickel results; therefore, that data indicates that nickel results qualified due to ICP interference are biased low.

The ICP serial dilution analysis is a quality control measure used to determine whether or not physical or chemical interferences exist due to the sample matrix. Copper and sodium results were qualified as estimated due to serial dilution noncompliance for one noncompliant analysis indicating that a chemical or physical interference is present in those qualified soil samples. Despite this ICP serial dilution noncompliance for copper and sodium, the associated qualified data are considered acceptable as those data were not rejected; however, data users should be aware that copper and sodium soil results qualified due to ICP interference maybe less accurate then unqualified results.

Calibration noncompliances were noted for several herbicides, PAHs, and pesticides (See Table B.1.1). The calibration non-compliances were outside of QC limits; however, those non-compliances were not egregious enough to qualify the affected data as rejected according to the data validation guidelines used for this project; therefore, the data are considered usable.

3.4 Laboratory Precision

Precision is a measure of the degree to which two or more measurements are in agreement and describes the reproducibility of measurements of the same parameter for samples analyzed under similar conditions.

Precision for chemical parameters is expressed as a Relative Percent Difference (RPD), which is defined as the ratio of the difference to the mean for the two values being evaluated. RPDs, typically expressed as percentages, are used to evaluate both field and laboratory duplicate precision and are calculated as follows:

$$RPD = \frac{|V1 - V2|}{(V1 + V2)/2} \times 100$$

where RPD = relative percent difference

V1, V2 = two results obtained by analyzing duplicate samples

The precision estimates obtained from duplicate field samples encompass the combined uncertainty associated with sample collection, homogenization, splitting, handling, laboratory and field storage (as applicable), preparation for analysis, and analysis. In contrast, precision estimates obtained from analyzing duplicate laboratory samples incorporate only homogenization, sub sampling, preparation for analysis, laboratory storage (if applicable), and analysis uncertainties.

Field duplicate imprecision was noted for lead and TOC soil results. Data that were qualified due to field duplicate imprecision are not rejected and therefore are considered usable but the data user should be aware of potentially exaggerated imprecision compared to expectations.

Laboratory duplicate imprecision was noted for TOC soil results. Data that were qualified due to laboraotry duplicate imprecision are not rejected and therefore are considered usable but the data user should be aware of potentially exaggerated imprecision compared to expectations.

3.5 Comparability

Comparability is defined as the confidence with which one data set can be compared with another (e.g., among sampling points and among sampling events). Comparability was achieved by using standardized sampling and analysis methods, as well as standardized data reporting formats. Comparability of laboratory measurements was achieved primarily through the use and documentation of standard sampling and analytical methods. Results were reported in units that ensured comparability with previous data and with current state and federal standards and guidelines. Comparability of laboratory measurements was assessed primarily through the use of quality control samples and through adherence to the quality assurance plan.

3.6 Representativeness

Representativeness is an expression of the degree to which data accurately and precisely depict the actual characteristics of a population or environmental condition existing at the site. The Background Study SAP and the use of standardized sampling, sample handling, sample analysis, and data reporting procedures were designed so that the final data would be accurate representations of actual site conditions. The DQR found the data collected for the Background Study to be representative of targeted soil populations. The following are the main data quality items requiring further evaluation prior to data use.

4.0 DATA DEFICIENCIES

Most pesticides and some selenium non-detected results exceeded detection limits, which was expected because analyses were selected based on frequently used analytical methods at NAS Brunswick as described note 2 of Worksheet #15a in the Background Study SAP. Data usability issues for compounds with detection limits greater than minimum screening criteria will be evaluated on a site-specific basis in corresponding reports and additional background may be collected and analyzed using more sensitive analytical instrumentation, methodology, or both.

TABLE B.1.1
QUALIFIED SOIL DATA
BACKGROUND STUDY
NAS BRUNSWICK, BRUNSWICK MAINE

Sample ID	Fraction	Parameter	Result	Units	Qualifier	Qualifier Code	Reason for Qualification
NASB-BG-SB-SB10-0001	HERB	2,4,5-T	11	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB11-0001	HERB	2,4,5-T	13	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB18-0001	HERB	2,4,5-T	14	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB19-0001	HERB	2,4,5-T	13	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB21-0001	HERB	2,4,5-T	13	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB22-0001	HERB	2,4,5-T	13	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB23-0001	HERB	2,4,5-T	13	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB24-0001	HERB	2,4,5-T	12	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB24-0001-D	HERB	2,4,5-T	13	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB25-0001	HERB	2,4,5-T	13	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB39-0001	HERB	2,4,5-T	11	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB10-0001	HERB	2,4,5-TP (SILVEX)	6.9	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB11-0001	HERB	2,4,5-TP (SILVEX)	7.9	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB18-0001	HERB	2,4,5-TP (SILVEX)	8.6	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB19-0001	HERB	2,4,5-TP (SILVEX)	7.9	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB21-0001	HERB	2,4,5-TP (SILVEX)	8.2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB22-0001	HERB	2,4,5-TP (SILVEX)	7.8	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB23-0001	HERB	2,4,5-TP (SILVEX)	8.1	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB24-0001	HERB	2,4,5-TP (SILVEX)	7.7	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB24-0001-D	HERB	2,4,5-TP (SILVEX)	8.3	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB25-0001	HERB	2,4,5-TP (SILVEX)	8.0	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB39-0001	HERB	2,4,5-TP (SILVEX)	6.6	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB10-0001	HERB	2,4-D	6.6	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB11-0001	HERB	2,4-D	7.7	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB18-0001	HERB	2,4-D	8.4	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB19-0001	HERB	2,4-D	7.6	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB21-0001	HERB	2,4-D	8.0	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB22-0001	HERB	2,4-D	7.6	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)

TABLE B.1.1
QUALIFIED SOIL DATA
BACKGROUND STUDY
NAS BRUNSWICK, BRUNSWICK MAINE

Sample ID	Fraction	Parameter	Result	Units	Qualifier	Qualifier Code	Reason for Qualification
NASB-BG-SB-SB23-0001	HERB	2,4-D	7.8	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB24-0001	HERB	2,4-D	7.5	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB24-0001-D	HERB	2,4-D	8.0	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB25-0001	HERB	2,4-D	7.7	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB39-0001	HERB	2,4-D	6.4	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB16-0001	HERB	2,4-D	8.0	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB10-0001	HERB	2,4-DB	12	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB11-0001	HERB	2,4-DB	14	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB18-0001	HERB	2,4-DB	15	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB19-0001	HERB	2,4-DB	14	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB21-0001	HERB	2,4-DB	14	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB22-0001	HERB	2,4-DB	14	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB23-0001	HERB	2,4-DB	14	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB24-0001	HERB	2,4-DB	14	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB24-0001-D	HERB	2,4-DB	15	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB25-0001	HERB	2,4-DB	14	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB39-0001	HERB	2,4-DB	12	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB10-0001	HERB	DINOSEB	1.2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB11-0001	HERB	DINOSEB	1.4	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB18-0001	HERB	DINOSEB	1.5	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB19-0001	HERB	DINOSEB	1.4	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB21-0001	HERB	DINOSEB	1.4	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB22-0001	HERB	DINOSEB	1.4	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB23-0001	HERB	DINOSEB	1.4	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB24-0001	HERB	DINOSEB	1.4	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB24-0001-D	HERB	DINOSEB	1.5	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB25-0001	HERB	DINOSEB	1.4	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB39-0001	HERB	DINOSEB	1.2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)

TABLE B.1.1
QUALIFIED SOIL DATA
BACKGROUND STUDY
NAS BRUNSWICK, BRUNSWICK MAINE

Sample ID	Fraction	Parameter	Result	Units	Qualifier	Qualifier Code	Reason for Qualification
NASB-BG-SB-SB01-0001	M	ANTIMONY	0.03	MG/KG	UJ	ADP	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB03-0001	M	ANTIMONY	0.05	MG/KG	UJ	ADP	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB04-0001	M	ANTIMONY	0.02	MG/KG	UJ	ADP	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB05-0001	M	ANTIMONY	0.04	MG/KG	UJ	ADP	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB15-0001	M	ANTIMONY	0.06	MG/KG	UJ	ADP	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB15-0110	M	ANTIMONY	0.07	MG/KG	UJ	ADP	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB16-0001	M	ANTIMONY	0.06	MG/KG	UJ	ADP	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB16-0110	M	ANTIMONY	0.06	MG/KG	UJ	ADP	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB16-0110-D	M	ANTIMONY	0.06	MG/KG	UJ	ADP	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB17-0001	M	ANTIMONY	0.08	MG/KG	UJ	ADP	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB17-0110	M	ANTIMONY	0.08	MG/KG	UJ	ADP	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB27-0001	M	ANTIMONY	0.04	MG/KG	UJ	ADP	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB28-0001	M	ANTIMONY	0.02	MG/KG	UJ	ADP	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB29-0001	M	ANTIMONY	0.03	MG/KG	UJ	ADP	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB30-0001	M	ANTIMONY	0.04	MG/KG	UJ	ADP	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB31-0001	M	ANTIMONY	0.03	MG/KG	UJ	ADP	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB32-0001	M	ANTIMONY	0.04	MG/KG	UJ	ADP	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB01-0110	M	ANTIMONY	0.02	MG/KG	UJ	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB02-0001	M	ANTIMONY	0.02	MG/KG	UJ	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB02-0110	M	ANTIMONY	0.02	MG/KG	UJ	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB03-0110	M	ANTIMONY	0.02	MG/KG	UJ	D	MS/MSD Recovery Noncompliance

TABLE B.1.1
QUALIFIED SOIL DATA
BACKGROUND STUDY
NAS BRUNSWICK, BRUNSWICK MAINE

Sample ID	Fraction	Parameter	Result	Units	Qualifier	Qualifier Code	Reason for Qualification
NASB-BG-SB-SB04-0110	M	ANTIMONY	0.02	MG/KG	UJ	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB04-0110-D	M	ANTIMONY	0.02	MG/KG	UJ	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB05-0110	M	ANTIMONY	0.02	MG/KG	UJ	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB07-0001	M	ANTIMONY	0.02	MG/KG	UJ	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB10-0001	M	ANTIMONY	0.02	MG/KG	UJ	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB13-0001	M	ANTIMONY	0.03	MG/KG	UJ	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB13-0001-D	M	ANTIMONY	0.03	MG/KG	UJ	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB14-0001	M	ANTIMONY	0.03	MG/KG	UJ	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB18-0107	M	ANTIMONY	0.02	MG/KG	UJ	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB19-0001	M	ANTIMONY	0.02	MG/KG	UJ	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB19-0105	M	ANTIMONY	0.02	MG/KG	UJ	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB21-0105	M	ANTIMONY	0.02	MG/KG	UJ	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB22-0103	M	ANTIMONY	0.02	MG/KG	UJ	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB23-0001	M	ANTIMONY	0.03	MG/KG	UJ	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB26-0001	M	ANTIMONY	0.01	MG/KG	UJ	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB26-0110	M	ANTIMONY	0.02	MG/KG	UJ	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB27-0110	M	ANTIMONY	0.02	MG/KG	UJ	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB28-0001-D	M	ANTIMONY	0.02	MG/KG	UJ	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB28-0110	M	ANTIMONY	0.02	MG/KG	UJ	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB29-0110	M	ANTIMONY	0.01	MG/KG	UJ	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB30-0107	M	ANTIMONY	0.02	MG/KG	UJ	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB31-0110	M	ANTIMONY	0.02	MG/KG	UJ	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB31-0110-D	M	ANTIMONY	0.02	MG/KG	UJ	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB32-0110	M	ANTIMONY	0.02	MG/KG	UJ	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB39-0001	M	ANTIMONY	0.02	MG/KG	UJ	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB39-0110	M	ANTIMONY	0.02	MG/KG	UJ	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB06-0001	M	ANTIMONY	0.03	MG/KG	J	DP	MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB06-0110	M	ANTIMONY	0.04	MG/KG	J	DP	MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB07-0109	M	ANTIMONY	0.02	MG/KG	J	DP	MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB08-0001	M	ANTIMONY	0.04	MG/KG	J	DP	MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB08-0110	M	ANTIMONY	0.03	MG/KG	J	DP	MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB09-0001	M	ANTIMONY	0.03	MG/KG	J	DP	MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB09-0001-D	M	ANTIMONY	0.04	MG/KG	J	DP	MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB09-0110	M	ANTIMONY	0.03	MG/KG	J	DP	MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB10-0110	M	ANTIMONY	0.04	MG/KG	J	DP	MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB11-0001	M	ANTIMONY	0.05	MG/KG	J	DP	MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB11-0110	M	ANTIMONY	0.03	MG/KG	J	DP	MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

TABLE B.1.1
QUALIFIED SOIL DATA
BACKGROUND STUDY
NAS BRUNSWICK, BRUNSWICK MAINE

Sample ID	Fraction	Parameter	Result	Units	Qualifier	Qualifier Code	Reason for Qualification
NASB-BG-SB-SB12-0001	M	ANTIMONY	0.02	MG/KG	J	DP	MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB12-0110	M	ANTIMONY	0.05	MG/KG	J	DP	MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB13-0110	M	ANTIMONY	0.03	MG/KG	J	DP	MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB14-0110	M	ANTIMONY	0.05	MG/KG	J	DP	MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB18-0001	M	ANTIMONY	0.08	MG/KG	J	DP	MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB21-0001	M	ANTIMONY	0.04	MG/KG	J	DP	MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB22-0001	M	ANTIMONY	0.03	MG/KG	J	DP	MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB23-0110	M	ANTIMONY	0.05	MG/KG	J	DP	MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB24-0001	M	ANTIMONY	0.04	MG/KG	J	DP	MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB24-0001-D	M	ANTIMONY	0.07	MG/KG	J	DP	MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB24-0110	M	ANTIMONY	0.04	MG/KG	J	DP	MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB25-0001	M	ANTIMONY	0.05	MG/KG	J	DP	MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB25-0110	M	ANTIMONY	0.05	MG/KG	J	DP	MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB01-0001	M	BERYLLIUM	0.32	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB01-0110	M	BERYLLIUM	0.20	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB02-0001	M	BERYLLIUM	0.24	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB03-0001	M	BERYLLIUM	0.30	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB03-0110	M	BERYLLIUM	0.21	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB04-0001	M	BERYLLIUM	0.31	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB04-0110	M	BERYLLIUM	0.20	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB04-0110-D	M	BERYLLIUM	0.20	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB05-0001	M	BERYLLIUM	0.32	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB05-0110	M	BERYLLIUM	0.21	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB10-0001	M	BERYLLIUM	0.30	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB18-0001	M	BERYLLIUM	0.46	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB18-0107	M	BERYLLIUM	0.31	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB19-0001	M	BERYLLIUM	0.24	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB19-0105	M	BERYLLIUM	0.36	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

TABLE B.1.1
QUALIFIED SOIL DATA
BACKGROUND STUDY
NAS BRUNSWICK, BRUNSWICK MAINE

Sample ID	Fraction	Parameter	Result	Units	Qualifier	Qualifier Code	Reason for Qualification
NASB-BG-SB-SB22-0001	M	BERYLLIUM	0.51	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB22-0103	M	BERYLLIUM	0.34	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB26-0001	M	BERYLLIUM	0.26	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB26-0110	M	BERYLLIUM	0.19	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB27-0001	M	BERYLLIUM	0.32	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB27-0110	M	BERYLLIUM	0.27	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB28-0001	M	BERYLLIUM	0.27	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB28-0001-D	M	BERYLLIUM	0.27	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB28-0110	M	BERYLLIUM	0.25	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB29-0001	M	BERYLLIUM	0.30	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB29-0110	M	BERYLLIUM	0.23	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB30-0001	M	BERYLLIUM	0.44	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB30-0107	M	BERYLLIUM	0.37	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB31-0001	M	BERYLLIUM	0.32	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB31-0110	M	BERYLLIUM	0.31	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB31-0110-D	M	BERYLLIUM	0.31	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB32-0001	M	BERYLLIUM	0.44	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB32-0110	M	BERYLLIUM	0.35	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB39-0001	M	BERYLLIUM	0.29	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB39-0110	M	BERYLLIUM	0.20	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB07-0001	M	CADMIUM	0.02	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB18-0107	M	CADMIUM	0.01	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB21-0105	M	CADMIUM	0.01	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB26-0001	M	CADMIUM	0.02	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB30-0107	M	CADMIUM	0.01	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB31-0110-D	M	CADMIUM	0.02	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB32-0110	M	CADMIUM	0.02	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB39-0001	M	CADMIUM	0.02	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

TABLE B.1.1
QUALIFIED SOIL DATA
BACKGROUND STUDY
NAS BRUNSWICK, BRUNSWICK MAINE

Sample ID	Fraction	Parameter	Result	Units	Qualifier	Qualifier Code	Reason for Qualification
NASB-BG-SB-SB39-0110	M	CADMIUM	0.01	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB01-0001	M	CADMIUM	0.03	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB01-0110	M	CADMIUM	0.03	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB02-0001	M	CADMIUM	0.03	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB02-0110	M	CADMIUM	0.03	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB03-0001	M	CADMIUM	0.05	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB03-0110	M	CADMIUM	0.03	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB04-0001	M	CADMIUM	0.03	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB04-0110	M	CADMIUM	0.03	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB04-0110-D	M	CADMIUM	0.03	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB05-0001	M	CADMIUM	0.04	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB05-0110	M	CADMIUM	0.03	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB06-0001	M	CADMIUM	0.04	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB06-0110	M	CADMIUM	0.04	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB07-0109	M	CADMIUM	0.03	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB08-0001	M	CADMIUM	0.05	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB08-0110	M	CADMIUM	0.03	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB09-0001	M	CADMIUM	0.04	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB09-0001-D	M	CADMIUM	0.04	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB09-0110	M	CADMIUM	0.04	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB10-0001	M	CADMIUM	0.03	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB10-0110	M	CADMIUM	0.05	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB11-0001	M	CADMIUM	0.03	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB11-0110	M	CADMIUM	0.04	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB12-0001	M	CADMIUM	0.03	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB12-0110	M	CADMIUM	0.06	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB13-0001	M	CADMIUM	0.06	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB13-0001-D	M	CADMIUM	0.07	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

TABLE B.1.1
QUALIFIED SOIL DATA
BACKGROUND STUDY
NAS BRUNSWICK, BRUNSWICK MAINE

Sample ID	Fraction	Parameter	Result	Units	Qualifier	Qualifier Code	Reason for Qualification
NASB-BG-SB-SB13-0110	M	CADMIUM	0.04	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB14-0001	M	CADMIUM	0.04	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB14-0110	M	CADMIUM	0.04	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB15-0001	M	CADMIUM	0.04	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB15-0110	M	CADMIUM	0.05	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB16-0001	M	CADMIUM	0.06	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB16-0110	M	CADMIUM	0.06	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB16-0110-D	M	CADMIUM	0.06	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB17-0001	M	CADMIUM	0.05	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB17-0110	M	CADMIUM	0.04	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB18-0001	M	CADMIUM	0.07	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB21-0001	M	CADMIUM	0.04	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB22-0001	M	CADMIUM	0.03	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB23-0001	M	CADMIUM	0.03	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB23-0110	M	CADMIUM	0.05	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB24-0001	M	CADMIUM	0.04	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB24-0001-D	M	CADMIUM	0.04	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB24-0110	M	CADMIUM	0.04	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB25-0001	M	CADMIUM	0.05	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB25-0110	M	CADMIUM	0.03	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB26-0110	M	CADMIUM	0.03	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB27-0001	M	CADMIUM	0.03	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB27-0110	M	CADMIUM	0.03	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB28-0001	M	CADMIUM	0.03	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB28-0001-D	M	CADMIUM	0.03	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB28-0110	M	CADMIUM	0.04	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB29-0001	M	CADMIUM	0.03	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB29-0110	M	CADMIUM	0.03	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

TABLE B.1.1
QUALIFIED SOIL DATA
BACKGROUND STUDY
NAS BRUNSWICK, BRUNSWICK MAINE

Sample ID	Fraction	Parameter	Result	Units	Qualifier	Qualifier Code	Reason for Qualification
NASB-BG-SB-SB30-0001	M	CADMIUM	0.05	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB31-0001	M	CADMIUM	0.04	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB32-0001	M	CADMIUM	0.04	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB01-0001	M	CALCIUM	258	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB01-0110	M	CALCIUM	769	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB02-0001	M	CALCIUM	330	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB02-0110	M	CALCIUM	694	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB03-0001	M	CALCIUM	330	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB03-0110	M	CALCIUM	541	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB04-0001	M	CALCIUM	323	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB04-0110	M	CALCIUM	731	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB04-0110-D	M	CALCIUM	655	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB05-0001	M	CALCIUM	292	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB05-0110	M	CALCIUM	605	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB06-0001	M	CALCIUM	856	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB06-0110	M	CALCIUM	2670	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB07-0001	M	CALCIUM	752	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB07-0109	M	CALCIUM	2300	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB08-0001	M	CALCIUM	1000	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB08-0110	M	CALCIUM	2260	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB09-0001	M	CALCIUM	706	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB09-0001-D	M	CALCIUM	840	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB09-0110	M	CALCIUM	2630	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB10-0001	M	CALCIUM	826	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB10-0110	M	CALCIUM	2640	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB11-0001	M	CALCIUM	874	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB11-0110	M	CALCIUM	2700	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB12-0001	M	CALCIUM	728	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB12-0110	M	CALCIUM	2920	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB13-0001	M	CALCIUM	641	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB13-0001-D	M	CALCIUM	672	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB13-0110	M	CALCIUM	2650	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB14-0001	M	CALCIUM	684	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB14-0110	M	CALCIUM	2750	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB15-0001	M	CALCIUM	750	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB15-0110	M	CALCIUM	3260	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB16-0001	M	CALCIUM	1600	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB16-0110	M	CALCIUM	2930	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB16-0110-D	M	CALCIUM	2900	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB17-0001	M	CALCIUM	871	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB17-0110	M	CALCIUM	2910	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB18-0001	M	CALCIUM	187	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB18-0107	M	CALCIUM	640	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB19-0001	M	CALCIUM	156	MG/KG	J	D	MS/MSD Recovery Noncompliance

TABLE B.1.1
QUALIFIED SOIL DATA
BACKGROUND STUDY
NAS BRUNSWICK, BRUNSWICK MAINE

Sample ID	Fraction	Parameter	Result	Units	Qualifier	Qualifier Code	Reason for Qualification
NASB-BG-SB-SB19-0105	M	CALCIUM	1080	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB21-0001	M	CALCIUM	339	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB21-0105	M	CALCIUM	1110	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB22-0001	M	CALCIUM	251	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB22-0103	M	CALCIUM	618	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB23-0001	M	CALCIUM	466	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB23-0110	M	CALCIUM	2460	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB24-0001	M	CALCIUM	763	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB24-0001-D	M	CALCIUM	704	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB24-0110	M	CALCIUM	3040	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB25-0001	M	CALCIUM	1250	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB25-0110	M	CALCIUM	1960	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB26-0001	M	CALCIUM	370	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB26-0110	M	CALCIUM	657	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB27-0001	M	CALCIUM	256	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB27-0110	M	CALCIUM	504	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB28-0001	M	CALCIUM	384	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB28-0001-D	M	CALCIUM	394	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB28-0110	M	CALCIUM	909	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB29-0001	M	CALCIUM	321	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB29-0110	M	CALCIUM	664	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB39-0001	M	CALCIUM	398	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB39-0110	M	CALCIUM	673	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB18-0001	M	COPPER	3.2	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB19-0001	M	COPPER	1.5	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB15-0001	M	COPPER	19.3	MG/KG	J	EI	LCS/LCSD Recovery Noncompliance, ICP Serial Dilution Noncompliance
NASB-BG-SB-SB15-0110	M	COPPER	38.5	MG/KG	J	EI	LCS/LCSD Recovery Noncompliance, ICP Serial Dilution Noncompliance
NASB-BG-SB-SB16-0001	M	COPPER	30.1	MG/KG	J	EI	LCS/LCSD Recovery Noncompliance, ICP Serial Dilution Noncompliance
NASB-BG-SB-SB16-0110	M	COPPER	38.3	MG/KG	J	EI	LCS/LCSD Recovery Noncompliance, ICP Serial Dilution Noncompliance
NASB-BG-SB-SB16-0110-D	M	COPPER	33.5	MG/KG	J	EI	LCS/LCSD Recovery Noncompliance, ICP Serial Dilution Noncompliance
NASB-BG-SB-SB17-0001	M	COPPER	26.3	MG/KG	J	EI	LCS/LCSD Recovery Noncompliance, ICP Serial Dilution Noncompliance
NASB-BG-SB-SB17-0110	M	COPPER	36.1	MG/KG	J	EI	LCS/LCSD Recovery Noncompliance, ICP Serial Dilution Noncompliance
NASB-BG-SB-SB01-0001	M	LEAD	5.2	MG/KG	J	G	Field Duplicate Imprecision
NASB-BG-SB-SB01-0110	M	LEAD	2.7	MG/KG	J	G	Field Duplicate Imprecision
NASB-BG-SB-SB02-0001	M	LEAD	4.2	MG/KG	J	G	Field Duplicate Imprecision
NASB-BG-SB-SB02-0110	M	LEAD	3.0	MG/KG	J	G	Field Duplicate Imprecision
NASB-BG-SB-SB03-0001	M	LEAD	17.5	MG/KG	J	G	Field Duplicate Imprecision
NASB-BG-SB-SB03-0110	M	LEAD	2.8	MG/KG	J	G	Field Duplicate Imprecision
NASB-BG-SB-SB04-0001	M	LEAD	5.3	MG/KG	J	G	Field Duplicate Imprecision
NASB-BG-SB-SB04-0110	M	LEAD	2.6	MG/KG	J	G	Field Duplicate Imprecision
NASB-BG-SB-SB04-0110-D	M	LEAD	2.9	MG/KG	J	G	Field Duplicate Imprecision

TABLE B.1.1
QUALIFIED SOIL DATA
BACKGROUND STUDY
NAS BRUNSWICK, BRUNSWICK MAINE

Sample ID	Fraction	Parameter	Result	Units	Qualifier	Qualifier Code	Reason for Qualification
NASB-BG-SB-SB05-0001	M	LEAD	11.0	MG/KG	J	G	Field Duplicate Imprecision
NASB-BG-SB-SB05-0110	M	LEAD	2.8	MG/KG	J	G	Field Duplicate Imprecision
NASB-BG-SB-SB27-0001	M	LEAD	5.2	MG/KG	J	G	Field Duplicate Imprecision
NASB-BG-SB-SB27-0110	M	LEAD	3.7	MG/KG	J	G	Field Duplicate Imprecision
NASB-BG-SB-SB28-0001	M	LEAD	7.6	MG/KG	J	G	Field Duplicate Imprecision
NASB-BG-SB-SB28-0001-D	M	LEAD	4.3	MG/KG	J	G	Field Duplicate Imprecision
NASB-BG-SB-SB28-0110	M	LEAD	3.2	MG/KG	J	G	Field Duplicate Imprecision
NASB-BG-SB-SB29-0001	M	LEAD	4.7	MG/KG	J	G	Field Duplicate Imprecision
NASB-BG-SB-SB29-0110	M	LEAD	2.9	MG/KG	J	G	Field Duplicate Imprecision
NASB-BG-SB-SB06-0001	M	LEAD	11.3	MG/KG	J	K	ICP Interference - includes ICS % R Noncompliance
NASB-BG-SB-SB07-0001	M	LEAD	5.9	MG/KG	J	K	ICP Interference - includes ICS % R Noncompliance
NASB-BG-SB-SB07-0109	M	LEAD	7.8	MG/KG	J	K	ICP Interference - includes ICS % R Noncompliance
NASB-BG-SB-SB08-0001	M	LEAD	15.0	MG/KG	J	K	ICP Interference - includes ICS % R Noncompliance
NASB-BG-SB-SB08-0110	M	LEAD	8.7	MG/KG	J	K	ICP Interference - includes ICS % R Noncompliance
NASB-BG-SB-SB11-0110	M	LEAD	8.1	MG/KG	J	K	ICP Interference - includes ICS % R Noncompliance
NASB-BG-SB-SB13-0001-D	M	LEAD	11.6	MG/KG	J	K	ICP Interference - includes ICS % R Noncompliance
NASB-BG-SB-SB14-0110	M	LEAD	13.7	MG/KG	J	K	ICP Interference - includes ICS % R Noncompliance
NASB-BG-SB-SB01-0001	M	MAGNESIUM	1200	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB01-0110	M	MAGNESIUM	1770	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB02-0001	M	MAGNESIUM	1240	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB02-0110	M	MAGNESIUM	1910	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB03-0001	M	MAGNESIUM	703	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB03-0110	M	MAGNESIUM	1440	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB04-0001	M	MAGNESIUM	1020	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB04-0110	M	MAGNESIUM	1660	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB04-0110-D	M	MAGNESIUM	1600	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB05-0001	M	MAGNESIUM	834	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB05-0110	M	MAGNESIUM	1570	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB10-0001	M	MAGNESIUM	2080	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB10-0110	M	MAGNESIUM	8240	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB11-0001	M	MAGNESIUM	7340	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB18-0001	M	MAGNESIUM	808	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB18-0107	M	MAGNESIUM	1620	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB19-0001	M	MAGNESIUM	404	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB19-0105	M	MAGNESIUM	1900	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB21-0001	M	MAGNESIUM	1160	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB21-0105	M	MAGNESIUM	1600	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB22-0001	M	MAGNESIUM	1070	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB22-0103	M	MAGNESIUM	1620	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB23-0001	M	MAGNESIUM	3480	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB23-0110	M	MAGNESIUM	10200	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB24-0001	M	MAGNESIUM	5640	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB24-0001-D	M	MAGNESIUM	6290	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB24-0110	M	MAGNESIUM	9780	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB25-0001	M	MAGNESIUM	7630	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB25-0110	M	MAGNESIUM	7160	MG/KG	J	D	MS/MSD Recovery Noncompliance

TABLE B.1.1
QUALIFIED SOIL DATA
BACKGROUND STUDY
NAS BRUNSWICK, BRUNSWICK MAINE

Sample ID	Fraction	Parameter	Result	Units	Qualifier	Qualifier Code	Reason for Qualification
NASB-BG-SB-SB27-0001	M	MAGNESIUM	1340	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB27-0110	M	MAGNESIUM	1480	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB28-0001	M	MAGNESIUM	1160	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB28-0001-D	M	MAGNESIUM	1340	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB28-0110	M	MAGNESIUM	1680	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB29-0001	M	MAGNESIUM	1120	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB29-0110	M	MAGNESIUM	1540	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB39-0001	M	MAGNESIUM	1290	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB39-0110	M	MAGNESIUM	1280	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB01-0001	M	MANGANESE	145	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB01-0110	M	MANGANESE	182	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB02-0001	M	MANGANESE	192	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB02-0110	M	MANGANESE	166	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB03-0001	M	MANGANESE	202	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB03-0110	M	MANGANESE	194	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB04-0001	M	MANGANESE	174	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB04-0110	M	MANGANESE	210	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB04-0110-D	M	MANGANESE	206	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB05-0001	M	MANGANESE	217	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB05-0110	M	MANGANESE	178	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB06-0001	M	MANGANESE	294	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB06-0110	M	MANGANESE	681	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB07-0001	M	MANGANESE	288	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB07-0109	M	MANGANESE	429	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB08-0001	M	MANGANESE	449	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB08-0110	M	MANGANESE	418	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB09-0001	M	MANGANESE	301	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB09-0001-D	M	MANGANESE	433	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB09-0110	M	MANGANESE	394	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB10-0001	M	MANGANESE	122	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB10-0110	M	MANGANESE	474	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB11-0001	M	MANGANESE	652	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB11-0110	M	MANGANESE	355	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB12-0001	M	MANGANESE	394	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB12-0110	M	MANGANESE	742	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB13-0001	M	MANGANESE	266	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB13-0001-D	M	MANGANESE	313	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB13-0110	M	MANGANESE	599	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB14-0001	M	MANGANESE	359	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB14-0110	M	MANGANESE	669	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB18-0001	M	MANGANESE	40.5	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB18-0107	M	MANGANESE	160	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB19-0001	M	MANGANESE	24.2	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB19-0105	M	MANGANESE	87.2	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB21-0001	M	MANGANESE	74.7	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB21-0105	M	MANGANESE	79.0	MG/KG	J	D	MS/MSD Recovery Noncompliance

TABLE B.1.1
QUALIFIED SOIL DATA
BACKGROUND STUDY
NAS BRUNSWICK, BRUNSWICK MAINE

Sample ID	Fraction	Parameter	Result	Units	Qualifier	Qualifier Code	Reason for Qualification
NASB-BG-SB-SB22-0001	M	MANGANESE	59.1	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB22-0103	M	MANGANESE	91.0	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB23-0001	M	MANGANESE	172	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB23-0110	M	MANGANESE	805	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB24-0001	M	MANGANESE	317	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB24-0001-D	M	MANGANESE	371	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB24-0110	M	MANGANESE	655	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB25-0001	M	MANGANESE	553	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB25-0110	M	MANGANESE	552	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB26-0001	M	MANGANESE	172	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB26-0110	M	MANGANESE	212	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB27-0001	M	MANGANESE	140	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB27-0110	M	MANGANESE	265	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB28-0001	M	MANGANESE	209	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB28-0001-D	M	MANGANESE	230	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB28-0110	M	MANGANESE	262	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB29-0001	M	MANGANESE	138	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB29-0110	M	MANGANESE	171	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB30-0001	M	MANGANESE	210	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB30-0107	M	MANGANESE	251	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB31-0001	M	MANGANESE	81.5	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB31-0110	M	MANGANESE	98.8	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB31-0110-D	M	MANGANESE	80.5	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB32-0001	M	MANGANESE	235	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB32-0110	M	MANGANESE	129	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB39-0001	M	MANGANESE	75.7	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB39-0110	M	MANGANESE	87.2	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB08-0001	M	MERCURY	0.05	MG/KG	J	O	Poor Instrument Performance (e.g. base-line drifting)
NASB-BG-SB-SB13-0001	M	MERCURY	0.04	MG/KG	J	O	Poor Instrument Performance (e.g. base-line drifting)
NASB-BG-SB-SB06-0110	M	MERCURY	0.01	MG/KG	UJ	O	Poor Instrument Performance (e.g. base-line drifting)
NASB-BG-SB-SB07-0001	M	MERCURY	0.01	MG/KG	UJ	O	Poor Instrument Performance (e.g. base-line drifting)
NASB-BG-SB-SB07-0109	M	MERCURY	0.01	MG/KG	UJ	O	Poor Instrument Performance (e.g. base-line drifting)
NASB-BG-SB-SB08-0110	M	MERCURY	0.01	MG/KG	UJ	O	Poor Instrument Performance (e.g. base-line drifting)
NASB-BG-SB-SB09-0110	M	MERCURY	0.01	MG/KG	UJ	O	Poor Instrument Performance (e.g. base-line drifting)
NASB-BG-SB-SB10-0110	M	MERCURY	0.01	MG/KG	UJ	O	Poor Instrument Performance (e.g. base-line drifting)
NASB-BG-SB-SB11-0110	M	MERCURY	0.01	MG/KG	UJ	O	Poor Instrument Performance (e.g. base-line drifting)
NASB-BG-SB-SB12-0110	M	MERCURY	0.01	MG/KG	UJ	O	Poor Instrument Performance (e.g. base-line drifting)
NASB-BG-SB-SB13-0110	M	MERCURY	0.01	MG/KG	UJ	O	Poor Instrument Performance (e.g. base-line drifting)
NASB-BG-SB-SB14-0110	M	MERCURY	0.01	MG/KG	UJ	O	Poor Instrument Performance (e.g. base-line drifting)
NASB-BG-SB-SB18-0107	M	MERCURY	0.01	MG/KG	UJ	O	Poor Instrument Performance (e.g. base-line drifting)
NASB-BG-SB-SB19-0001	M	MERCURY	0.01	MG/KG	UJ	O	Poor Instrument Performance (e.g. base-line drifting)
NASB-BG-SB-SB19-0105	M	MERCURY	0.01	MG/KG	UJ	O	Poor Instrument Performance (e.g. base-line drifting)
NASB-BG-SB-SB21-0105	M	MERCURY	0.01	MG/KG	UJ	O	Poor Instrument Performance (e.g. base-line drifting)
NASB-BG-SB-SB22-0103	M	MERCURY	0.01	MG/KG	UJ	O	Poor Instrument Performance (e.g. base-line drifting)
NASB-BG-SB-SB23-0110	M	MERCURY	0.01	MG/KG	UJ	O	Poor Instrument Performance (e.g. base-line drifting)
NASB-BG-SB-SB24-0110	M	MERCURY	0.01	MG/KG	UJ	O	Poor Instrument Performance (e.g. base-line drifting)
NASB-BG-SB-SB25-0110	M	MERCURY	0.01	MG/KG	UJ	O	Poor Instrument Performance (e.g. base-line drifting)

TABLE B.1.1
QUALIFIED SOIL DATA
BACKGROUND STUDY
NAS BRUNSWICK, BRUNSWICK MAINE

Sample ID	Fraction	Parameter	Result	Units	Qualifier	Qualifier Code	Reason for Qualification
NASB-BG-SB-SB26-0001	M	MERCURY	0.01	MG/KG	UJ	O	Poor Instrument Performance (e.g. base-line drifting)
NASB-BG-SB-SB26-0110	M	MERCURY	0.01	MG/KG	UJ	O	Poor Instrument Performance (e.g. base-line drifting)
NASB-BG-SB-SB39-0001	M	MERCURY	0.01	MG/KG	UJ	O	Poor Instrument Performance (e.g. base-line drifting)
NASB-BG-SB-SB39-0110	M	MERCURY	0.01	MG/KG	UJ	O	Poor Instrument Performance (e.g. base-line drifting)
NASB-BG-SB-SB06-0001	M	MERCURY	0.02	MG/KG	J	OP	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB09-0001	M	MERCURY	0.04	MG/KG	J	OP	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB09-0001-D	M	MERCURY	0.03	MG/KG	J	OP	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB10-0001	M	MERCURY	0.01	MG/KG	J	OP	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB11-0001	M	MERCURY	0.01	MG/KG	J	OP	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB12-0001	M	MERCURY	0.01	MG/KG	J	OP	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB23-0001	M	MERCURY	0.04	MG/KG	J	OP	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB24-0001	M	MERCURY	0.02	MG/KG	J	OP	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB24-0001-D	M	MERCURY	0.02	MG/KG	J	OP	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB25-0001	M	MERCURY	0.02	MG/KG	J	OP	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB01-0001	M	MERCURY	0.03	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB02-0001	M	MERCURY	0.01	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB04-0001	M	MERCURY	0.02	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB15-0001	M	MERCURY	0.02	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB16-0001	M	MERCURY	0.02	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB27-0001	M	MERCURY	0.02	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB28-0001	M	MERCURY	0.02	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB28-0001-D	M	MERCURY	0.01	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB31-0001	M	MERCURY	0.03	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB18-0001	M	NICKEL	3.5	MG/KG	J	KP	ICP Interference - includes ICS % R Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

TABLE B.1.1
QUALIFIED SOIL DATA
BACKGROUND STUDY
NAS BRUNSWICK, BRUNSWICK MAINE

Sample ID	Fraction	Parameter	Result	Units	Qualifier	Qualifier Code	Reason for Qualification
NASB-BG-SB-SB19-0001	M	NICKEL	1.3	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB21-0001	M	NICKEL	4.6	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB22-0001	M	NICKEL	4.6	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB31-0001	M	NICKEL	2.2	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB15-0001	M	POTASSIUM	2590	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB15-0110	M	POTASSIUM	6370	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB16-0001	M	POTASSIUM	3970	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB16-0110	M	POTASSIUM	5980	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB16-0110-D	M	POTASSIUM	5570	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB17-0001	M	POTASSIUM	4010	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB17-0110	M	POTASSIUM	5620	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB03-0001	M	SELENIUM	0.46	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB04-0001	M	SELENIUM	0.50	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB05-0001	M	SELENIUM	0.53	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB15-0001	M	SELENIUM	0.64	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB16-0001	M	SELENIUM	0.54	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB17-0001	M	SELENIUM	0.70	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB18-0001	M	SELENIUM	1.0	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB21-0001	M	SELENIUM	0.92	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB22-0001	M	SELENIUM	0.68	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB24-0001	M	SELENIUM	0.47	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB25-0001	M	SELENIUM	0.56	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB27-0001	M	SELENIUM	0.53	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB32-0001	M	SELENIUM	0.66	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB01-0001	M	SELENIUM	0.40	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB01-0110	M	SELENIUM	0.19	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB02-0001	M	SELENIUM	0.26	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB02-0110	M	SELENIUM	0.16	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB03-0110	M	SELENIUM	0.11	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB04-0110	M	SELENIUM	0.18	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB04-0110-D	M	SELENIUM	0.14	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB05-0110	M	SELENIUM	0.19	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB06-0110	M	SELENIUM	0.30	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB07-0001	M	SELENIUM	0.30	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB07-0109	M	SELENIUM	0.21	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB08-0110	M	SELENIUM	0.26	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

TABLE B.1.1
QUALIFIED SOIL DATA
BACKGROUND STUDY
NAS BRUNSWICK, BRUNSWICK MAINE

Sample ID	Fraction	Parameter	Result	Units	Qualifier	Qualifier Code	Reason for Qualification
NASB-BG-SB-SB09-0110	M	SELENIUM	0.29	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB10-0001	M	SELENIUM	0.26	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB10-0110	M	SELENIUM	0.37	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB11-0001	M	SELENIUM	0.59	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB11-0110	M	SELENIUM	0.33	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB12-0110	M	SELENIUM	0.31	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB13-0001-D	M	SELENIUM	0.55	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB13-0110	M	SELENIUM	0.30	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB14-0110	M	SELENIUM	0.39	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB15-0110	M	SELENIUM	0.44	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB16-0110	M	SELENIUM	0.39	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB16-0110-D	M	SELENIUM	0.40	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB17-0110	M	SELENIUM	0.42	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB18-0107	M	SELENIUM	0.28	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB19-0001	M	SELENIUM	0.27	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB19-0105	M	SELENIUM	0.28	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB21-0105	M	SELENIUM	0.30	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB22-0103	M	SELENIUM	0.25	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB23-0001	M	SELENIUM	0.59	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB23-0110	M	SELENIUM	0.31	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB24-0001-D	M	SELENIUM	0.56	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB24-0110	M	SELENIUM	0.37	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB25-0110	M	SELENIUM	0.38	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB26-0001	M	SELENIUM	0.24	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB26-0110	M	SELENIUM	0.13	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB27-0110	M	SELENIUM	0.17	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB28-0001	M	SELENIUM	0.40	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB28-0001-D	M	SELENIUM	0.40	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

TABLE B.1.1
QUALIFIED SOIL DATA
BACKGROUND STUDY
NAS BRUNSWICK, BRUNSWICK MAINE

Sample ID	Fraction	Parameter	Result	Units	Qualifier	Qualifier Code	Reason for Qualification
NASB-BG-SB-SB28-0110	M	SELENIUM	0.12	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB29-0001	M	SELENIUM	0.32	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB29-0110	M	SELENIUM	0.12	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB30-0001	M	SELENIUM	0.48	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB30-0107	M	SELENIUM	0.17	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB31-0001	M	SELENIUM	0.45	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB31-0110	M	SELENIUM	0.23	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB31-0110-D	M	SELENIUM	0.17	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB32-0110	M	SELENIUM	0.22	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB39-0001	M	SELENIUM	0.21	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB39-0110	M	SELENIUM	0.13	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB06-0001	M	SILVER	0.08	MG/KG	UJ	K	ICP Interference - includes ICS % R Noncompliance
NASB-BG-SB-SB06-0110	M	SILVER	0.13	MG/KG	UJ	K	ICP Interference - includes ICS % R Noncompliance
NASB-BG-SB-SB07-0001	M	SILVER	0.08	MG/KG	UJ	K	ICP Interference - includes ICS % R Noncompliance
NASB-BG-SB-SB07-0109	M	SILVER	0.06	MG/KG	UJ	K	ICP Interference - includes ICS % R Noncompliance
NASB-BG-SB-SB08-0110	M	SILVER	0.07	MG/KG	UJ	K	ICP Interference - includes ICS % R Noncompliance
NASB-BG-SB-SB09-0001	M	SILVER	0.15	MG/KG	UJ	K	ICP Interference - includes ICS % R Noncompliance
NASB-BG-SB-SB09-0001-D	M	SILVER	0.14	MG/KG	UJ	K	ICP Interference - includes ICS % R Noncompliance
NASB-BG-SB-SB09-0110	M	SILVER	0.11	MG/KG	UJ	K	ICP Interference - includes ICS % R Noncompliance
NASB-BG-SB-SB11-0110	M	SILVER	0.07	MG/KG	UJ	K	ICP Interference - includes ICS % R Noncompliance
NASB-BG-SB-SB12-0001	M	SILVER	0.11	MG/KG	UJ	K	ICP Interference - includes ICS % R Noncompliance
NASB-BG-SB-SB12-0110	M	SILVER	0.13	MG/KG	UJ	K	ICP Interference - includes ICS % R Noncompliance
NASB-BG-SB-SB13-0001	M	SILVER	0.08	MG/KG	UJ	K	ICP Interference - includes ICS % R Noncompliance
NASB-BG-SB-SB13-0001-D	M	SILVER	0.08	MG/KG	UJ	K	ICP Interference - includes ICS % R Noncompliance
NASB-BG-SB-SB13-0110	M	SILVER	0.15	MG/KG	UJ	K	ICP Interference - includes ICS % R Noncompliance
NASB-BG-SB-SB14-0001	M	SILVER	0.08	MG/KG	UJ	K	ICP Interference - includes ICS % R Noncompliance
NASB-BG-SB-SB14-0110	M	SILVER	0.16	MG/KG	UJ	K	ICP Interference - includes ICS % R Noncompliance
NASB-BG-SB-SB15-0001	M	SILVER	0.08	MG/KG	UJ	K	ICP Interference - includes ICS % R Noncompliance
NASB-BG-SB-SB15-0110	M	SILVER	0.16	MG/KG	UJ	K	ICP Interference - includes ICS % R Noncompliance
NASB-BG-SB-SB16-0001	M	SILVER	0.14	MG/KG	UJ	K	ICP Interference - includes ICS % R Noncompliance
NASB-BG-SB-SB16-0110	M	SILVER	0.14	MG/KG	UJ	K	ICP Interference - includes ICS % R Noncompliance
NASB-BG-SB-SB16-0110-D	M	SILVER	0.14	MG/KG	UJ	K	ICP Interference - includes ICS % R Noncompliance
NASB-BG-SB-SB17-0001	M	SILVER	0.17	MG/KG	UJ	K	ICP Interference - includes ICS % R Noncompliance
NASB-BG-SB-SB17-0110	M	SILVER	0.15	MG/KG	UJ	K	ICP Interference - includes ICS % R Noncompliance
NASB-BG-SB-SB24-0001	M	SILVER	0.12	MG/KG	UJ	K	ICP Interference - includes ICS % R Noncompliance
NASB-BG-SB-SB24-0110	M	SILVER	0.16	MG/KG	UJ	K	ICP Interference - includes ICS % R Noncompliance
NASB-BG-SB-SB25-0001	M	SILVER	0.14	MG/KG	UJ	K	ICP Interference - includes ICS % R Noncompliance
NASB-BG-SB-SB25-0110	M	SILVER	0.13	MG/KG	UJ	K	ICP Interference - includes ICS % R Noncompliance
NASB-BG-SB-SB26-0001	M	SILVER	0.05	MG/KG	UJ	K	ICP Interference - includes ICS % R Noncompliance

TABLE B.1.1
QUALIFIED SOIL DATA
BACKGROUND STUDY
NAS BRUNSWICK, BRUNSWICK MAINE

Sample ID	Fraction	Parameter	Result	Units	Qualifier	Qualifier Code	Reason for Qualification
NASB-BG-SB-SB08-0001	M	SILVER	1.6	MG/KG	J	KP	ICP Interference - includes ICS % R Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB10-0001	M	SILVER	0.16	MG/KG	J	KP	ICP Interference - includes ICS % R Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB10-0110	M	SILVER	0.44	MG/KG	J	KP	ICP Interference - includes ICS % R Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB11-0001	M	SILVER	0.58	MG/KG	J	KP	ICP Interference - includes ICS % R Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB18-0001	M	SILVER	0.21	MG/KG	J	KP	ICP Interference - includes ICS % R Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB21-0001	M	SILVER	0.29	MG/KG	J	KP	ICP Interference - includes ICS % R Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB23-0001	M	SILVER	0.41	MG/KG	J	KP	ICP Interference - includes ICS % R Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB23-0110	M	SILVER	0.74	MG/KG	J	KP	ICP Interference - includes ICS % R Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB24-0001-D	M	SILVER	0.63	MG/KG	J	KP	ICP Interference - includes ICS % R Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB18-0107	M	SILVER	0.14	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB19-0001	M	SILVER	0.13	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB19-0105	M	SILVER	0.15	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB21-0105	M	SILVER	0.13	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB22-0001	M	SILVER	0.20	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB22-0103	M	SILVER	0.19	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB30-0001	M	SILVER	0.20	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB30-0107	M	SILVER	0.10	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB31-0001	M	SILVER	0.1	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB31-0110	M	SILVER	0.16	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB31-0110-D	M	SILVER	0.16	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB32-0001	M	SILVER	0.19	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB32-0110	M	SILVER	0.12	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB39-0110	M	SILVER	0.06	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB06-0001	M	SODIUM	125	MG/KG	U	A	Lab Blank Contamination

TABLE B.1.1
QUALIFIED SOIL DATA
BACKGROUND STUDY
NAS BRUNSWICK, BRUNSWICK MAINE

Sample ID	Fraction	Parameter	Result	Units	Qualifier	Qualifier Code	Reason for Qualification
NASB-BG-SB-SB06-0110	M	SODIUM	236	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB07-0109	M	SODIUM	162	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB08-0001	M	SODIUM	155	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB08-0110	M	SODIUM	177	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB09-0001	M	SODIUM	128	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB09-0001-D	M	SODIUM	132	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB09-0110	M	SODIUM	195	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB10-0110	M	SODIUM	248	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB11-0001	M	SODIUM	162	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB11-0110	M	SODIUM	212	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB12-0001	M	SODIUM	90.2	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB12-0110	M	SODIUM	237	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB14-0110	M	SODIUM	263	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB23-0110	M	SODIUM	224	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB24-0001	M	SODIUM	118	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB25-0001	M	SODIUM	175	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB25-0110	M	SODIUM	161	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB13-0110	M	SODIUM	208	MG/KG	UJ	A	Lab Blank Contamination
NASB-BG-SB-SB15-0110	M	SODIUM	289	MG/KG	UJ	AI	Lab Blank Contamination, ICP Serial Dilution Noncompliance
NASB-BG-SB-SB16-0001	M	SODIUM	176	MG/KG	UJ	AI	Lab Blank Contamination, ICP Serial Dilution Noncompliance
NASB-BG-SB-SB16-0110	M	SODIUM	270	MG/KG	UJ	AI	Lab Blank Contamination, ICP Serial Dilution Noncompliance
NASB-BG-SB-SB16-0110-D	M	SODIUM	273	MG/KG	UJ	AI	Lab Blank Contamination, ICP Serial Dilution Noncompliance
NASB-BG-SB-SB17-0001	M	SODIUM	163	MG/KG	UJ	AI	Lab Blank Contamination, ICP Serial Dilution Noncompliance
NASB-BG-SB-SB17-0110	M	SODIUM	254	MG/KG	UJ	AI	Lab Blank Contamination, ICP Serial Dilution Noncompliance
NASB-BG-SB-SB15-0001	M	SODIUM	116	MG/KG	UJ	AIP	Lab Blank Contamination, ICP Serial Dilution Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB07-0001	M	SODIUM	93.7	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB10-0001	M	SODIUM	95.9	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB13-0001	M	SODIUM	91.9	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB13-0001-D	M	SODIUM	90.3	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB14-0001	M	SODIUM	109	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB18-0001	M	SODIUM	63.3	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB18-0107	M	SODIUM	60.2	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB19-0001	M	SODIUM	40.4	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB19-0105	M	SODIUM	80.1	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB21-0001	M	SODIUM	58.9	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB21-0105	M	SODIUM	60.5	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB22-0001	M	SODIUM	50.6	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

TABLE B.1.1
QUALIFIED SOIL DATA
BACKGROUND STUDY
NAS BRUNSWICK, BRUNSWICK MAINE

Sample ID	Fraction	Parameter	Result	Units	Qualifier	Qualifier Code	Reason for Qualification
NASB-BG-SB-SB22-0103	M	SODIUM	64.2	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB23-0001	M	SODIUM	72.4	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB24-0001-D	M	SODIUM	124	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB26-0001	M	SODIUM	44.9	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB26-0110	M	SODIUM	59.0	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB39-0001	M	SODIUM	47.3	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB39-0110	M	SODIUM	53.2	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB01-0001	M	SODIUM	29.7	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB01-0110	M	SODIUM	48.8	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB02-0001	M	SODIUM	30.4	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB02-0110	M	SODIUM	47.5	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB03-0001	M	SODIUM	26.3	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB03-0110	M	SODIUM	34.2	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB04-0001	M	SODIUM	29.4	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB04-0110	M	SODIUM	45.2	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB04-0110-D	M	SODIUM	41.4	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB05-0001	M	SODIUM	30.8	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB05-0110	M	SODIUM	40.8	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB27-0001	M	SODIUM	35.2	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB27-0110	M	SODIUM	42.0	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB28-0001	M	SODIUM	39.3	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB28-0001-D	M	SODIUM	37.8	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB28-0110	M	SODIUM	50.0	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB29-0001	M	SODIUM	36.0	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB29-0110	M	SODIUM	44.4	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB30-0001	M	SODIUM	40.6	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB30-0107	M	SODIUM	52.9	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB31-0001	M	SODIUM	31.3	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

TABLE B.1.1
QUALIFIED SOIL DATA
BACKGROUND STUDY
NAS BRUNSWICK, BRUNSWICK MAINE

Sample ID	Fraction	Parameter	Result	Units	Qualifier	Qualifier Code	Reason for Qualification
NASB-BG-SB-SB31-0110	M	SODIUM	85.8	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB31-0110-D	M	SODIUM	52.6	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB32-0001	M	SODIUM	41.8	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB32-0110	M	SODIUM	48.8	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB06-0110	M	THALLIUM	0.29	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB07-0109	M	THALLIUM	0.19	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB08-0001	M	THALLIUM	0.31	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB09-0001	M	THALLIUM	0.25	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB09-0001-D	M	THALLIUM	0.26	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB09-0110	M	THALLIUM	0.18	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB10-0110	M	THALLIUM	0.27	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB11-0001	M	THALLIUM	0.28	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB11-0110	M	THALLIUM	0.22	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB12-0001	M	THALLIUM	0.18	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB12-0110	M	THALLIUM	0.25	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB14-0110	M	THALLIUM	0.33	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB15-0110	M	THALLIUM	0.33	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB16-0001	M	THALLIUM	0.25	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB16-0110	M	THALLIUM	0.31	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB16-0110-D	M	THALLIUM	0.29	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB17-0001	M	THALLIUM	0.28	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB17-0110	M	THALLIUM	0.29	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB23-0110	M	THALLIUM	0.31	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB24-0001	M	THALLIUM	0.20	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB24-0110	M	THALLIUM	0.29	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB25-0001	M	THALLIUM	0.31	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB25-0110	M	THALLIUM	0.23	MG/KG	U	A	Lab Blank Contamination
NASB-BG-SB-SB01-0001	M	THALLIUM	0.08	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB01-0110	M	THALLIUM	0.11	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB02-0001	M	THALLIUM	0.07	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB02-0110	M	THALLIUM	0.09	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB03-0001	M	THALLIUM	0.1	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB03-0110	M	THALLIUM	0.09	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB04-0001	M	THALLIUM	0.08	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB04-0110	M	THALLIUM	0.08	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB04-0110-D	M	THALLIUM	0.09	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB05-0001	M	THALLIUM	0.09	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

TABLE B.1.1
QUALIFIED SOIL DATA
BACKGROUND STUDY
NAS BRUNSWICK, BRUNSWICK MAINE

Sample ID	Fraction	Parameter	Result	Units	Qualifier	Qualifier Code	Reason for Qualification
NASB-BG-SB-SB05-0110	M	THALLIUM	0.08	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB06-0001	M	THALLIUM	0.22	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB07-0001	M	THALLIUM	0.16	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB08-0110	M	THALLIUM	0.22	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB10-0001	M	THALLIUM	0.13	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB13-0001	M	THALLIUM	0.20	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB13-0001-D	M	THALLIUM	0.20	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB13-0110	M	THALLIUM	0.22	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB14-0001	M	THALLIUM	0.22	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB15-0001	M	THALLIUM	0.19	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB18-0001	M	THALLIUM	0.1	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB18-0107	M	THALLIUM	0.09	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB19-0001	M	THALLIUM	0.05	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB19-0105	M	THALLIUM	0.09	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB21-0001	M	THALLIUM	0.08	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB21-0105	M	THALLIUM	0.06	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB22-0001	M	THALLIUM	0.06	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB22-0103	M	THALLIUM	0.07	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB23-0001	M	THALLIUM	0.12	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB24-0001-D	M	THALLIUM	0.24	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB26-0001	M	THALLIUM	0.08	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB26-0110	M	THALLIUM	0.06	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB27-0001	M	THALLIUM	0.13	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB27-0110	M	THALLIUM	0.11	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB28-0001	M	THALLIUM	0.08	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB28-0001-D	M	THALLIUM	0.10	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB28-0110	M	THALLIUM	0.08	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB29-0001	M	THALLIUM	0.08	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

TABLE B.1.1
QUALIFIED SOIL DATA
BACKGROUND STUDY
NAS BRUNSWICK, BRUNSWICK MAINE

Sample ID	Fraction	Parameter	Result	Units	Qualifier	Qualifier Code	Reason for Qualification
NASB-BG-SB-SB29-0110	M	THALLIUM	0.07	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB30-0001	M	THALLIUM	0.10	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB30-0107	M	THALLIUM	0.11	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB31-0001	M	THALLIUM	0.07	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB31-0110	M	THALLIUM	0.06	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB31-0110-D	M	THALLIUM	0.11	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB32-0001	M	THALLIUM	0.10	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB32-0110	M	THALLIUM	0.08	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB39-0001	M	THALLIUM	0.06	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB39-0110	M	THALLIUM	0.06	MG/KG	UJ	AP	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB24-0001	MISC	TOTAL ORGANIC CARBON	19000	MG/KG	J	G	Field Duplicate Imprecision
NASB-BG-SB-SB24-0001-D	MISC	TOTAL ORGANIC CARBON	11000	MG/KG	J	G	Field Duplicate Imprecision
NASB-BG-SB-SB15-0001	MISC	TOTAL ORGANIC CARBON	11000	MG/KG	J	F	Lab Duplicate Imprecision
NASB-BG-SB-SB15-0110	MISC	TOTAL ORGANIC CARBON	1700	MG/KG	J	F	Lab Duplicate Imprecision
NASB-BG-SB-SB16-0001	MISC	TOTAL ORGANIC CARBON	10000	MG/KG	J	F	Lab Duplicate Imprecision
NASB-BG-SB-SB16-0110	MISC	TOTAL ORGANIC CARBON	1500	MG/KG	J	F	Lab Duplicate Imprecision
NASB-BG-SB-SB16-0110-D	MISC	TOTAL ORGANIC CARBON	1100	MG/KG	J	F	Lab Duplicate Imprecision
NASB-BG-SB-SB17-0001	MISC	TOTAL ORGANIC CARBON	17000	MG/KG	J	F	Lab Duplicate Imprecision
NASB-BG-SB-SB17-0110	MISC	TOTAL ORGANIC CARBON	1800	MG/KG	J	F	Lab Duplicate Imprecision
NASB-BG-SB-SB02-0110	MISC	TOTAL ORGANIC CARBON	530	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB30-0001	MISC	TOTAL ORGANIC CARBON	28000	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB30-0107	MISC	TOTAL ORGANIC CARBON	1800	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB31-0001	MISC	TOTAL ORGANIC CARBON	34000	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB31-0110	MISC	TOTAL ORGANIC CARBON	2800	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB31-0110-D	MISC	TOTAL ORGANIC CARBON	2400	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB32-0001	MISC	TOTAL ORGANIC CARBON	29000	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB32-0110	MISC	TOTAL ORGANIC CARBON	1600	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB39-0001	MISC	TOTAL ORGANIC CARBON	6200	MG/KG	J	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB04-0110	MISC	TOTAL ORGANIC CARBON	260	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB04-0110-D	MISC	TOTAL ORGANIC CARBON	330	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB26-0110	MISC	TOTAL ORGANIC CARBON	330	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB28-0110	MISC	TOTAL ORGANIC CARBON	380	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB29-0110	MISC	TOTAL ORGANIC CARBON	300	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB39-0110	MISC	TOTAL ORGANIC CARBON	300	MG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

TABLE B.1.1
QUALIFIED SOIL DATA
BACKGROUND STUDY
NAS BRUNSWICK, BRUNSWICK MAINE

Sample ID	Fraction	Parameter	Result	Units	Qualifier	Qualifier Code	Reason for Qualification
NASB-BG-SB-SB02-0110	PAH	2-METHYLNAPHTHALENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB15-0001	PAH	2-METHYLNAPHTHALENE	3	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB15-0110	PAH	2-METHYLNAPHTHALENE	3	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB16-0001	PAH	2-METHYLNAPHTHALENE	3	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB16-0110	PAH	2-METHYLNAPHTHALENE	3	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB16-0110-D	PAH	2-METHYLNAPHTHALENE	3	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB17-0001	PAH	2-METHYLNAPHTHALENE	3	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB17-0110	PAH	2-METHYLNAPHTHALENE	3	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB27-0001	PAH	2-METHYLNAPHTHALENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB27-0110	PAH	2-METHYLNAPHTHALENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB28-0001	PAH	2-METHYLNAPHTHALENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB28-0001-D	PAH	2-METHYLNAPHTHALENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB28-0110	PAH	2-METHYLNAPHTHALENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB29-0001	PAH	2-METHYLNAPHTHALENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB29-0110	PAH	2-METHYLNAPHTHALENE	2	UG/KG	UJ	H	Holding Time Exceedance
NASB-BG-SB-SB08-0001	PAH	2-METHYLNAPHTHALENE	3	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB09-0001	PAH	2-METHYLNAPHTHALENE	3	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB09-0001-D	PAH	2-METHYLNAPHTHALENE	3	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB09-0110	PAH	2-METHYLNAPHTHALENE	3	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB10-0001	PAH	2-METHYLNAPHTHALENE	2	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB10-0110	PAH	2-METHYLNAPHTHALENE	3	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB11-0001	PAH	2-METHYLNAPHTHALENE	3	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB11-0110	PAH	2-METHYLNAPHTHALENE	3	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB12-0001	PAH	2-METHYLNAPHTHALENE	3	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB12-0110	PAH	2-METHYLNAPHTHALENE	3	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB13-0001	PAH	2-METHYLNAPHTHALENE	3	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB13-0001-D	PAH	2-METHYLNAPHTHALENE	3	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB13-0110	PAH	2-METHYLNAPHTHALENE	3	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB14-0001	PAH	2-METHYLNAPHTHALENE	3	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB14-0110	PAH	2-METHYLNAPHTHALENE	3	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB23-0001	PAH	2-METHYLNAPHTHALENE	3	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB23-0110	PAH	2-METHYLNAPHTHALENE	3	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB39-0110	PAH	2-METHYLNAPHTHALENE	2	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB08-0110	PAH	2-METHYLNAPHTHALENE	3	UG/KG	UJ	EH	LCS/LCSD Recovery Noncompliance, Holding Time Exceedance
NASB-BG-SB-SB26-0001	PAH	2-METHYLNAPHTHALENE	2	UG/KG	UJ	D	MS/MSD Recovery Noncompliance
NASB-BG-SB-SB39-0001	PAH	2-METHYLNAPHTHALENE	2	UG/KG	UJ	DE	MS/MSD Recovery Noncompliance, LCS/LCSD Recovery Noncompliance

TABLE B.1.1
QUALIFIED SOIL DATA
BACKGROUND STUDY
NAS BRUNSWICK, BRUNSWICK MAINE

Sample ID	Fraction	Parameter	Result	Units	Qualifier	Qualifier Code	Reason for Qualification
NASB-BG-SB-SB08-0110	PAH	ACENAPHTHENE	2	UG/KG	UJ	H	Holding Time Exceedance
NASB-BG-SB-SB29-0110	PAH	ACENAPHTHENE	2	UG/KG	UJ	H	Holding Time Exceedance
NASB-BG-SB-SB08-0001	PAH	ACENAPHTHENE	2	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB09-0001	PAH	ACENAPHTHENE	2	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB09-0001-D	PAH	ACENAPHTHENE	2	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB09-0110	PAH	ACENAPHTHENE	2	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB10-0001	PAH	ACENAPHTHENE	2	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB10-0110	PAH	ACENAPHTHENE	2	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB11-0001	PAH	ACENAPHTHENE	2	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB11-0110	PAH	ACENAPHTHENE	2	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB12-0001	PAH	ACENAPHTHENE	2	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB12-0110	PAH	ACENAPHTHENE	2	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB13-0001	PAH	ACENAPHTHENE	2	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB13-0001-D	PAH	ACENAPHTHENE	2	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB13-0110	PAH	ACENAPHTHENE	2	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB14-0001	PAH	ACENAPHTHENE	2	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB14-0110	PAH	ACENAPHTHENE	2	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB23-0001	PAH	ACENAPHTHENE	2	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB23-0110	PAH	ACENAPHTHENE	2	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB39-0001	PAH	ACENAPHTHENE	2	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB39-0110	PAH	ACENAPHTHENE	2	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB08-0110	PAH	ACENAPHTHYLENE	1	UG/KG	UJ	H	Holding Time Exceedance
NASB-BG-SB-SB29-0110	PAH	ACENAPHTHYLENE	1	UG/KG	UJ	H	Holding Time Exceedance
NASB-BG-SB-SB05-0001	PAH	ACENAPHTHYLENE	2	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB10-0001	PAH	ACENAPHTHYLENE	2	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB08-0110	PAH	ANTHRACENE	1	UG/KG	UJ	H	Holding Time Exceedance
NASB-BG-SB-SB29-0110	PAH	ANTHRACENE	1	UG/KG	UJ	H	Holding Time Exceedance
NASB-BG-SB-SB01-0001	PAH	ANTHRACENE	5	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB02-0001	PAH	ANTHRACENE	4	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB03-0001	PAH	ANTHRACENE	7	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB04-0001	PAH	ANTHRACENE	2	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB05-0001	PAH	ANTHRACENE	8	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB10-0001	PAH	ANTHRACENE	2	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB08-0110	PAH	BENZO(A)ANTHRACENE	2	UG/KG	UJ	H	Holding Time Exceedance
NASB-BG-SB-SB29-0110	PAH	BENZO(A)ANTHRACENE	2	UG/KG	UJ	H	Holding Time Exceedance
NASB-BG-SB-SB01-0001	PAH	BENZO(A)ANTHRACENE	3	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB02-0001	PAH	BENZO(A)ANTHRACENE	2	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB03-0001	PAH	BENZO(A)ANTHRACENE	5	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB04-0001	PAH	BENZO(A)ANTHRACENE	2	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

TABLE B.1.1
QUALIFIED SOIL DATA
BACKGROUND STUDY
NAS BRUNSWICK, BRUNSWICK MAINE

Sample ID	Fraction	Parameter	Result	Units	Qualifier	Qualifier Code	Reason for Qualification
NASB-BG-SB-SB05-0001	PAH	BENZO(A)ANTHRACENE	7	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB10-0001	PAH	BENZO(A)ANTHRACENE	12	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB13-0001-D	PAH	BENZO(A)ANTHRACENE	3	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB14-0001	PAH	BENZO(A)ANTHRACENE	4	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB16-0110-D	PAH	BENZO(A)ANTHRACENE	3	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB17-0001	PAH	BENZO(A)ANTHRACENE	5	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB18-0001	PAH	BENZO(A)ANTHRACENE	6	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB24-0001	PAH	BENZO(A)ANTHRACENE	3	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB27-0001	PAH	BENZO(A)ANTHRACENE	2	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB30-0001	PAH	BENZO(A)ANTHRACENE	18	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB08-0110	PAH	BENZO(A)PYRENE	4	UG/KG	UJ	H	Holding Time Exceedance
NASB-BG-SB-SB29-0110	PAH	BENZO(A)PYRENE	3	UG/KG	UJ	H	Holding Time Exceedance
NASB-BG-SB-SB17-0001	PAH	BENZO(A)PYRENE	10	UG/KG	J	NP	Internal Standard Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB01-0001	PAH	BENZO(A)PYRENE	4	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB03-0001	PAH	BENZO(A)PYRENE	6	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB05-0001	PAH	BENZO(A)PYRENE	9	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB10-0001	PAH	BENZO(A)PYRENE	14	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB18-0001	PAH	BENZO(A)PYRENE	7	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB30-0001	PAH	BENZO(A)PYRENE	20	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB08-0110	PAH	BENZO(B)FLUORANTHENE	3	UG/KG	UJ	H	Holding Time Exceedance
NASB-BG-SB-SB29-0110	PAH	BENZO(B)FLUORANTHENE	2	UG/KG	UJ	H	Holding Time Exceedance
NASB-BG-SB-SB17-0001	PAH	BENZO(B)FLUORANTHENE	10	UG/KG	J	NP	Internal Standard Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB05-0001	PAH	BENZO(B)FLUORANTHENE	14	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB10-0001	PAH	BENZO(B)FLUORANTHENE	17	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB18-0001	PAH	BENZO(B)FLUORANTHENE	12	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB24-0001	PAH	BENZO(B)FLUORANTHENE	5	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB25-0001	PAH	BENZO(B)FLUORANTHENE	4	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB06-0110	PAH	BENZO(G,H,I)PERYLENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB07-0001	PAH	BENZO(G,H,I)PERYLENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)

TABLE B.1.1
QUALIFIED SOIL DATA
BACKGROUND STUDY
NAS BRUNSWICK, BRUNSWICK MAINE

Sample ID	Fraction	Parameter	Result	Units	Qualifier	Qualifier Code	Reason for Qualification
NASB-BG-SB-SB07-0109	PAH	BENZO(G,H,I)PERYLENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB08-0001	PAH	BENZO(G,H,I)PERYLENE	3	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB09-0001	PAH	BENZO(G,H,I)PERYLENE	3	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB09-0001-D	PAH	BENZO(G,H,I)PERYLENE	3	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB09-0110	PAH	BENZO(G,H,I)PERYLENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB11-0001	PAH	BENZO(G,H,I)PERYLENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB11-0110	PAH	BENZO(G,H,I)PERYLENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB12-0001	PAH	BENZO(G,H,I)PERYLENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB12-0110	PAH	BENZO(G,H,I)PERYLENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB13-0001	PAH	BENZO(G,H,I)PERYLENE	3	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB13-0001-D	PAH	BENZO(G,H,I)PERYLENE	3	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB13-0110	PAH	BENZO(G,H,I)PERYLENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB14-0110	PAH	BENZO(G,H,I)PERYLENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB26-0001	PAH	BENZO(G,H,I)PERYLENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB26-0110	PAH	BENZO(G,H,I)PERYLENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB29-0110	PAH	BENZO(G,H,I)PERYLENE	2	UG/KG	UJ	CH	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.), Holding Time Exceedance
NASB-BG-SB-SB10-0001	PAH	BENZO(G,H,I)PERYLENE	10	UG/KG	J	CP	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB14-0001	PAH	BENZO(G,H,I)PERYLENE	8	UG/KG	J	CP	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB08-0110	PAH	BENZO(G,H,I)PERYLENE	2	UG/KG	UJ	H	Holding Time Exceedance
NASB-BG-SB-SB17-0001	PAH	BENZO(G,H,I)PERYLENE	26	UG/KG	J	NP	Internal Standard Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB30-0107	PAH	BENZO(G,H,I)PERYLENE	2	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB31-0110	PAH	BENZO(G,H,I)PERYLENE	2	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB31-0110-D	PAH	BENZO(G,H,I)PERYLENE	2	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB32-0110	PAH	BENZO(G,H,I)PERYLENE	2	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB30-0001	PAH	BENZO(G,H,I)PERYLENE	6	UG/KG	J	EP	LCS/LCSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB31-0001	PAH	BENZO(G,H,I)PERYLENE	12	UG/KG	J	EP	LCS/LCSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB32-0001	PAH	BENZO(G,H,I)PERYLENE	10	UG/KG	J	EP	LCS/LCSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB01-0001	PAH	BENZO(G,H,I)PERYLENE	4	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

TABLE B.1.1
QUALIFIED SOIL DATA
BACKGROUND STUDY
NAS BRUNSWICK, BRUNSWICK MAINE

Sample ID	Fraction	Parameter	Result	Units	Qualifier	Qualifier Code	Reason for Qualification
NASB-BG-SB-SB03-0001	PAH	BENZO(G,H,I)PERYLENE	8	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB04-0001	PAH	BENZO(G,H,I)PERYLENE	2	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB05-0001	PAH	BENZO(G,H,I)PERYLENE	8	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB18-0001	PAH	BENZO(G,H,I)PERYLENE	5	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB23-0001	PAH	BENZO(G,H,I)PERYLENE	3	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB24-0001	PAH	BENZO(G,H,I)PERYLENE	3	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB08-0110	PAH	BENZO(K)FLUORANTHENE	4	UG/KG	UJ	H	Holding Time Exceedance
NASB-BG-SB-SB29-0110	PAH	BENZO(K)FLUORANTHENE	3	UG/KG	UJ	H	Holding Time Exceedance
NASB-BG-SB-SB17-0001	PAH	BENZO(K)FLUORANTHENE	13	UG/KG	J	NP	Internal Standard Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB05-0001	PAH	BENZO(K)FLUORANTHENE	12	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB10-0001	PAH	BENZO(K)FLUORANTHENE	14	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB18-0001	PAH	BENZO(K)FLUORANTHENE	5	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB30-0001	PAH	BENZO(K)FLUORANTHENE	6	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB31-0001	PAH	BENZO(K)FLUORANTHENE	11	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB32-0001	PAH	BENZO(K)FLUORANTHENE	13	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB08-0110	PAH	CHRYSENE	2	UG/KG	UJ	H	Holding Time Exceedance
NASB-BG-SB-SB29-0110	PAH	CHRYSENE	2	UG/KG	UJ	H	Holding Time Exceedance
NASB-BG-SB-SB01-0001	PAH	CHRYSENE	4	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB02-0001	PAH	CHRYSENE	2	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB03-0001	PAH	CHRYSENE	7	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB04-0001	PAH	CHRYSENE	2	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB05-0001	PAH	CHRYSENE	10	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB09-0001	PAH	CHRYSENE	2	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB10-0001	PAH	CHRYSENE	17	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB13-0001	PAH	CHRYSENE	2	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB13-0001-D	PAH	CHRYSENE	4	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB14-0001	PAH	CHRYSENE	3	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB15-0001	PAH	CHRYSENE	3	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB17-0001	PAH	CHRYSENE	9	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

TABLE B.1.1
QUALIFIED SOIL DATA
BACKGROUND STUDY
NAS BRUNSWICK, BRUNSWICK MAINE

Sample ID	Fraction	Parameter	Result	Units	Qualifier	Qualifier Code	Reason for Qualification
NASB-BG-SB-SB18-0001	PAH	CHRYSENE	9	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB24-0001	PAH	CHRYSENE	4	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB25-0001	PAH	CHRYSENE	3	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB27-0001	PAH	CHRYSENE	3	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB29-0001	PAH	CHRYSENE	2	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB06-0001	PAH	DIBENZO(A,H)ANTHRACENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB06-0110	PAH	DIBENZO(A,H)ANTHRACENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB07-0001	PAH	DIBENZO(A,H)ANTHRACENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB07-0109	PAH	DIBENZO(A,H)ANTHRACENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB08-0001	PAH	DIBENZO(A,H)ANTHRACENE	3	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB09-0001	PAH	DIBENZO(A,H)ANTHRACENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB09-0001-D	PAH	DIBENZO(A,H)ANTHRACENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB09-0110	PAH	DIBENZO(A,H)ANTHRACENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB10-0001	PAH	DIBENZO(A,H)ANTHRACENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB10-0110	PAH	DIBENZO(A,H)ANTHRACENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB11-0001	PAH	DIBENZO(A,H)ANTHRACENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB11-0110	PAH	DIBENZO(A,H)ANTHRACENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB12-0001	PAH	DIBENZO(A,H)ANTHRACENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB12-0110	PAH	DIBENZO(A,H)ANTHRACENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB13-0001	PAH	DIBENZO(A,H)ANTHRACENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB13-0001-D	PAH	DIBENZO(A,H)ANTHRACENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB13-0110	PAH	DIBENZO(A,H)ANTHRACENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB14-0110	PAH	DIBENZO(A,H)ANTHRACENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB23-0001	PAH	DIBENZO(A,H)ANTHRACENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB23-0110	PAH	DIBENZO(A,H)ANTHRACENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB26-0001	PAH	DIBENZO(A,H)ANTHRACENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB26-0110	PAH	DIBENZO(A,H)ANTHRACENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB39-0001	PAH	DIBENZO(A,H)ANTHRACENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)

TABLE B.1.1
QUALIFIED SOIL DATA
BACKGROUND STUDY
NAS BRUNSWICK, BRUNSWICK MAINE

Sample ID	Fraction	Parameter	Result	Units	Qualifier	Qualifier Code	Reason for Qualification
NASB-BG-SB-SB39-0110	PAH	DIBENZO(A,H)ANTHRACENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB29-0110	PAH	DIBENZO(A,H)ANTHRACENE	2	UG/KG	UJ	CH	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.), Holding Time Exceedance
NASB-BG-SB-SB14-0001	PAH	DIBENZO(A,H)ANTHRACENE	13	UG/KG	J	CP	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB08-0110	PAH	DIBENZO(A,H)ANTHRACENE	2	UG/KG	UJ	H	Holding Time Exceedance
NASB-BG-SB-SB17-0001	PAH	DIBENZO(A,H)ANTHRACENE	14	UG/KG	J	NP	Internal Standard Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB30-0001	PAH	DIBENZO(A,H)ANTHRACENE	5	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB31-0001	PAH	DIBENZO(A,H)ANTHRACENE	6	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB32-0001	PAH	DIBENZO(A,H)ANTHRACENE	6	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB08-0110	PAH	FLUORANTHENE	2	UG/KG	UJ	H	Holding Time Exceedance
NASB-BG-SB-SB29-0110	PAH	FLUORANTHENE	2	UG/KG	J	HP	Holding Time Exceedance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB01-0001	PAH	FLUORANTHENE	9	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB02-0001	PAH	FLUORANTHENE	4	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB03-0001	PAH	FLUORANTHENE	12	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB04-0001	PAH	FLUORANTHENE	4	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB05-0001	PAH	FLUORANTHENE	18	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB08-0001	PAH	FLUORANTHENE	3	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB09-0001	PAH	FLUORANTHENE	5	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB09-0001-D	PAH	FLUORANTHENE	3	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB11-0001	PAH	FLUORANTHENE	4	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB13-0001	PAH	FLUORANTHENE	5	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB13-0001-D	PAH	FLUORANTHENE	7	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB14-0001	PAH	FLUORANTHENE	3	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB15-0001	PAH	FLUORANTHENE	6	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB17-0001	PAH	FLUORANTHENE	5	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB18-0001	PAH	FLUORANTHENE	17	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB19-0001	PAH	FLUORANTHENE	4	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB24-0001	PAH	FLUORANTHENE	7	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB25-0001	PAH	FLUORANTHENE	6	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

TABLE B.1.1
QUALIFIED SOIL DATA
BACKGROUND STUDY
NAS BRUNSWICK, BRUNSWICK MAINE

Sample ID	Fraction	Parameter	Result	Units	Qualifier	Qualifier Code	Reason for Qualification
NASB-BG-SB-SB26-0001	PAH	FLUORANTHENE	2	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB27-0001	PAH	FLUORANTHENE	5	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB28-0001	PAH	FLUORANTHENE	3	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB29-0001	PAH	FLUORANTHENE	3	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB39-0001	PAH	FLUORANTHENE	2	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB29-0110	PAH	FLUORENE	3	UG/KG	UJ	H	Holding Time Exceedance
NASB-BG-SB-SB08-0001	PAH	FLUORENE	5	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB09-0001	PAH	FLUORENE	4	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB09-0001-D	PAH	FLUORENE	4	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB09-0110	PAH	FLUORENE	4	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB10-0001	PAH	FLUORENE	4	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB10-0110	PAH	FLUORENE	4	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB11-0001	PAH	FLUORENE	4	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB11-0110	PAH	FLUORENE	4	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB12-0001	PAH	FLUORENE	4	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB12-0110	PAH	FLUORENE	4	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB13-0001	PAH	FLUORENE	4	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB13-0001-D	PAH	FLUORENE	4	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB13-0110	PAH	FLUORENE	4	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB14-0001	PAH	FLUORENE	4	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB14-0110	PAH	FLUORENE	4	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB23-0001	PAH	FLUORENE	4	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB23-0110	PAH	FLUORENE	4	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB39-0001	PAH	FLUORENE	3	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB39-0110	PAH	FLUORENE	3	UG/KG	UJ	E	LCS/LCSD Recovery Noncompliance
NASB-BG-SB-SB08-0110	PAH	FLUORENE	4	UG/KG	UJ	EH	LCS/LCSD Recovery Noncompliance, Holding Time Exceedance
NASB-BG-SB-SB06-0110	PAH	INDENO(1,2,3-CD)PYRENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB07-0001	PAH	INDENO(1,2,3-CD)PYRENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB07-0109	PAH	INDENO(1,2,3-CD)PYRENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB08-0001	PAH	INDENO(1,2,3-CD)PYRENE	3	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB09-0001	PAH	INDENO(1,2,3-CD)PYRENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB09-0001-D	PAH	INDENO(1,2,3-CD)PYRENE	3	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB09-0110	PAH	INDENO(1,2,3-CD)PYRENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB11-0001	PAH	INDENO(1,2,3-CD)PYRENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB11-0110	PAH	INDENO(1,2,3-CD)PYRENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB12-0001	PAH	INDENO(1,2,3-CD)PYRENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)

TABLE B.1.1
QUALIFIED SOIL DATA
BACKGROUND STUDY
NAS BRUNSWICK, BRUNSWICK MAINE

Sample ID	Fraction	Parameter	Result	Units	Qualifier	Qualifier Code	Reason for Qualification
NASB-BG-SB-SB12-0110	PAH	INDENO(1,2,3-CD)PYRENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB13-0001	PAH	INDENO(1,2,3-CD)PYRENE	3	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB13-0001-D	PAH	INDENO(1,2,3-CD)PYRENE	3	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB13-0110	PAH	INDENO(1,2,3-CD)PYRENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB14-0110	PAH	INDENO(1,2,3-CD)PYRENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB26-0001	PAH	INDENO(1,2,3-CD)PYRENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB26-0110	PAH	INDENO(1,2,3-CD)PYRENE	2	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB29-0110	PAH	INDENO(1,2,3-CD)PYRENE	2	UG/KG	UJ	CH	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.), Holding Time Exceedance
NASB-BG-SB-SB10-0001	PAH	INDENO(1,2,3-CD)PYRENE	10	UG/KG	J	CP	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB14-0001	PAH	INDENO(1,2,3-CD)PYRENE	8	UG/KG	J	CP	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB08-0110	PAH	INDENO(1,2,3-CD)PYRENE	2	UG/KG	UJ	H	Holding Time Exceedance
NASB-BG-SB-SB17-0001	PAH	INDENO(1,2,3-CD)PYRENE	26	UG/KG	J	NP	Internal Standard Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB01-0001	PAH	INDENO(1,2,3-CD)PYRENE	5	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB02-0001	PAH	INDENO(1,2,3-CD)PYRENE	2	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB03-0001	PAH	INDENO(1,2,3-CD)PYRENE	7	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB04-0001	PAH	INDENO(1,2,3-CD)PYRENE	2	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB05-0001	PAH	INDENO(1,2,3-CD)PYRENE	10	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB15-0001	PAH	INDENO(1,2,3-CD)PYRENE	3	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB18-0001	PAH	INDENO(1,2,3-CD)PYRENE	7	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB24-0001	PAH	INDENO(1,2,3-CD)PYRENE	4	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB25-0001	PAH	INDENO(1,2,3-CD)PYRENE	3	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB27-0001	PAH	INDENO(1,2,3-CD)PYRENE	2	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB15-0001	PAH	NAPHTHALENE	3	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB15-0110	PAH	NAPHTHALENE	3	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB16-0001	PAH	NAPHTHALENE	3	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB16-0110	PAH	NAPHTHALENE	3	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB16-0110-D	PAH	NAPHTHALENE	3	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)

TABLE B.1.1
QUALIFIED SOIL DATA
BACKGROUND STUDY
NAS BRUNSWICK, BRUNSWICK MAINE

Sample ID	Fraction	Parameter	Result	Units	Qualifier	Qualifier Code	Reason for Qualification
NASB-BG-SB-SB17-0001	PAH	NAPHTHALENE	4	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB17-0110	PAH	NAPHTHALENE	3	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB24-0001	PAH	NAPHTHALENE	3	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB24-0001-D	PAH	NAPHTHALENE	3	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB24-0110	PAH	NAPHTHALENE	3	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB25-0110	PAH	NAPHTHALENE	3	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB29-0110	PAH	NAPHTHALENE	3	UG/KG	UJ	H	Holding Time Exceedance
NASB-BG-SB-SB08-0110	PAH	NAPHTHALENE	3	UG/KG	UJ	EH	LCS/LCSD Recovery Noncompliance, Holding Time Exceedance
NASB-BG-SB-SB08-0110	PAH	PHENANTHRENE	2	UG/KG	UJ	H	Holding Time Exceedance
NASB-BG-SB-SB29-0110	PAH	PHENANTHRENE	2	UG/KG	UJ	H	Holding Time Exceedance
NASB-BG-SB-SB01-0001	PAH	PHENANTHRENE	5	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB02-0001	PAH	PHENANTHRENE	4	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB03-0001	PAH	PHENANTHRENE	8	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB04-0001	PAH	PHENANTHRENE	2	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB05-0001	PAH	PHENANTHRENE	8	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB10-0001	PAH	PHENANTHRENE	15	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB13-0001-D	PAH	PHENANTHRENE	3	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB15-0001	PAH	PHENANTHRENE	3	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB17-0001	PAH	PHENANTHRENE	3	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB18-0001	PAH	PHENANTHRENE	11	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB19-0001	PAH	PHENANTHRENE	3	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB24-0001	PAH	PHENANTHRENE	4	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB25-0001	PAH	PHENANTHRENE	3	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB27-0001	PAH	PHENANTHRENE	3	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB29-0001	PAH	PHENANTHRENE	2	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB08-0110	PAH	PYRENE	2	UG/KG	UJ	H	Holding Time Exceedance
NASB-BG-SB-SB29-0110	PAH	PYRENE	2	UG/KG	UJ	H	Holding Time Exceedance
NASB-BG-SB-SB01-0001	PAH	PYRENE	7	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB02-0001	PAH	PYRENE	3	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB03-0001	PAH	PYRENE	17	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

TABLE B.1.1
QUALIFIED SOIL DATA
BACKGROUND STUDY
NAS BRUNSWICK, BRUNSWICK MAINE

Sample ID	Fraction	Parameter	Result	Units	Qualifier	Qualifier Code	Reason for Qualification
NASB-BG-SB-SB04-0001	PAH	PYRENE	4	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB05-0001	PAH	PYRENE	18	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB09-0001	PAH	PYRENE	4	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB09-0001-D	PAH	PYRENE	3	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB11-0001	PAH	PYRENE	3	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB13-0001	PAH	PYRENE	4	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB13-0001-D	PAH	PYRENE	6	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB15-0001	PAH	PYRENE	6	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB17-0001	PAH	PYRENE	4	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB18-0001	PAH	PYRENE	17	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB19-0001	PAH	PYRENE	3	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB24-0001	PAH	PYRENE	7	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB25-0001	PAH	PYRENE	5	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB27-0001	PAH	PYRENE	5	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB28-0001	PAH	PYRENE	3	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB29-0001	PAH	PYRENE	3	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB30-0001	PEST/PCB	4,4'-DDD	0.93	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB31-0001	PEST/PCB	4,4'-DDD	1.0	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB32-0001	PEST/PCB	4,4'-DDD	1.1	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB01-0001	PEST/PCB	4,4'-DDE	0.77	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB02-0001	PEST/PCB	4,4'-DDE	1.0	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB04-0001	PEST/PCB	4,4'-DDE	0.57	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB05-0001	PEST/PCB	4,4'-DDE	0.65	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB08-0001	PEST/PCB	4,4'-DDE	0.65	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB11-0001	PEST/PCB	4,4'-DDE	0.57	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB12-0001	PEST/PCB	4,4'-DDE	0.55	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB13-0001	PEST/PCB	4,4'-DDE	0.64	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB13-0001-D	PEST/PCB	4,4'-DDE	0.74	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

TABLE B.1.1
QUALIFIED SOIL DATA
BACKGROUND STUDY
NAS BRUNSWICK, BRUNSWICK MAINE

Sample ID	Fraction	Parameter	Result	Units	Qualifier	Qualifier Code	Reason for Qualification
NASB-BG-SB-SB14-0001	PEST/PCB	4,4'-DDE	0.84	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB15-0001	PEST/PCB	4,4'-DDE	0.77	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB17-0001	PEST/PCB	4,4'-DDE	0.68	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB18-0001	PEST/PCB	4,4'-DDE	1.00	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB24-0001	PEST/PCB	4,4'-DDE	0.56	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB24-0001-D	PEST/PCB	4,4'-DDE	0.66	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB25-0001	PEST/PCB	4,4'-DDE	0.58	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB28-0001	PEST/PCB	4,4'-DDE	0.51	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB29-0001	PEST/PCB	4,4'-DDE	0.66	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB30-0001	PEST/PCB	4,4'-DDE	3.6	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB31-0001	PEST/PCB	4,4'-DDE	1.2	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB32-0001	PEST/PCB	4,4'-DDE	1.3	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB03-0001	PEST/PCB	4,4'-DDT	0.46	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB04-0001	PEST/PCB	4,4'-DDT	0.46	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB05-0001	PEST/PCB	4,4'-DDT	0.47	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB27-0001	PEST/PCB	4,4'-DDT	0.46	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB28-0001	PEST/PCB	4,4'-DDT	0.45	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB28-0001-D	PEST/PCB	4,4'-DDT	0.46	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB01-0001	PEST/PCB	4,4'-DDT	0.80	UG/KG	J	CP	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB02-0001	PEST/PCB	4,4'-DDT	1.3	UG/KG	J	CP	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB29-0001	PEST/PCB	4,4'-DDT	1.2	UG/KG	J	CPU	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics), % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SB-SB10-0001	PEST/PCB	4,4'-DDT	3.1	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB18-0001	PEST/PCB	4,4'-DDT	1.1	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB30-0001	PEST/PCB	4,4'-DDT	3.4	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB31-0001	PEST/PCB	4,4'-DDT	1.3	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SB-SB32-0001	PEST/PCB	4,4'-DDT	1.6	UG/KG	J	P	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

TABLE B.1.1
QUALIFIED SOIL DATA
BACKGROUND STUDY
NAS BRUNSWICK, BRUNSWICK MAINE

Sample ID	Fraction	Parameter	Result	Units	Qualifier	Qualifier Code	Reason for Qualification
NASB-BG-SB-SB30-0001	PEST/PCB	BETA-BHC	0.38	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB31-0001	PEST/PCB	BETA-BHC	0.39	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB32-0001	PEST/PCB	BETA-BHC	0.38	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB15-0001	PEST/PCB	DELTA-BHC	0.44	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB30-0001	PEST/PCB	DELTA-BHC	0.37	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB31-0001	PEST/PCB	DELTA-BHC	0.38	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB32-0001	PEST/PCB	DELTA-BHC	0.37	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB32-0001	PEST/PCB	ENDOSULFAN I	0.80	UG/KG	J	PU	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics), % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SB-SB30-0001	PEST/PCB	ENDRIN KETONE	0.46	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB31-0001	PEST/PCB	ENDRIN KETONE	0.48	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB32-0001	PEST/PCB	ENDRIN KETONE	0.46	UG/KG	UJ	C	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SB-SB29-0001	PEST/PCB	GAMMA-BHC (LINDANE)	1.1	UG/KG	J	PU	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics), % Difference between columns/detectors >25% for positive results determined via GC/HPLC

TABLE B.1.2
SOIL DETECTION LIMIT EVALUATION TABLE
BACKGROUND STUDY
NAS BRUNSWICK, BRUNSWICK MAINE

Parameter	Screening Level (1)	Number of Non-Detects Exceeding Screening Levels	Number of Analyses Yielding Non-Detected Results	Percent of Non-Detected Results Exceeding Screening Levels
Pesticides (µg/kg)				
ALDRIN	0.06	36	36	100
ALPHA-BHC	0.72	36	36	100
ALPHA-CHLORDANE	0.03	36	36	100
DELTA-BHC	0.05	36	36	100
ENDOSULFAN I	0.1	35	35	100
ENDOSULFAN II	0.1	36	36	100
ENDOSULFAN SULFATE	0.1	36	36	100
ENDRIN	0.04	36	36	100
ENDRIN ALEDHYDE	0.04	36	36	100
ENDRIN KETONE	0.04	36	36	100
GAMMA-BHC (LINDANE)	0.05	35	35	100
GAMMA-CHLORDANE	0.03	36	36	100
HEPTACHLOR	0.7	1	36	3
HEPTACHLOR EPOXIDE	0.0002	36	36	100
Inorganics (mg/kg)				
SELENIUM	0.52	14	64	22

1. Minimum risk screening level identified in OU9 RI SAP (see Worksheet # 15).
2. Compound was detected in all sediment samples analyzed.

B.2 GROUNDWATER, SURFACE WATER, AND SEDIMENT DATA QUALITY REVIEW

APPENDIX B.2

DATA QUALITY REVIEW GROUNDWATER, SURFACE WATER AND SEDIMENT BACKGROUND STUDY NAS BRUNSWICK, BRUNSWICK, MAINE

A description of the data review processes used to determine whether analytical laboratory data were of acceptable technical quality for use in decision making is presented in this DQR. The review began with data verification and validation. Verification is a process used to ensure that contractual requirements were satisfied. Validation is a comparison of data quality indicators (DQIs) against prescribed acceptance criteria to assess analytical method performance. The DQIs used are measures to assess the bias and precision of the analytical calibrations and sample analyses. Together, verification and validation are the first steps in evaluating data completeness, accuracy, sensitivity, comparability, and representativeness. The data review process culminates with a data usability assessment which will be presented in the Background Study Report during which the final usability of the data is established relative to the intended data use.

1.0 DATA VALIDATION PROCESS

All of the results from analytical laboratory samples were validated according to several specifications. Assignment of data qualification flags conformed to rules established in USEPA Region 1 Laboratory Data Validation Functional Guidelines for Evaluating Organic Analyses – Part II (December 1996) and Part III (February 2004), and USEPA Region I Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses – Part VI (November 2008) to the greatest extent practicable for non-contract laboratory program data. Numerical criteria used in conjunction with these rules were specified in the Sampling and Analysis Plan (Field Sampling Plan and Quality Assurance Project Plan) Background Study Naval Air Station Brunswick Maine (Tetra Tech, July 2009) referred to as the Background Study SAP from this point forward.

If no qualifier is assigned to a result that has been validated, the data user is assured that no analytical performance deficiencies were identified during validation. The qualification flags used are defined below:

U – Indicates that the chemical was not detected at the numerical detection limit noted. Non-detected results are reported with a “U” qualifier when received from the laboratory. Additionally, a “U” qualifier is added to a result (reported by the laboratory) if the detected concentration is determined to be attributable to contamination introduced during field sampling or laboratory analysis.

UJ – Indicates that the chemical was not detected. However, the detection limit (sample-specific quantitation limit) is considered to be estimated based on problems encountered during laboratory analysis. The associated numerical detection limit is regarded as inaccurate.

J – Indicates that the chemical was detected. However, the associated numerical result is not an accurate representation of the amount that is actually present in the sample. The laboratory reported concentration is considered to be an estimate of the true concentration.

UR – Indicates that the chemical may or may not be present. The non-detected analytical result reported by the laboratory is considered to be unreliable and unusable. The “UR” qualifier is applied in cases of gross technical deficiencies (i.e., holding times missed by a factor of two times the specified time limit, severe calibration noncompliances, and extremely low quality control [QC] recoveries).

R – Indicates that the chemical may or may not be present. The analytical result reported by the laboratory is considered to be unreliable and unusable. The “R” qualifier is applied in cases of gross technical deficiencies (i.e., holding times missed by a factor of two times the specified time limit, severe calibration noncompliances, and extremely low QC recoveries).

The preceding data qualifiers may be categorized as indicative of major or minor problems. Major problems are defined as issues that result in the rejection of data and qualification with “UR” or “R” data validation qualifiers. Rejected data are considered invalid and are not used for decision making purposes unless used in a qualitative way and the use is justified and documented. Less severe deficiencies, associated with “U”, “J”, and “UJ” data validation qualifiers, are defined as issues resulting in the estimation of data. Estimated analytical results are considered to be suitable for decision-making purposes unless the data use requirements are very stringent and the qualifier indicates a deficiency that is incompatible with the intended data use. Also, a “U” qualifier does not necessarily indicate that a data deficiency exists because all non-detect values are flagged with the “U” qualifier regardless of whether a quality deficiency has been detected.

No groundwater, sediment, or surface water data were rejected during validation for the Background Study. Qualified data and the reason for corresponding qualification are presented in Tables B.2.1-B.2.8. Any impacts to the project based on the results of the data evaluation are discussed in the remainder of this review. Please note, that data users should be aware that any qualified data, even if it is considered usable, may be less accurate or less precise than nonqualified data.

2.0 DATA VALIDATION OUTPUTS

After laboratory data were validated, a list was developed of non-conformities requiring data qualifier flags that were used to alert the data user to inaccurate or imprecise data. For situations in which several QC criteria were out of specification, the data validator made professional judgments and or comments on the validity of the overall data package. The reviewer then prepared a technical memorandum presenting qualification of the data, if necessary, and the rationale for making such qualifications. The net result was a data package that had been carefully reviewed for its adherence to prescribed technical requirements. Data validators incorporated data qualifiers into the electronic database and submitted the information to the TtNUS data management group. Pertinent quality estimates are summarized in a more quantitative format in the following sections.

3.0 GENERAL DATA QUALITY REVIEW

The DQR provided herein is designed to provide an overall quantitative measure of analytical performance not provided by data validation. The analytical performance quantitative evaluations are frequently analyte-specific and reflect deficiencies such as biases associated with the quantification of particular analytes in a particular sample matrix. The data user must be aware that different chemicals in the same analytical fraction (e.g. antimony and lead in the metals fraction) may exhibit different degrees of quality.

3.1 Completeness

Completeness is a measure of the number of valid samples or measurements that are available relative to the number of samples or measurements that were intended to be generated. For this project, completeness was measured on two different bases: samples collected and laboratory measurements.

- Sample completeness was a measure of the usable samples collected as compared to those intended to be collected.

- Laboratory measurement completeness was a measure of the amount of usable, valid laboratory measurements per matrix obtained for each target analyte.

Usable, valid samples (or results) were those judged, after data assessment, to represent the sampling populations and to have not been disqualified for use through data validation or additional data review. Completeness was determined using the following equation:

$$\%C = \frac{V}{T} x 100$$

where %C = percent completeness
V = number of samples (or results) determined to be valid
T = total number of planned samples (or results)

Completeness evaluations are tabulated in Table B.2.9. Completeness evaluations meet the completeness goal of 95 percent listed in the Background Study SAP (Tetra Tech, July 2009)for all parameters analyzed except for groundwater field parameters collected in the Lower Sand and the Transition Unit areas during April 2010. One of 16 samples was not analyzed for field parameters in the Lower Sand Area and one of 15 samples was not analyzed for field parameters in the Transition Unit Area so the corresponding percent completeness values were 94 and 93 percent, respectively.

3.2 Sensitivity

The detection limits (DLs) reported by the laboratory were generally less than the project action limits (PALs). Tables B.2.10 through B.2.16 list parameters per site and per matrix for which the detection limit exceeded the corresponding minimum PAL for one or more sample results. Those tables also display two different percentages which are the percentage of non-detected results that exceeded PALs when comparing the non-detected exceedances to the total number of non-detected results and the percentage of non-detected results that exceeded PALs when comparing the non-detected exceedances to the total number of results analyzed (positive and non-detected results). The percentage of non-detected results that exceeded PALs when comparing the non-detected exceedances to the total number of non-detected results is used to evaluate the overall success of the laboratory achieving detection limits equal to or less than PALs and the percentage of non-detected results that exceeded PALs when comparing the non-detected exceedances to the total number of results analyzed (positive and non-detected results) is used to evaluate the effect of sensitivity exceedances on the complete corresponding data set. Lists of parameters per site and matrix for which sensitivity issues were identified and corresponding effects on data usability are described below.

Upper Sand, Lower Sand, Transition Zone, and Bedrock Groundwater

Groundwater – total arsenic, total vanadium, dissolved arsenic, dissolved vanadium

While many total and dissolved arsenic and vanadium groundwater results were qualified due to laboratory blank contamination (which raises the value of DLs), the DLs reported by the laboratory were insufficient to meet the corresponding PALs; therefore, it is not known whether or not non-detected total and dissolved arsenic and vanadium results actually contain concentrations of those chemicals at levels

greater than corresponding PALs. The usability of arsenic and vanadium ground water results are further discussed in Section 4.

Mere Brook and Coffins Ice Pond Surface Water

Surface water – total arsenic, total vanadium, dissolved arsenic, dissolved vanadium, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, indeno(1,2,3-CD)pyrene

While some total and dissolved arsenic and vanadium, and carcinogenic PAH (cPAH) surface water results were qualified due to laboratory blank contamination (which raises the value of DLs), the DLs reported by the laboratory were insufficient to meet the corresponding PALs; therefore, it is not known whether or not non-detected total and dissolved arsenic and vanadium results, or results for the cPAHs listed above actually contain concentrations of those chemicals at levels greater than corresponding PALs. The usability of total arsenic, total vanadium, dissolved arsenic, dissolved vanadium, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-CD)pyrene surface water results are further discussed in Section 4.

Coffins Ice Pond Sediment

Sediment – endosulfan I, endosulfan II, endrin, gamma-chlordane

DLs for some of the endosulfan I, endosulfan II, endrin, and gamma-chlrodane results reported by the laboratory were insufficient to meet the corresponding PALs; therefore, it is not known whether or not some non-detected results reported for those compounds are present at levels greater than corresponding PALs. The usability of endosulfan I, endosulfan II, endrin, and gamma-chlordane sediment results are further discussed in Section 4.

3.3 Laboratory Accuracy

Accuracy in the laboratory was measured through the comparison of a spiked sample or Laboratory control sample/laboratory control sample duplicate (LCS/LCSD) result to a known or calculated value and is expressed as a percent recovery (%R). Accuracy was also assessed by monitoring the analytical recovery of select surrogate compounds added to samples that are analyzed by organic chromatographic methods and the analytical recovery of calibration standards for all analyses. LCSs were used to assess the accuracy of laboratory operations with minimal sample matrix effects. Matrix spike/matrix spike duplicate (MS/MSD) and surrogate compound analyses measure the combined accuracy effects of the sample matrix, sample preparation, and sample measurement. LCS and MS analyses were performed at a frequency of one per 20 associated samples of like matrix. Laboratory accuracy was assessed by

comparing calculated percent recovery (%R) values to accuracy control limits specified by the laboratory using the appropriate SW-846 Method.

Percent recovery is calculated using the following equation:

$$\%R = \frac{Ss - So}{S} \times 100$$

where	%R	=	percent recovery
	Ss	=	result of spiked sample
	So	=	result of non-spiked sample
	S	=	concentration of spiked amount.

Groundwater results reported for aluminum, chloride, and iron; sediment results reported for pesticides, PAHs, metals, and TOC; and surface water results reported for 2-methylnapthalene, anthracene, fluoranthene, sodium, and pyrene were qualified due to MS percent recovery noncompliance (Specific samples and corresponding analytes qualified due to MS noncompliance can be found in Tables B.2.1 – B.2.8). None of the data qualify due to MS/MSD noncompliance were qualified as rejected; therefore, all data qualified due to MS/MSD noncompliance is considered usable. Results qualified due to MS noncompliance may be biased high or low dependent upon whether or not those results were qualified due to other reasons contributing conflicting bias. Please consult data validation memorandum for this project if interested in determining bias due to MS noncompliance.

Calibration noncompliances were noted for calcium, magnesium, and manganese in groundwater; pesticides and PAHs in sediment; and selenium, dibenzo(a,h)anthracene, and pyrene in sediment. (Specific samples and corresponding analytes qualified due to calibration noncompliance can be found in Tables B.2.1 – B.2.8) The calibration non-compliances were outside of QC limits; however, those non-compliances were not egregious enough to qualify the affected data as rejected according to the data validation guidelines used for this project; therefore, the data are considered usable.

Several PAHs and endosulfan I sediment results as well as PAH surface water results were qualified due to noncompliant LCS/LCSD %Rs. None of the data qualify due to LCS/LCSD noncompliance were qualified as rejected therefore all data qualified due to LCS/LSCD noncompliance is considered usable. Results qualified due to LCS noncompliance may be biased high or low dependent upon whether or not those results were qualified due to other reasons contributing conflicting bias. Please consult data validation memorandum for this project if interested in determining bias due to LCS noncompliance.

All sediment pesticide results reported for sample NASB-BG-SD-08-006 were qualified due to a holding time noncompliance. None of the data qualified due to the holding time noncompliance were qualified as rejected therefore all data qualified due to holding time noncompliance is considered usable.

The ICP Interference Check Sample (ICS) is evaluated to verify the laboratory's interelement and background correction factors, and to account for potential spectral overlaps and stray light interferences caused by the interfering analytes aluminum, calcium, iron, and magnesium when analyzing samples using ICP-AES instrumentation. Antimony and thallium sediment results were qualified due to ICP ICS non-compliances, indicating that matrix effects may have biased associated qualified sample results. No data was qualified as rejected due to ICP ICS non-compliances therefore the qualified data are considered usable. Results qualified due to ICP ICS noncompliance may be biased high or low dependent upon whether or not those results were qualified due to other reasons contributing conflicting bias. Please consult data validation memorandum for this project if interested in determining bias due to ICP ICS noncompliance.

The ICP serial dilution analysis is a quality control measure used to determine whether or not physical or chemical interferences exist due to the sample matrix. Total aluminum and manganese groundwater and zinc sediment results were qualified as estimated due to serial dilution noncompliance. The associated qualified data are considered acceptable as those data were not rejected.

Several sediment PAH results were qualified due to internal standard noncompliance. The associated qualified data are considered acceptable as those data were not rejected.

Sediment pesticide results were qualified due to surrogate recovery noncompliance. None of the data qualified due to surrogate noncompliance were qualified as rejected therefore all data qualified due to surrogate noncompliance is considered usable. Results qualified due to surrogate noncompliance may be biased high or low dependent upon whether or not those results were qualified due to other reasons contributing conflicting bias. Please consult data validation memorandum for this project if interested in determining bias due to surrogate noncompliance.

3.4 Laboratory Precision

Precision is a measure of the degree to which two or more measurements are in agreement and describes the reproducibility of measurements of the same parameter for samples analyzed under similar conditions.

Precision for chemical parameters is expressed as a Relative Percent Difference (RPD), which is defined as the ratio of the difference to the mean for the two values being evaluated. RPDs, typically expressed as percentages, are used to evaluate both field and laboratory duplicate precision and are calculated as follows:

$$RPD = \frac{|V1 - V2|}{(V1 + V2)/2} \times 100$$

where RPD = relative percent difference

V1, V2 = two results obtained by analyzing duplicate samples

The precision estimates obtained from duplicate field samples encompass the combined uncertainty associated with sample collection, homogenization, splitting, handling, laboratory and field storage (as applicable), preparation for analysis, and analysis. In contrast, precision estimates obtained from analyzing duplicate laboratory samples incorporate only homogenization, sub sampling, preparation for analysis, laboratory storage (if applicable), and analysis uncertainties.

Field duplicate imprecision was noted for total silver groundwater results and antimony, chromium, and lead sediment results. Data that were qualified due to field duplicate imprecision are not rejected and therefore are considered usable but the data user should be aware of potentially exaggerated imprecision compared to expectations.

Laboratory duplicate imprecision was noted for total iron and nickel groundwater results; pesticide, PAH, TOC and lead sediment results; and lead surface water results. Data that were qualified due to laboraotry duplicate imprecision are not rejected and therefore are considered usable but the data user should be aware of potentially exaggerated imprecision compared to expectations.

As analyte results approach detection limits precision decreases and to account for this situation results may be qualified due to uncertainty near the detection limits. Metal, chloride, and bromide groundwater results; PAH, pesticide, and metal sediment results; and metal and PAH surface water results were qualified as estimated due to uncertainty near the detection limit. Data that were qualified due to uncertainty near the detection limit are not rejected and therefore are considered usable but the data user should be aware of potentially exaggerated imprecision compared to expectations.

Pesticide sediment results were qualified due to noncompliance associated with %D between gas chromatography (GC) detectors. Those data were not qualified as rejected but the data user should be aware of potentially exaggerated imprecision compared to expectations.

3.5 Comparability

Comparability is defined as the confidence with which one data set can be compared with another (e.g., among sampling points and among sampling events). Comparability was achieved by using standardized sampling and analysis methods, as well as standardized data reporting formats. Comparability of laboratory measurements was achieved primarily through the use and documentation of standard sampling and analytical methods. Results were reported in units that ensured comparability with previous data and with current state and federal standards and guidelines. Comparability of laboratory measurements was assessed primarily through the use of quality control samples and through adherence to the quality assurance plan.

3.6 Representativeness

Representativeness is an expression of the degree to which data accurately and precisely depict the actual characteristics of a population or environmental condition existing at the site. The Background Study SAP and the use of standardized sampling, sample handling, sample analysis, and data reporting procedures were designed so that the final data would be accurate representations of actual site conditions. The DQR found the data collected for the Background Study to be representative of targeted soil, groundwater, surface water, and sediment populations. The following are the main data quality items requiring further evaluation prior to data use.

4.0 DATA DEFICIENCIES

As detailed in Section 2 some non-detected results exceeded corresponding PALs. Data usability issues for compounds with detection limits greater than minimum screening criteria will be evaluated on a site-specific basis in corresponding reports and additional background may be collected and analyzed using more sensitive analytical instrumentation, methodology, or both. Background UPLs were not calculated unless the compound was detected in at least two samples.

Table B.2.1
NAS Brunswick Background
Upper Sand Groundwater Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW-01-0909	M	ALUMINUM	916	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-GW-MW-02-0410	M	ALUMINUM	118	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-02-0909	M	ALUMINUM	92.7	UG/L	UJ	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-03-0909	M	ALUMINUM	194	UG/L	UJ	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-04-0909	M	ALUMINUM	380	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-GW-MW-18-0909	M	ALUMINUM	357	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-21-0909	M	ALUMINUM	192	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-27-0410	M	ALUMINUM	18.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-27-0909	M	ALUMINUM	18.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0410	M	ALUMINUM	39.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0909	M	ALUMINUM	21.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0909-D	M	ALUMINUM	23.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-29-0410	M	ALUMINUM	18.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-29-0909	M	ALUMINUM	16.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-39-0410	M	ALUMINUM	127	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-39-0909	M	ALUMINUM	71.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW32-1109	M	ALUMINUM	49.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW32-1109-D	M	ALUMINUM	46.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-03-0410	M	ANTIMONY	0.13	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-27-0410	M	ANTIMONY	0.15	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-30-0410	M	ANTIMONY	0.12	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-40-0909	M	ANTIMONY	0.66	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-01-0909	M	ARSENIC	2.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-02-0909	M	ARSENIC	2.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-03-0410	M	ARSENIC	1.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-03-0909	M	ARSENIC	4.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-04-0410	M	ARSENIC	2.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-04-0909	M	ARSENIC	2.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-18-0410	M	ARSENIC	2.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-19-0410	M	ARSENIC	2.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-21-0410	M	ARSENIC	3.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-21-0909	M	ARSENIC	2.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-27-0410	M	ARSENIC	1.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-27-0909	M	ARSENIC	1.7	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0410	M	ARSENIC	1.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-29-0410	M	ARSENIC	1.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-30-0410	M	ARSENIC	1.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-31-0410-D	M	ARSENIC	1.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-39-0410	M	ARSENIC	2.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-40-0410	M	ARSENIC	1.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-40-0909	M	ARSENIC	2.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW30-1109	M	ARSENIC	3.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW31-1109	M	ARSENIC	3.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW32-1109	M	ARSENIC	1.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

Table B.2.1
NAS Brunswick Background
Upper Sand Groundwater Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW32-1109-D	M	ARSENIC	2.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-19-0410	M	BARIUM	4.8	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-21-0909	M	BARIUM	4.7	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-29-0410	M	BARIUM	3.9	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-29-0909	M	BARIUM	5.0	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-39-0410	M	BARIUM	2.7	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-39-0909	M	BARIUM	3.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-01-0410	M	BERYLLIUM	0.06	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-01-0909	M	BERYLLIUM	0.06	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-03-0410	M	BERYLLIUM	0.06	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-18-0410	M	BERYLLIUM	0.15	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-18-0909	M	BERYLLIUM	0.14	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-19-0909	M	BERYLLIUM	0.06	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-21-0410	M	BERYLLIUM	0.58	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-21-0909	M	BERYLLIUM	0.12	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-30-0410	M	BERYLLIUM	0.21	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-31-0410	M	BERYLLIUM	0.10	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-31-0410-D	M	BERYLLIUM	0.08	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-32-0410	M	BERYLLIUM	0.32	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-40-0410	M	BERYLLIUM	0.56	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-40-0909	M	BERYLLIUM	0.39	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW30-1109	M	BERYLLIUM	0.28	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW31-1109	M	BERYLLIUM	0.08	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-02-0410	M	CADMIUM	0.05	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-03-0410	M	CADMIUM	0.09	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-18-0410	M	CADMIUM	0.06	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-18-0909	M	CADMIUM	0.15	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0410	M	CADMIUM	0.08	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0909	M	CADMIUM	0.10	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0909-D	M	CADMIUM	0.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-30-0410	M	CADMIUM	0.14	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-40-0410	M	CADMIUM	0.24	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-40-0909	M	CADMIUM	0.20	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW30-1109	M	CADMIUM	0.21	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW32-1109-D	M	CADMIUM	0.06	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-01-0410	M	CHROMIUM	4.2	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-01-0909	M	CHROMIUM	3.8	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-02-0410	M	CHROMIUM	2.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-02-0909	M	CHROMIUM	2.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-03-0410	M	CHROMIUM	4.1	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-03-0909	M	CHROMIUM	3.2	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-04-0410	M	CHROMIUM	4.3	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-04-0909	M	CHROMIUM	3.4	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-18-0410	M	CHROMIUM	5.2	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-18-0909	M	CHROMIUM	3.5	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-19-0410	M	CHROMIUM	5.2	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-19-0909	M	CHROMIUM	3.7	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-21-0410	M	CHROMIUM	10.2	UG/L	U	Lab Blank Contamination

Table B.2.1
NAS Brunswick Background
Upper Sand Groundwater Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW-21-0909	M	CHROMIUM	2.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-27-0410	M	CHROMIUM	3.8	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-27-0909	M	CHROMIUM	1.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0410	M	CHROMIUM	2.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0909	M	CHROMIUM	1.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0909-D	M	CHROMIUM	1.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-29-0410	M	CHROMIUM	3.2	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-29-0909	M	CHROMIUM	1.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-30-0410	M	CHROMIUM	1.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-31-0410	M	CHROMIUM	2.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-31-0410-D	M	CHROMIUM	2.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-32-0410	M	CHROMIUM	2.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-39-0410	M	CHROMIUM	4.1	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-39-0909	M	CHROMIUM	3.8	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-40-0410	M	CHROMIUM	1.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-40-0909	M	CHROMIUM	2.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW30-1109	M	CHROMIUM	1.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW31-1109	M	CHROMIUM	1.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW32-1109	M	CHROMIUM	1.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW32-1109-D	M	CHROMIUM	1.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-01-0410	M	COBALT	0.26	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-01-0909	M	COBALT	0.71	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-03-0410	M	COBALT	0.31	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-03-0909	M	COBALT	0.21	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-04-0410	M	COBALT	0.22	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-04-0909	M	COBALT	0.19	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-18-0410	M	COBALT	0.49	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-19-0410	M	COBALT	0.59	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-19-0909	M	COBALT	0.24	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-21-0410	M	COBALT	0.72	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-21-0909	M	COBALT	0.46	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-27-0410	M	COBALT	0.14	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0909-D	M	COBALT	0.25	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-30-0410	M	COBALT	0.36	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-31-0410	M	COBALT	0.30	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-31-0410-D	M	COBALT	0.34	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-39-0410	M	COBALT	0.17	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-39-0909	M	COBALT	0.17	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-40-0410	M	COBALT	0.11	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-40-0909	M	COBALT	0.33	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW30-1109	M	COBALT	0.69	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW31-1109	M	COBALT	0.30	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW32-1109	M	COBALT	0.46	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW32-1109-D	M	COBALT	0.55	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

Table B.2.1
NAS Brunswick Background
Upper Sand Groundwater Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW-01-0410	M	COPPER	1	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-01-0909	M	COPPER	2.1	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-03-0410	M	COPPER	1	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-04-0410	M	COPPER	1.8	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-04-0909	M	COPPER	0.76	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-18-0410	M	COPPER	0.59	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-18-0909	M	COPPER	1.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-19-0909	M	COPPER	0.75	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-21-0410	M	COPPER	0.61	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-32-0410	M	COPPER	0.54	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-40-0909	M	COPPER	0.77	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW30-1109	M	COPPER	0.93	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-01-0909	M	IRON	652	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-GW-MW-02-0410	M	IRON	17.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-02-0909	M	IRON	25.8	UG/L	J	MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-03-0909	M	IRON	130	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-GW-MW-04-0909	M	IRON	312	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-GW-MW-18-0909	M	IRON	415	UG/L	J	Field Duplicate Imprecision
NASB-BG-GW-MW-19-0909	M	IRON	2520	UG/L	J	Field Duplicate Imprecision
NASB-BG-GW-MW-21-0909	M	IRON	483	UG/L	J	Field Duplicate Imprecision
NASB-BG-GW-MW-27-0909	M	IRON	10.4	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0410	M	IRON	30.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0909	M	IRON	11.6	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0909-D	M	IRON	15.6	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-29-0909	M	IRON	14.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-30-0410	M	IRON	45.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-32-0410	M	IRON	10.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-39-0909	M	IRON	60.4	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-40-0410	M	IRON	15.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW30-1109	M	IRON	63.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW31-1109	M	IRON	30.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW32-1109	M	IRON	8.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-01-0410	M	LEAD	0.29	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-01-0909	M	LEAD	0.96	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-02-0909	M	LEAD	0.09	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-03-0410	M	LEAD	0.31	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-03-0909	M	LEAD	0.15	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-04-0410	M	LEAD	0.29	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-04-0909	M	LEAD	0.24	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-18-0410	M	LEAD	0.23	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-18-0909	M	LEAD	0.12	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-19-0909	M	LEAD	0.24	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-21-0909	M	LEAD	0.07	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0909	M	LEAD	0.29	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-29-0909	M	LEAD	0.09	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

Table B.2.1
NAS Brunswick Background
Upper Sand Groundwater Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW-30-0410	M	LEAD	0.16	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-31-0410-D	M	LEAD	0.14	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-32-0410	M	LEAD	0.13	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-39-0410	M	LEAD	0.13	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-40-0410	M	LEAD	0.14	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-40-0909	M	LEAD	0.63	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW30-1109	M	LEAD	0.54	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW31-1109	M	LEAD	0.14	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW32-1109-D	M	LEAD	0.26	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-18-0909	M	MANGANESE	101	UG/L	J	ICP Serial Dilution Noncompliance
NASB-BG-GW-MW-19-0909	M	MANGANESE	53.4	UG/L	J	ICP Serial Dilution Noncompliance
NASB-BG-GW-MW-21-0909	M	MANGANESE	26.0	UG/L	J	ICP Serial Dilution Noncompliance
NASB-BG-GW-MW-27-0410	M	MANGANESE	0.86	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-29-0410	M	MANGANESE	0.83	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-29-0909	M	MANGANESE	1.3	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-39-0410	M	MANGANESE	4.5	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-02-0410	M	MERCURY	0.03	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-04-0410	M	MERCURY	0.03	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0410	M	MERCURY	0.03	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-31-0410-D	M	MERCURY	0.03	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-32-0410	M	MERCURY	0.02	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-40-0410	M	MERCURY	0.03	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-01-0410	M	NICKEL	0.63	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-02-0410	M	NICKEL	0.26	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-02-0909	M	NICKEL	0.26	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-03-0410	M	NICKEL	0.74	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-03-0909	M	NICKEL	0.67	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-04-0410	M	NICKEL	0.56	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-04-0909	M	NICKEL	0.77	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-19-0909	M	NICKEL	2.2	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-21-0909	M	NICKEL	1.5	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-27-0410	M	NICKEL	0.42	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-27-0909	M	NICKEL	0.28	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0410	M	NICKEL	0.47	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0909	M	NICKEL	0.27	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0909-D	M	NICKEL	0.24	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-29-0909	M	NICKEL	0.35	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-39-0410	M	NICKEL	0.85	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-39-0909	M	NICKEL	0.71	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-01-0410	M	POTASSIUM	818	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-02-0410	M	POTASSIUM	576	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-02-0909	M	POTASSIUM	445	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-03-0410	M	POTASSIUM	480	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-03-0909	M	POTASSIUM	618	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-04-0410	M	POTASSIUM	306	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

Table B.2.1
NAS Brunswick Background
Upper Sand Groundwater Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW-04-0909	M	POTASSIUM	282	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-18-0410	M	POTASSIUM	247	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-18-0909	M	POTASSIUM	487	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-19-0410	M	POTASSIUM	714	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-19-0909	M	POTASSIUM	896	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-21-0410	M	POTASSIUM	207	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-21-0909	M	POTASSIUM	239	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-27-0410	M	POTASSIUM	882	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-27-0909	M	POTASSIUM	878	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0410	M	POTASSIUM	614	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-29-0410	M	POTASSIUM	284	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-29-0909	M	POTASSIUM	404	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-30-0410	M	POTASSIUM	963	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-31-0410	M	POTASSIUM	176	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-31-0410-D	M	POTASSIUM	175	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-32-0410	M	POTASSIUM	494	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW31-1109	M	POTASSIUM	303	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW32-1109	M	POTASSIUM	1180	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW32-1109-D	M	POTASSIUM	1100	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-03-0909	M	SELENIUM	0.83	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-04-0410	M	SELENIUM	0.53	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-19-0410	M	SELENIUM	0.72	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-21-0410	M	SELENIUM	0.63	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-30-0410	M	SELENIUM	0.60	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-31-0410-D	M	SELENIUM	0.68	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-39-0410	M	SELENIUM	0.56	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-40-0410	M	SELENIUM	0.73	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-01-0909	M	SILVER	0.05	UG/L	UJ	Lab Duplicate Imprecision
NASB-BG-GW-MW-02-0909	M	SILVER	0.05	UG/L	UJ	Lab Duplicate Imprecision
NASB-BG-GW-MW-03-0909	M	SILVER	0.05	UG/L	UJ	Lab Duplicate Imprecision
NASB-BG-GW-MW-04-0909	M	SILVER	0.05	UG/L	UJ	Lab Duplicate Imprecision
NASB-BG-GW-MW-18-0909	M	THALLIUM	0.10	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-19-0909	M	THALLIUM	0.11	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-27-0410	M	THALLIUM	0.07	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-30-0410	M	THALLIUM	0.05	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-01-0410	M	VANADIUM	1.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-01-0909	M	VANADIUM	2.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-02-0410	M	VANADIUM	2.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-02-0909	M	VANADIUM	1.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-03-0410	M	VANADIUM	1.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-03-0909	M	VANADIUM	1.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-04-0410	M	VANADIUM	3.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-04-0909	M	VANADIUM	2.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-18-0410	M	VANADIUM	2.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-18-0909	M	VANADIUM	2.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

Table B.2.1
NAS Brunswick Background
Upper Sand Groundwater Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW-19-0410	M	VANADIUM	2.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-19-0909	M	VANADIUM	2.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-21-0909	M	VANADIUM	1.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-27-0410	M	VANADIUM	2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-27-0909	M	VANADIUM	1.6	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0410	M	VANADIUM	1.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0909-D	M	VANADIUM	0.74	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-29-0410	M	VANADIUM	1.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-29-0909	M	VANADIUM	0.84	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-30-0410	M	VANADIUM	1.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-31-0410	M	VANADIUM	0.72	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-31-0410-D	M	VANADIUM	1.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-32-0410	M	VANADIUM	0.78	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-39-0410	M	VANADIUM	1.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-40-0410	M	VANADIUM	2.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-40-0909	M	VANADIUM	1.9	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW30-1109	M	VANADIUM	1.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW31-1109	M	VANADIUM	1.1	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW32-1109	M	VANADIUM	0.91	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-01-0410	M	ZINC	1.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-01-0909	M	ZINC	3.7	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-03-0410	M	ZINC	2.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-03-0909	M	ZINC	3.9	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-04-0410	M	ZINC	2.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-18-0410	M	ZINC	2.8	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-19-0410	M	ZINC	2.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-21-0410	M	ZINC	5.3	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-27-0410	M	ZINC	4	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-30-0410	M	ZINC	2.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-31-0410	M	ZINC	2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-31-0410-D	M	ZINC	4	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-32-0410	M	ZINC	8.3	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-39-0410	M	ZINC	2.9	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW32-1109-D	M	ZINC	9.0	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-01-0410	MF	ALUMINUM	67	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-01-0909	MF	ALUMINUM	56.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-02-0410	MF	ALUMINUM	32.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-02-0909	MF	ALUMINUM	32.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-03-0410	MF	ALUMINUM	24.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-03-0909	MF	ALUMINUM	32.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-04-0410	MF	ALUMINUM	18.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-04-0909	MF	ALUMINUM	31.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

Table B.2.1
NAS Brunswick Background
Upper Sand Groundwater Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW-18-0909	MF	ALUMINUM	206	UG/L	UJ	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-19-0410	MF	ALUMINUM	115	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-19-0909	MF	ALUMINUM	127	UG/L	UJ	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-21-0410	MF	ALUMINUM	263	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-21-0909	MF	ALUMINUM	152	UG/L	UJ	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-27-0410	MF	ALUMINUM	15.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-27-0909	MF	ALUMINUM	14.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0410	MF	ALUMINUM	18.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0909	MF	ALUMINUM	15.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0909-D	MF	ALUMINUM	14.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-29-0410	MF	ALUMINUM	15.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-29-0909	MF	ALUMINUM	11.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-39-0410	MF	ALUMINUM	24.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-39-0909	MF	ALUMINUM	21.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW32-1109	MF	ALUMINUM	40.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW32-1109-D	MF	ALUMINUM	42.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-02-0410	MF	ANTIMONY	0.13	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-03-0410	MF	ANTIMONY	0.11	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-18-0410	MF	ANTIMONY	0.11	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-19-0410	MF	ANTIMONY	0.13	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0410	MF	ANTIMONY	0.18	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-30-0410	MF	ANTIMONY	0.16	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-31-0410-D	MF	ANTIMONY	0.11	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-32-0410	MF	ANTIMONY	0.10	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-01-0410	MF	ARSENIC	1.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-01-0909	MF	ARSENIC	2.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-02-0410	MF	ARSENIC	0.93	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-02-0909	MF	ARSENIC	3.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-03-0909	MF	ARSENIC	1.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-04-0410	MF	ARSENIC	2.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-04-0909	MF	ARSENIC	2.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-18-0410	MF	ARSENIC	1.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-18-0909	MF	ARSENIC	3.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-19-0410	MF	ARSENIC	1.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-19-0909	MF	ARSENIC	2.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-21-0410	MF	ARSENIC	3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-21-0909	MF	ARSENIC	1.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-27-0410	MF	ARSENIC	2.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-27-0909	MF	ARSENIC	1.6	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0410	MF	ARSENIC	1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0909-D	MF	ARSENIC	2.1	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-29-0410	MF	ARSENIC	1.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

Table B.2.1
NAS Brunswick Background
Upper Sand Groundwater Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW-30-0410	MF	ARSENIC	2.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-31-0410	MF	ARSENIC	1.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-31-0410-D	MF	ARSENIC	1.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-40-0410	MF	ARSENIC	2.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW30-1109	MF	ARSENIC	2.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW31-1109	MF	ARSENIC	2.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW32-1109-D	MF	ARSENIC	1.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-03-0410	MF	BARIUM	4.9	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-04-0410	MF	BARIUM	3.7	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-04-0909	MF	BARIUM	4.7	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-19-0410	MF	BARIUM	4.6	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-21-0410	MF	BARIUM	4.6	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-29-0410	MF	BARIUM	4.4	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-29-0909	MF	BARIUM	4.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-39-0410	MF	BARIUM	2.8	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-39-0909	MF	BARIUM	3.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-18-0410	MF	BERYLLIUM	0.09	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-18-0909	MF	BERYLLIUM	0.11	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-21-0410	MF	BERYLLIUM	0.21	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-21-0909	MF	BERYLLIUM	0.12	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-30-0410	MF	BERYLLIUM	0.22	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-31-0410	MF	BERYLLIUM	0.09	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-31-0410-D	MF	BERYLLIUM	0.09	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-32-0410	MF	BERYLLIUM	0.27	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-40-0410	MF	BERYLLIUM	0.54	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-40-0909	MF	BERYLLIUM	0.34	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW30-1109	MF	BERYLLIUM	0.28	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW31-1109	MF	BERYLLIUM	0.09	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-01-0410	MF	CADMIUM	0.06	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-04-0909	MF	CADMIUM	0.08	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-18-0909	MF	CADMIUM	0.19	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-21-0909	MF	CADMIUM	0.05	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-27-0410	MF	CADMIUM	0.05	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0410	MF	CADMIUM	0.11	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0909	MF	CADMIUM	0.10	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0909-D	MF	CADMIUM	0.09	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-30-0410	MF	CADMIUM	0.08	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-32-0410	MF	CADMIUM	0.07	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-40-0410	MF	CADMIUM	0.22	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-40-0909	MF	CADMIUM	0.17	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW30-1109	MF	CADMIUM	0.23	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW32-1109	MF	CADMIUM	0.05	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

Table B.2.1
NAS Brunswick Background
Upper Sand Groundwater Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW32-1109-D	MF	CADMIUM	0.07	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-01-0410	MF	CHROMIUM	3.8	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-01-0909	MF	CHROMIUM	2.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-02-0410	MF	CHROMIUM	2.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-02-0909	MF	CHROMIUM	2.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-03-0410	MF	CHROMIUM	3.5	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-03-0909	MF	CHROMIUM	2.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-04-0410	MF	CHROMIUM	1.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-04-0909	MF	CHROMIUM	1.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-18-0410	MF	CHROMIUM	4.1	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-18-0909	MF	CHROMIUM	3.4	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-19-0410	MF	CHROMIUM	5	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-19-0909	MF	CHROMIUM	2.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-21-0410	MF	CHROMIUM	4	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-21-0909	MF	CHROMIUM	2.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-27-0410	MF	CHROMIUM	3.3	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-27-0909	MF	CHROMIUM	1.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0410	MF	CHROMIUM	4.1	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-28-0909	MF	CHROMIUM	2.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0909-D	MF	CHROMIUM	1.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-29-0410	MF	CHROMIUM	3.5	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-29-0909	MF	CHROMIUM	1.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-30-0410	MF	CHROMIUM	1.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-31-0410	MF	CHROMIUM	2.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-31-0410-D	MF	CHROMIUM	2.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-32-0410	MF	CHROMIUM	2.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-39-0410	MF	CHROMIUM	2.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-39-0909	MF	CHROMIUM	1.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-40-0410	MF	CHROMIUM	2.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-40-0909	MF	CHROMIUM	1.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW30-1109	MF	CHROMIUM	1.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW31-1109	MF	CHROMIUM	1.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW32-1109	MF	CHROMIUM	1.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW32-1109-D	MF	CHROMIUM	1.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-01-0410	MF	COBALT	0.10	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-01-0909	MF	COBALT	0.15	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-04-0909	MF	COBALT	0.11	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-18-0410	MF	COBALT	0.45	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-19-0410	MF	COBALT	0.56	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-19-0909	MF	COBALT	0.19	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-21-0410	MF	COBALT	0.35	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-21-0909	MF	COBALT	0.41	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-27-0410	MF	COBALT	0.05	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0410	MF	COBALT	0.06	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-30-0410	MF	COBALT	0.28	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-31-0410	MF	COBALT	0.29	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-31-0410-D	MF	COBALT	0.27	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

Table B.2.1
NAS Brunswick Background
Upper Sand Groundwater Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW-39-0410	MF	COBALT	0.10	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-39-0909	MF	COBALT	0.11	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-40-0410	MF	COBALT	0.08	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-40-0909	MF	COBALT	0.13	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW30-1109	MF	COBALT	0.69	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW31-1109	MF	COBALT	0.32	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW32-1109	MF	COBALT	0.50	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW32-1109-D	MF	COBALT	0.52	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-01-0410	MF	COPPER	2.5	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-01-0909	MF	COPPER	1.4	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-03-0410	MF	COPPER	0.49	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-03-0909	MF	COPPER	0.74	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-04-0410	MF	COPPER	0.95	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-18-0410	MF	COPPER	0.95	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-18-0909	MF	COPPER	1.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-21-0909	MF	COPPER	0.86	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-30-0410	MF	COPPER	0.55	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-39-0410	MF	COPPER	1.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW31-1109	MF	COPPER	0.98	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-01-0410	MF	IRON	20.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-01-0909	MF	IRON	39.1	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-03-0909	MF	IRON	8.8	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-04-0909	MF	IRON	6.0	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-18-0909	MF	IRON	172	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-21-0410	MF	IRON	15.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-39-0909	MF	IRON	17.1	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-40-0909	MF	IRON	10.1	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW30-1109	MF	IRON	9.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW31-1109	MF	IRON	11.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW32-1109	MF	IRON	15.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-01-0410	MF	LEAD	0.24	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-01-0909	MF	LEAD	0.20	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-02-0410	MF	LEAD	0.14	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-02-0909	MF	LEAD	0.09	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-04-0909	MF	LEAD	0.10	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-21-0410	MF	LEAD	0.32	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-21-0909	MF	LEAD	0.19	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0410	MF	LEAD	0.12	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0909	MF	LEAD	0.07	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-30-0410	MF	LEAD	0.14	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-31-0410-D	MF	LEAD	0.16	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-32-0410	MF	LEAD	0.14	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-40-0410	MF	LEAD	0.13	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

Table B.2.1
NAS Brunswick Background
Upper Sand Groundwater Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW-40-0909	MF	LEAD	0.38	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW30-1109	MF	LEAD	0.31	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW32-1109-D	MF	LEAD	0.14	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-27-0410	MF	MANGANESE	0.79	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-29-0410	MF	MANGANESE	1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-29-0909	MF	MANGANESE	1.4	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-39-0410	MF	MANGANESE	1.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-02-0410	MF	MERCURY	0.03	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-04-0410	MF	MERCURY	0.03	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-27-0410	MF	MERCURY	0.02	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-29-0410	MF	MERCURY	0.02	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-31-0410	MF	MERCURY	0.02	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-31-0410-D	MF	MERCURY	0.02	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-32-0410	MF	MERCURY	0.02	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-40-0410	MF	MERCURY	0.03	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-01-0410	MF	NICKEL	0.97	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-01-0909	MF	NICKEL	0.60	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-02-0909	MF	NICKEL	0.45	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-03-0410	MF	NICKEL	0.42	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-03-0909	MF	NICKEL	0.57	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-04-0410	MF	NICKEL	0.49	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-04-0909	MF	NICKEL	0.69	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-19-0909	MF	NICKEL	1.3	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-21-0909	MF	NICKEL	1.4	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-27-0410	MF	NICKEL	0.52	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-27-0909	MF	NICKEL	0.35	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0410	MF	NICKEL	0.24	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0909	MF	NICKEL	0.50	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0909-D	MF	NICKEL	0.30	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-29-0410	MF	NICKEL	0.36	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-29-0909	MF	NICKEL	0.25	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-39-0410	MF	NICKEL	0.89	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-39-0909	MF	NICKEL	0.83	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-01-0410	MF	POTASSIUM	817	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-01-0909	MF	POTASSIUM	958	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-02-0410	MF	POTASSIUM	639	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-02-0909	MF	POTASSIUM	662	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-03-0410	MF	POTASSIUM	425	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-03-0909	MF	POTASSIUM	668	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-04-0410	MF	POTASSIUM	260	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-04-0909	MF	POTASSIUM	339	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-18-0410	MF	POTASSIUM	258	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-18-0909	MF	POTASSIUM	470	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

Table B.2.1
NAS Brunswick Background
Upper Sand Groundwater Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW-19-0410	MF	POTASSIUM	696	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-19-0909	MF	POTASSIUM	846	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-21-0410	MF	POTASSIUM	126	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-21-0909	MF	POTASSIUM	236	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-27-0410	MF	POTASSIUM	826	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-27-0909	MF	POTASSIUM	975	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0410	MF	POTASSIUM	587	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-29-0410	MF	POTASSIUM	284	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-29-0909	MF	POTASSIUM	384	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-31-0410	MF	POTASSIUM	164	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-31-0410-D	MF	POTASSIUM	181	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-32-0410	MF	POTASSIUM	478	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW31-1109	MF	POTASSIUM	330	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW32-1109	MF	POTASSIUM	1210	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW32-1109-D	MF	POTASSIUM	1150	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-30-0410	MF	SELENIUM	0.52	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-31-0410-D	MF	SELENIUM	0.62	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-39-0909	MF	SELENIUM	0.86	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-40-0410	MF	SELENIUM	0.64	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW32-1109	MF	SELENIUM	1.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-04-0909	MF	THALLIUM	0.21	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-21-0909	MF	THALLIUM	0.22	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW31-1109	MF	THALLIUM	0.10	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-01-0410	MF	VANADIUM	1.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-01-0909	MF	VANADIUM	1.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-02-0410	MF	VANADIUM	1.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-02-0909	MF	VANADIUM	1.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-03-0909	MF	VANADIUM	1.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-04-0410	MF	VANADIUM	1.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-04-0909	MF	VANADIUM	1.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-18-0410	MF	VANADIUM	2.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-18-0909	MF	VANADIUM	2.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-19-0410	MF	VANADIUM	2.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-19-0909	MF	VANADIUM	2.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-21-0410	MF	VANADIUM	2.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-21-0909	MF	VANADIUM	1.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-27-0410	MF	VANADIUM	2.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-27-0909	MF	VANADIUM	1.4	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0410	MF	VANADIUM	1.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0909	MF	VANADIUM	1.3	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0909-D	MF	VANADIUM	1.7	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-29-0410	MF	VANADIUM	1.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-29-0909	MF	VANADIUM	0.86	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

Table B.2.1
NAS Brunswick Background
Upper Sand Groundwater Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW-30-0410	MF	VANADIUM	1.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-31-0410	MF	VANADIUM	1.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-31-0410-D	MF	VANADIUM	2.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-32-0410	MF	VANADIUM	0.92	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-39-0410	MF	VANADIUM	1.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-40-0410	MF	VANADIUM	1.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW31-1109	MF	VANADIUM	1.3	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW32-1109	MF	VANADIUM	1.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW32-1109-D	MF	VANADIUM	1.5	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-01-0410	MF	ZINC	5.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-02-0410	MF	ZINC	2.9	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-03-0410	MF	ZINC	1.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-04-0410	MF	ZINC	3.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-18-0410	MF	ZINC	4.7	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-19-0410	MF	ZINC	2.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-21-0410	MF	ZINC	3	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-27-0410	MF	ZINC	2.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-28-0410	MF	ZINC	1.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-29-0410	MF	ZINC	3.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-30-0410	MF	ZINC	2.7	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-31-0410	MF	ZINC	2.9	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-31-0410-D	MF	ZINC	3.7	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-32-0410	MF	ZINC	9.5	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-39-0410	MF	ZINC	2.5	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-40-0410	MF	ZINC	1.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW30-1109	MF	ZINC	7.8	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW32-1109-D	MF	ZINC	7.1	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-03-0909	MISC	CHLORIDE	1.8	MG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-04-0909	MISC	CHLORIDE	0.85	MG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-29-0909	MISC	CHLORIDE	1.4	MG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

Table B.2.2
NAS Brunswick Background
Lower Sand Groundwater Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW-05-0410	M	ALUMINUM	78.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-05-0909	M	ALUMINUM	278	UG/L	UJ	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-219-0410	M	ALUMINUM	135	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-219-0909	M	ALUMINUM	45.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-231A-0410	M	ALUMINUM	69.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-231A-0909	M	ALUMINUM	32.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-303-0410	M	ALUMINUM	37.8	UG/L	UJ	Lab Blank Contamination, ICP Serial Dilution Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-303-0909	M	ALUMINUM	29.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-310-0410	M	ALUMINUM	32	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-310-0909	M	ALUMINUM	24.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-314A-0410	M	ALUMINUM	41	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-314A-0909	M	ALUMINUM	308	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-315A-0410	M	ALUMINUM	241	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-335-0410	M	ALUMINUM	33.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-335-0410-D	M	ALUMINUM	26.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-335-0909	M	ALUMINUM	296	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-339-0410	M	ALUMINUM	50	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-36-0410	M	ALUMINUM	176	UG/L	J	ICP Serial Dilution Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-36-0909	M	ALUMINUM	106	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-37-0410	M	ALUMINUM	214	UG/L	J	ICP Serial Dilution Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-38-0410	M	ALUMINUM	54.4	UG/L	UJ	Lab Blank Contamination, ICP Serial Dilution Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-38-0410-D	M	ALUMINUM	59.2	UG/L	UJ	Lab Blank Contamination, ICP Serial Dilution Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-38-0909	M	ALUMINUM	158	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-41-0410	M	ALUMINUM	441	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-41-0909	M	ALUMINUM	4720	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-GW-MW-42-0909	M	ALUMINUM	8700	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-GW-MW-43-0410	M	ALUMINUM	35.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-43-0410-D	M	ALUMINUM	30	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-44-0410	M	ALUMINUM	171	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW339-1209	M	ALUMINUM	25.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW43-1209	M	ALUMINUM	76.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-219-0410	M	ANTIMONY	0.20	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-310-0410	M	ANTIMONY	0.11	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-315A-0909	M	ANTIMONY	0.35	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-36-0410	M	ANTIMONY	0.11	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-38-0410	M	ANTIMONY	0.10	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW43-1209	M	ANTIMONY	0.24	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-05-0909	M	ARSENIC	2.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-231A-0410	M	ARSENIC	1.4	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314A-0909	M	ARSENIC	3.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-315A-0410	M	ARSENIC	1.6	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-315A-0909	M	ARSENIC	5.4	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-315A-0909-D	M	ARSENIC	7.4	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-335-0410	M	ARSENIC	2.1	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-335-0410-D	M	ARSENIC	2.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-335-0909	M	ARSENIC	4.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-339-0410	M	ARSENIC	1.1	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-43-0410	M	ARSENIC	1.6	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-43-0410-D	M	ARSENIC	1.9	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

Table B.2.2
NAS Brunswick Background
Lower Sand Groundwater Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW-44-0410	M	ARSENIC	2.9	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW43-1209	M	ARSENIC	3.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-05-0410	M	BARIUM	1.9	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-05-0909	M	BARIUM	3.3	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-219-0410	M	BARIUM	3.9	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-219-0909	M	BARIUM	2.4	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-231A-0410	M	BARIUM	3.1	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-231A-0909	M	BARIUM	2.1	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-303-0410	M	BARIUM	1.8	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-303-0909	M	BARIUM	2.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-310-0410	M	BARIUM	4.1	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-310-0909	M	BARIUM	3.0	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314A-0410	M	BARIUM	1.1	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314A-0909	M	BARIUM	1.8	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-315A-0410	M	BARIUM	2.9	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-339-0410	M	BARIUM	1	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-37-0410	M	BARIUM	3.5	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-38-0410	M	BARIUM	1.9	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-38-0410-D	M	BARIUM	2.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-38-0909	M	BARIUM	3.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-41-0410	M	BARIUM	3.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-43-0410	M	BARIUM	0.59	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-44-0410	M	BARIUM	2.4	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW339-1209	M	BARIUM	1.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW43-1209	M	BARIUM	1.4	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-315A-0909	M	BERYLLIUM	0.32	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-315A-0909-D	M	BERYLLIUM	0.26	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-36-0410	M	BERYLLIUM	0.06	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-37-0909	M	BERYLLIUM	0.07	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-41-0909	M	BERYLLIUM	0.20	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-42-0410	M	BERYLLIUM	0.06	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-42-0909	M	BERYLLIUM	0.43	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-310-0410	M	CADMIUM	0.54	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-310-0909	M	CADMIUM	0.05	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314A-0909	M	CADMIUM	0.05	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-315A-0410	M	CADMIUM	0.41	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-315A-0909	M	CADMIUM	0.11	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-315A-0909-D	M	CADMIUM	0.08	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-335-0410	M	CADMIUM	0.34	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-335-0410-D	M	CADMIUM	0.38	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-335-0909	M	CADMIUM	0.16	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-36-0410	M	CADMIUM	0.10	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-36-0909	M	CADMIUM	0.10	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-42-0909	M	CADMIUM	0.07	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW44-1209	M	CADMIUM	0.05	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-219-0909	M	CALCIUM	9980	UG/L	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-GW-MW-310-0909	M	CALCIUM	15200	UG/L	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)

Table B.2.2
NAS Brunswick Background
Lower Sand Groundwater Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW-314A-0909	M	CALCIUM	3440	UG/L	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-GW-MW-315A-0909	M	CALCIUM	7380	UG/L	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-GW-MW-335-0909	M	CALCIUM	14600	UG/L	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-GW-MW-05-0410	M	CHROMIUM	3.6	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-05-0909	M	CHROMIUM	4.9	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-219-0410	M	CHROMIUM	3.4	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-219-0909	M	CHROMIUM	4.0	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-231A-0410	M	CHROMIUM	3.8	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-231A-0909	M	CHROMIUM	4.9	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-303-0410	M	CHROMIUM	1.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-303-0909	M	CHROMIUM	1.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-310-0410	M	CHROMIUM	2.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-310-0909	M	CHROMIUM	2.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-314A-0410	M	CHROMIUM	2.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-314A-0909	M	CHROMIUM	4.4	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-315A-0410	M	CHROMIUM	1.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-335-0410	M	CHROMIUM	1.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-335-0410-D	M	CHROMIUM	1.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-335-0909	M	CHROMIUM	2.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-339-0410	M	CHROMIUM	2.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-36-0410	M	CHROMIUM	2.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-36-0909	M	CHROMIUM	2.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-37-0410	M	CHROMIUM	2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-38-0410	M	CHROMIUM	1.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-38-0410-D	M	CHROMIUM	2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-38-0909	M	CHROMIUM	2.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-41-0410	M	CHROMIUM	2.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-42-0410	M	CHROMIUM	3.8	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-43-0410	M	CHROMIUM	1.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-43-0410-D	M	CHROMIUM	3.2	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-44-0410	M	CHROMIUM	3.8	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW339-1209	M	CHROMIUM	1.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW43-1209	M	CHROMIUM	1.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-05-0410	M	COBALT	0.07	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-05-0909	M	COBALT	0.24	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-219-0410	M	COBALT	0.23	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-231A-0410	M	COBALT	0.06	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-303-0410	M	COBALT	0.06	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-310-0410	M	COBALT	0.28	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-314A-0909	M	COBALT	0.24	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-315A-0410	M	COBALT	0.16	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-335-0410	M	COBALT	0.09	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-335-0410-D	M	COBALT	0.09	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-335-0909	M	COBALT	0.21	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-339-0410	M	COBALT	0.05	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-37-0410	M	COBALT	0.16	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-37-0909	M	COBALT	0.57	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-38-0410	M	COBALT	0.07	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-38-0909	M	COBALT	0.10	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-41-0410	M	COBALT	0.25	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-42-0410	M	COBALT	0.63	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-44-0410	M	COBALT	0.10	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)

Table B.2.2
NAS Brunswick Background
Lower Sand Groundwater Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW44-1209	M	COBALT	0.42	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-05-0410	M	COPPER	0.84	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-219-0410	M	COPPER	1.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-310-0410	M	COPPER	0.91	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-315A-0909	M	COPPER	15.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-315A-0909-D	M	COPPER	13.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-339-0410	M	COPPER	0.64	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-36-0410	M	COPPER	1.4	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-36-0909	M	COPPER	1.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-37-0410	M	COPPER	1.1	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-37-0909	M	COPPER	2.9	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-41-0410	M	COPPER	1	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-41-0909	M	COPPER	7.3	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-42-0410	M	COPPER	2.4	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-44-0410	M	COPPER	1.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW44-1209	M	COPPER	4.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-05-0909	M	IRON	571	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-GW-MW-219-0909	M	IRON	45.6	UG/L	UJ	Lab Blank Contamination, Field Duplicate Imprecision, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-231A-0410	M	IRON	74.5	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-231A-0909	M	IRON	8.7	UG/L	UJ	Lab Blank Contamination, Field Duplicate Imprecision, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-310-0410	M	IRON	38.3	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-310-0909	M	IRON	15.6	UG/L	UJ	Lab Blank Contamination, Field Duplicate Imprecision, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-314A-0410	M	IRON	47	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-314A-0909	M	IRON	493	UG/L	J	Field Duplicate Imprecision
NASB-BG-GW-MW-315A-0909	M	IRON	11700	UG/L	J	Field Duplicate Imprecision
NASB-BG-GW-MW-315A-0909-D	M	IRON	8370	UG/L	J	Field Duplicate Imprecision
NASB-BG-GW-MW-335-0909	M	IRON	1160	UG/L	J	Field Duplicate Imprecision
NASB-BG-GW-MW-41-0909	M	IRON	6470	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-GW-MW-42-0909	M	IRON	11200	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-GW-MW-05-0410	M	LEAD	0.16	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-05-0909	M	LEAD	0.19	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-219-0410	M	LEAD	0.32	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-231A-0410	M	LEAD	0.46	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-310-0410	M	LEAD	0.22	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-314A-0410	M	LEAD	0.17	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-314A-0909	M	LEAD	0.22	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-315A-0410	M	LEAD	0.43	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-335-0410	M	LEAD	0.27	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-335-0410-D	M	LEAD	0.16	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-335-0909	M	LEAD	0.29	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-36-0410	M	LEAD	0.26	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-36-0909	M	LEAD	0.09	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-37-0410	M	LEAD	0.14	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-38-0410	M	LEAD	0.16	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-38-0909	M	LEAD	0.28	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-41-0410	M	LEAD	0.44	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-42-0410	M	LEAD	0.83	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW339-1209	M	LEAD	0.50	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW43-1209	M	LEAD	0.13	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)

Table B.2.2
NAS Brunswick Background
Lower Sand Groundwater Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW44-1209	M	LEAD	0.77	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-219-0909	M	MAGNESIUM	3430	UG/L	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-GW-MW-314A-0909	M	MAGNESIUM	1810	UG/L	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-GW-MW-315A-0909	M	MAGNESIUM	6530	UG/L	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-GW-MW-335-0909	M	MAGNESIUM	8790	UG/L	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-GW-MW-05-0410	M	MANGANESE	3.5	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-219-0909	M	MANGANESE	0.67	UG/L	UJ	ICP Serial Dilution Noncompliance
NASB-BG-GW-MW-231A-0410	M	MANGANESE	2.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-231A-0909	M	MANGANESE	0.67	UG/L	UJ	ICP Serial Dilution Noncompliance
NASB-BG-GW-MW-310-0410	M	MANGANESE	2.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-310-0909	M	MANGANESE	0.67	UG/L	UJ	ICP Serial Dilution Noncompliance
NASB-BG-GW-MW-314A-0410	M	MANGANESE	2.6	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314A-0909	M	MANGANESE	125	UG/L	J	ICP Serial Dilution Noncompliance
NASB-BG-GW-MW-315A-0909	M	MANGANESE	588	UG/L	J	ICP Serial Dilution Noncompliance
NASB-BG-GW-MW-315A-0909-D	M	MANGANESE	494	UG/L	J	ICP Serial Dilution Noncompliance
NASB-BG-GW-MW-335-0909	M	MANGANESE	416	UG/L	J	ICP Serial Dilution Noncompliance
NASB-BG-GW-MW-05-0909	M	NICKEL	0.94	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-219-0909	M	NICKEL	0.87	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-231A-0410	M	NICKEL	0.21	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-231A-0909	M	NICKEL	0.37	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-303-0410	M	NICKEL	0.62	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-303-0909	M	NICKEL	0.17	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-310-0410	M	NICKEL	2.3	UG/L	UJ	Lab Blank Contamination, Field Duplicate Imprecision
NASB-BG-GW-MW-310-0909	M	NICKEL	0.35	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314A-0909	M	NICKEL	0.92	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-335-0410	M	NICKEL	0.32	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-335-0410-D	M	NICKEL	0.42	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-335-0909	M	NICKEL	0.68	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-339-0410	M	NICKEL	1.2	UG/L	UJ	Lab Blank Contamination, Field Duplicate Imprecision
NASB-BG-GW-MW-36-0410	M	NICKEL	2.5	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-37-0410	M	NICKEL	0.56	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-37-0909	M	NICKEL	2.0	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-38-0410	M	NICKEL	0.48	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-38-0410-D	M	NICKEL	0.40	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-38-0909	M	NICKEL	0.44	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-41-0410	M	NICKEL	0.47	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-43-0410	M	NICKEL	1.2	UG/L	UJ	Lab Blank Contamination, Field Duplicate Imprecision
NASB-BG-GW-MW-43-0410-D	M	NICKEL	4.8	UG/L	J	Field Duplicate Imprecision
NASB-BG-GW-MW-44-0410	M	NICKEL	2.1	UG/L	UJ	Lab Blank Contamination, Field Duplicate Imprecision
NASB-BG-GW-MW43-1209	M	NICKEL	0.33	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-05-0909	M	POTASSIUM	942	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-231A-0909	M	POTASSIUM	860	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314A-0410	M	POTASSIUM	948	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314A-0909	M	SELENIUM	1.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-42-0909	M	SELENIUM	0.84	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW44-1209	M	SELENIUM	0.83	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-05-0909	M	SILVER	0.05	UG/L	UJ	Lab Duplicate Imprecision
NASB-BG-GW-MW-310-0410	M	SILVER	0.46	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-310-0909	M	SILVER	0.15	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-41-0909	M	SILVER	0.05	UG/L	UJ	Lab Duplicate Imprecision
NASB-BG-GW-MW-42-0909	M	SILVER	0.05	UG/L	UJ	Lab Duplicate Imprecision
NASB-BG-GW-MW-310-0410	M	THALLIUM	0.05	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314A-0909	M	THALLIUM	0.33	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-315A-0410	M	THALLIUM	0.06	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-315A-0909	M	THALLIUM	1.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-315A-0909-D	M	THALLIUM	0.24	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

Table B.2.2
NAS Brunswick Background
Lower Sand Groundwater Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW-37-0909	M	THALLIUM	0.16	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-42-0909	M	THALLIUM	0.14	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW43-1209	M	THALLIUM	0.19	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-05-0410	M	VANADIUM	1.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-05-0909	M	VANADIUM	1.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-219-0410	M	VANADIUM	1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-219-0909	M	VANADIUM	2.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-231A-0410	M	VANADIUM	1.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-231A-0909	M	VANADIUM	3.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-303-0909	.M	VANADIUM	0.74	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-310-0410	M	VANADIUM	1.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-310-0909	M	VANADIUM	3.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-314A-0410	M	VANADIUM	0.94	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-314A-0909	M	VANADIUM	2.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-315A-0410	M	VANADIUM	0.87	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-335-0410	M	VANADIUM	1.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-335-0410-D	M	VANADIUM	1.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-335-0909	M	VANADIUM	4.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-339-0410	M	VANADIUM	1.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-36-0410	M	VANADIUM	0.97	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-36-0909	M	VANADIUM	1.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-37-0410	M	VANADIUM	1.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-37-0909	M	VANADIUM	2.7	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-38-0410-D	M	VANADIUM	0.70	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-41-0410	M	VANADIUM	1.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-42-0410	M	VANADIUM	3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-43-0410-D	M	VANADIUM	1.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-44-0410	M	VANADIUM	1.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW339-1209	M	VANADIUM	1.0	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW43-1209	M	VANADIUM	1.3	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW44-1209	M	VANADIUM	3.3	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-05-0410	M	ZINC	2.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-05-0909	M	ZINC	4.7	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-219-0410	M	ZINC	5.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-231A-0410	M	ZINC	6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-303-0410	M	ZINC	1.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-310-0410	M	ZINC	3.4	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314A-0410	M	ZINC	2.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-315A-0410	M	ZINC	4.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-335-0909	M	ZINC	5.5	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-339-0410	M	ZINC	1.9	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-36-0410	M	ZINC	13.7	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-37-0410	M	ZINC	2.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-37-0909	M	ZINC	9.5	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-38-0410	M	ZINC	4.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-38-0410-D	M	ZINC	1.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)

Table B.2.2
NAS Brunswick Background
Lower Sand Groundwater Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW-41-0410	M	ZINC	2.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-42-0410	M	ZINC	4.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW44-1209	M	ZINC	5.6	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-05-0410	MF	ALUMINUM	21	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-05-0909	MF	ALUMINUM	27.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-219-0410	MF	ALUMINUM	18.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-219-0909	MF	ALUMINUM	16.7	UG/L	UJ	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-231A-0410	MF	ALUMINUM	23.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-231A-0909	MF	ALUMINUM	20.3	UG/L	UJ	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-303-0410	MF	ALUMINUM	13.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-303-0909	MF	ALUMINUM	14.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-310-0410	MF	ALUMINUM	17	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-310-0909	MF	ALUMINUM	15.8	UG/L	UJ	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314A-0410	MF	ALUMINUM	24.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314A-0909	MF	ALUMINUM	39.9	UG/L	UJ	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-315A-0410	MF	ALUMINUM	29	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-315A-0909	MF	ALUMINUM	1420	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-GW-MW-315A-0909-D	MF	ALUMINUM	1630	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-GW-MW-335-0410	MF	ALUMINUM	16.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-335-0410-D	MF	ALUMINUM	16.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-335-0909	MF	ALUMINUM	20.7	UG/L	UJ	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-339-0410	MF	ALUMINUM	16	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-36-0410	MF	ALUMINUM	29.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-36-0909	MF	ALUMINUM	27.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-37-0410	MF	ALUMINUM	23.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-37-0909	MF	ALUMINUM	186	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-38-0410	MF	ALUMINUM	22.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-38-0410-D	MF	ALUMINUM	18.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-38-0909	MF	ALUMINUM	28.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-41-0410	MF	ALUMINUM	26.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-41-0909	MF	ALUMINUM	164	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-42-0410	MF	ALUMINUM	40.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-43-0410	MF	ALUMINUM	14.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-43-0410-D	MF	ALUMINUM	16.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-44-0410	MF	ALUMINUM	40.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW339-1209	MF	ALUMINUM	13.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW43-1209	MF	ALUMINUM	20.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW44-1209	MF	ALUMINUM	19.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-219-0410	MF	ANTIMONY	0.15	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-310-0410	MF	ANTIMONY	0.10	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-335-0410	MF	ANTIMONY	0.11	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-36-0410	MF	ANTIMONY	0.10	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW43-1209	MF	ANTIMONY	0.17	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-05-0909	MF	ARSENIC	3.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-219-0909	MF	ARSENIC	4.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-231A-0909	MF	ARSENIC	3.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-310-0410	MF	ARSENIC	0.89	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

Table B.2.2
NAS Brunswick Background
Lower Sand Groundwater Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW-314A-0909	MF	ARSENIC	4.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-315A-0410	MF	ARSENIC	1.3	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-315A-0909	MF	ARSENIC	4.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-315A-0909-D	MF	ARSENIC	4.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-335-0410	MF	ARSENIC	2.6	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-335-0410-D	MF	ARSENIC	2.1	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-335-0909	MF	ARSENIC	5.8	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-339-0410	MF	ARSENIC	0.83	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-36-0410	MF	ARSENIC	1.1	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-43-0410	MF	ARSENIC	1.3	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-43-0410-D	MF	ARSENIC	1.5	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-44-0410	MF	ARSENIC	3.9	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW339-1209	MF	ARSENIC	4.6	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW43-1209	MF	ARSENIC	3.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-05-0410	MF	BARIUM	1.7	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-05-0909	MF	BARIUM	1.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-219-0410	MF	BARIUM	3.7	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-219-0909	MF	BARIUM	2.4	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-231A-0410	MF	BARIUM	3.4	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-231A-0909	MF	BARIUM	1.9	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-303-0410	MF	BARIUM	1.7	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-303-0909	MF	BARIUM	2.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-310-0410	MF	BARIUM	3	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-310-0909	MF	BARIUM	3.0	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314A-0410	MF	BARIUM	1.6	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-315A-0410	MF	BARIUM	1.8	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-335-0909	MF	BARIUM	4.7	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-339-0410	MF	BARIUM	0.70	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-37-0410	MF	BARIUM	2.6	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-38-0410	MF	BARIUM	1.9	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-38-0410-D	MF	BARIUM	2.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-38-0909	MF	BARIUM	2.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-41-0410	MF	BARIUM	1.3	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-41-0909	MF	BARIUM	2.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-42-0410	MF	BARIUM	1.7	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-43-0410	MF	BARIUM	0.50	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-43-0410-D	MF	BARIUM	0.91	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-44-0410	MF	BARIUM	1.8	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW339-1209	MF	BARIUM	1.3	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW43-1209	MF	BARIUM	1.1	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW44-1209	MF	BARIUM	2.4	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-315A-0909	MF	BERYLLIUM	0.06	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-315A-0909-D	MF	BERYLLIUM	0.08	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-310-0410	MF	CADMIUM	0.50	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-315A-0909	MF	CADMIUM	0.06	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-36-0410	MF	CADMIUM	0.11	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

Table B.2.2
NAS Brunswick Background
Lower Sand Groundwater Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW-36-0909	MF	CADMIUM	0.12	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-37-0410	MF	CADMIUM	0.09	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-219-0909	MF	CALCIUM	10000	UG/L	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-GW-MW-310-0909	MF	CALCIUM	16200	UG/L	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-GW-MW-314A-0909	MF	CALCIUM	3350	UG/L	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-GW-MW-335-0909	MF	CALCIUM	15100	UG/L	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-GW-MW-05-0410	MF	CHROMIUM	2.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-05-0909	MF	CHROMIUM	2.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-219-0410	MF	CHROMIUM	3.4	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-219-0909	MF	CHROMIUM	3.4	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-231A-0410	MF	CHROMIUM	3.1	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-231A-0909	MF	CHROMIUM	3.8	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-303-0410	MF	CHROMIUM	1.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-303-0909	MF	CHROMIUM	1.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-310-0410	MF	CHROMIUM	2.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-310-0909	MF	CHROMIUM	2.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314A-0410	MF	CHROMIUM	1.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314A-0909	MF	CHROMIUM	3.5	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-315A-0410	MF	CHROMIUM	1.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-315A-0909	MF	CHROMIUM	4.9	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-315A-0909-D	MF	CHROMIUM	6.3	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-335-0410	MF	CHROMIUM	1.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-335-0410-D	MF	CHROMIUM	2.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-335-0909	MF	CHROMIUM	2.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-339-0410	MF	CHROMIUM	2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-36-0410	MF	CHROMIUM	1.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-36-0909	MF	CHROMIUM	1.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-37-0410	MF	CHROMIUM	2.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-37-0909	MF	CHROMIUM	2.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-38-0410	MF	CHROMIUM	1.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-38-0410-D	MF	CHROMIUM	1.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-38-0909	MF	CHROMIUM	1.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-41-0410	MF	CHROMIUM	1.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-41-0909	MF	CHROMIUM	1.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-42-0410	MF	CHROMIUM	2.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-42-0909	MF	CHROMIUM	3.6	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-43-0410	MF	CHROMIUM	1.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-43-0410-D	MF	CHROMIUM	2.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-44-0410	MF	CHROMIUM	2.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW339-1209	MF	CHROMIUM	1.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW43-1209	MF	CHROMIUM	1.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW44-1209	MF	CHROMIUM	1.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-219-0410	MF	COBALT	0.17	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-310-0410	MF	COBALT	0.13	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-315A-0410	MF	COBALT	0.06	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-315A-0909	MF	COBALT	0.84	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-315A-0909-D	MF	COBALT	0.99	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-335-0410	MF	COBALT	0.08	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-335-0410-D	MF	COBALT	0.12	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-36-0410	MF	COBALT	0.93	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-37-0410	MF	COBALT	0.24	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-37-0909	MF	COBALT	0.16	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

Table B.2.2
NAS Brunswick Background
Lower Sand Groundwater Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW-42-0909	MF	COBALT	0.51	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-219-0410	MF	COPPER	1.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-231A-0909	MF	COPPER	1.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-303-0410	MF	COPPER	0.59	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-310-0410	MF	COPPER	1.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314A-0410	MF	COPPER	0.61	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-315A-0410	MF	COPPER	0.50	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-315A-0909	MF	COPPER	4.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-315A-0909-D	MF	COPPER	2.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-335-0410	MF	COPPER	0.48	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-335-0909	MF	COPPER	1.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-36-0410	MF	COPPER	0.99	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-36-0909	MF	COPPER	0.94	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-38-0410	MF	COPPER	0.63	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-42-0909	MF	COPPER	2.0	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-43-0410	MF	COPPER	0.54	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-43-0410-D	MF	COPPER	0.69	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-44-0410	MF	COPPER	0.58	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-05-0909	MF	IRON	17.3	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314A-0909	MF	IRON	21.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-38-0410	MF	IRON	60.4	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-38-0410-D	MF	IRON	64.7	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-41-0410	MF	IRON	27	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-42-0410	MF	IRON	89.9	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-05-0410	MF	LEAD	0.10	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-219-0410	MF	LEAD	0.10	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-231A-0410	MF	LEAD	0.11	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-310-0909	MF	LEAD	0.05	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314A-0410	MF	LEAD	0.15	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-315A-0410	MF	LEAD	0.23	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-315A-0909	MF	LEAD	0.97	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-315A-0909-D	MF	LEAD	0.90	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-335-0410	MF	LEAD	0.16	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-36-0410	MF	LEAD	0.12	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-36-0909	MF	LEAD	0.07	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-37-0410	MF	LEAD	0.20	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-37-0909	MF	LEAD	0.17	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-41-0410	MF	LEAD	0.24	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-41-0909	MF	LEAD	0.15	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-42-0410	MF	LEAD	0.22	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-42-0909	MF	LEAD	0.78	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW339-1209	MF	LEAD	0.29	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW43-1209	MF	LEAD	0.08	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW44-1209	MF	LEAD	0.31	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-219-0909	MF	MAGNESIUM	3420	UG/L	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-GW-MW-310-0909	MF	MAGNESIUM	5090	UG/L	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-GW-MW-314A-0909	MF	MAGNESIUM	1720	UG/L	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)

Table B.2.2
NAS Brunswick Background
Lower Sand Groundwater Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW-05-0410	MF	MANGANESE	1.9	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-219-0410	MF	MANGANESE	0.41	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-310-0410	MF	MANGANESE	2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314A-0909	MF	MANGANESE	4.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-335-0909	MF	MANGANESE	425	UG/L	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-GW-MW-05-0909	MF	NICKEL	0.50	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-219-0410	MF	NICKEL	0.88	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-219-0909	MF	NICKEL	0.39	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-231A-0410	MF	NICKEL	0.21	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-231A-0909	MF	NICKEL	0.34	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-303-0410	MF	NICKEL	0.34	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-303-0909	MF	NICKEL	0.30	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-310-0410	MF	NICKEL	3.4	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-310-0909	MF	NICKEL	0.49	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314A-0909	MF	NICKEL	0.46	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-315A-0909	MF	NICKEL	2.3	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-315A-0909-D	MF	NICKEL	2.4	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-335-0410	MF	NICKEL	0.35	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-335-0410-D	MF	NICKEL	0.23	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-335-0909	MF	NICKEL	0.40	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-339-0410	MF	NICKEL	1.3	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-36-0410	MF	NICKEL	2.5	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-37-0410	MF	NICKEL	0.42	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-37-0909	MF	NICKEL	0.76	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-38-0410	MF	NICKEL	0.40	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-38-0410-D	MF	NICKEL	0.21	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-38-0909	MF	NICKEL	0.26	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-41-0909	MF	NICKEL	0.50	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-43-0410	MF	NICKEL	1.6	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-43-0410-D	MF	NICKEL	1.3	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-44-0410	MF	NICKEL	1.9	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW339-1209	MF	NICKEL	0.21	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW43-1209	MF	NICKEL	0.28	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW44-1209	MF	NICKEL	0.38	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-05-0410	MF	POTASSIUM	946	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-05-0909	MF	POTASSIUM	968	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-231A-0909	MF	POTASSIUM	833	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314A-0410	MF	POTASSIUM	940	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-310-0909	MF	SELENIUM	1.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-315A-0909	MF	SELENIUM	0.98	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-339-0410	MF	SELENIUM	0.61	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-43-0410	MF	SELENIUM	0.57	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-41-0410	MF	SILVER	0.06	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-310-0909	MF	THALLIUM	0.19	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-315A-0909	MF	THALLIUM	0.50	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-315A-0909-D	MF	THALLIUM	0.19	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW43-1209	MF	THALLIUM	0.16	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-05-0410	MF	VANADIUM	1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-05-0909	MF	VANADIUM	1.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-219-0410	MF	VANADIUM	1.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

Table B.2.2
NAS Brunswick Background
Lower Sand Groundwater Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW-219-0909	MF	VANADIUM	3.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-231A-0410	MF	VANADIUM	1.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-231A-0909	MF	VANADIUM	2.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-303-0909	MF	VANADIUM	1.3	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-310-0410	MF	VANADIUM	0.94	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-310-0909	MF	VANADIUM	0.88	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314A-0410	MF	VANADIUM	1.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314A-0909	MF	VANADIUM	2.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-315A-0909	MF	VANADIUM	5.8	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-315A-0909-D	MF	VANADIUM	6.3	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-335-0410	MF	VANADIUM	1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-335-0410-D	MF	VANADIUM	1.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-335-0909	MF	VANADIUM	2.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-339-0410	MF	VANADIUM	1.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-37-0909	MF	VANADIUM	0.99	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-38-0410	MF	VANADIUM	0.79	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-38-0410-D	MF	VANADIUM	0.60	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-41-0410	MF	VANADIUM	1.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-41-0909	MF	VANADIUM	0.80	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-42-0410	MF	VANADIUM	1.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-42-0909	MF	VANADIUM	2.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-43-0410	MF	VANADIUM	0.75	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-43-0410-D	MF	VANADIUM	2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-44-0410	MF	VANADIUM	1.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW339-1209	MF	VANADIUM	0.91	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW43-1209	MF	VANADIUM	1.1	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW44-1209	MF	VANADIUM	1.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-05-0410	MF	ZINC	2.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-05-0909	MF	ZINC	3.8	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-219-0410	MF	ZINC	5.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-231A-0410	MF	ZINC	33.2	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-303-0410	MF	ZINC	2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-310-0410	MF	ZINC	3.6	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-310-0909	MF	ZINC	4.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314A-0410	MF	ZINC	2.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-315A-0410	MF	ZINC	3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-315A-0909-D	MF	ZINC	9.8	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-335-0410	MF	ZINC	1.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-36-0410	MF	ZINC	14.7	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-38-0410	MF	ZINC	3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-41-0410	MF	ZINC	2.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-42-0909	MF	ZINC	4.8	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW339-1209	MISC	BROMIDE	0.33	MG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW43-1209	MISC	BROMIDE	0.14	MG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW44-1209	MISC	BROMIDE	0.22	MG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-05-0909	MISC	CHLORIDE	1.9	MG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-231A-0909	MISC	CHLORIDE	5.7	MG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-GW-MW-38-0909	MISC	CHLORIDE	4.0	MG/L	J	MS/MSD Recovery Noncompliance

Table B.2.3
NAS Brunswick Background
Transition Groundwater Qualified Data
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SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW-06-0410	M	ALUMINUM	61.4	UG/L	UJ	Lab Blank Contamination, ICP Serial Dilution Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-06-0909	M	ALUMINUM	84.1	UG/L	UJ	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-06-0909-D	M	ALUMINUM	145	UG/L	UJ	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-07-0410	M	ALUMINUM	327	UG/L	J	ICP Serial Dilution Noncompliance
NASB-BG-GW-MW-07-0909	M	ALUMINUM	474	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-GW-MW-08-0410	M	ALUMINUM	374	UG/L	J	ICP Serial Dilution Noncompliance
NASB-BG-GW-MW-08-0909	M	ALUMINUM	1080	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-GW-MW-09-0909	M	ALUMINUM	1100	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-GW-MW-10-0909	M	ALUMINUM	2550	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-GW-MW-11-0909	M	ALUMINUM	2890	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-GW-MW-12-0410	M	ALUMINUM	242	UG/L	J	ICP Serial Dilution Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-12-0909	M	ALUMINUM	83.7	UG/L	UJ	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-13-0410	M	ALUMINUM	128	UG/L	J	ICP Serial Dilution Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-13-0909	M	ALUMINUM	391	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-GW-MW-15-0410	M	ALUMINUM	341	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-16-0909	M	ALUMINUM	399	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-17-0909	M	ALUMINUM	116	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-17-0909-D	M	ALUMINUM	83.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-23-0410	M	ALUMINUM	267	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-23-0410-D	M	ALUMINUM	234	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-23-0909	M	ALUMINUM	427	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-24-0909	M	ALUMINUM	265	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-25-0410	M	ALUMINUM	105	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-25-0909	M	ALUMINUM	361	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-06-0909	M	ANTIMONY	0.18	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-07-0909	M	ANTIMONY	0.27	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-08-0410	M	ANTIMONY	0.11	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-08-0909	M	ANTIMONY	0.28	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-09-0909	M	ANTIMONY	0.48	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-10-0410	M	ANTIMONY	0.10	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-10-0909	M	ANTIMONY	0.18	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-11-0410	M	ANTIMONY	0.10	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-11-0909	M	ANTIMONY	0.24	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-12-0410	M	ANTIMONY	0.10	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-12-0909	M	ANTIMONY	0.45	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-13-0410	M	ANTIMONY	0.12	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-13-0909	M	ANTIMONY	1.3	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-15-0909	M	ANTIMONY	0.40	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-23-0410	M	ANTIMONY	0.19	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-23-0909	M	ANTIMONY	0.16	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-24-0410	M	ANTIMONY	0.14	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-25-0410	M	ANTIMONY	0.10	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-25-0909	M	ANTIMONY	0.21	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-06-0410	M	ARSENIC	1.5	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-06-0909	M	ARSENIC	2.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-07-0410	M	ARSENIC	3	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-07-0909	M	ARSENIC	3.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-08-0410	M	ARSENIC	1.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-08-0909	M	ARSENIC	4.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-09-0410	M	ARSENIC	2.1	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-09-0909	M	ARSENIC	1.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-10-0410	M	ARSENIC	3.3	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)

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NAS Brunswick Background
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SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW-10-0909	M	ARSENIC	3.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-11-0410	M	ARSENIC	2.8	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-12-0410	M	ARSENIC	1.6	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-12-0909	M	ARSENIC	1.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-13-0410	M	ARSENIC	1.4	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-13-0909	M	ARSENIC	3.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-15-0410	M	ARSENIC	3.8	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-15-0909	M	ARSENIC	6.7	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-16-0410	M	ARSENIC	1.8	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-16-0909	M	ARSENIC	3.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-17-0410	M	ARSENIC	3.6	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-17-0909	M	ARSENIC	5.0	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-17-0909-D	M	ARSENIC	3.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-23-0410	M	ARSENIC	4.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-23-0410-D	M	ARSENIC	3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-23-0909	M	ARSENIC	2.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-24-0410	M	ARSENIC	4.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-25-0410	M	ARSENIC	1.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-25-0909	M	ARSENIC	1.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314B-0909	M	ARSENIC	2.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-06-0410	M	BARIUM	3.3	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-15-0410	M	BARIUM	4.7	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-17-0410	M	BARIUM	4.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-17-0909	M	BARIUM	4.8	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-23-0410	M	BARIUM	3	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-23-0410-D	M	BARIUM	3	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-25-0410	M	BARIUM	1.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-10-0410	M	BERYLLIUM	0.10	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-10-0909	M	BERYLLIUM	0.10	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-11-0909	M	BERYLLIUM	0.12	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-15-0909	M	BERYLLIUM	0.07	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-24-0410	M	BERYLLIUM	0.07	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314B-0410	M	BERYLLIUM	0.06	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-08-0909	M	CADMIUM	0.08	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-09-0909	M	CADMIUM	0.05	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-11-0410	M	CADMIUM	0.06	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-11-0909	M	CADMIUM	0.06	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-12-0410	M	CADMIUM	0.05	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-12-0909	M	CADMIUM	0.12	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-13-0909	M	CADMIUM	0.09	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-15-0909	M	CADMIUM	0.08	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-17-0909	M	CADMIUM	0.06	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-24-0909	M	CADMIUM	0.07	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-25-0909	M	CADMIUM	0.11	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-15-0909	M	CALCIUM	17600	UG/L	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-GW-MW-16-0909	M	CALCIUM	10700	UG/L	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-GW-MW-17-0909	M	CALCIUM	17800	UG/L	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-GW-MW-17-0909-D	M	CALCIUM	17900	UG/L	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-GW-MW-06-0410	M	CHROMIUM	2.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

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SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW-06-0909	M	CHROMIUM	2.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-06-0909-D	M	CHROMIUM	2.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-07-0410	M	CHROMIUM	2.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-07-0909	M	CHROMIUM	2.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-08-0410	M	CHROMIUM	3.5	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-08-0909	M	CHROMIUM	4.1	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-09-0410	M	CHROMIUM	3.7	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-09-0909	M	CHROMIUM	4.3	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-10-0410	M	CHROMIUM	6.4	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-10-0909	M	CHROMIUM	6.3	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-11-0410	M	CHROMIUM	4.1	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-11-0909	M	CHROMIUM	6.8	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-12-0410	M	CHROMIUM	2.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-12-0909	M	CHROMIUM	3.2	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-13-0410	M	CHROMIUM	2.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-13-0909	M	CHROMIUM	3.6	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-15-0410	M	CHROMIUM	2.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-15-0909	M	CHROMIUM	6.9	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-16-0410	M	CHROMIUM	2.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-16-0909	M	CHROMIUM	2.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-17-0410	M	CHROMIUM	3	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-17-0909	M	CHROMIUM	2.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-17-0909-D	M	CHROMIUM	2.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-23-0410	M	CHROMIUM	5	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-23-0410-D	M	CHROMIUM	4.8	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-23-0909	M	CHROMIUM	2.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-24-0410	M	CHROMIUM	9.7	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-24-0909	M	CHROMIUM	3.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-25-0410	M	CHROMIUM	4.4	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-25-0909	M	CHROMIUM	2.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-314B-0410	M	CHROMIUM	5.6	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-314B-0909	M	CHROMIUM	5.4	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-06-0410	M	COBALT	0.81	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-07-0410	M	COBALT	0.84	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-08-0410	M	COBALT	0.59	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-09-0410	M	COBALT	0.98	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-12-0410	M	COBALT	0.29	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-12-0909	M	COBALT	0.37	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-13-0410	M	COBALT	0.39	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-13-0909	M	COBALT	0.61	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-15-0410	M	COBALT	0.38	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-17-0410	M	COBALT	0.67	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-23-0410	M	COBALT	0.41	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-23-0410-D	M	COBALT	0.45	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-24-0410	M	COBALT	0.65	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-24-0909	M	COBALT	0.22	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-25-0410	M	COBALT	0.16	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-25-0909	M	COBALT	0.74	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-314B-0410	M	COBALT	1	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-314B-0909	M	COBALT	0.78	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-06-0410	M	COPPER	0.72	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-07-0410	M	COPPER	0.97	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-07-0909	M	COPPER	0.99	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-08-0410	M	COPPER	1.4	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-08-0909	M	COPPER	4.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)

Table B.2.3
NAS Brunswick Background
Transition Groundwater Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW-09-0410	M	COPPER	2.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-09-0909	M	COPPER	1.1	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-10-0410	M	COPPER	3.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-10-0909	M	COPPER	4.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-11-0410	M	COPPER	2.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-11-0909	M	COPPER	4.7	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-12-0410	M	COPPER	2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-12-0909	M	COPPER	4.8	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-13-0410	M	COPPER	1.8	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-13-0909	M	COPPER	5.1	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-15-0410	M	COPPER	1.7	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-15-0909	M	COPPER	13.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-16-0410	M	COPPER	4.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-17-0410	M	COPPER	2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-23-0410-D	M	COPPER	0.64	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-23-0909	M	COPPER	1.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-24-0909	M	COPPER	3.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-25-0909	M	COPPER	1.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314B-0410	M	COPPER	2.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314B-0909	M	COPPER	2.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-06-0410	M	IRON	97.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-06-0909	M	IRON	130	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-GW-MW-06-0909-D	M	IRON	209	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-GW-MW-07-0909	M	IRON	594	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-GW-MW-08-0909	M	IRON	1380	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-GW-MW-09-0909	M	IRON	1580	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-GW-MW-10-0909	M	IRON	3790	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-GW-MW-11-0909	M	IRON	4430	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-GW-MW-12-0909	M	IRON	66.0	UG/L	J	MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-13-0909	M	IRON	616	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-GW-MW-15-0909	M	IRON	2690	UG/L	J	Field Duplicate Imprecision
NASB-BG-GW-MW-16-0909	M	IRON	462	UG/L	J	Field Duplicate Imprecision
NASB-BG-GW-MW-17-0909	M	IRON	174	UG/L	UJ	Lab Blank Contamination, Field Duplicate Imprecision
NASB-BG-GW-MW-17-0909-D	M	IRON	111	UG/L	UJ	Lab Blank Contamination, Field Duplicate Imprecision
NASB-BG-GW-MW-23-0909	M	IRON	721	UG/L	J	Field Duplicate Imprecision
NASB-BG-GW-MW-24-0909	M	IRON	436	UG/L	J	Field Duplicate Imprecision
NASB-BG-GW-MW-25-0909	M	IRON	438	UG/L	J	Field Duplicate Imprecision
NASB-BG-GW-MW-314B-0909	M	IRON	1260	UG/L	J	Field Duplicate Imprecision
NASB-BG-GW-MW-06-0410	M	LEAD	0.14	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-06-0909	M	LEAD	0.14	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-06-0909-D	M	LEAD	0.18	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-07-0410	M	LEAD	0.34	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-07-0909	M	LEAD	0.33	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-08-0410	M	LEAD	0.28	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-08-0909	M	LEAD	0.99	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-09-0410	M	LEAD	0.83	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-09-0909	M	LEAD	0.69	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-10-0410	M	LEAD	1.2	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-11-0410	M	LEAD	1.1	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-12-0410	M	LEAD	0.35	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-12-0909	M	LEAD	0.44	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-13-0410	M	LEAD	0.48	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-15-0410	M	LEAD	0.32	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-16-0410	M	LEAD	0.57	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-16-0909	M	LEAD	0.28	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

Table B.2.3
NAS Brunswick Background
Transition Groundwater Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW-17-0410	M	LEAD	0.31	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-17-0909	M	LEAD	0.20	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-17-0909-D	M	LEAD	0.11	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-23-0410	M	LEAD	0.26	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-23-0410-D	M	LEAD	0.26	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-23-0909	M	LEAD	0.69	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-24-0909	M	LEAD	0.97	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-25-0909	M	LEAD	0.31	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314B-0909	M	LEAD	0.56	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-15-0909	M	MANGANESE	178	UG/L	J	ICP Serial Dilution Noncompliance
NASB-BG-GW-MW-16-0909	M	MANGANESE	147	UG/L	J	ICP Serial Dilution Noncompliance
NASB-BG-GW-MW-17-0909	M	MANGANESE	185	UG/L	J	ICP Serial Dilution Noncompliance
NASB-BG-GW-MW-17-0909-D	M	MANGANESE	200	UG/L	J	ICP Serial Dilution Noncompliance
NASB-BG-GW-MW-23-0909	M	MANGANESE	112	UG/L	J	ICP Serial Dilution Noncompliance
NASB-BG-GW-MW-24-0909	M	MANGANESE	30.6	UG/L	J	ICP Serial Dilution Noncompliance
NASB-BG-GW-MW-25-0909	M	MANGANESE	69.3	UG/L	J	ICP Serial Dilution Noncompliance
NASB-BG-GW-MW-314B-0909	M	MANGANESE	39.6	UG/L	J	ICP Serial Dilution Noncompliance
NASB-BG-GW-MW-13-0410	M	MERCURY	0.03	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-06-0410	M	NICKEL	2.8	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-07-0410	M	NICKEL	2.3	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-08-0410	M	NICKEL	2.4	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-12-0410	M	NICKEL	2.6	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-13-0410	M	NICKEL	1.7	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-16-0909	M	NICKEL	2.1	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-17-0410	M	NICKEL	3.1	UG/L	UJ	Lab Blank Contamination, Field Duplicate Imprecision
NASB-BG-GW-MW-17-0909	M	NICKEL	2.4	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-24-0909	M	NICKEL	2.1	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-314B-0410	M	NICKEL	4.4	UG/L	UJ	Lab Blank Contamination, Field Duplicate Imprecision
NASB-BG-GW-MW-314B-0909	M	NICKEL	1.9	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-25-0410	M	POTASSIUM	836	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-06-0909	M	SELENIUM	1.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-06-0909-D	M	SELENIUM	1.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-09-0909	M	SELENIUM	0.91	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-11-0909	M	SELENIUM	1.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-12-0909	M	SELENIUM	1.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-13-0909	M	SELENIUM	1.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-17-0909	M	SELENIUM	0.87	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-24-0410	M	SELENIUM	0.68	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314B-0410	M	SELENIUM	0.62	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-06-0909	M	SILVER	0.05	UG/L	UJ	Lab Duplicate Imprecision
NASB-BG-GW-MW-06-0909-D	M	SILVER	0.05	UG/L	UJ	Lab Duplicate Imprecision
NASB-BG-GW-MW-07-0909	M	SILVER	0.05	UG/L	UJ	Lab Duplicate Imprecision
NASB-BG-GW-MW-08-0909	M	SILVER	0.05	UG/L	UJ	Lab Duplicate Imprecision
NASB-BG-GW-MW-09-0909	M	SILVER	0.05	UG/L	UJ	Lab Duplicate Imprecision
NASB-BG-GW-MW-10-0909	M	SILVER	0.05	UG/L	UJ	Lab Duplicate Imprecision
NASB-BG-GW-MW-11-0909	M	SILVER	0.05	UG/L	UJ	Lab Duplicate Imprecision
NASB-BG-GW-MW-12-0410	M	SILVER	0.06	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-12-0909	M	SILVER	0.05	UG/L	UJ	Lab Duplicate Imprecision
NASB-BG-GW-MW-13-0909	M	SILVER	0.05	UG/L	UJ	Lab Duplicate Imprecision
NASB-BG-GW-MW-314B-0410	M	SILVER	0.06	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-07-0909	M	THALLIUM	0.16	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-12-0909	M	THALLIUM	0.18	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-17-0909	M	THALLIUM	0.35	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-17-0909-D	M	THALLIUM	0.17	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-06-0410	M	VANADIUM	1.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-06-0909	M	VANADIUM	1.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-06-0909-D	M	VANADIUM	2.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-07-0410	M	VANADIUM	1.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-07-0909	M	VANADIUM	2.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-08-0410	M	VANADIUM	1.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

Table B.2.3
NAS Brunswick Background
Transition Groundwater Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW-08-0909	M	VANADIUM	4.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-09-0410	M	VANADIUM	3.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-09-0909	M	VANADIUM	3.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-10-0909	M	VANADIUM	6.5	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-11-0410	M	VANADIUM	4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-12-0410	M	VANADIUM	1.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-12-0909	M	VANADIUM	1.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-13-0410	M	VANADIUM	1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-13-0909	M	VANADIUM	2.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-15-0410	M	VANADIUM	2.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-15-0909	M	VANADIUM	7.1	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-16-0410	M	VANADIUM	2.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-16-0909	M	VANADIUM	3.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-17-0410	M	VANADIUM	1.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-17-0909	M	VANADIUM	3.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-17-0909-D	M	VANADIUM	2.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-23-0410	M	VANADIUM	2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-23-0410-D	M	VANADIUM	3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-23-0909	M	VANADIUM	4.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-24-0410	M	VANADIUM	6.4	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-24-0909	M	VANADIUM	2.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-25-0410	M	VANADIUM	3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-25-0909	M	VANADIUM	1.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-314B-0909	M	VANADIUM	6.5	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-06-0410	M	ZINC	3.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-06-0909	M	ZINC	4.5	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-06-0909-D	M	ZINC	5.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-07-0410	M	ZINC	3.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-07-0909	M	ZINC	4.8	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-08-0410	M	ZINC	6.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-08-0909	M	ZINC	8.0	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-09-0410	M	ZINC	4.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-09-0909	M	ZINC	7.5	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-10-0410	M	ZINC	6.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-10-0909	M	ZINC	9.5	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-11-0410	M	ZINC	5.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-12-0410	M	ZINC	5.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-13-0410	M	ZINC	5.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-15-0410	M	ZINC	2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-16-0410	M	ZINC	5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-17-0410	M	ZINC	2.5	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-23-0410	M	ZINC	2.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-23-0909	M	ZINC	3.8	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-25-0410	M	ZINC	2.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-25-0909	M	ZINC	6.5	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-314B-0410	M	ZINC	7.3	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-314B-0909	M	ZINC	4.5	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-06-0410	MF	ALUMINUM	14.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)

Table B.2.3
NAS Brunswick Background
Transition Groundwater Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW-06-0909	MF	ALUMINUM	26.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-06-0909-D	MF	ALUMINUM	28.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-07-0410	MF	ALUMINUM	14.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-07-0909	MF	ALUMINUM	50.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-08-0410	MF	ALUMINUM	24.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-08-0909	MF	ALUMINUM	96.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-09-0410	MF	ALUMINUM	24.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-09-0909	MF	ALUMINUM	64.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-10-0909	MF	ALUMINUM	63.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-11-0410	MF	ALUMINUM	25.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-11-0909	MF	ALUMINUM	83.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-12-0410	MF	ALUMINUM	12.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-12-0909	MF	ALUMINUM	27.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-13-0410	MF	ALUMINUM	17	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-13-0909	MF	ALUMINUM	72.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-15-0410	MF	ALUMINUM	79.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-15-0909	MF	ALUMINUM	62.4	UG/L	UJ	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-16-0410	MF	ALUMINUM	36.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-16-0909	MF	ALUMINUM	115	UG/L	UJ	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-17-0410	MF	ALUMINUM	16	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-17-0909	MF	ALUMINUM	26.4	UG/L	UJ	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-17-0909-D	MF	ALUMINUM	29.3	UG/L	UJ	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-23-0410	MF	ALUMINUM	20.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-23-0410-D	MF	ALUMINUM	19.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-23-0909	MF	ALUMINUM	53.4	UG/L	UJ	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-24-0410	MF	ALUMINUM	38.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-24-0909	MF	ALUMINUM	19.4	UG/L	UJ	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-25-0410	MF	ALUMINUM	27.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-25-0909	MF	ALUMINUM	49.1	UG/L	UJ	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314B-0410	MF	ALUMINUM	284	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314B-0909	MF	ALUMINUM	72.1	UG/L	UJ	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-07-0909	MF	ANTIMONY	0.18	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-09-0909	MF	ANTIMONY	0.21	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-12-0909	MF	ANTIMONY	0.22	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-13-0909	MF	ANTIMONY	0.65	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-15-0909	MF	ANTIMONY	0.17	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-24-0410	MF	ANTIMONY	0.12	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-24-0909	MF	ANTIMONY	0.24	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-06-0909	MF	ARSENIC	3.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-06-0909-D	MF	ARSENIC	3.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-07-0410	MF	ARSENIC	2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-07-0909	MF	ARSENIC	4.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-08-0410	MF	ARSENIC	2.1	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-08-0909	MF	ARSENIC	4.0	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-09-0410	MF	ARSENIC	1.5	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-09-0909	MF	ARSENIC	2.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

Table B.2.3
NAS Brunswick Background
Transition Groundwater Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW-10-0410	MF	ARSENIC	1.1	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-10-0909	MF	ARSENIC	3.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-11-0410	MF	ARSENIC	2.8	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-11-0909	MF	ARSENIC	1.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-12-0909	MF	ARSENIC	3.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-13-0410	MF	ARSENIC	1.4	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-13-0909	MF	ARSENIC	3.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-15-0410	MF	ARSENIC	3.8	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-15-0909	MF	ARSENIC	3.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-16-0410	MF	ARSENIC	1.8	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-16-0909	MF	ARSENIC	4.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-17-0410	MF	ARSENIC	2.3	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-17-0909	MF	ARSENIC	3.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-17-0909-D	MF	ARSENIC	2.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-23-0410	MF	ARSENIC	4.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-23-0410-D	MF	ARSENIC	1.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-23-0909	MF	ARSENIC	2.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-24-0410	MF	ARSENIC	1.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314B-0410	MF	ARSENIC	1.3	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314B-0909	MF	ARSENIC	2.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-06-0410	MF	BARIUM	3.4	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-08-0410	MF	BARIUM	3.3	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-09-0410	MF	BARIUM	2.4	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-09-0909	MF	BARIUM	3.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-10-0909	MF	BARIUM	4.6	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-15-0410	MF	BARIUM	3.4	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-15-0909	MF	BARIUM	2.6	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-16-0410	MF	BARIUM	2.5	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-17-0410	MF	BARIUM	2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-17-0909	MF	BARIUM	4.3	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-17-0909-D	MF	BARIUM	4.4	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-23-0410	MF	BARIUM	2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-23-0410-D	MF	BARIUM	2.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-24-0410	MF	BARIUM	3.4	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-25-0410	MF	BARIUM	1.4	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314B-0410	MF	BARIUM	1.9	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314B-0909	MF	BARIUM	0.61	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-06-0909	MF	CADMIUM	0.06	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-12-0909	MF	CADMIUM	0.07	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-13-0909	MF	CADMIUM	0.15	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-15-0909	MF	CADMIUM	0.07	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-24-0909	MF	CADMIUM	0.07	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-25-0909	MF	CADMIUM	0.06	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-15-0909	MF	CALCIUM	17500	UG/L	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-GW-MW-16-0909	MF	CALCIUM	10200	UG/L	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-GW-MW-17-0909	MF	CALCIUM	18500	UG/L	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-GW-MW-17-0909-D	MF	CALCIUM	18000	UG/L	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-GW-MW-24-0909	MF	CALCIUM	7740	UG/L	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)

Table B.2.3
NAS Brunswick Background
Transition Groundwater Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW-06-0410	MF	CHROMIUM	2.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-06-0909	MF	CHROMIUM	2.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-06-0909-D	MF	CHROMIUM	2.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-07-0410	MF	CHROMIUM	1.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-07-0909	MF	CHROMIUM	2.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-08-0410	MF	CHROMIUM	2.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-08-0909	MF	CHROMIUM	2.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-09-0410	MF	CHROMIUM	2.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-09-0909	MF	CHROMIUM	2.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-10-0410	MF	CHROMIUM	3.2	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-10-0909	MF	CHROMIUM	2.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-11-0410	MF	CHROMIUM	2.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-11-0909	MF	CHROMIUM	2.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-12-0410	MF	CHROMIUM	1.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-12-0909	MF	CHROMIUM	2.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-13-0410	MF	CHROMIUM	2.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-13-0909	MF	CHROMIUM	2.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-15-0410	MF	CHROMIUM	2.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-15-0909	MF	CHROMIUM	2.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-16-0410	MF	CHROMIUM	1.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-16-0909	MF	CHROMIUM	2.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-17-0410	MF	CHROMIUM	2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-17-0909	MF	CHROMIUM	2.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-17-0909-D	MF	CHROMIUM	1.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-23-0410	MF	CHROMIUM	4.3	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-23-0410-D	MF	CHROMIUM	4.4	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-23-0909	MF	CHROMIUM	2.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-24-0410	MF	CHROMIUM	3.6	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-24-0909	MF	CHROMIUM	2.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-25-0410	MF	CHROMIUM	3.9	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-25-0909	MF	CHROMIUM	1.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-314B-0410	MF	CHROMIUM	3.3	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-314B-0909	MF	CHROMIUM	3.7	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-06-0410	MF	COBALT	0.90	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-06-0909	MF	COBALT	0.99	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-06-0909-D	MF	COBALT	0.98	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-07-0410	MF	COBALT	0.65	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-07-0909	MF	COBALT	0.78	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-08-0410	MF	COBALT	0.38	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-08-0909	MF	COBALT	0.97	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-09-0410	MF	COBALT	0.42	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-09-0909	MF	COBALT	0.84	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-10-0410	MF	COBALT	0.96	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-11-0410	MF	COBALT	0.81	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-12-0410	MF	COBALT	0.28	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-12-0909	MF	COBALT	0.26	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-13-0410	MF	COBALT	0.26	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-13-0909	MF	COBALT	0.49	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-15-0410	MF	COBALT	0.24	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)

Table B.2.3
NAS Brunswick Background
Transition Groundwater Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW-15-0909	MF	COBALT	0.68	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-16-0410	MF	COBALT	0.65	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-17-0410	MF	COBALT	0.29	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-17-0909	MF	COBALT	0.96	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-17-0909-D	MF	COBALT	0.90	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-23-0410	MF	COBALT	0.31	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-23-0410-D	MF	COBALT	0.30	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-24-0410	MF	COBALT	0.12	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-24-0909	MF	COBALT	0.18	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-25-0410	MF	COBALT	0.11	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-25-0909	MF	COBALT	0.49	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314B-0410	MF	COBALT	0.19	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-06-0410	MF	COPPER	0.53	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-07-0410	MF	COPPER	0.76	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-08-0410	MF	COPPER	1.5	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-09-0410	MF	COPPER	0.58	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-10-0410	MF	COPPER	1.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-12-0410	MF	COPPER	0.51	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-13-0410	MF	COPPER	0.91	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-13-0909	MF	COPPER	4.7	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-15-0909	MF	COPPER	3.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-16-0410	MF	COPPER	0.60	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-24-0410	MF	COPPER	0.63	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-24-0909	MF	COPPER	0.92	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-25-0909	MF	COPPER	0.79	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314B-0410	MF	COPPER	1.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314B-0909	MF	COPPER	0.83	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-06-0410	MF	IRON	25.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-06-0909	MF	IRON	56.3	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-06-0909-D	MF	IRON	56.3	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-07-0410	MF	IRON	94.5	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-07-0909	MF	IRON	62.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-08-0410	MF	IRON	57.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-08-0909	MF	IRON	88.7	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-12-0410	MF	IRON	43.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-12-0909	MF	IRON	16.0	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-13-0410	MF	IRON	8.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-15-0410	MF	IRON	84.9	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-15-0909	MF	IRON	66.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-16-0410	MF	IRON	63	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-16-0909	MF	IRON	134	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-17-0410	MF	IRON	95.7	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-17-0909	MF	IRON	15.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-17-0909-D	MF	IRON	30.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-23-0410	MF	IRON	38.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-23-0410-D	MF	IRON	40.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

Table B.2.3
NAS Brunswick Background
Transition Groundwater Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW-23-0909	MF	IRON	53.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-24-0410	MF	IRON	63.8	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-24-0909	MF	IRON	17.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-25-0410	MF	IRON	6.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-25-0909	MF	IRON	16.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314B-0909	MF	IRON	66.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-06-0909	MF	LEAD	0.11	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-08-0909	MF	LEAD	0.12	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-09-0410	MF	LEAD	0.10	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-09-0909	MF	LEAD	0.09	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-10-0410	MF	LEAD	0.44	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-11-0410	MF	LEAD	0.17	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-11-0909	MF	LEAD	0.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-12-0909	MF	LEAD	0.16	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-13-0909	MF	LEAD	0.60	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-15-0410	MF	LEAD	0.74	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-15-0909	MF	LEAD	0.14	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-16-0410	MF	LEAD	0.11	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-16-0909	MF	LEAD	0.21	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-17-0909	MF	LEAD	0.07	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-23-0909	MF	LEAD	0.22	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-24-0909	MF	LEAD	0.15	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-25-0410	MF	LEAD	0.10	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-25-0909	MF	LEAD	0.05	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314B-0410	MF	LEAD	0.82	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314B-0909	MF	LEAD	0.06	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314B-0909	MF	MANGANESE	2.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-06-0410	MF	NICKEL	2.5	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-07-0410	MF	NICKEL	2	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-08-0410	MF	NICKEL	1.9	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-12-0410	MF	NICKEL	1.8	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-13-0410	MF	NICKEL	1.6	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-15-0410	MF	NICKEL	0.36	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-15-0909	MF	NICKEL	2.0	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-16-0410	MF	NICKEL	0.49	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-16-0909	MF	NICKEL	1.7	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-17-0410	MF	NICKEL	1.8	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-17-0909	MF	NICKEL	2.2	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-17-0909-D	MF	NICKEL	2.2	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-24-0410	MF	NICKEL	0.73	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-24-0909	MF	NICKEL	1.3	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-25-0909	MF	NICKEL	2.0	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-314B-0410	MF	NICKEL	2.3	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-314B-0909	MF	NICKEL	0.33	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-09-0410	MF	POTASSIUM	757	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-25-0410	MF	POTASSIUM	848	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-06-0909	MF	SELENIUM	1.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-10-0909	MF	SELENIUM	0.81	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-11-0909	MF	SELENIUM	0.88	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-12-0909	MF	SELENIUM	1.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-13-0909	MF	SELENIUM	0.87	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-15-0909	MF	SELENIUM	1.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

Table B.2.3
NAS Brunswick Background
Transition Groundwater Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW-23-0410-D	MF	SELENIUM	0.56	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-24-0410	MF	SELENIUM	0.68	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-24-0909	MF	SELENIUM	1.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-08-0410	MF	SILVER	0.12	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-16-0909	MF	THALLIUM	0.12	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-17-0909	MF	THALLIUM	0.20	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-24-0909	MF	THALLIUM	0.57	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-06-0410	MF	VANADIUM	0.74	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-06-0909	MF	VANADIUM	1.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-06-0909-D	MF	VANADIUM	1.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-07-0410	MF	VANADIUM	0.75	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-07-0909	MF	VANADIUM	1.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-08-0410	MF	VANADIUM	0.95	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-08-0909	MF	VANADIUM	2.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-09-0410	MF	VANADIUM	2.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-09-0909	MF	VANADIUM	2.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-10-0410	MF	VANADIUM	2.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-10-0909	MF	VANADIUM	1.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-11-0410	MF	VANADIUM	1.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-11-0909	MF	VANADIUM	1.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-12-0909	MF	VANADIUM	1.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-13-0410	MF	VANADIUM	0.84	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-13-0909	MF	VANADIUM	2.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-15-0410	MF	VANADIUM	1.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-15-0909	MF	VANADIUM	2.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-16-0410	MF	VANADIUM	0.62	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-16-0909	MF	VANADIUM	2.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-17-0410	MF	VANADIUM	0.78	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-17-0909	MF	VANADIUM	3.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-17-0909-D	MF	VANADIUM	3.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-23-0410	MF	VANADIUM	2.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-23-0410-D	MF	VANADIUM	1.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-23-0909	MF	VANADIUM	2.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-24-0410	MF	VANADIUM	2.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-24-0909	MF	VANADIUM	1.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-25-0410	MF	VANADIUM	2.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-25-0909	MF	VANADIUM	1.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314B-0410	MF	VANADIUM	2.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314B-0909	MF	VANADIUM	3.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-06-0410	MF	ZINC	3.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-06-0909	MF	ZINC	4.1	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-07-0410	MF	ZINC	2.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-08-0410	MF	ZINC	2.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-10-0410	MF	ZINC	3.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-11-0410	MF	ZINC	2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-12-0410	MF	ZINC	4.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

Table B.2.3
NAS Brunswick Background
Transition Groundwater Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW-12-0909	MF	ZINC	6.1	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-13-0410	MF	ZINC	4.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-15-0410	MF	ZINC	3.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-15-0909	MF	ZINC	4.6	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-16-0410	MF	ZINC	2.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-16-0909	MF	ZINC	6.8	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-23-0410	MF	ZINC	2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-24-0410	MF	ZINC	1.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-24-0909	MF	ZINC	6.3	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-25-0410	MF	ZINC	3.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-25-0909	MF	ZINC	4.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-314B-0410	MF	ZINC	9.8	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

Table B.2.4
NAS Brunswick Background
Bedrock Groundwater Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW-316A-0410	M	ALUMINUM	141	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-316A-0909	M	ALUMINUM	174	UG/L	UJ	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-316B-0410	M	ALUMINUM	37	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-316B-0909	M	ALUMINUM	73.0	UG/L	UJ	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-317A-0410	M	ALUMINUM	68	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-317A-0909	M	ALUMINUM	1320	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-GW-MW-317B-0909	M	ALUMINUM	3640	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-GW-MW-317B-0909	M	ANTIMONY	0.23	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-316A-0410	M	ARSENIC	1.4	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-316A-0909	M	ARSENIC	2.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-317B-0909	M	ARSENIC	3.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-316A-0410	M	BARIUM	2.4	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-316A-0909	M	BARIUM	1.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-316B-0410	M	BARIUM	2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-316B-0909	M	BARIUM	3.6	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-317A-0410	M	BARIUM	1.1	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-317A-0909	M	BERYLLIUM	0.07	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-317B-0410	M	BERYLLIUM	0.15	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-317B-0909	M	BERYLLIUM	0.44	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-316A-0410	M	CADMIUM	0.13	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-316B-0410	M	CADMIUM	0.11	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-316B-0909	M	CADMIUM	0.09	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-317A-0410	M	CADMIUM	0.13	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-317A-0909	M	CADMIUM	0.32	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-317B-0410	M	CADMIUM	0.11	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-317B-0909	M	CADMIUM	0.14	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-316A-0410	M	CHROMIUM	2.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-316A-0909	M	CHROMIUM	2.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-316B-0410	M	CHROMIUM	1.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-316B-0909	M	CHROMIUM	2.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-317A-0410	M	CHROMIUM	2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-317A-0909	M	CHROMIUM	5.0	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-317B-0410	M	CHROMIUM	3.4	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-317B-0909	M	CHROMIUM	4.7	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-316A-0410	M	COBALT	0.12	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-316A-0909	M	COBALT	0.12	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-316B-0410	M	COBALT	0.22	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-316B-0909	M	COBALT	0.11	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-317A-0410	M	COBALT	0.40	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-316A-0410	M	COPPER	0.49	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-316B-0410	M	COPPER	0.78	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-316B-0909	M	COPPER	0.77	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-317A-0410	M	COPPER	2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-317B-0909	M	COPPER	18.3	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-316A-0909	M	IRON	360	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-GW-MW-316B-0909	M	IRON	218	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-GW-MW-317A-0410	M	IRON	86.4	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-317A-0909	M	IRON	1860	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-GW-MW-317B-0909	M	IRON	2370	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-GW-MW-316A-0410	M	LEAD	0.58	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

Table B.2.4
NAS Brunswick Background
Bedrock Groundwater Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW-316A-0909	M	LEAD	0.37	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-316B-0410	M	LEAD	0.14	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-316B-0909	M	LEAD	0.17	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-317A-0410	M	LEAD	0.32	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-317A-0410	M	MANGANESE	6.1	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-316B-0909	M	MERCURY	0.05	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-316A-0909	M	NICKEL	0.61	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-316B-0410	M	NICKEL	0.74	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-316B-0909	M	NICKEL	0.42	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-317A-0410	M	NICKEL	2.5	UG/L	UJ	Lab Blank Contamination, Field Duplicate Imprecision
NASB-BG-GW-MW-317B-0410	M	NICKEL	4.6	UG/L	UJ	Lab Blank Contamination, Field Duplicate Imprecision
NASB-BG-GW-MW-316A-0410	M	POTASSIUM	558	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-316A-0909	M	POTASSIUM	270	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-316B-0909	M	SELENIUM	0.93	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-316A-0909	M	SILVER	0.05	UG/L	UJ	Lab Duplicate Imprecision
NASB-BG-GW-MW-316B-0909	M	SILVER	0.05	UG/L	UJ	Lab Duplicate Imprecision
NASB-BG-GW-MW-317A-0909	M	SILVER	0.05	UG/L	UJ	Lab Duplicate Imprecision
NASB-BG-GW-MW-317B-0909	M	SILVER	0.05	UG/L	UJ	Lab Duplicate Imprecision
NASB-BG-GW-MW-317B-0909	M	THALLIUM	0.13	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-316A-0410	M	VANADIUM	1.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-316A-0909	M	VANADIUM	1.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-316B-0410	M	VANADIUM	1.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-316B-0909	M	VANADIUM	1.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-317A-0410	M	VANADIUM	0.99	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-317A-0909	M	VANADIUM	2.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-317B-0410	M	VANADIUM	1.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-317B-0909	M	VANADIUM	2.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-316A-0410	M	ZINC	4.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-316A-0909	M	ZINC	6.3	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-317A-0410	M	ZINC	1.9	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-317B-0410	M	ZINC	9.4	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-316A-0410	MF	ALUMINUM	20.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-316A-0909	MF	ALUMINUM	42.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-316B-0410	MF	ALUMINUM	15.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-316B-0909	MF	ALUMINUM	12.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-317A-0410	MF	ALUMINUM	21.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-317A-0909	MF	ALUMINUM	24.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-317B-0909	MF	ALUMINUM	34.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-317B-0410	MF	ANTIMONY	0.12	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-316A-0410	MF	ARSENIC	1.5	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-316A-0909	MF	ARSENIC	1.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-317A-0909	MF	ARSENIC	2.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-317B-0410	MF	ARSENIC	0.88	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-317B-0909	MF	ARSENIC	1.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-316A-0410	MF	BARIUM	1.9	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-316A-0909	MF	BARIUM	1.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-316B-0410	MF	BARIUM	1.9	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-316B-0909	MF	BARIUM	2.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-317A-0410	MF	BARIUM	1.1	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

Table B.2.4
NAS Brunswick Background
Bedrock Groundwater Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW-317A-0909	MF	BARIUM	1.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-317B-0410	MF	BERYLLIUM	0.08	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-316A-0909	MF	CADMIUM	0.05	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-316B-0410	MF	CADMIUM	0.10	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-317A-0410	MF	CADMIUM	0.08	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-317B-0410	MF	CADMIUM	0.07	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-316A-0410	MF	CHROMIUM	1.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-316A-0909	MF	CHROMIUM	1.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-316B-0410	MF	CHROMIUM	1.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-316B-0909	MF	CHROMIUM	2.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-317A-0410	MF	CHROMIUM	1.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-317A-0909	MF	CHROMIUM	1.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-317B-0410	MF	CHROMIUM	2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-317B-0909	MF	CHROMIUM	1.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-316B-0410	MF	COBALT	0.21	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-317A-0410	MF	COBALT	0.06	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-316A-0410	MF	COPPER	0.56	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-316B-0410	MF	COPPER	1.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-317A-0410	MF	COPPER	1.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-317B-0410	MF	COPPER	21.9	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-316A-0410	MF	IRON	37.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-316A-0909	MF	IRON	45.4	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-316A-0410	MF	LEAD	0.19	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-316A-0909	MF	LEAD	0.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-316B-0410	MF	LEAD	0.15	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-316B-0909	MF	MANGANESE	3.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-317A-0410	MF	MANGANESE	1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-316A-0410	MF	NICKEL	0.42	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-316A-0909	MF	NICKEL	0.36	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-316B-0410	MF	NICKEL	0.76	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-316B-0909	MF	NICKEL	0.27	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-317A-0410	MF	NICKEL	1.8	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-317A-0909	MF	NICKEL	0.62	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-317B-0410	MF	NICKEL	4	UG/L	U	Lab Blank Contamination
NASB-BG-GW-MW-317B-0909	MF	NICKEL	0.41	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-316A-0410	MF	POTASSIUM	518	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-316A-0909	MF	POTASSIUM	412	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-316A-0909	MF	SELENIUM	0.82	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-316B-0909	MF	SELENIUM	1.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-317B-0410	MF	SILVER	0.05	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-316A-0909	MF	THALLIUM	0.31	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-316A-0410	MF	VANADIUM	0.97	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-316B-0410	MF	VANADIUM	0.90	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-316B-0909	MF	VANADIUM	2.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-317A-0410	MF	VANADIUM	0.90	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-317A-0909	MF	VANADIUM	1.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-317B-0410	MF	VANADIUM	1.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)

Table B.2.4
NAS Brunswick Background
Bedrock Groundwater Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-GW-MW-317B-0909	MF	VANADIUM	1.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-316A-0410	MF	ZINC	1.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-316B-0410	MF	ZINC	3.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-GW-MW-317A-0410	MF	ZINC	1.9	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-317B-0410	MF	ZINC	5.6	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-GW-MW-317B-0909	MISC	CHLORIDE	9.4	MG/L	J	MS/MSD Recovery Noncompliance

Table B.2.5
NAS Brunswick Background
Mere Brook Surface Water Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-SW-09-040810	M	ALUMINUM	99.6	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-09-040810-D	M	ALUMINUM	104	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-10-040810	M	ALUMINUM	95.7	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-11-040810	M	ALUMINUM	97.8	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-12-040810	M	ALUMINUM	120	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-13-040810	M	ALUMINUM	106	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-14-040810	M	ALUMINUM	107	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-15-040810	M	ALUMINUM	101	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-16-040810	M	ALUMINUM	100	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW09-090309	M	ALUMINUM	138	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW10-090309	M	ALUMINUM	60.3	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW11-090309	M	ALUMINUM	59.5	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW12-090309	M	ALUMINUM	68.6	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW13-090309	M	ALUMINUM	70.3	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW14-090309	M	ALUMINUM	51.3	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW15-090309	M	ALUMINUM	151	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW15-090309-D	M	ALUMINUM	81.8	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW16-090309	M	ALUMINUM	97.1	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-09-040810	M	ANTIMONY	0.17	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-09-040810-D	M	ANTIMONY	0.15	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-10-040810	M	ANTIMONY	0.15	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-11-040810	M	ANTIMONY	0.16	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-13-040810	M	ANTIMONY	0.13	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-14-040810	M	ANTIMONY	0.12	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-15-040810	M	ANTIMONY	0.10	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-16-040810	M	ANTIMONY	0.15	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW15-090309	M	ANTIMONY	0.28	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-09-040810-D	M	ARSENIC	2.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-10-040810	M	ARSENIC	2.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-11-040810	M	ARSENIC	2.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-12-040810	M	ARSENIC	1.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-13-040810	M	ARSENIC	1.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-14-040810	M	ARSENIC	1.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-15-040810	M	ARSENIC	1.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-16-040810	M	ARSENIC	2.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW09-090309	M	ARSENIC	2.4	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW11-090309	M	ARSENIC	2.0	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW12-090309	M	ARSENIC	3.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW13-090309	M	ARSENIC	1.9	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW14-090309	M	ARSENIC	2.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW15-090309-D	M	ARSENIC	3.3	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-16-040810	M	CADMIUM	0.05	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW15-090309	M	CADMIUM	0.05	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-09-040810	M	CHROMIUM	2.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-09-040810-D	M	CHROMIUM	2.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-10-040810	M	CHROMIUM	3.5	UG/L	U	Lab Blank Contamination
NASB-BG-SW-11-040810	M	CHROMIUM	3.8	UG/L	U	Lab Blank Contamination

Table B.2.5
NAS Brunswick Background
Mere Brook Surface Water Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-SW-12-040810	M	CHROMIUM	3.2	UG/L	U	Lab Blank Contamination
NASB-BG-SW-13-040810	M	CHROMIUM	3.1	UG/L	U	Lab Blank Contamination
NASB-BG-SW-14-040810	M	CHROMIUM	2.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-15-040810	M	CHROMIUM	2.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-16-040810	M	CHROMIUM	4.2	UG/L	U	Lab Blank Contamination
NASB-BG-SW09-090309	M	CHROMIUM	1.7	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW10-090309	M	CHROMIUM	1.5	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW11-090309	M	CHROMIUM	1.2	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW12-090309	M	CHROMIUM	1.7	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW13-090309	M	CHROMIUM	1.6	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW14-090309	M	CHROMIUM	1.0	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW15-090309	M	CHROMIUM	1.4	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW15-090309-D	M	CHROMIUM	1.6	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW16-090309	M	CHROMIUM	2.3	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-09-040810	M	COBALT	0.21	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-09-040810-D	M	COBALT	0.20	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-10-040810	M	COBALT	0.18	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-11-040810	M	COBALT	0.20	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-12-040810	M	COBALT	0.24	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-13-040810	M	COBALT	0.16	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-14-040810	M	COBALT	0.18	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-15-040810	M	COBALT	0.18	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-16-040810	M	COBALT	0.22	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW09-090309	M	COBALT	0.19	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW10-090309	M	COBALT	0.14	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW11-090309	M	COBALT	0.11	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW12-090309	M	COBALT	0.14	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW13-090309	M	COBALT	0.16	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW14-090309	M	COBALT	0.11	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW15-090309	M	COBALT	0.21	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW15-090309-D	M	COBALT	0.12	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW16-090309	M	COBALT	0.12	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-09-040810	M	COPPER	0.78	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-09-040810-D	M	COPPER	0.84	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-10-040810	M	COPPER	0.92	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-11-040810	M	COPPER	1	UG/L	U	Lab Blank Contamination
NASB-BG-SW-12-040810	M	COPPER	0.85	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-13-040810	M	COPPER	1.5	UG/L	U	Lab Blank Contamination
NASB-BG-SW-14-040810	M	COPPER	1	UG/L	U	Lab Blank Contamination
NASB-BG-SW-15-040810	M	COPPER	0.89	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-16-040810	M	COPPER	1.1	UG/L	U	Lab Blank Contamination
NASB-BG-SW09-090309	M	COPPER	0.69	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW10-090309	M	COPPER	0.64	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW11-090309	M	COPPER	1.2	UG/L	U	Lab Blank Contamination
NASB-BG-SW12-090309	M	COPPER	0.90	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW13-090309	M	COPPER	0.96	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW14-090309	M	COPPER	0.93	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW15-090309	M	COPPER	0.78	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW15-090309-D	M	COPPER	1.0	UG/L	U	Lab Blank Contamination
NASB-BG-SW16-090309	M	COPPER	0.79	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)

Table B.2.5
NAS Brunswick Background
Mere Brook Surface Water Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-SW-09-040810	M	LEAD	0.46	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-09-040810-D	M	LEAD	0.40	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-10-040810	M	LEAD	0.34	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-11-040810	M	LEAD	0.35	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-12-040810	M	LEAD	0.50	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-13-040810	M	LEAD	0.40	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-14-040810	M	LEAD	0.40	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-15-040810	M	LEAD	0.36	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-16-040810	M	LEAD	0.49	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW09-090309	M	LEAD	0.94	UG/L	UJ	Lab Blank Contamination, Field Duplicate Imprecision, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW10-090309	M	LEAD	0.50	UG/L	UJ	Lab Blank Contamination, Field Duplicate Imprecision, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW11-090309	M	LEAD	0.62	UG/L	UJ	Lab Blank Contamination, Field Duplicate Imprecision, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW12-090309	M	LEAD	1.6	UG/L	J	Field Duplicate Imprecision
NASB-BG-SW13-090309	M	LEAD	0.80	UG/L	UJ	Lab Blank Contamination, Field Duplicate Imprecision, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW14-090309	M	LEAD	0.38	UG/L	UJ	Lab Blank Contamination, Field Duplicate Imprecision, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW15-090309	M	LEAD	4.0	UG/L	J	Field Duplicate Imprecision
NASB-BG-SW15-090309-D	M	LEAD	0.53	UG/L	UJ	Lab Blank Contamination, Field Duplicate Imprecision, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW16-090309	M	LEAD	0.60	UG/L	UJ	Lab Blank Contamination, Field Duplicate Imprecision, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-09-040810-D	M	MERCURY	0.02	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-10-040810	M	MERCURY	0.04	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-11-040810	M	MERCURY	0.03	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-14-040810	M	MERCURY	0.02	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-16-040810	M	MERCURY	0.03	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW10-090309	M	NICKEL	1.0	UG/L	U	Lab Blank Contamination
NASB-BG-SW11-090309	M	NICKEL	1.2	UG/L	U	Lab Blank Contamination
NASB-BG-SW12-090309	M	NICKEL	0.91	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW13-090309	M	NICKEL	1.0	UG/L	U	Lab Blank Contamination
NASB-BG-SW14-090309	M	NICKEL	0.60	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW15-090309-D	M	NICKEL	1.0	UG/L	U	Lab Blank Contamination
NASB-BG-SW16-090309	M	NICKEL	1.0	UG/L	UJ	Lab Blank Contamination
NASB-BG-SW12-090309	M	SELENIUM	1.3	UG/L	UJ	Lab Blank Contamination, Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW13-090309	M	SELENIUM	1.1	UG/L	UJ	Lab Blank Contamination, Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW09-090309	M	SODIUM	27500	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-SW10-090309	M	SODIUM	27100	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-SW11-090309	M	SODIUM	26600	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-SW12-090309	M	SODIUM	26400	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-SW13-090309	M	SODIUM	27000	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-SW14-090309	M	SODIUM	27500	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-SW15-090309	M	SODIUM	26200	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-SW15-090309-D	M	SODIUM	27300	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-SW16-090309	M	SODIUM	28200	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-SW14-090309	M	THALLIUM	0.21	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW15-090309	M	THALLIUM	0.37	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-09-040810	M	VANADIUM	1.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-09-040810-D	M	VANADIUM	1.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-10-040810	M	VANADIUM	2.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-11-040810	M	VANADIUM	2.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-12-040810	M	VANADIUM	2.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-13-040810	M	VANADIUM	2.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-14-040810	M	VANADIUM	1.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-15-040810	M	VANADIUM	1.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-16-040810	M	VANADIUM	1.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW09-090309	M	VANADIUM	1.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

Table B.2.5
NAS Brunswick Background
Mere Brook Surface Water Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-SW10-090309	M	VANADIUM	1.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW11-090309	M	VANADIUM	1.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW12-090309	M	VANADIUM	1.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW13-090309	M	VANADIUM	0.96	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW14-090309	M	VANADIUM	0.82	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW15-090309	M	VANADIUM	1.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW15-090309-D	M	VANADIUM	0.94	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW16-090309	M	VANADIUM	1.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-09-040810	M	ZINC	5.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-09-040810-D	M	ZINC	6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-10-040810	M	ZINC	5.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-11-040810	M	ZINC	6.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-12-040810	M	ZINC	6.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-13-040810	M	ZINC	6.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-14-040810	M	ZINC	6.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-15-040810	M	ZINC	6.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-16-040810	M	ZINC	7.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-09-040810	MF	ALUMINUM	50.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-09-040810-D	MF	ALUMINUM	56.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-10-040810	MF	ALUMINUM	53.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-11-040810	MF	ALUMINUM	53	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-12-040810	MF	ALUMINUM	58.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-13-040810	MF	ALUMINUM	60.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-14-040810	MF	ALUMINUM	59.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-15-040810	MF	ALUMINUM	56.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-16-040810	MF	ALUMINUM	57.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW09-090309	MF	ALUMINUM	11.35	UG/L	UJ	Poor Instrument Performance (e.g. base-line drifting)
NASB-BG-SW10-090309	MF	ALUMINUM	11.35	UG/L	UJ	Poor Instrument Performance (e.g. base-line drifting)
NASB-BG-SW11-090309	MF	ALUMINUM	11.35	UG/L	UJ	Poor Instrument Performance (e.g. base-line drifting)
NASB-BG-SW12-090309	MF	ALUMINUM	12.1	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW13-090309	MF	ALUMINUM	12.2	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW14-090309	MF	ALUMINUM	12.5	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW15-090309	MF	ALUMINUM	16.5	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW15-090309-D	MF	ALUMINUM	11.35	UG/L	UJ	Poor Instrument Performance (e.g. base-line drifting)
NASB-BG-SW16-090309	MF	ALUMINUM	27.5	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-09-040810	MF	ANTIMONY	0.13	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-09-040810-D	MF	ANTIMONY	0.17	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-10-040810	MF	ANTIMONY	0.14	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-11-040810	MF	ANTIMONY	0.18	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-12-040810	MF	ANTIMONY	0.15	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-13-040810	MF	ANTIMONY	0.11	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-14-040810	MF	ANTIMONY	0.12	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-15-040810	MF	ANTIMONY	0.11	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-16-040810	MF	ANTIMONY	0.10	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW15-090309	MF	ANTIMONY	0.16	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW15-090309-D	MF	ANTIMONY	0.18	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-09-040810	MF	ARSENIC	1.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-09-040810-D	MF	ARSENIC	1.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)

Table B.2.5
NAS Brunswick Background
Mere Brook Surface Water Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-SW-10-040810	MF	ARSENIC	0.83	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-11-040810	MF	ARSENIC	1.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-12-040810	MF	ARSENIC	1.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-13-040810	MF	ARSENIC	1.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-14-040810	MF	ARSENIC	0.90	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-15-040810	MF	ARSENIC	1.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-16-040810	MF	ARSENIC	1.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW09-090309	MF	ARSENIC	2.7	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW10-090309	MF	ARSENIC	1.5	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW13-090309	MF	ARSENIC	1.7	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW15-090309	MF	ARSENIC	1.5	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW15-090309-D	MF	ARSENIC	2.1	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW16-090309	MF	ARSENIC	2.0	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-12-040810	MF	CADMIUM	0.07	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-09-040810	MF	CHROMIUM	2.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-09-040810-D	MF	CHROMIUM	2.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-10-040810	MF	CHROMIUM	1.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-11-040810	MF	CHROMIUM	3.6	UG/L	U	Lab Blank Contamination
NASB-BG-SW-12-040810	MF	CHROMIUM	2.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-13-040810	MF	CHROMIUM	3.3	UG/L	U	Lab Blank Contamination
NASB-BG-SW-14-040810	MF	CHROMIUM	3.1	UG/L	U	Lab Blank Contamination
NASB-BG-SW-15-040810	MF	CHROMIUM	2.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-16-040810	MF	CHROMIUM	1.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW09-090309	MF	CHROMIUM	1.5	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW10-090309	MF	CHROMIUM	1.4	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW11-090309	MF	CHROMIUM	1.2	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW12-090309	MF	CHROMIUM	1.4	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW13-090309	MF	CHROMIUM	1.4	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW14-090309	MF	CHROMIUM	1.3	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW15-090309	MF	CHROMIUM	1.2	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW15-090309-D	MF	CHROMIUM	1.3	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW16-090309	MF	CHROMIUM	1.4	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-09-040810	MF	COBALT	0.15	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-09-040810-D	MF	COBALT	0.14	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-10-040810	MF	COBALT	0.15	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-11-040810	MF	COBALT	0.16	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-12-040810	MF	COBALT	0.22	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-13-040810	MF	COBALT	0.16	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-14-040810	MF	COBALT	0.14	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-15-040810	MF	COBALT	0.13	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-16-040810	MF	COBALT	0.14	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW12-090309	MF	COBALT	0.11	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW13-090309	MF	COBALT	0.10	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW15-090309	MF	COBALT	0.12	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW15-090309-D	MF	COBALT	0.12	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW16-090309	MF	COBALT	0.12	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-09-040810	MF	COPPER	0.86	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

Table B.2.5
NAS Brunswick Background
Mere Brook Surface Water Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-SW-09-040810-D	MF	COPPER	0.95	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-10-040810	MF	COPPER	1.1	UG/L	U	Lab Blank Contamination
NASB-BG-SW-11-040810	MF	COPPER	0.89	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-12-040810	MF	COPPER	1.3	UG/L	U	Lab Blank Contamination
NASB-BG-SW-13-040810	MF	COPPER	1.1	UG/L	U	Lab Blank Contamination
NASB-BG-SW-14-040810	MF	COPPER	1.2	UG/L	U	Lab Blank Contamination
NASB-BG-SW-15-040810	MF	COPPER	1.5	UG/L	U	Lab Blank Contamination
NASB-BG-SW-16-040810	MF	COPPER	0.98	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW09-090309	MF	COPPER	0.69	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW10-090309	MF	COPPER	0.68	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW11-090309	MF	COPPER	0.76	UG/L	U	Lab Blank Contamination
NASB-BG-SW12-090309	MF	COPPER	0.95	UG/L	UJ	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW13-090309	MF	COPPER	1.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW14-090309	MF	COPPER	1.3	UG/L	U	Lab Blank Contamination
NASB-BG-SW15-090309	MF	COPPER	1.0	UG/L	U	Lab Blank Contamination
NASB-BG-SW15-090309-D	MF	COPPER	1.2	UG/L	U	Lab Blank Contamination
NASB-BG-SW16-090309	MF	COPPER	1.1	UG/L	U	Lab Blank Contamination
NASB-BG-SW-09-040810	MF	IRON	68.9	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-09-040810-D	MF	IRON	68.3	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-10-040810	MF	IRON	62.5	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-11-040810	MF	IRON	69.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-12-040810	MF	IRON	85.7	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-13-040810	MF	IRON	84	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-14-040810	MF	IRON	81.8	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-15-040810	MF	IRON	74.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-16-040810	MF	IRON	82.1	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW09-090309	MF	IRON	72.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW10-090309	MF	IRON	75.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW11-090309	MF	IRON	68.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW12-090309	MF	IRON	66.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW13-090309	MF	IRON	93.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW14-090309	MF	IRON	75.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW15-090309	MF	IRON	79.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW15-090309-D	MF	IRON	82.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW16-090309	MF	IRON	78.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-09-040810-D	MF	LEAD	0.16	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-10-040810	MF	LEAD	0.13	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-11-040810	MF	LEAD	0.22	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-12-040810	MF	LEAD	0.21	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-13-040810	MF	LEAD	0.14	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-14-040810	MF	LEAD	0.14	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-15-040810	MF	LEAD	0.16	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-16-040810	MF	LEAD	0.17	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW12-090309	MF	LEAD	0.07	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW13-090309	MF	LEAD	0.39	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW14-090309	MF	LEAD	0.11	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW15-090309	MF	LEAD	0.11	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW15-090309-D	MF	LEAD	0.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW16-090309	MF	LEAD	0.06	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-09-040810-D	MF	MERCURY	0.02	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-10-040810	MF	MERCURY	0.02	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)

Table B.2.5
NAS Brunswick Background
Mere Brook Surface Water Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-SW-11-040810	MF	MERCURY	0.03	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-12-040810	MF	MERCURY	0.03	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-13-040810	MF	MERCURY	0.02	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-14-040810	MF	MERCURY	0.02	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-15-040810	MF	MERCURY	0.03	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-16-040810	MF	MERCURY	0.03	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW09-090309	MF	NICKEL	0.97	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW10-090309	MF	NICKEL	0.75	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW11-090309	MF	NICKEL	1.0	UG/L	U	Lab Blank Contamination
NASB-BG-SW12-090309	MF	NICKEL	0.92	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW13-090309	MF	NICKEL	0.96	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW14-090309	MF	NICKEL	0.94	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW15-090309	MF	NICKEL	0.82	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW15-090309-D	MF	NICKEL	0.90	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW16-090309	MF	NICKEL	1.0	UG/L	U	Lab Blank Contamination
NASB-BG-SW11-090309	MF	SELENIUM	1.5	UG/L	UJ	Lab Blank Contamination, Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW12-090309	MF	SELENIUM	2.1	UG/L	UJ	Lab Blank Contamination, Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW14-090309	MF	SELENIUM	1.4	UG/L	UJ	Lab Blank Contamination, Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW15-090309	MF	SELENIUM	1.5	UG/L	UJ	Lab Blank Contamination, Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW14-090309	MF	THALLIUM	0.16	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW15-090309	MF	THALLIUM	0.26	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-09-040810	MF	VANADIUM	1.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-09-040810-D	MF	VANADIUM	1.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-10-040810	MF	VANADIUM	1.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-11-040810	MF	VANADIUM	1.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-12-040810	MF	VANADIUM	1.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-13-040810	MF	VANADIUM	2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-14-040810	MF	VANADIUM	1.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-15-040810	MF	VANADIUM	1.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-16-040810	MF	VANADIUM	0.61	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW09-090309	MF	VANADIUM	1.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW10-090309	MF	VANADIUM	0.97	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW11-090309	MF	VANADIUM	0.97	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW12-090309	MF	VANADIUM	0.91	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW14-090309	MF	VANADIUM	0.86	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW15-090309-D	MF	VANADIUM	0.95	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW16-090309	MF	VANADIUM	0.98	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-09-040810	MF	ZINC	5.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-09-040810-D	MF	ZINC	7.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-10-040810	MF	ZINC	6.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-11-040810	MF	ZINC	6.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-12-040810	MF	ZINC	6.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-13-040810	MF	ZINC	5.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-14-040810	MF	ZINC	6.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-15-040810	MF	ZINC	6.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)

Table B.2.5
NAS Brunswick Background
Mere Brook Surface Water Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-SW-16-040810	MF	ZINC	6.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-12-040810	PAH	2-METHYLNAPHTHALENE	0.07	UG/L	UJ	MS/MSD Recovery Noncompliance
NASB-BG-SW-15-040810	PAH	ACENAPHTHYLENE	0.05	UG/L	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SW-12-040810	PAH	ANTHRACENE	0.04	UG/L	UJ	MS/MSD Recovery Noncompliance
NASB-BG-SW-15-040810	PAH	ANTHRACENE	0.04	UG/L	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SW-15-040810	PAH	BENZO(A)ANTHRACENE	0.04	UG/L	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SW14-090309	PAH	BENZO(A)ANTHRACENE	0.05	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW12-090309	PAH	BENZO(G,H,I)PERYLENE	0.10	UG/L	U	Lab Blank Contamination
NASB-BG-SW14-090309	PAH	BENZO(G,H,I)PERYLENE	0.10	UG/L	U	Lab Blank Contamination
NASB-BG-SW09-090309	PAH	CHRYSENE	0.05	UG/L	U	Lab Blank Contamination
NASB-BG-SW12-090309	PAH	CHRYSENE	0.04	UG/L	U	Lab Blank Contamination
NASB-BG-SW14-090309	PAH	CHRYSENE	0.08	UG/L	U	Lab Blank Contamination
NASB-BG-SW09-090309	PAH	DIBENZO(A,H)ANTHRACENE	0.07	UG/L	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SW10-090309	PAH	DIBENZO(A,H)ANTHRACENE	0.07	UG/L	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SW11-090309	PAH	DIBENZO(A,H)ANTHRACENE	0.07	UG/L	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SW12-090309	PAH	DIBENZO(A,H)ANTHRACENE	0.07	UG/L	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SW13-090309	PAH	DIBENZO(A,H)ANTHRACENE	0.07	UG/L	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SW14-090309	PAH	DIBENZO(A,H)ANTHRACENE	0.2	UG/L	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SW15-090309	PAH	DIBENZO(A,H)ANTHRACENE	0.07	UG/L	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SW15-090309-D	PAH	DIBENZO(A,H)ANTHRACENE	0.07	UG/L	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SW16-090309	PAH	DIBENZO(A,H)ANTHRACENE	0.07	UG/L	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SW-09-040810	PAH	FLUORANTHENE	0.07	UG/L	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SW-09-040810-D	PAH	FLUORANTHENE	0.07	UG/L	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SW-10-040810	PAH	FLUORANTHENE	0.07	UG/L	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SW-11-040810	PAH	FLUORANTHENE	0.07	UG/L	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SW-12-040810	PAH	FLUORANTHENE	0.07	UG/L	UJ	MS/MSD Recovery Noncompliance, LCS/LCSD Recovery Noncompliance
NASB-BG-SW-13-040810	PAH	FLUORANTHENE	0.08	UG/L	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SW-14-040810	PAH	FLUORANTHENE	0.07	UG/L	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SW-15-040810	PAH	FLUORANTHENE	0.07	UG/L	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SW-16-040810	PAH	FLUORANTHENE	0.07	UG/L	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SW09-090309	PAH	FLUORANTHENE	0.08	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-15-040810	PAH	FLUORENE	0.06	UG/L	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SW12-090309	PAH	INDENO(1,2,3-CD)PYRENE	0.09	UG/L	U	Lab Blank Contamination
NASB-BG-SW14-090309	PAH	INDENO(1,2,3-CD)PYRENE	0.08	UG/L	U	Lab Blank Contamination
NASB-BG-SW-15-040810	PAH	PHENANTHRENE	0.05	UG/L	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SW-15-040810	PAH	PYRENE	0.06	UG/L	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SW09-090309	PAH	PYRENE	0.06	UG/L	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , LCS/LCSD Recovery Noncompliance
NASB-BG-SW10-090309	PAH	PYRENE	0.06	UG/L	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , LCS/LCSD Recovery Noncompliance
NASB-BG-SW11-090309	PAH	PYRENE	0.06	UG/L	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , LCS/LCSD Recovery Noncompliance
NASB-BG-SW12-090309	PAH	PYRENE	0.06	UG/L	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , LCS/LCSD Recovery Noncompliance
NASB-BG-SW13-090309	PAH	PYRENE	0.06	UG/L	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , LCS/LCSD Recovery Noncompliance
NASB-BG-SW14-090309	PAH	PYRENE	0.06	UG/L	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , LCS/LCSD Recovery Noncompliance
NASB-BG-SW15-090309	PAH	PYRENE	0.06	UG/L	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , LCS/LCSD Recovery Noncompliance
NASB-BG-SW15-090309-D	PAH	PYRENE	0.06	UG/L	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , LCS/LCSD Recovery Noncompliance
NASB-BG-SW16-090309	PAH	PYRENE	0.06	UG/L	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , LCS/LCSD Recovery Noncompliance

Table B.2.6
NAS Brunswick Background
Coffins Ice Pond Surface Water Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-SW-01-040610	M	ALUMINUM	141	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-02-040610	M	ALUMINUM	149	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-03-040610	M	ALUMINUM	228	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-04-040610	M	ALUMINUM	89	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-04-040610-D	M	ALUMINUM	76.4	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-05-040610	M	ALUMINUM	116	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-06-040610	M	ALUMINUM	135	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-07-040610	M	ALUMINUM	116	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-08-040610	M	ALUMINUM	56.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW01-090809	M	ALUMINUM	36.2	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW02-090809	M	ALUMINUM	19.5	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW03-090809	M	ALUMINUM	118	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW05-090809	M	ALUMINUM	159	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW06-090809	M	ALUMINUM	17.5	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW06-090809-D	M	ALUMINUM	17.1	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW07-090809	M	ALUMINUM	15.8	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW08-090809	M	ALUMINUM	308	UG/L	J	Poor Instrument Performance (e.g. base-line drifting)
NASB-BG-SW-01-040610	M	ANTIMONY	0.24	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-02-040610	M	ANTIMONY	0.16	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-03-040610	M	ANTIMONY	0.17	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-04-040610	M	ANTIMONY	0.14	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-04-040610-D	M	ANTIMONY	0.12	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-05-040610	M	ANTIMONY	0.18	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-06-040610	M	ANTIMONY	0.18	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-07-040610	M	ANTIMONY	0.17	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-08-040610	M	ANTIMONY	0.15	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW03-090809	M	ANTIMONY	0.17	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW04-090809	M	ANTIMONY	0.19	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW06-090809	M	ANTIMONY	0.18	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW08-090809	M	ANTIMONY	0.26	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-01-040610	M	ARSENIC	2.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-02-040610	M	ARSENIC	5.1	UG/L	U	Lab Blank Contamination
NASB-BG-SW-03-040610	M	ARSENIC	4.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-04-040610	M	ARSENIC	4.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-04-040610-D	M	ARSENIC	2.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-05-040610	M	ARSENIC	5.5	UG/L	U	Lab Blank Contamination
NASB-BG-SW-06-040610	M	ARSENIC	2.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-07-040610	M	ARSENIC	2.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-08-040610	M	ARSENIC	1.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW02-090809	M	ARSENIC	2.0	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW03-090809	M	ARSENIC	2.9	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW04-090809	M	ARSENIC	3.4	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW05-090809	M	ARSENIC	1.7	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW06-090809	M	ARSENIC	2.6	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW08-090809	M	ARSENIC	1.8	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW04-090809	M	BERYLLIUM	0.19	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-01-040610	M	CADMIUM	0.07	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

Table B.2.6
NAS Brunswick Background
Coffins Ice Pond Surface Water Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-SW-03-040610	M	CADMIUM	0.08	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-05-040610	M	CADMIUM	0.06	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-08-040610	M	CADMIUM	0.05	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW01-090809	M	CADMIUM	0.06	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW03-090809	M	CADMIUM	0.05	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW04-090809	M	CADMIUM	0.22	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW08-090809	M	CADMIUM	0.07	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-01-040610	M	CHROMIUM	4.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-02-040610	M	CHROMIUM	7	UG/L	U	Lab Blank Contamination
NASB-BG-SW-03-040610	M	CHROMIUM	5.6	UG/L	U	Lab Blank Contamination
NASB-BG-SW-04-040610	M	CHROMIUM	2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-04-040610-D	M	CHROMIUM	4.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-05-040610	M	CHROMIUM	4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-06-040610	M	CHROMIUM	4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-07-040610	M	CHROMIUM	4.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-08-040610	M	CHROMIUM	3.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW01-090809	M	CHROMIUM	0.98	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW02-090809	M	CHROMIUM	1.3	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW03-090809	M	CHROMIUM	2.3	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW05-090809	M	CHROMIUM	1.9	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW06-090809	M	CHROMIUM	1.6	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW06-090809-D	M	CHROMIUM	1.8	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW07-090809	M	CHROMIUM	0.70	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW08-090809	M	CHROMIUM	1.6	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-01-040610	M	COBALT	0.44	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-02-040610	M	COBALT	0.39	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-03-040610	M	COBALT	0.56	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-04-040610	M	COBALT	0.26	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-04-040610-D	M	COBALT	0.23	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-05-040610	M	COBALT	0.34	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-06-040610	M	COBALT	0.38	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-07-040610	M	COBALT	0.29	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-08-040610	M	COBALT	0.23	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW01-090809	M	COBALT	0.40	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW02-090809	M	COBALT	0.40	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW03-090809	M	COBALT	0.44	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW05-090809	M	COBALT	0.47	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW06-090809	M	COBALT	0.38	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW06-090809-D	M	COBALT	0.38	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW07-090809	M	COBALT	0.38	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW08-090809	M	COBALT	0.96	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-01-040610	M	COPPER	1.1	UG/L	U	Lab Blank Contamination
NASB-BG-SW-02-040610	M	COPPER	1.1	UG/L	U	Lab Blank Contamination
NASB-BG-SW-04-040610	M	COPPER	0.51	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-04-040610-D	M	COPPER	0.63	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-05-040610	M	COPPER	0.75	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-06-040610	M	COPPER	0.87	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-07-040610	M	COPPER	0.88	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)

Table B.2.6
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SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-SW-08-040610	M	COPPER	0.92	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW01-090809	M	COPPER	2.5	UG/L	U	Lab Blank Contamination
NASB-BG-SW02-090809	M	COPPER	0.62	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW03-090809	M	COPPER	1.2	UG/L	U	Lab Blank Contamination
NASB-BG-SW05-090809	M	COPPER	1.3	UG/L	U	Lab Blank Contamination
NASB-BG-SW06-090809	M	COPPER	0.84	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW06-090809-D	M	COPPER	0.96	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW07-090809	M	COPPER	0.76	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW08-090809	M	COPPER	1.3	UG/L	U	Lab Blank Contamination
NASB-BG-SW-01-040610	M	LEAD	0.57	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-02-040610	M	LEAD	0.40	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-04-040610	M	LEAD	0.23	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-04-040610-D	M	LEAD	0.18	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-05-040610	M	LEAD	0.30	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-06-040610	M	LEAD	0.39	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-07-040610	M	LEAD	0.42	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-08-040610	M	LEAD	0.24	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW01-090809	M	LEAD	0.98	UG/L	UJ	Lab Blank Contamination, Field Duplicate Imprecision, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW02-090809	M	LEAD	0.66	UG/L	UJ	Lab Blank Contamination, Field Duplicate Imprecision, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW03-090809	M	LEAD	1.3	UG/L	J	Field Duplicate Imprecision
NASB-BG-SW04-090809	M	LEAD	11.4	UG/L	J	Field Duplicate Imprecision
NASB-BG-SW05-090809	M	LEAD	1.8	UG/L	J	Field Duplicate Imprecision
NASB-BG-SW06-090809	M	LEAD	0.71	UG/L	UJ	Lab Blank Contamination, Field Duplicate Imprecision, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW06-090809-D	M	LEAD	0.78	UG/L	UJ	Lab Blank Contamination, Field Duplicate Imprecision, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW07-090809	M	LEAD	0.76	UG/L	UJ	Lab Blank Contamination, Field Duplicate Imprecision, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW08-090809	M	LEAD	3.0	UG/L	J	Field Duplicate Imprecision
NASB-BG-SW-04-040610-D	M	SELENIUM	0.66	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-05-040610	M	SELENIUM	0.67	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW01-090809	M	SODIUM	34600	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-SW02-090809	M	SODIUM	41500	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-SW03-090809	M	SODIUM	38700	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-SW04-090809	M	SODIUM	40200	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-SW05-090809	M	SODIUM	37500	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-SW06-090809	M	SODIUM	35600	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-SW06-090809-D	M	SODIUM	36900	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-SW07-090809	M	SODIUM	35100	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-SW08-090809	M	SODIUM	34000	UG/L	J	MS/MSD Recovery Noncompliance
NASB-BG-SW01-090809	M	THALLIUM	0.29	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW07-090809	M	THALLIUM	0.12	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-01-040610	M	VANADIUM	3.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-02-040610	M	VANADIUM	5.3	UG/L	U	Lab Blank Contamination
NASB-BG-SW-03-040610	M	VANADIUM	4.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-04-040610	M	VANADIUM	5.3	UG/L	U	Lab Blank Contamination
NASB-BG-SW-04-040610-D	M	VANADIUM	2.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-05-040610	M	VANADIUM	5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-06-040610	M	VANADIUM	5.7	UG/L	U	Lab Blank Contamination
NASB-BG-SW-07-040610	M	VANADIUM	4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-08-040610	M	VANADIUM	1.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW01-090809	M	VANADIUM	1.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW02-090809	M	VANADIUM	2.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW03-090809	M	VANADIUM	2.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW05-090809	M	VANADIUM	4.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW06-090809	M	VANADIUM	2.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW06-090809-D	M	VANADIUM	3.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW08-090809	M	VANADIUM	2.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-01-040610	M	ZINC	7.7	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

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SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-SW-02-040610	M	ZINC	9.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-04-040610	M	ZINC	5.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-04-040610-D	M	ZINC	4.7	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-06-040610	M	ZINC	8.9	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-07-040610	M	ZINC	8.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-08-040610	M	ZINC	4.9	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW01-090809	M	ZINC	9.6	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW03-090809	M	ZINC	6.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW05-090809	M	ZINC	6.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW06-090809	M	ZINC	4.9	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW06-090809-D	M	ZINC	5.4	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW07-090809	M	ZINC	6.4	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-01-040610	MF	ALUMINUM	58.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-02-040610	MF	ALUMINUM	79.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-03-040610	MF	ALUMINUM	71.4	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-04-040610	MF	ALUMINUM	47.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-04-040610-D	MF	ALUMINUM	56.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-05-040610	MF	ALUMINUM	68.1	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-06-040610	MF	ALUMINUM	69.5	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-07-040610	MF	ALUMINUM	60.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-08-040610	MF	ALUMINUM	35.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW01-090809	MF	ALUMINUM	11.35	UG/L	UJ	Poor Instrument Performance (e.g. base-line drifting)
NASB-BG-SW02-090809	MF	ALUMINUM	11.35	UG/L	UJ	Poor Instrument Performance (e.g. base-line drifting)
NASB-BG-SW03-090809	MF	ALUMINUM	11.35	UG/L	UJ	Poor Instrument Performance (e.g. base-line drifting)
NASB-BG-SW04-090809	MF	ALUMINUM	11.35	UG/L	UJ	Poor Instrument Performance (e.g. base-line drifting)
NASB-BG-SW05-090809	MF	ALUMINUM	11.35	UG/L	UJ	Poor Instrument Performance (e.g. base-line drifting)
NASB-BG-SW06-090809	MF	ALUMINUM	11.35	UG/L	UJ	Poor Instrument Performance (e.g. base-line drifting)
NASB-BG-SW06-090809-D	MF	ALUMINUM	11.35	UG/L	UJ	Poor Instrument Performance (e.g. base-line drifting)
NASB-BG-SW07-090809	MF	ALUMINUM	11.35	UG/L	UJ	Poor Instrument Performance (e.g. base-line drifting)
NASB-BG-SW08-090809	MF	ALUMINUM	11.35	UG/L	UJ	Poor Instrument Performance (e.g. base-line drifting)
NASB-BG-SW-01-040610	MF	ANTIMONY	0.20	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-02-040610	MF	ANTIMONY	0.14	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-03-040610	MF	ANTIMONY	0.16	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-04-040610	MF	ANTIMONY	0.13	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-04-040610-D	MF	ANTIMONY	0.17	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-05-040610	MF	ANTIMONY	0.18	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-06-040610	MF	ANTIMONY	0.18	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-07-040610	MF	ANTIMONY	0.14	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-08-040610	MF	ANTIMONY	0.11	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW02-090809	MF	ANTIMONY	0.18	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW04-090809	MF	ANTIMONY	0.26	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW06-090809	MF	ANTIMONY	0.20	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW08-090809	MF	ANTIMONY	0.15	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-01-040610	MF	ARSENIC	3.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-02-040610	MF	ARSENIC	3.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-03-040610	MF	ARSENIC	4.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-04-040610	MF	ARSENIC	2.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-04-040610-D	MF	ARSENIC	2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-05-040610	MF	ARSENIC	3.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-06-040610	MF	ARSENIC	4.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

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SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-SW-07-040610	MF	ARSENIC	2.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-08-040610	MF	ARSENIC	2.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW04-090809	MF	ARSENIC	1.5	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW06-090809-D	MF	ARSENIC	1.9	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-01-040610	MF	CADMIUM	0.07	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-04-040610-D	MF	CADMIUM	0.12	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-07-040610	MF	CADMIUM	0.05	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW01-090809	MF	CADMIUM	0.05	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-01-040610	MF	CHROMIUM	4.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-02-040610	MF	CHROMIUM	4.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-03-040610	MF	CHROMIUM	4.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-04-040610	MF	CHROMIUM	3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-04-040610-D	MF	CHROMIUM	3.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-05-040610	MF	CHROMIUM	3.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-06-040610	MF	CHROMIUM	3.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-07-040610	MF	CHROMIUM	4.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-08-040610	MF	CHROMIUM	4.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW01-090809	MF	CHROMIUM	0.98	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW02-090809	MF	CHROMIUM	1.2	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW03-090809	MF	CHROMIUM	1.2	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW04-090809	MF	CHROMIUM	0.76	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW05-090809	MF	CHROMIUM	1.4	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW06-090809	MF	CHROMIUM	1	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW06-090809-D	MF	CHROMIUM	1.3	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW07-090809	MF	CHROMIUM	0.80	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW08-090809	MF	CHROMIUM	0.65	UG/L	J	Poor Instrument Performance (e.g. base-line drifting), Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-01-040610	MF	COBALT	0.33	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-02-040610	MF	COBALT	0.34	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-03-040610	MF	COBALT	0.30	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-04-040610	MF	COBALT	0.22	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-04-040610-D	MF	COBALT	0.40	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-05-040610	MF	COBALT	0.36	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-06-040610	MF	COBALT	0.35	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-07-040610	MF	COBALT	0.34	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW-08-040610	MF	COBALT	0.20	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SW01-090809	MF	COBALT	0.25	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW02-090809	MF	COBALT	0.25	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW03-090809	MF	COBALT	0.34	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW04-090809	MF	COBALT	0.34	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW05-090809	MF	COBALT	0.32	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW06-090809	MF	COBALT	0.33	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW06-090809-D	MF	COBALT	0.33	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW07-090809	MF	COBALT	0.27	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW08-090809	MF	COBALT	0.21	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-01-040610	MF	COPPER	1.6	UG/L	U	Lab Blank Contamination
NASB-BG-SW-02-040610	MF	COPPER	0.99	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)

Table B.2.6
NAS Brunswick Background
Coffins Ice Pond Surface Water Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-SW-04-040610	MF	COPPER	0.68	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-04-040610-D	MF	COPPER	0.99	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-05-040610	MF	COPPER	1.2	UG/L	U	Lab Blank Contamination
NASB-BG-SW-06-040610	MF	COPPER	1.2	UG/L	U	Lab Blank Contamination
NASB-BG-SW-07-040610	MF	COPPER	1.1	UG/L	U	Lab Blank Contamination
NASB-BG-SW-08-040610	MF	COPPER	1.1	UG/L	U	Lab Blank Contamination
NASB-BG-SW01-090809	MF	COPPER	0.62	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW02-090809	MF	COPPER	0.76	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW03-090809	MF	COPPER	0.63	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW04-090809	MF	COPPER	0.57	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW05-090809	MF	COPPER	0.85	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW06-090809	MF	COPPER	0.83	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW06-090809-D	MF	COPPER	0.58	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW07-090809	MF	COPPER	0.74	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW08-090809	MF	COPPER	1.4	UG/L	U	Lab Blank Contamination
NASB-BG-SW-02-040610	MF	IRON	97.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-03-040610	MF	IRON	75.2	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-04-040610	MF	IRON	65	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-04-040610-D	MF	IRON	76.7	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-05-040610	MF	IRON	86	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-06-040610	MF	IRON	89.8	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-07-040610	MF	IRON	78.3	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-08-040610	MF	IRON	43.9	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW01-090809	MF	IRON	166	UG/L	U	Lab Blank Contamination
NASB-BG-SW02-090809	MF	IRON	41.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW03-090809	MF	IRON	35.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW04-090809	MF	IRON	92.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW05-090809	MF	IRON	61.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW06-090809	MF	IRON	50.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW06-090809-D	MF	IRON	39.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW07-090809	MF	IRON	62.9	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW08-090809	MF	IRON	63.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-01-040610	MF	LEAD	0.33	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-02-040610	MF	LEAD	0.22	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-03-040610	MF	LEAD	0.15	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-04-040610	MF	LEAD	0.10	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-04-040610-D	MF	LEAD	0.17	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-05-040610	MF	LEAD	0.15	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-06-040610	MF	LEAD	0.11	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-07-040610	MF	LEAD	0.21	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-08-040610	MF	LEAD	0.14	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW01-090809	MF	LEAD	0.54	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW02-090809	MF	LEAD	0.09	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW03-090809	MF	LEAD	0.07	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW04-090809	MF	LEAD	0.26	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW05-090809	MF	LEAD	0.12	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW06-090809	MF	LEAD	0.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW06-090809-D	MF	LEAD	0.10	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW07-090809	MF	LEAD	0.13	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

Table B.2.6
NAS Brunswick Background
Coffins Ice Pond Surface Water Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-SW08-090809	MF	LEAD	0.18	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW01-090809	MF	NICKEL	1.2	UG/L	U	Lab Blank Contamination
NASB-BG-SW-04-040610	MF	SELENIUM	0.56	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-05-040610	MF	SELENIUM	0.57	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-04-040610-D	MF	SILVER	0.05	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW01-090809	MF	THALLIUM	0.19	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-01-040610	MF	VANADIUM	5.7	UG/L	U	Lab Blank Contamination
NASB-BG-SW-02-040610	MF	VANADIUM	4.7	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-03-040610	MF	VANADIUM	6.5	UG/L	U	Lab Blank Contamination
NASB-BG-SW-04-040610	MF	VANADIUM	4.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-04-040610-D	MF	VANADIUM	2.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-05-040610	MF	VANADIUM	4.3	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-06-040610	MF	VANADIUM	4.1	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-07-040610	MF	VANADIUM	1.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-08-040610	MF	VANADIUM	2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW01-090809	MF	VANADIUM	1.5	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW02-090809	MF	VANADIUM	2.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW03-090809	MF	VANADIUM	3.4	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW04-090809	MF	VANADIUM	1.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW05-090809	MF	VANADIUM	2.8	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW06-090809	MF	VANADIUM	2.2	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW06-090809-D	MF	VANADIUM	4.6	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW07-090809	MF	VANADIUM	0.99	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW08-090809	MF	VANADIUM	1.0	UG/L	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-01-040610	MF	ZINC	9.1	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-02-040610	MF	ZINC	8	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-03-040610	MF	ZINC	9.5	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-04-040610	MF	ZINC	9.1	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-04-040610-D	MF	ZINC	6.3	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-06-040610	MF	ZINC	9.3	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-07-040610	MF	ZINC	9.6	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-08-040610	MF	ZINC	6.6	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW01-090809	MF	ZINC	4.7	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW02-090809	MF	ZINC	3.9	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW05-090809	MF	ZINC	3.8	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW06-090809-D	MF	ZINC	4.4	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW07-090809	MF	ZINC	4.9	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW08-090809	MF	ZINC	6.3	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-01-040610	PAH	2-METHYLNAPHTHALENE	0.07	UG/L	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SW-02-040610	PAH	2-METHYLNAPHTHALENE	0.08	UG/L	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SW-03-040610	PAH	2-METHYLNAPHTHALENE	0.07	UG/L	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SW-04-040610	PAH	2-METHYLNAPHTHALENE	0.07	UG/L	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SW-04-040610-D	PAH	2-METHYLNAPHTHALENE	0.07	UG/L	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SW-05-040610	PAH	2-METHYLNAPHTHALENE	0.07	UG/L	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SW-06-040610	PAH	2-METHYLNAPHTHALENE	0.07	UG/L	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SW-07-040610	PAH	2-METHYLNAPHTHALENE	0.07	UG/L	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SW-08-040610	PAH	2-METHYLNAPHTHALENE	0.07	UG/L	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SW-02-040610	PAH	ANTHRACENE	0.05	UG/L	J	LCS/LCSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW04-090809	PAH	BENZO(A)ANTHRACENE	0.05	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-02-040610	PAH	BENZO(A)PYRENE	0.50	UG/L	J	LCS/LCSD Recovery Noncompliance
NASB-BG-SW06-090809-D	PAH	BENZO(G,H,I)PERYLENE	0.1	UG/L	U	Lab Blank Contamination
NASB-BG-SW-02-040610	PAH	CHRYSENE	0.40	UG/L	J	LCS/LCSD Recovery Noncompliance
NASB-BG-SW02-090809	PAH	CHRYSENE	0.05	UG/L	U	Lab Blank Contamination
NASB-BG-SW03-090809	PAH	CHRYSENE	0.04	UG/L	U	Lab Blank Contamination
NASB-BG-SW04-090809	PAH	CHRYSENE	0.08	UG/L	U	Lab Blank Contamination

Table B.2.6
NAS Brunswick Background
Coffins Ice Pond Surface Water Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-SW05-090809	PAH	CHRYSENE	0.05	UG/L	U	Lab Blank Contamination
NASB-BG-SW06-090809-D	PAH	CHRYSENE	0.07	UG/L	U	Lab Blank Contamination
NASB-BG-SW-01-040610	PAH	DIBENZO(A,H)ANTHRACENE	0.07	UG/L	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SW-02-040610	PAH	DIBENZO(A,H)ANTHRACENE	0.20	UG/L	J	LCS/LCSD Recovery Noncompliance
NASB-BG-SW-03-040610	PAH	DIBENZO(A,H)ANTHRACENE	0.07	UG/L	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SW-04-040610	PAH	DIBENZO(A,H)ANTHRACENE	0.07	UG/L	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SW-04-040610-D	PAH	DIBENZO(A,H)ANTHRACENE	0.07	UG/L	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SW-05-040610	PAH	DIBENZO(A,H)ANTHRACENE	0.07	UG/L	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SW-06-040610	PAH	DIBENZO(A,H)ANTHRACENE	0.07	UG/L	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SW-07-040610	PAH	DIBENZO(A,H)ANTHRACENE	0.07	UG/L	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SW-08-040610	PAH	DIBENZO(A,H)ANTHRACENE	0.07	UG/L	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SW01-090809	PAH	DIBENZO(A,H)ANTHRACENE	0.07	UG/L	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SW02-090809	PAH	DIBENZO(A,H)ANTHRACENE	0.07	UG/L	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SW03-090809	PAH	DIBENZO(A,H)ANTHRACENE	0.07	UG/L	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SW04-090809	PAH	DIBENZO(A,H)ANTHRACENE	0.07	UG/L	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SW05-090809	PAH	DIBENZO(A,H)ANTHRACENE	0.07	UG/L	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SW06-090809	PAH	DIBENZO(A,H)ANTHRACENE	0.07	UG/L	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SW06-090809-D	PAH	DIBENZO(A,H)ANTHRACENE	0.07	UG/L	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SW07-090809	PAH	DIBENZO(A,H)ANTHRACENE	0.07	UG/L	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SW08-090809	PAH	DIBENZO(A,H)ANTHRACENE	0.07	UG/L	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SW04-090809	PAH	FLUORANTHENE	0.1	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW05-090809	PAH	FLUORANTHENE	0.09	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW06-090809-D	PAH	FLUORANTHENE	0.1	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW-01-040610	PAH	INDENO(1,2,3-CD)PYRENE	0.05	UG/L	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SW-02-040610	PAH	INDENO(1,2,3-CD)PYRENE	0.60	UG/L	J	LCS/LCSD Recovery Noncompliance
NASB-BG-SW-03-040610	PAH	INDENO(1,2,3-CD)PYRENE	0.05	UG/L	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SW-04-040610	PAH	INDENO(1,2,3-CD)PYRENE	0.05	UG/L	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SW-04-040610-D	PAH	INDENO(1,2,3-CD)PYRENE	0.05	UG/L	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SW-05-040610	PAH	INDENO(1,2,3-CD)PYRENE	0.05	UG/L	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SW-06-040610	PAH	INDENO(1,2,3-CD)PYRENE	0.05	UG/L	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SW-07-040610	PAH	INDENO(1,2,3-CD)PYRENE	0.05	UG/L	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SW-08-040610	PAH	INDENO(1,2,3-CD)PYRENE	0.05	UG/L	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SW06-090809-D	PAH	INDENO(1,2,3-CD)PYRENE	0.09	UG/L	U	Lab Blank Contamination
NASB-BG-SW04-090809	PAH	PYRENE	0.07	UG/L	J	MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW05-090809	PAH	PYRENE	0.06	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SW06-090809-D	PAH	PYRENE	0.06	UG/L	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

Table B.2.7
NAS Brunswick Background
Mere Brook Sediment Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-SD09-0006	HERB	MCPA	1800	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD10-0006	HERB	MCPA	1900	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD11-0006	HERB	MCPA	1700	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD12-0006	HERB	MCPA	1700	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD13-0006	HERB	MCPA	1800	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD14-0006	HERB	MCPA	1700	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD15-0006	HERB	MCPA	1700	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD15-0006-D	HERB	MCPA	1600	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD16-0006	HERB	MCPA	2000	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-09-0006	M	ANTIMONY	0.10	MG/KG	UJ	MS/MSD Recovery Noncompliance, Lab Duplicate Imprecision
NASB-BG-SD-09-0006-D	M	ANTIMONY	0.13	MG/KG	UJ	MS/MSD Recovery Noncompliance, Lab Duplicate Imprecision
NASB-BG-SD-10-0006	M	ANTIMONY	0.16	MG/KG	UJ	MS/MSD Recovery Noncompliance, Lab Duplicate Imprecision
NASB-BG-SD-11-0006	M	ANTIMONY	0.14	MG/KG	UJ	MS/MSD Recovery Noncompliance, Lab Duplicate Imprecision
NASB-BG-SD-12-0006	M	ANTIMONY	0.12	MG/KG	UJ	MS/MSD Recovery Noncompliance, Lab Duplicate Imprecision
NASB-BG-SD-13-0006	M	ANTIMONY	0.14	MG/KG	UJ	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Lab Duplicate Imprecision, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-14-0006	M	ANTIMONY	2.2	MG/KG	J	MS/MSD Recovery Noncompliance, Lab Duplicate Imprecision
NASB-BG-SD-15-0006	M	ANTIMONY	0.10	MG/KG	UJ	MS/MSD Recovery Noncompliance, Lab Duplicate Imprecision
NASB-BG-SD-16-0006	M	ANTIMONY	0.12	MG/KG	UJ	MS/MSD Recovery Noncompliance, Lab Duplicate Imprecision
NASB-BG-SD09-0006	M	ANTIMONY	0.11	MG/KG	J	MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD10-0006	M	ANTIMONY	0.12	MG/KG	UJ	MS/MSD Recovery Noncompliance
NASB-BG-SD11-0006	M	ANTIMONY	0.09	MG/KG	UJ	MS/MSD Recovery Noncompliance
NASB-BG-SD12-0006	M	ANTIMONY	0.10	MG/KG	UJ	MS/MSD Recovery Noncompliance
NASB-BG-SD13-0006	M	ANTIMONY	0.10	MG/KG	UJ	MS/MSD Recovery Noncompliance
NASB-BG-SD14-0006	M	ANTIMONY	0.10	MG/KG	UJ	MS/MSD Recovery Noncompliance
NASB-BG-SD15-0006	M	ANTIMONY	0.10	MG/KG	UJ	MS/MSD Recovery Noncompliance
NASB-BG-SD15-0006-D	M	ANTIMONY	0.12	MG/KG	UJ	MS/MSD Recovery Noncompliance
NASB-BG-SD16-0006	M	ANTIMONY	0.15	MG/KG	UJ	MS/MSD Recovery Noncompliance
NASB-BG-SD10-0006	M	ARSENIC	1.2	MG/KG	U	Lab Blank Contamination
NASB-BG-SD13-0006	M	ARSENIC	1.2	MG/KG	U	Lab Blank Contamination
NASB-BG-SD15-0006-D	M	ARSENIC	1.3	MG/KG	U	Lab Blank Contamination
NASB-BG-SD-09-0006	M	BERYLLIUM	0.16	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-09-0006-D	M	BERYLLIUM	0.08	MG/KG	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-10-0006	M	BERYLLIUM	0.30	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-11-0006	M	BERYLLIUM	0.14	MG/KG	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-12-0006	M	BERYLLIUM	0.14	MG/KG	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-13-0006	M	BERYLLIUM	0.11	MG/KG	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-14-0006	M	BERYLLIUM	0.18	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-15-0006	M	BERYLLIUM	0.21	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-16-0006	M	BERYLLIUM	0.18	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD09-0006	M	BERYLLIUM	0.26	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD10-0006	M	BERYLLIUM	0.27	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD11-0006	M	BERYLLIUM	0.24	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD12-0006	M	BERYLLIUM	0.27	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD13-0006	M	BERYLLIUM	0.28	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD14-0006	M	BERYLLIUM	0.26	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD15-0006	M	BERYLLIUM	0.25	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD15-0006-D	M	BERYLLIUM	0.17	MG/KG	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD16-0006	M	BERYLLIUM	0.34	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-09-0006	M	CADMIUM	0.04	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-09-0006-D	M	CADMIUM	0.04	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-10-0006	M	CADMIUM	0.12	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-11-0006	M	CADMIUM	0.06	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-12-0006	M	CADMIUM	0.10	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-13-0006	M	CADMIUM	0.03	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-15-0006	M	CADMIUM	0.01	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD09-0006	M	CADMIUM	0.09	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD10-0006	M	CADMIUM	0.06	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD11-0006	M	CADMIUM	0.05	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD13-0006	M	CADMIUM	0.04	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

Table B.2.7
NAS Brunswick Background
Mere Brook Sediment Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-SD14-0006	M	CADMIUM	0.09	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD15-0006	M	CADMIUM	0.06	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD15-0006-D	M	CADMIUM	0.03	MG/KG	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD16-0006	M	CADMIUM	0.15	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-09-0006	M	CALCIUM	753	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-09-0006-D	M	CALCIUM	650	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-10-0006	M	CALCIUM	1500	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-11-0006	M	CALCIUM	622	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-12-0006	M	CALCIUM	795	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-13-0006	M	CALCIUM	766	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-14-0006	M	CALCIUM	705	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-15-0006	M	CALCIUM	722	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-16-0006	M	CALCIUM	990	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-09-0006	M	CHROMIUM	4.4	MG/KG	J	MS/MSD Recovery Noncompliance, Lab Duplicate Imprecision
NASB-BG-SD-09-0006-D	M	CHROMIUM	3.8	MG/KG	J	MS/MSD Recovery Noncompliance, Lab Duplicate Imprecision
NASB-BG-SD-10-0006	M	CHROMIUM	13.4	MG/KG	J	MS/MSD Recovery Noncompliance, Lab Duplicate Imprecision
NASB-BG-SD-11-0006	M	CHROMIUM	5.2	MG/KG	J	MS/MSD Recovery Noncompliance, Lab Duplicate Imprecision
NASB-BG-SD-12-0006	M	CHROMIUM	5.9	MG/KG	J	MS/MSD Recovery Noncompliance, Lab Duplicate Imprecision
NASB-BG-SD-13-0006	M	CHROMIUM	6.4	MG/KG	J	MS/MSD Recovery Noncompliance, Lab Duplicate Imprecision
NASB-BG-SD-14-0006	M	CHROMIUM	46.7	MG/KG	J	MS/MSD Recovery Noncompliance, Lab Duplicate Imprecision
NASB-BG-SD-15-0006	M	CHROMIUM	9.2	MG/KG	J	MS/MSD Recovery Noncompliance, Lab Duplicate Imprecision
NASB-BG-SD-16-0006	M	CHROMIUM	7.7	MG/KG	J	MS/MSD Recovery Noncompliance, Lab Duplicate Imprecision
NASB-BG-SD-09-0006	M	COBALT	1.6	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-09-0006-D	M	COBALT	1.4	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-10-0006	M	COBALT	1.5	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-11-0006	M	COBALT	2.1	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-12-0006	M	COBALT	2.3	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-13-0006	M	COBALT	1.4	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-14-0006	M	COBALT	2.8	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-15-0006	M	COBALT	1.4	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-16-0006	M	COBALT	3	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD09-0006	M	COBALT	2.6	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD10-0006	M	COBALT	1.3	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD11-0006	M	COBALT	2.2	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD12-0006	M	COBALT	2.6	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD13-0006	M	COBALT	1.6	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD14-0006	M	COBALT	2.3	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD15-0006	M	COBALT	1.7	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD15-0006-D	M	COBALT	1.3	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD16-0006	M	COBALT	3.0	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-09-0006	M	COPPER	1.9	MG/KG	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-09-0006-D	M	COPPER	2.1	MG/KG	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-13-0006	M	COPPER	1.8	MG/KG	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-15-0006	M	COPPER	1.9	MG/KG	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD10-0006	M	COPPER	2.7	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD15-0006-D	M	COPPER	2.3	MG/KG	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-09-0006	M	LEAD	4.2	MG/KG	J	Lab Duplicate Imprecision
NASB-BG-SD-09-0006-D	M	LEAD	4.3	MG/KG	J	Lab Duplicate Imprecision
NASB-BG-SD-10-0006	M	LEAD	2.7	MG/KG	J	Lab Duplicate Imprecision
NASB-BG-SD-11-0006	M	LEAD	6	MG/KG	J	Lab Duplicate Imprecision
NASB-BG-SD-12-0006	M	LEAD	7.2	MG/KG	J	Lab Duplicate Imprecision
NASB-BG-SD-13-0006	M	LEAD	2	MG/KG	J	Lab Duplicate Imprecision
NASB-BG-SD-14-0006	M	LEAD	201	MG/KG	J	Lab Duplicate Imprecision
NASB-BG-SD-15-0006	M	LEAD	1.9	MG/KG	J	Lab Duplicate Imprecision
NASB-BG-SD-16-0006	M	LEAD	11.3	MG/KG	J	Lab Duplicate Imprecision
NASB-BG-SD09-0006	M	LEAD	7.4	MG/KG	J	MS/MSD Recovery Noncompliance, Field Duplicate Imprecision
NASB-BG-SD10-0006	M	LEAD	1.7	MG/KG	J	MS/MSD Recovery Noncompliance, Field Duplicate Imprecision
NASB-BG-SD11-0006	M	LEAD	5.7	MG/KG	J	MS/MSD Recovery Noncompliance, Field Duplicate Imprecision
NASB-BG-SD12-0006	M	LEAD	8.1	MG/KG	J	MS/MSD Recovery Noncompliance, Field Duplicate Imprecision
NASB-BG-SD13-0006	M	LEAD	3.5	MG/KG	J	MS/MSD Recovery Noncompliance, Field Duplicate Imprecision
NASB-BG-SD14-0006	M	LEAD	6.6	MG/KG	J	MS/MSD Recovery Noncompliance, Field Duplicate Imprecision
NASB-BG-SD15-0006	M	LEAD	5.4	MG/KG	J	MS/MSD Recovery Noncompliance, Field Duplicate Imprecision
NASB-BG-SD15-0006-D	M	LEAD	3.0	MG/KG	J	MS/MSD Recovery Noncompliance, Field Duplicate Imprecision
NASB-BG-SD16-0006	M	LEAD	14.9	MG/KG	J	MS/MSD Recovery Noncompliance, Field Duplicate Imprecision

Table B.2.7
NAS Brunswick Background
Mere Brook Sediment Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-SD-09-0006	M	MANGANESE	122	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-09-0006-D	M	MANGANESE	92.8	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-10-0006	M	MANGANESE	88.4	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-11-0006	M	MANGANESE	76.6	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-12-0006	M	MANGANESE	131	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-13-0006	M	MANGANESE	83	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-14-0006	M	MANGANESE	151	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-15-0006	M	MANGANESE	67.5	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-16-0006	M	MANGANESE	153	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD16-0006	M	MERCURY	0.02	MG/KG	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-09-0006	M	NICKEL	3.6	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-09-0006-D	M	NICKEL	3.2	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-10-0006	M	NICKEL	4.7	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-11-0006	M	NICKEL	4.8	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-13-0006	M	NICKEL	3.7	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-15-0006	M	NICKEL	3.4	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD10-0006	M	NICKEL	4.1	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD15-0006-D	M	NICKEL	3.3	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD09-0006	M	POTASSIUM	464	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD10-0006	M	POTASSIUM	343	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD11-0006	M	POTASSIUM	481	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD12-0006	M	POTASSIUM	446	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD13-0006	M	POTASSIUM	386	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD14-0006	M	POTASSIUM	435	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD15-0006	M	POTASSIUM	311	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD15-0006-D	M	POTASSIUM	264	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD16-0006	M	POTASSIUM	488	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-09-0006	M	SELENIUM	0.19	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-11-0006	M	SELENIUM	0.15	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-12-0006	M	SELENIUM	0.17	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-13-0006	M	SELENIUM	0.20	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-14-0006	M	SELENIUM	0.19	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-15-0006	M	SELENIUM	0.36	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-16-0006	M	SELENIUM	0.28	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD09-0006	M	SELENIUM	0.16	MG/KG	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD10-0006	M	SELENIUM	0.29	MG/KG	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD12-0006	M	SELENIUM	0.12	MG/KG	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD13-0006	M	SELENIUM	0.19	MG/KG	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD15-0006	M	SELENIUM	0.23	MG/KG	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD15-0006-D	M	SELENIUM	0.18	MG/KG	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD16-0006	M	SELENIUM	0.30	MG/KG	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-10-0006	M	SILVER	0.01	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD14-0006	M	SILVER	0.01	MG/KG	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD16-0006	M	SILVER	0.01	MG/KG	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-09-0006	M	SODIUM	45	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-09-0006-D	M	SODIUM	43.2	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-10-0006	M	SODIUM	61.6	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-11-0006	M	SODIUM	52.2	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-12-0006	M	SODIUM	63.6	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-13-0006	M	SODIUM	63.1	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-14-0006	M	SODIUM	61.5	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-15-0006	M	SODIUM	70.5	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-16-0006	M	SODIUM	80.8	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD09-0006	M	SODIUM	64.2	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD10-0006	M	SODIUM	46.6	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

Table B.2.7
NAS Brunswick Background
Mere Brook Sediment Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-SD11-0006	M	SODIUM	52.0	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD12-0006	M	SODIUM	67.0	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD13-0006	M	SODIUM	75.1	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD14-0006	M	SODIUM	56.6	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD15-0006	M	SODIUM	63.8	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD15-0006-D	M	SODIUM	51.6	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD16-0006	M	SODIUM	70.6	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-14-0006	M	THALLIUM	0.17	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD09-0006	M	THALLIUM	0.14	MG/KG	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD10-0006	M	THALLIUM	0.21	MG/KG	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD11-0006	M	THALLIUM	0.25	MG/KG	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD12-0006	M	THALLIUM	0.14	MG/KG	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD13-0006	M	THALLIUM	0.29	MG/KG	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD14-0006	M	THALLIUM	0.14	MG/KG	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD15-0006	M	THALLIUM	0.12	MG/KG	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD16-0006	M	THALLIUM	0.28	MG/KG	UJ	Lab Blank Contamination, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD09-0006	M	ZINC	28.6	MG/KG	J	ICP Serial Dilution Noncompliance
NASB-BG-SD10-0006	M	ZINC	11.0	MG/KG	J	ICP Serial Dilution Noncompliance
NASB-BG-SD11-0006	M	ZINC	23.0	MG/KG	J	ICP Serial Dilution Noncompliance
NASB-BG-SD12-0006	M	ZINC	27.2	MG/KG	J	ICP Serial Dilution Noncompliance
NASB-BG-SD13-0006	M	ZINC	14.2	MG/KG	J	ICP Serial Dilution Noncompliance
NASB-BG-SD14-0006	M	ZINC	24.1	MG/KG	J	ICP Serial Dilution Noncompliance
NASB-BG-SD15-0006	M	ZINC	14.8	MG/KG	J	ICP Serial Dilution Noncompliance
NASB-BG-SD15-0006-D	M	ZINC	11.2	MG/KG	J	ICP Serial Dilution Noncompliance
NASB-BG-SD16-0006	M	ZINC	28.8	MG/KG	J	ICP Serial Dilution Noncompliance
NASB-BG-SD-09-0006	MISC	TOTAL ORGANIC CARBON	3700	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-09-0006-D	MISC	TOTAL ORGANIC CARBON	2600	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-10-0006	MISC	TOTAL ORGANIC CARBON	42000	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-11-0006	MISC	TOTAL ORGANIC CARBON	9400	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-12-0006	MISC	TOTAL ORGANIC CARBON	12000	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-13-0006	MISC	TOTAL ORGANIC CARBON	11000	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-14-0006	MISC	TOTAL ORGANIC CARBON	7000	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-15-0006	MISC	TOTAL ORGANIC CARBON	3600	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-16-0006	MISC	TOTAL ORGANIC CARBON	19000	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD15-0006	MISC	TOTAL ORGANIC CARBON	6900	MG/KG	J	Field Duplicate Imprecision
NASB-BG-SD15-0006-D	MISC	TOTAL ORGANIC CARBON	3500	MG/KG	J	Field Duplicate Imprecision
NASB-BG-SD-09-0006	PAH	2-METHYLNAPHTHALENE	19	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-09-0006-D	PAH	2-METHYLNAPHTHALENE	15	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-11-0006	PAH	2-METHYLNAPHTHALENE	5	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-12-0006	PAH	2-METHYLNAPHTHALENE	5	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-14-0006	PAH	2-METHYLNAPHTHALENE	90	UG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-16-0006	PAH	2-METHYLNAPHTHALENE	6	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD09-0006	PAH	2-METHYLNAPHTHALENE	77	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , LCS/LCSD Recovery Noncompliance
NASB-BG-SD10-0006	PAH	2-METHYLNAPHTHALENE	3	UG/KG	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SD11-0006	PAH	2-METHYLNAPHTHALENE	3	UG/KG	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SD12-0006	PAH	2-METHYLNAPHTHALENE	3	UG/KG	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SD13-0006	PAH	2-METHYLNAPHTHALENE	3	UG/KG	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SD14-0006	PAH	2-METHYLNAPHTHALENE	3	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , LCS/LCSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD15-0006	PAH	2-METHYLNAPHTHALENE	3	UG/KG	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SD15-0006-D	PAH	2-METHYLNAPHTHALENE	3	UG/KG	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SD16-0006	PAH	2-METHYLNAPHTHALENE	3	UG/KG	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SD-11-0006	PAH	ACENAPHTHENE	16	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-12-0006	PAH	ACENAPHTHENE	12	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-14-0006	PAH	ACENAPHTHENE	210	UG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-16-0006	PAH	ACENAPHTHENE	14	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD09-0006	PAH	ACENAPHTHENE	520	UG/KG	J	LCS/LCSD Recovery Noncompliance
NASB-BG-SD10-0006	PAH	ACENAPHTHENE	2	UG/KG	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SD11-0006	PAH	ACENAPHTHENE	4	UG/KG	J	LCS/LCSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD12-0006	PAH	ACENAPHTHENE	3	UG/KG	J	LCS/LCSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD13-0006	PAH	ACENAPHTHENE	2	UG/KG	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SD14-0006	PAH	ACENAPHTHENE	30	UG/KG	J	LCS/LCSD Recovery Noncompliance
NASB-BG-SD15-0006	PAH	ACENAPHTHENE	2	UG/KG	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SD15-0006-D	PAH	ACENAPHTHENE	2	UG/KG	UJ	LCS/LCSD Recovery Noncompliance

Table B.2.7
NAS Brunswick Background
Mere Brook Sediment Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-SD16-0006	PAH	ACENAPHTHENE	5	UG/KG	J	LCS/LCSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-09-0006	PAH	ACENAPHTHYLENE	9	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-11-0006	PAH	ACENAPHTHYLENE	11	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-12-0006	PAH	ACENAPHTHYLENE	12	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-13-0006	PAH	ACENAPHTHYLENE	3	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-14-0006	PAH	ACENAPHTHYLENE	14	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-16-0006	PAH	ACENAPHTHYLENE	22	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD09-0006	PAH	ACENAPHTHYLENE	2	UG/KG	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SD10-0006	PAH	ACENAPHTHYLENE	2	UG/KG	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SD11-0006	PAH	ACENAPHTHYLENE	22	UG/KG	J	LCS/LCSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD12-0006	PAH	ACENAPHTHYLENE	18	UG/KG	J	LCS/LCSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD13-0006	PAH	ACENAPHTHYLENE	4	UG/KG	J	LCS/LCSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD14-0006	PAH	ACENAPHTHYLENE	28	UG/KG	J	LCS/LCSD Recovery Noncompliance
NASB-BG-SD15-0006	PAH	ACENAPHTHYLENE	9	UG/KG	J	LCS/LCSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD15-0006-D	PAH	ACENAPHTHYLENE	4	UG/KG	J	LCS/LCSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD16-0006	PAH	ACENAPHTHYLENE	27	UG/KG	J	LCS/LCSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-09-0006-D	PAH	ANTHRACENE	22	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-12-0006	PAH	ANTHRACENE	22	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-13-0006	PAH	ANTHRACENE	3	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-14-0006	PAH	ANTHRACENE	63	UG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD09-0006	PAH	ANTHRACENE	220	UG/KG	J	LCS/LCSD Recovery Noncompliance
NASB-BG-SD10-0006	PAH	ANTHRACENE	2	UG/KG	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SD11-0006	PAH	ANTHRACENE	25	UG/KG	J	LCS/LCSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD12-0006	PAH	ANTHRACENE	17	UG/KG	J	LCS/LCSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD13-0006	PAH	ANTHRACENE	3	UG/KG	J	LCS/LCSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD14-0006	PAH	ANTHRACENE	30	UG/KG	J	LCS/LCSD Recovery Noncompliance
NASB-BG-SD15-0006	PAH	ANTHRACENE	7	UG/KG	J	LCS/LCSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD15-0006-D	PAH	ANTHRACENE	4	UG/KG	J	LCS/LCSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD16-0006	PAH	ANTHRACENE	21	UG/KG	J	LCS/LCSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-12-0006	PAH	BENZO(A)ANTHRACENE	160	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-13-0006	PAH	BENZO(A)ANTHRACENE	15	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-14-0006	PAH	BENZO(A)ANTHRACENE	170	UG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-15-0006	PAH	BENZO(A)ANTHRACENE	4	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD10-0006	PAH	BENZO(A)ANTHRACENE	4	UG/KG	U	Lab Blank Contamination
NASB-BG-SD13-0006	PAH	BENZO(A)ANTHRACENE	25	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD15-0006	PAH	BENZO(A)ANTHRACENE	54	UG/KG	J	Field Duplicate Imprecision
NASB-BG-SD15-0006-D	PAH	BENZO(A)ANTHRACENE	30	UG/KG	J	Field Duplicate Imprecision
NASB-BG-SD-09-0006	PAH	BENZO(A)PYRENE	120	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-09-0006-D	PAH	BENZO(A)PYRENE	100	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-10-0006	PAH	BENZO(A)PYRENE	6	UG/KG	UJ	Internal Standard Noncompliance
NASB-BG-SD-11-0006	PAH	BENZO(A)PYRENE	170	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-12-0006	PAH	BENZO(A)PYRENE	200	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-13-0006	PAH	BENZO(A)PYRENE	19	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-15-0006	PAH	BENZO(A)PYRENE	5	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD15-0006	PAH	BENZO(A)PYRENE	60	UG/KG	J	Field Duplicate Imprecision
NASB-BG-SD15-0006-D	PAH	BENZO(A)PYRENE	33	UG/KG	J	Field Duplicate Imprecision
NASB-BG-SD-09-0006	PAH	BENZO(B)FLUORANTHENE	180	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-09-0006-D	PAH	BENZO(B)FLUORANTHENE	150	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-10-0006	PAH	BENZO(B)FLUORANTHENE	4	UG/KG	UJ	Internal Standard Noncompliance
NASB-BG-SD-11-0006	PAH	BENZO(B)FLUORANTHENE	250	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-12-0006	PAH	BENZO(B)FLUORANTHENE	300	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-14-0006	PAH	BENZO(B)FLUORANTHENE	280	UG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-15-0006	PAH	BENZO(B)FLUORANTHENE	7	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-16-0006	PAH	BENZO(B)FLUORANTHENE	420	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD10-0006	PAH	BENZO(B)FLUORANTHENE	4	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD15-0006	PAH	BENZO(B)FLUORANTHENE	73	UG/KG	J	Field Duplicate Imprecision
NASB-BG-SD15-0006-D	PAH	BENZO(B)FLUORANTHENE	36	UG/KG	J	Field Duplicate Imprecision
NASB-BG-SD-09-0006	PAH	BENZO(G,H,I)PERYLENE	91	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-09-0006-D	PAH	BENZO(G,H,I)PERYLENE	77	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-10-0006	PAH	BENZO(G,H,I)PERYLENE	4	UG/KG	UJ	Internal Standard Noncompliance
NASB-BG-SD-11-0006	PAH	BENZO(G,H,I)PERYLENE	130	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-12-0006	PAH	BENZO(G,H,I)PERYLENE	170	UG/KG	J	Internal Standard Noncompliance

Table B.2.7
NAS Brunswick Background
Mere Brook Sediment Qualified Data
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SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-SD-13-0006	PAH	BENZO(G,H,I)PERYLENE	16	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-15-0006	PAH	BENZO(G,H,I)PERYLENE	4	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD10-0006	PAH	BENZO(G,H,I)PERYLENE	4	UG/KG	U	Lab Blank Contamination
NASB-BG-SD13-0006	PAH	BENZO(G,H,I)PERYLENE	25	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-09-0006	PAH	BENZO(K)FLUORANTHENE	80	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-09-0006-D	PAH	BENZO(K)FLUORANTHENE	67	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-10-0006	PAH	BENZO(K)FLUORANTHENE	6	UG/KG	UJ	Internal Standard Noncompliance
NASB-BG-SD-11-0006	PAH	BENZO(K)FLUORANTHENE	110	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-12-0006	PAH	BENZO(K)FLUORANTHENE	130	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-13-0006	PAH	BENZO(K)FLUORANTHENE	11	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD13-0006	PAH	BENZO(K)FLUORANTHENE	26	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD15-0006	PAH	BENZO(K)FLUORANTHENE	53	UG/KG	J	Field Duplicate Imprecision
NASB-BG-SD15-0006-D	PAH	BENZO(K)FLUORANTHENE	28	UG/KG	J	Field Duplicate Imprecision
NASB-BG-SD-12-0006	PAH	CHRYSENE	250	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-13-0006	PAH	CHRYSENE	24	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-14-0006	PAH	CHRYSENE	240	UG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-15-0006	PAH	CHRYSENE	6	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD10-0006	PAH	CHRYSENE	4	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD15-0006	PAH	CHRYSENE	69	UG/KG	J	Field Duplicate Imprecision
NASB-BG-SD15-0006-D	PAH	CHRYSENE	38	UG/KG	J	Field Duplicate Imprecision
NASB-BG-SD-09-0006	PAH	DIBENZO(A,H)ANTHRACENE	24	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics). Internal Standard Noncompliance
NASB-BG-SD-09-0006-D	PAH	DIBENZO(A,H)ANTHRACENE	21	UG/KG	J	Internal Standard Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-10-0006	PAH	DIBENZO(A,H)ANTHRACENE	3	UG/KG	UJ	Internal Standard Noncompliance
NASB-BG-SD-11-0006	PAH	DIBENZO(A,H)ANTHRACENE	35	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-12-0006	PAH	DIBENZO(A,H)ANTHRACENE	43	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-13-0006	PAH	DIBENZO(A,H)ANTHRACENE	4	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD13-0006	PAH	DIBENZO(A,H)ANTHRACENE	11	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD15-0006	PAH	DIBENZO(A,H)ANTHRACENE	20	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD15-0006-D	PAH	DIBENZO(A,H)ANTHRACENE	14	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-15-0006	PAH	FLUORANTHENE	10	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD09-0006	PAH	FLUORANTHENE	1400	UG/KG	J	LCS/LCSD Recovery Noncompliance
NASB-BG-SD10-0006	PAH	FLUORANTHENE	9	UG/KG	J	LCS/LCSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD11-0006	PAH	FLUORANTHENE	580	UG/KG	J	LCS/LCSD Recovery Noncompliance
NASB-BG-SD12-0006	PAH	FLUORANTHENE	420	UG/KG	J	LCS/LCSD Recovery Noncompliance
NASB-BG-SD13-0006	PAH	FLUORANTHENE	74	UG/KG	J	LCS/LCSD Recovery Noncompliance
NASB-BG-SD14-0006	PAH	FLUORANTHENE	580	UG/KG	J	LCS/LCSD Recovery Noncompliance
NASB-BG-SD15-0006	PAH	FLUORANTHENE	160	UG/KG	J	LCS/LCSD Recovery Noncompliance, Field Duplicate Imprecision
NASB-BG-SD15-0006-D	PAH	FLUORANTHENE	83	UG/KG	J	LCS/LCSD Recovery Noncompliance, Field Duplicate Imprecision
NASB-BG-SD16-0006	PAH	FLUORANTHENE	490	UG/KG	J	LCS/LCSD Recovery Noncompliance
NASB-BG-SD-11-0006	PAH	FLUORENE	21	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-12-0006	PAH	FLUORENE	16	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-14-0006	PAH	FLUORENE	160	UG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-15-0006	PAH	FLUORENE	7	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-16-0006	PAH	FLUORENE	24	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD09-0006	PAH	FLUORENE	590	UG/KG	J	LCS/LCSD Recovery Noncompliance
NASB-BG-SD10-0006	PAH	FLUORENE	5	UG/KG	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SD11-0006	PAH	FLUORENE	16	UG/KG	J	LCS/LCSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD12-0006	PAH	FLUORENE	12	UG/KG	J	LCS/LCSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD13-0006	PAH	FLUORENE	4	UG/KG	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SD14-0006	PAH	FLUORENE	35	UG/KG	J	LCS/LCSD Recovery Noncompliance
NASB-BG-SD15-0006	PAH	FLUORENE	4	UG/KG	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SD15-0006-D	PAH	FLUORENE	4	UG/KG	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SD16-0006	PAH	FLUORENE	15	UG/KG	J	LCS/LCSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-09-0006	PAH	INDENO(1,2,3-CD)PYRENE	110	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-09-0006-D	PAH	INDENO(1,2,3-CD)PYRENE	93	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-10-0006	PAH	INDENO(1,2,3-CD)PYRENE	3	UG/KG	UJ	Internal Standard Noncompliance
NASB-BG-SD-11-0006	PAH	INDENO(1,2,3-CD)PYRENE	150	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-12-0006	PAH	INDENO(1,2,3-CD)PYRENE	200	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-13-0006	PAH	INDENO(1,2,3-CD)PYRENE	20	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-15-0006	PAH	INDENO(1,2,3-CD)PYRENE	4	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD10-0006	PAH	INDENO(1,2,3-CD)PYRENE	3	UG/KG	U	Lab Blank Contamination
NASB-BG-SD13-0006	PAH	INDENO(1,2,3-CD)PYRENE	25	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD15-0006	PAH	INDENO(1,2,3-CD)PYRENE	52	UG/KG	J	Field Duplicate Imprecision
NASB-BG-SD15-0006-D	PAH	INDENO(1,2,3-CD)PYRENE	28	UG/KG	J	Field Duplicate Imprecision
NASB-BG-SD-11-0006	PAH	NAPHTHALENE	6	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

Table B.2.7
NAS Brunswick Background
Mere Brook Sediment Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-SD-12-0006	PAH	NAPHTHALENE	7	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-14-0006	PAH	NAPHTHALENE	300	UG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-16-0006	PAH	NAPHTHALENE	6	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD09-0006	PAH	NAPHTHALENE	130	UG/KG	J	LCS/LCSD Recovery Noncompliance
NASB-BG-SD10-0006	PAH	NAPHTHALENE	4	UG/KG	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SD11-0006	PAH	NAPHTHALENE	3	UG/KG	J	LCS/LCSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD12-0006	PAH	NAPHTHALENE	3	UG/KG	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SD13-0006	PAH	NAPHTHALENE	4	UG/KG	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SD14-0006	PAH	NAPHTHALENE	75	UG/KG	J	LCS/LCSD Recovery Noncompliance
NASB-BG-SD15-0006	PAH	NAPHTHALENE	3	UG/KG	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SD15-0006-D	PAH	NAPHTHALENE	3	UG/KG	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SD16-0006	PAH	NAPHTHALENE	4	UG/KG	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SD-15-0006	PAH	PHENANTHRENE	4	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD10-0006	PAH	PHENANTHRENE	5	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD13-0006	PAH	PHENANTHRENE	26	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD15-0006	PAH	PHENANTHRENE	60	UG/KG	J	Field Duplicate Imprecision
NASB-BG-SD15-0006-D	PAH	PHENANTHRENE	31	UG/KG	J	Field Duplicate Imprecision
NASB-BG-SD-09-0006	PAH	PYRENE	370	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-10-0006	PAH	PYRENE	4	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-15-0006	PAH	PYRENE	12	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD10-0006	PAH	PYRENE	6	UG/KG	U	Lab Blank Contamination
NASB-BG-SD15-0006	PAH	PYRENE	96	UG/KG	J	Field Duplicate Imprecision
NASB-BG-SD15-0006-D	PAH	PYRENE	53	UG/KG	J	Field Duplicate Imprecision
NASB-BG-SD-09-0006	PEST/PCB	4,4'-DDD	2.2	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-09-0006-D	PEST/PCB	4,4'-DDD	2.2	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-10-0006	PEST/PCB	4,4'-DDD	0.18	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-11-0006	PEST/PCB	4,4'-DDD	3	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-12-0006	PEST/PCB	4,4'-DDD	3.7	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-13-0006	PEST/PCB	4,4'-DDD	0.71	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-14-0006	PEST/PCB	4,4'-DDD	3.7	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-15-0006	PEST/PCB	4,4'-DDD	0.13	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-16-0006	PEST/PCB	4,4'-DDD	5.7	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD09-0006	PEST/PCB	4,4'-DDD	3.2	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD11-0006	PEST/PCB	4,4'-DDD	2.5	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD12-0006	PEST/PCB	4,4'-DDD	2.5	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD13-0006	PEST/PCB	4,4'-DDD	1.1	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD14-0006	PEST/PCB	4,4'-DDD	2.8	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD15-0006	PEST/PCB	4,4'-DDD	1.7	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD15-0006-D	PEST/PCB	4,4'-DDD	1.3	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD16-0006	PEST/PCB	4,4'-DDD	4.0	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-09-0006-D	PEST/PCB	4,4'-DDE	0.97	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-11-0006	PEST/PCB	4,4'-DDE	1.5	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-12-0006	PEST/PCB	4,4'-DDE	1.7	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-13-0006	PEST/PCB	4,4'-DDE	0.39	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-14-0006	PEST/PCB	4,4'-DDE	1.6	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD09-0006	PEST/PCB	4,4'-DDE	1.8	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD11-0006	PEST/PCB	4,4'-DDE	1.3	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD12-0006	PEST/PCB	4,4'-DDE	1.2	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD13-0006	PEST/PCB	4,4'-DDE	0.87	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD14-0006	PEST/PCB	4,4'-DDE	1.3	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD15-0006	PEST/PCB	4,4'-DDE	1.4	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD15-0006-D	PEST/PCB	4,4'-DDE	0.90	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD16-0006	PEST/PCB	4,4'-DDE	1.9	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-09-0006	PEST/PCB	4,4'-DDT	1.6	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics), % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD-09-0006-D	PEST/PCB	4,4'-DDT	1.2	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-10-0006	PEST/PCB	4,4'-DDT	0.28	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)

Table B.2.7
NAS Brunswick Background
Mere Brook Sediment Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-SD-11-0006	PEST/PCB	4,4'-DDT	1.9	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-12-0006	PEST/PCB	4,4'-DDT	1.6	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-13-0006	PEST/PCB	4,4'-DDT	0.21	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-14-0006	PEST/PCB	4,4'-DDT	1.4	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-15-0006	PEST/PCB	4,4'-DDT	0.21	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-16-0006	PEST/PCB	4,4'-DDT	2.4	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD09-0006	PEST/PCB	4,4'-DDT	1.3	UG/KG	U	Lab Blank Contamination
NASB-BG-SD11-0006	PEST/PCB	4,4'-DDT	1.5	UG/KG	U	Lab Blank Contamination
NASB-BG-SD12-0006	PEST/PCB	4,4'-DDT	1.3	UG/KG	U	Lab Blank Contamination
NASB-BG-SD13-0006	PEST/PCB	4,4'-DDT	0.89	UG/KG	U	Lab Blank Contamination
NASB-BG-SD14-0006	PEST/PCB	4,4'-DDT	1.4	UG/KG	U	Lab Blank Contamination
NASB-BG-SD15-0006	PEST/PCB	4,4'-DDT	1.4	UG/KG	U	Lab Blank Contamination
NASB-BG-SD15-0006-D	PEST/PCB	4,4'-DDT	1.1	UG/KG	U	Lab Blank Contamination
NASB-BG-SD16-0006	PEST/PCB	4,4'-DDT	2.6	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-14-0006	PEST/PCB	ALDRIN	0.20	UG/KG	UJ	MS/MSD Recovery Noncompliance
NASB-BG-SD-14-0006	PEST/PCB	BETA-BHC	0.24	UG/KG	UJ	MS/MSD Recovery Noncompliance
NASB-BG-SD-11-0006	PEST/PCB	DELTA-BHC	0.22	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-12-0006	PEST/PCB	DELTA-BHC	0.23	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-13-0006	PEST/PCB	DELTA-BHC	0.22	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-14-0006	PEST/PCB	DELTA-BHC	0.23	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-15-0006	PEST/PCB	DELTA-BHC	0.21	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-16-0006	PEST/PCB	DELTA-BHC	0.23	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-09-0006	PEST/PCB	ENDOSULFAN I	2	UG/KG	UJ	LCS/LCSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics), % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD-09-0006-D	PEST/PCB	ENDOSULFAN I	0.16	UG/KG	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SD-10-0006	PEST/PCB	ENDOSULFAN I	0.22	UG/KG	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SD-11-0006	PEST/PCB	ENDOSULFAN I	0.16	UG/KG	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SD-12-0006	PEST/PCB	ENDOSULFAN I	0.17	UG/KG	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SD-13-0006	PEST/PCB	ENDOSULFAN I	0.16	UG/KG	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SD-14-0006	PEST/PCB	ENDOSULFAN I	0.17	UG/KG	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SD-15-0006	PEST/PCB	ENDOSULFAN I	0.16	UG/KG	UJ	LCS/LCSD Recovery Noncompliance
NASB-BG-SD-16-0006	PEST/PCB	ENDOSULFAN I	3.2	UG/KG	UJ	LCS/LCSD Recovery Noncompliance, % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD14-0006	PEST/PCB	ENDOSULFAN II	1.3	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics), % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD-09-0006	PEST/PCB	ENDOSULFAN SULFATE	0.92	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-09-0006-D	PEST/PCB	ENDOSULFAN SULFATE	1.3	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-11-0006	PEST/PCB	ENDOSULFAN SULFATE	0.40	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-12-0006	PEST/PCB	ENDOSULFAN SULFATE	0.42	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-13-0006	PEST/PCB	ENDOSULFAN SULFATE	0.40	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-14-0006	PEST/PCB	ENDOSULFAN SULFATE	0.42	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-15-0006	PEST/PCB	ENDOSULFAN SULFATE	0.39	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-16-0006	PEST/PCB	ENDOSULFAN SULFATE	0.42	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-11-0006	PEST/PCB	ENDRIN KETONE	0.27	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-12-0006	PEST/PCB	ENDRIN KETONE	0.29	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-13-0006	PEST/PCB	ENDRIN KETONE	0.28	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-14-0006	PEST/PCB	ENDRIN KETONE	0.29	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-15-0006	PEST/PCB	ENDRIN KETONE	0.27	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-16-0006	PEST/PCB	ENDRIN KETONE	0.29	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-14-0006	PEST/PCB	GAMMA-BHC (LINDANE)	0.19	UG/KG	UJ	MS/MSD Recovery Noncompliance
NASB-BG-SD-09-0006	PEST/PCB	GAMMA-CHLORDANE	0.77	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics), % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD-09-0006-D	PEST/PCB	GAMMA-CHLORDANE	0.92	UG/KG	UJ	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics), % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD-11-0006	PEST/PCB	GAMMA-CHLORDANE	0.70	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics), % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD-12-0006	PEST/PCB	GAMMA-CHLORDANE	0.77	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics), % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD-14-0006	PEST/PCB	GAMMA-CHLORDANE	0.91	UG/KG	J	MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics), % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD-16-0006	PEST/PCB	GAMMA-CHLORDANE	0.93	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics), % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD-14-0006	PEST/PCB	HEPTACHLOR EPOXIDE	0.16	UG/KG	UJ	MS/MSD Recovery Noncompliance
NASB-BG-SD-09-0006	PEST/PCB	METHOXYCHLOR	0.34	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-09-0006-D	PEST/PCB	METHOXYCHLOR	0.32	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-10-0006	PEST/PCB	METHOXYCHLOR	0.46	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-11-0006	PEST/PCB	METHOXYCHLOR	0.34	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-12-0006	PEST/PCB	METHOXYCHLOR	0.36	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-13-0006	PEST/PCB	METHOXYCHLOR	0.34	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-14-0006	PEST/PCB	METHOXYCHLOR	0.36	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-15-0006	PEST/PCB	METHOXYCHLOR	0.33	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-16-0006	PEST/PCB	METHOXYCHLOR	0.36	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)

Table B.2.8
NAS Brunswick Background
Coffins Ice Pond Sediment Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-SD-08-0006	HERB	2,4,5-T	31	UG/KG	UJ	Holding Time Exceedance
NASB-BG-SD01-0006	HERB	2,4,5-T	25	UG/KG	UJ	Surrogates Recovery Noncompliance
NASB-BG-SD04-0006	HERB	2,4,5-T	25	UG/KG	UJ	Surrogates Recovery Noncompliance
NASB-BG-SD-08-0006	HERB	2,4,5-TP (SILVEX)	24	UG/KG	UJ	Holding Time Exceedance
NASB-BG-SD01-0006	HERB	2,4,5-TP (SILVEX)	20	UG/KG	UJ	Surrogates Recovery Noncompliance
NASB-BG-SD02-0006	HERB	2,4,5-TP (SILVEX)	62	UG/KG	J	Surrogates Recovery Noncompliance, % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD04-0006	HERB	2,4,5-TP (SILVEX)	20	UG/KG	UJ	MS/MSD Recovery Noncompliance, Surrogates Recovery Noncompliance
NASB-BG-SD07-0006	HERB	2,4,5-TP (SILVEX)	70	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-08-0006	HERB	2,4-D	62	UG/KG	UJ	Holding Time Exceedance
NASB-BG-SD01-0006	HERB	2,4-D	51	UG/KG	UJ	Surrogates Recovery Noncompliance
NASB-BG-SD04-0006	HERB	2,4-D	50	UG/KG	UJ	Surrogates Recovery Noncompliance
NASB-BG-SD-08-0006	HERB	2,4-DB	46	UG/KG	UJ	Holding Time Exceedance
NASB-BG-SD01-0006	HERB	2,4-DB	150	UG/KG	UJ	Surrogates Recovery Noncompliance
NASB-BG-SD04-0006	HERB	2,4-DB	150	UG/KG	UJ	Surrogates Recovery Noncompliance
NASB-BG-SD-08-0006	HERB	DALAPON	16	UG/KG	UJ	Holding Time Exceedance
NASB-BG-SD01-0006	HERB	DALAPON	13	UG/KG	UJ	Surrogates Recovery Noncompliance
NASB-BG-SD04-0006	HERB	DALAPON	13	UG/KG	UJ	Surrogates Recovery Noncompliance
NASB-BG-SD-08-0006	HERB	DICAMBA	21	UG/KG	UJ	Holding Time Exceedance
NASB-BG-SD01-0006	HERB	DICAMBA	17	UG/KG	UJ	Surrogates Recovery Noncompliance
NASB-BG-SD04-0006	HERB	DICAMBA	17	UG/KG	UJ	MS/MSD Recovery Noncompliance, Surrogates Recovery Noncompliance
NASB-BG-SD-08-0006	HERB	DICHLOROPROP	37	UG/KG	UJ	Holding Time Exceedance
NASB-BG-SD01-0006	HERB	DICHLOROPROP	30	UG/KG	UJ	Surrogates Recovery Noncompliance
NASB-BG-SD04-0006	HERB	DICHLOROPROP	30	UG/KG	UJ	Surrogates Recovery Noncompliance
NASB-BG-SD-08-0006	HERB	DINOSEB	5	UG/KG	UJ	Holding Time Exceedance
NASB-BG-SD01-0006	HERB	DINOSEB	4.1	UG/KG	UJ	Surrogates Recovery Noncompliance
NASB-BG-SD04-0006	HERB	DINOSEB	4.0	UG/KG	UJ	Surrogates Recovery Noncompliance
NASB-BG-SD05-0006-D	HERB	DINOSEB	36	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics), % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD-08-0006	HERB	MCPA	4500	UG/KG	UJ	Holding Time Exceedance
NASB-BG-SD01-0006	HERB	MCPA	3700	UG/KG	UJ	Surrogates Recovery Noncompliance
NASB-BG-SD02-0006	HERB	MCPA	29000	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD04-0006	HERB	MCPA	3600	UG/KG	UJ	Surrogates Recovery Noncompliance
NASB-BG-SD-08-0006	HERB	MCPP	4300	UG/KG	UJ	Holding Time Exceedance
NASB-BG-SD01-0006	HERB	MCPP	23000	UG/KG	J	Surrogates Recovery Noncompliance
NASB-BG-SD04-0006	HERB	MCPP	3500	UG/KG	UJ	Surrogates Recovery Noncompliance
NASB-BG-SD06-0006	HERB	MCPP	32000	UG/KG	J	Surrogates Recovery Noncompliance
NASB-BG-SD-01-0006	M	ANTIMONY	0.10	MG/KG	UJ	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Lab Duplicate Imprecision, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-02-0006	M	ANTIMONY	0.25	MG/KG	UJ	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Lab Duplicate Imprecision, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-03-0006	M	ANTIMONY	0.27	MG/KG	UJ	Lab Blank Contamination, MS/MSD Recovery Noncompliance, Lab Duplicate Imprecision, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-03-0006-D	M	ANTIMONY	0.11	MG/KG	UJ	MS/MSD Recovery Noncompliance, Lab Duplicate Imprecision
NASB-BG-SD-04-0006	M	ANTIMONY	0.09	MG/KG	UJ	MS/MSD Recovery Noncompliance, Lab Duplicate Imprecision
NASB-BG-SD-05-0006	M	ANTIMONY	0.12	MG/KG	UJ	MS/MSD Recovery Noncompliance, Lab Duplicate Imprecision
NASB-BG-SD-06-0006	M	ANTIMONY	0.13	MG/KG	UJ	MS/MSD Recovery Noncompliance, Lab Duplicate Imprecision
NASB-BG-SD-07-0006	M	ANTIMONY	0.14	MG/KG	UJ	MS/MSD Recovery Noncompliance, Lab Duplicate Imprecision
NASB-BG-SD-08-0006	M	ANTIMONY	0.11	MG/KG	UJ	MS/MSD Recovery Noncompliance, Lab Duplicate Imprecision
NASB-BG-SD01-0006	M	ANTIMONY	0.10	MG/KG	UJ	MS/MSD Recovery Noncompliance
NASB-BG-SD02-0006	M	ANTIMONY	0.54	MG/KG	J	MS/MSD Recovery Noncompliance, ICP Interference - includes ICS % R Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD03-0006	M	ANTIMONY	0.26	MG/KG	J	MS/MSD Recovery Noncompliance, ICP Interference - includes ICS % R Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD04-0006	M	ANTIMONY	0.76	MG/KG	J	MS/MSD Recovery Noncompliance, ICP Interference - includes ICS % R Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD05-0006	M	ANTIMONY	0.24	MG/KG	UJ	MS/MSD Recovery Noncompliance, ICP Interference - includes ICS % R Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD05-0006-D	M	ANTIMONY	0.45	MG/KG	J	MS/MSD Recovery Noncompliance, ICP Interference - includes ICS % R Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD06-0006	M	ANTIMONY	0.39	MG/KG	UJ	MS/MSD Recovery Noncompliance, ICP Interference - includes ICS % R Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD07-0006	M	ANTIMONY	0.66	MG/KG	J	MS/MSD Recovery Noncompliance, ICP Interference - includes ICS % R Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD08-0006	M	ANTIMONY	0.36	MG/KG	UJ	MS/MSD Recovery Noncompliance, ICP Interference - includes ICS % R Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-01-0006	M	CALCIUM	5780	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-02-0006	M	CALCIUM	5950	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-03-0006	M	CALCIUM	7560	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-03-0006-D	M	CALCIUM	5770	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-04-0006	M	CALCIUM	3690	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-05-0006	M	CALCIUM	6130	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-06-0006	M	CALCIUM	4290	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-07-0006	M	CALCIUM	8000	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-08-0006	M	CALCIUM	6670	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-01-0006	M	CHROMIUM	56	MG/KG	J	MS/MSD Recovery Noncompliance, Lab Duplicate Imprecision
NASB-BG-SD-02-0006	M	CHROMIUM	65.9	MG/KG	J	MS/MSD Recovery Noncompliance, Lab Duplicate Imprecision

Table B.2.8
NAS Brunswick Background
Coffins Ice Pond Sediment Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-SD-03-0006	M	CHROMIUM	57.4	MG/KG	J	MS/MSD Recovery Noncompliance, Lab Duplicate Imprecision
NASB-BG-SD-03-0006-D	M	CHROMIUM	55.4	MG/KG	J	MS/MSD Recovery Noncompliance, Lab Duplicate Imprecision
NASB-BG-SD-04-0006	M	CHROMIUM	30.4	MG/KG	J	MS/MSD Recovery Noncompliance, Lab Duplicate Imprecision
NASB-BG-SD-05-0006	M	CHROMIUM	65.8	MG/KG	J	MS/MSD Recovery Noncompliance, Lab Duplicate Imprecision
NASB-BG-SD-06-0006	M	CHROMIUM	58.4	MG/KG	J	MS/MSD Recovery Noncompliance, Lab Duplicate Imprecision
NASB-BG-SD-07-0006	M	CHROMIUM	49.1	MG/KG	J	MS/MSD Recovery Noncompliance, Lab Duplicate Imprecision
NASB-BG-SD-08-0006	M	CHROMIUM	33.2	MG/KG	J	MS/MSD Recovery Noncompliance, Lab Duplicate Imprecision
NASB-BG-SD-01-0006	M	LEAD	139	MG/KG	J	Lab Duplicate Imprecision
NASB-BG-SD-02-0006	M	LEAD	131	MG/KG	J	Lab Duplicate Imprecision
NASB-BG-SD-03-0006	M	LEAD	169	MG/KG	J	Lab Duplicate Imprecision
NASB-BG-SD-03-0006-D	M	LEAD	139	MG/KG	J	Lab Duplicate Imprecision
NASB-BG-SD-04-0006	M	LEAD	87	MG/KG	J	Lab Duplicate Imprecision
NASB-BG-SD-05-0006	M	LEAD	208	MG/KG	J	Lab Duplicate Imprecision
NASB-BG-SD-06-0006	M	LEAD	154	MG/KG	J	Lab Duplicate Imprecision
NASB-BG-SD-07-0006	M	LEAD	232	MG/KG	J	Lab Duplicate Imprecision
NASB-BG-SD-08-0006	M	LEAD	175	MG/KG	J	Lab Duplicate Imprecision
NASB-BG-SD01-0006	M	LEAD	134	MG/KG	J	MS/MSD Recovery Noncompliance, Field Duplicate Imprecision
NASB-BG-SD02-0006	M	LEAD	62.7	MG/KG	J	MS/MSD Recovery Noncompliance, Field Duplicate Imprecision
NASB-BG-SD03-0006	M	LEAD	133	MG/KG	J	MS/MSD Recovery Noncompliance, Field Duplicate Imprecision
NASB-BG-SD04-0006	M	LEAD	147	MG/KG	J	MS/MSD Recovery Noncompliance, Field Duplicate Imprecision
NASB-BG-SD05-0006	M	LEAD	169	MG/KG	J	MS/MSD Recovery Noncompliance, Field Duplicate Imprecision
NASB-BG-SD05-0006-D	M	LEAD	157	MG/KG	J	MS/MSD Recovery Noncompliance, Field Duplicate Imprecision
NASB-BG-SD06-0006	M	LEAD	175	MG/KG	J	MS/MSD Recovery Noncompliance, Field Duplicate Imprecision
NASB-BG-SD07-0006	M	LEAD	104	MG/KG	J	MS/MSD Recovery Noncompliance, Field Duplicate Imprecision
NASB-BG-SD08-0006	M	LEAD	142	MG/KG	J	MS/MSD Recovery Noncompliance, Field Duplicate Imprecision
NASB-BG-SD-01-0006	M	MANGANESE	219	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-02-0006	M	MANGANESE	543	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-03-0006	M	MANGANESE	218	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-03-0006-D	M	MANGANESE	271	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-04-0006	M	MANGANESE	188	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-05-0006	M	MANGANESE	210	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-06-0006	M	MANGANESE	296	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-07-0006	M	MANGANESE	625	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-08-0006	M	MANGANESE	346	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD01-0006	M	POTASSIUM	2880	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD02-0006	M	POTASSIUM	3860	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD03-0006	M	POTASSIUM	2270	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD04-0006	M	POTASSIUM	3950	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD05-0006	M	POTASSIUM	3290	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD05-0006-D	M	POTASSIUM	3170	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD06-0006	M	POTASSIUM	3640	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD07-0006	M	POTASSIUM	3070	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD08-0006	M	POTASSIUM	2290	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-01-0006	M	THALLIUM	0.40	MG/KG	J	ICP Interference - includes ICS % R Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SD-03-0006	M	THALLIUM	0.28	MG/KG	J	ICP Interference - includes ICS % R Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SD-03-0006-D	M	THALLIUM	0.32	MG/KG	J	ICP Interference - includes ICS % R Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SD-04-0006	M	THALLIUM	0.46	MG/KG	J	ICP Interference - includes ICS % R Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SD-05-0006	M	THALLIUM	0.28	MG/KG	J	ICP Interference - includes ICS % R Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SD-06-0006	M	THALLIUM	0.31	MG/KG	UJ	ICP Interference - includes ICS % R Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SD-07-0006	M	THALLIUM	0.66	MG/KG	J	ICP Interference - includes ICS % R Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SD-08-0006	M	THALLIUM	0.60	MG/KG	J	ICP Interference - includes ICS % R Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SD02-0006	M	THALLIUM	0.75	MG/KG	J	ICP Interference - includes ICS % R Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SD03-0006	M	THALLIUM	0.38	MG/KG	UJ	Lab Blank Contamination, ICP Interference - includes ICS % R Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SD04-0006	M	THALLIUM	1.6	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SD05-0006	M	THALLIUM	0.47	MG/KG	UJ	Lab Blank Contamination, ICP Interference - includes ICS % R Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SD05-0006-D	M	THALLIUM	0.32	MG/KG	UJ	Lab Blank Contamination, ICP Interference - includes ICS % R Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SD06-0006	M	THALLIUM	0.77	MG/KG	UJ	Lab Blank Contamination, ICP Interference - includes ICS % R Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SD07-0006	M	THALLIUM	1.5	MG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SD08-0006	M	THALLIUM	0.47	MG/KG	UJ	Lab Blank Contamination, ICP Interference - includes ICS % R Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CROL for organics)
NASB-BG-SD01-0006	M	ZINC	291	MG/KG	J	ICP Serial Dilution Noncompliance
NASB-BG-SD02-0006	M	ZINC	285	MG/KG	J	ICP Serial Dilution Noncompliance
NASB-BG-SD03-0006	M	ZINC	214	MG/KG	J	ICP Serial Dilution Noncompliance
NASB-BG-SD04-0006	M	ZINC	366	MG/KG	J	ICP Serial Dilution Noncompliance
NASB-BG-SD05-0006	M	ZINC	273	MG/KG	J	ICP Serial Dilution Noncompliance
NASB-BG-SD05-0006-D	M	ZINC	256	MG/KG	J	ICP Serial Dilution Noncompliance
NASB-BG-SD06-0006	M	ZINC	328	MG/KG	J	ICP Serial Dilution Noncompliance
NASB-BG-SD07-0006	M	ZINC	268	MG/KG	J	ICP Serial Dilution Noncompliance
NASB-BG-SD08-0006	M	ZINC	301	MG/KG	J	ICP Serial Dilution Noncompliance
NASB-BG-SD-01-0006	MISC	TOTAL ORGANIC CARBON	180000	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-02-0006	MISC	TOTAL ORGANIC CARBON	200000	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-03-0006	MISC	TOTAL ORGANIC CARBON	170000	MG/KG	J	MS/MSD Recovery Noncompliance

Table B.2.8
NAS Brunswick Background
Coffins Ice Pond Sediment Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-SD-03-0006-D	MISC	TOTAL ORGANIC CARBON	220000	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-04-0006	MISC	TOTAL ORGANIC CARBON	180000	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-05-0006	MISC	TOTAL ORGANIC CARBON	160000	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-06-0006	MISC	TOTAL ORGANIC CARBON	140000	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-07-0006	MISC	TOTAL ORGANIC CARBON	300000	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-08-0006	MISC	TOTAL ORGANIC CARBON	250000	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD04-0006	MISC	TOTAL ORGANIC CARBON	190000	MG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-01-0006	PAH	2-METHYLNAPHTHALENE	40	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-02-0006	PAH	2-METHYLNAPHTHALENE	25	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-03-0006	PAH	2-METHYLNAPHTHALENE	32	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-03-0006-D	PAH	2-METHYLNAPHTHALENE	29	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-04-0006	PAH	2-METHYLNAPHTHALENE	30	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-05-0006	PAH	2-METHYLNAPHTHALENE	40	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-06-0006	PAH	2-METHYLNAPHTHALENE	53	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-07-0006	PAH	2-METHYLNAPHTHALENE	36	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-08-0006	PAH	2-METHYLNAPHTHALENE	24	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD01-0006	PAH	2-METHYLNAPHTHALENE	44	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , LCS/LCSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD02-0006	PAH	2-METHYLNAPHTHALENE	18	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD03-0006	PAH	2-METHYLNAPHTHALENE	26	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD04-0006	PAH	2-METHYLNAPHTHALENE	16	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD05-0006	PAH	2-METHYLNAPHTHALENE	48	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD05-0006-D	PAH	2-METHYLNAPHTHALENE	48	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD06-0006	PAH	2-METHYLNAPHTHALENE	56	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD07-0006	PAH	2-METHYLNAPHTHALENE	16	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD08-0006	PAH	2-METHYLNAPHTHALENE	11	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD04-0006	PAH	ACENAPHTHENE	31	UG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD08-0006	PAH	ACENAPHTHENE	12	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-01-0006	PAH	ACENAPHTHYLENE	190	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-03-0006-D	PAH	ACENAPHTHYLENE	150	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-05-0006	PAH	ACENAPHTHYLENE	220	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD04-0006	PAH	ACENAPHTHYLENE	120	UG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD05-0006	PAH	ACENAPHTHYLENE	410	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD05-0006-D	PAH	ACENAPHTHYLENE	270	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD06-0006	PAH	ACENAPHTHYLENE	470	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD02-0006	PAH	ANTHRACENE	170	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD04-0006	PAH	ANTHRACENE	99	UG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-03-0006-D	PAH	BENZO(A)ANTHRACENE	1400	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD04-0006	PAH	BENZO(A)ANTHRACENE	1100	UG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-01-0006	PAH	BENZO(A)PYRENE	3100	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-02-0006	PAH	BENZO(A)PYRENE	2500	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-03-0006	PAH	BENZO(A)PYRENE	2200	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-03-0006-D	PAH	BENZO(A)PYRENE	2400	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-04-0006	PAH	BENZO(A)PYRENE	2400	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-05-0006	PAH	BENZO(A)PYRENE	3000	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-06-0006	PAH	BENZO(A)PYRENE	2800	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD04-0006	PAH	BENZO(A)PYRENE	1600	UG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-01-0006	PAH	BENZO(B)FLUORANTHENE	4900	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-02-0006	PAH	BENZO(B)FLUORANTHENE	4100	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-03-0006	PAH	BENZO(B)FLUORANTHENE	3400	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-03-0006-D	PAH	BENZO(B)FLUORANTHENE	3800	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-04-0006	PAH	BENZO(B)FLUORANTHENE	3800	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-05-0006	PAH	BENZO(B)FLUORANTHENE	4800	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-06-0006	PAH	BENZO(B)FLUORANTHENE	4600	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD04-0006	PAH	BENZO(B)FLUORANTHENE	1800	UG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-01-0006	PAH	BENZO(G,H,I)PERYLENE	2800	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-02-0006	PAH	BENZO(G,H,I)PERYLENE	2400	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-03-0006	PAH	BENZO(G,H,I)PERYLENE	2000	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-03-0006-D	PAH	BENZO(G,H,I)PERYLENE	2400	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-04-0006	PAH	BENZO(G,H,I)PERYLENE	2400	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-05-0006	PAH	BENZO(G,H,I)PERYLENE	2500	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-06-0006	PAH	BENZO(G,H,I)PERYLENE	2700	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD04-0006	PAH	BENZO(G,H,I)PERYLENE	1400	UG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-01-0006	PAH	BENZO(K)FLUORANTHENE	1800	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-02-0006	PAH	BENZO(K)FLUORANTHENE	1500	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-03-0006	PAH	BENZO(K)FLUORANTHENE	1200	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-03-0006-D	PAH	BENZO(K)FLUORANTHENE	1400	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-04-0006	PAH	BENZO(K)FLUORANTHENE	1400	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-05-0006	PAH	BENZO(K)FLUORANTHENE	1800	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-06-0006	PAH	BENZO(K)FLUORANTHENE	1700	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD04-0006	PAH	BENZO(K)FLUORANTHENE	1900	UG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-03-0006-D	PAH	CHRYSENE	2700	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD04-0006	PAH	CHRYSENE	2200	UG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-01-0006	PAH	DIBENZO(A,H)ANTHRACENE	660	UG/KG	J	Internal Standard Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)

Table B.2.8
NAS Brunswick Background
Coffins Ice Pond Sediment Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-SD-02-0006	PAH	DIBENZO(A,H)ANTHRACENE	580	UG/KG	J	Internal Standard Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-03-0006	PAH	DIBENZO(A,H)ANTHRACENE	470	UG/KG	J	Field Duplicate Imprecision, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics), Internal Standard Noncompliance
NASB-BG-SD-03-0006-D	PAH	DIBENZO(A,H)ANTHRACENE	240	UG/KG	J	Field Duplicate Imprecision
NASB-BG-SD-04-0006	PAH	DIBENZO(A,H)ANTHRACENE	620	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-05-0006	PAH	DIBENZO(A,H)ANTHRACENE	670	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-06-0006	PAH	DIBENZO(A,H)ANTHRACENE	660	UG/KG	J	Internal Standard Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD01-0006	PAH	DIBENZO(A,H)ANTHRACENE	1400	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD04-0006	PAH	DIBENZO(A,H)ANTHRACENE	350	UG/KG	J	MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD01-0006	PAH	FLUORANTHENE	15000	UG/KG	J	LCS/LCSD Recovery Noncompliance
NASB-BG-SD04-0006	PAH	FLUORANTHENE	3300	UG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD05-0006	PAH	FLUORANTHENE	6800	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD05-0006-D	PAH	FLUORANTHENE	5500	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD06-0006	PAH	FLUORANTHENE	7600	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD07-0006	PAH	FLUORANTHENE	3000	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD08-0006	PAH	FLUORANTHENE	1700	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD04-0006	PAH	FLUORENE	68	UG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-01-0006	PAH	INDENO(1,2,3-CD)PYRENE	3100	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-02-0006	PAH	INDENO(1,2,3-CD)PYRENE	2800	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-03-0006	PAH	INDENO(1,2,3-CD)PYRENE	2200	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-03-0006-D	PAH	INDENO(1,2,3-CD)PYRENE	2600	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-04-0006	PAH	INDENO(1,2,3-CD)PYRENE	2600	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-05-0006	PAH	INDENO(1,2,3-CD)PYRENE	2900	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD-06-0006	PAH	INDENO(1,2,3-CD)PYRENE	2900	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD01-0006	PAH	INDENO(1,2,3-CD)PYRENE	5300	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD04-0006	PAH	INDENO(1,2,3-CD)PYRENE	1300	UG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD01-0006	PAH	NAPHTHALENE	100	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD04-0006	PAH	NAPHTHALENE	20	UG/KG	J	MS/MSD Recovery Noncompliance, Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD07-0006	PAH	NAPHTHALENE	19	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD08-0006	PAH	NAPHTHALENE	15	UG/KG	J	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD04-0006	PAH	PHENANTHRENE	1400	UG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-03-0006-D	PAH	PYRENE	5700	UG/KG	J	Internal Standard Noncompliance
NASB-BG-SD04-0006	PAH	PYRENE	3100	UG/KG	J	MS/MSD Recovery Noncompliance
NASB-BG-SD-01-0006	PEST/PCB	4,4'-DDD	88	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-02-0006	PEST/PCB	4,4'-DDD	47	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-03-0006	PEST/PCB	4,4'-DDD	41	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Field Duplicate Imprecision, Surrogates Recovery Noncompliance
NASB-BG-SD-03-0006-D	PEST/PCB	4,4'-DDD	71	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Field Duplicate Imprecision
NASB-BG-SD-04-0006	PEST/PCB	4,4'-DDD	56	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-05-0006	PEST/PCB	4,4'-DDD	85	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-06-0006	PEST/PCB	4,4'-DDD	190	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-07-0006	PEST/PCB	4,4'-DDD	85	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-08-0006	PEST/PCB	4,4'-DDD	53	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD01-0006	PEST/PCB	4,4'-DDD	71	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD02-0006	PEST/PCB	4,4'-DDD	79	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD03-0006	PEST/PCB	4,4'-DDD	110	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD04-0006	PEST/PCB	4,4'-DDD	82	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD05-0006	PEST/PCB	4,4'-DDD	110	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD05-0006-D	PEST/PCB	4,4'-DDD	130	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD06-0006	PEST/PCB	4,4'-DDD	130	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD07-0006	PEST/PCB	4,4'-DDD	46	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD08-0006	PEST/PCB	4,4'-DDD	34	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-02-0006	PEST/PCB	4,4'-DDE	15	UG/KG	J	Surrogates Recovery Noncompliance
NASB-BG-SD-03-0006	PEST/PCB	4,4'-DDE	13	UG/KG	J	Field Duplicate Imprecision, Surrogates Recovery Noncompliance
NASB-BG-SD-03-0006-D	PEST/PCB	4,4'-DDE	23	UG/KG	J	Field Duplicate Imprecision
NASB-BG-SD-04-0006	PEST/PCB	4,4'-DDE	20	UG/KG	J	Surrogates Recovery Noncompliance
NASB-BG-SD-05-0006	PEST/PCB	4,4'-DDE	25	UG/KG	J	Surrogates Recovery Noncompliance
NASB-BG-SD-08-0006	PEST/PCB	4,4'-DDE	27	UG/KG	J	Surrogates Recovery Noncompliance
NASB-BG-SD-01-0006	PEST/PCB	4,4'-DDT	23	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-02-0006	PEST/PCB	4,4'-DDT	10	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-03-0006	PEST/PCB	4,4'-DDT	10	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Field Duplicate Imprecision, Surrogates Recovery Noncompliance
NASB-BG-SD-03-0006-D	PEST/PCB	4,4'-DDT	17	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Field Duplicate Imprecision
NASB-BG-SD-04-0006	PEST/PCB	4,4'-DDT	11	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-05-0006	PEST/PCB	4,4'-DDT	17	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-06-0006	PEST/PCB	4,4'-DDT	39	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-07-0006	PEST/PCB	4,4'-DDT	29	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-08-0006	PEST/PCB	4,4'-DDT	0.36	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD01-0006	PEST/PCB	4,4'-DDT	27	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD02-0006	PEST/PCB	4,4'-DDT	34	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD03-0006	PEST/PCB	4,4'-DDT	64	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD04-0006	PEST/PCB	4,4'-DDT	17	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , MS/MSD Recovery Noncompliance
NASB-BG-SD05-0006	PEST/PCB	4,4'-DDT	30	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD05-0006-D	PEST/PCB	4,4'-DDT	31	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD06-0006	PEST/PCB	4,4'-DDT	36	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD07-0006	PEST/PCB	4,4'-DDT	17	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)

Table B.2.8
NAS Brunswick Background
Coffins Ice Pond Sediment Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-SD08-0006	PEST/PCB	4,4'-DDT	12	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-01-0006	PEST/PCB	ALDRIN	0.28	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-02-0006	PEST/PCB	ALDRIN	0.28	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-03-0006	PEST/PCB	ALDRIN	0.28	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-03-0006-D	PEST/PCB	ALDRIN	0.28	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-04-0006	PEST/PCB	ALDRIN	0.29	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-05-0006	PEST/PCB	ALDRIN	0.34	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-06-0006	PEST/PCB	ALDRIN	0.35	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-07-0006	PEST/PCB	ALDRIN	0.39	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-08-0006	PEST/PCB	ALDRIN	0.32	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD01-0006	PEST/PCB	ALDRIN	0.29	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD02-0006	PEST/PCB	ALDRIN	0.35	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD03-0006	PEST/PCB	ALDRIN	0.43	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD04-0006	PEST/PCB	ALDRIN	0.44	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD05-0006	PEST/PCB	ALDRIN	0.43	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD05-0006-D	PEST/PCB	ALDRIN	0.44	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD06-0006	PEST/PCB	ALDRIN	0.35	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD07-0006	PEST/PCB	ALDRIN	0.43	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD08-0006	PEST/PCB	ALDRIN	0.43	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-01-0006	PEST/PCB	ALPHA-BHC	0.35	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-02-0006	PEST/PCB	ALPHA-BHC	0.34	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-03-0006	PEST/PCB	ALPHA-BHC	0.34	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-03-0006-D	PEST/PCB	ALPHA-BHC	0.34	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-04-0006	PEST/PCB	ALPHA-BHC	0.35	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-05-0006	PEST/PCB	ALPHA-BHC	0.83	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics), Surrogates Recovery Noncompliance
NASB-BG-SD-06-0006	PEST/PCB	ALPHA-BHC	0.43	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-07-0006	PEST/PCB	ALPHA-BHC	0.47	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-08-0006	PEST/PCB	ALPHA-BHC	0.39	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD01-0006	PEST/PCB	ALPHA-BHC	0.36	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD02-0006	PEST/PCB	ALPHA-BHC	0.42	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD03-0006	PEST/PCB	ALPHA-BHC	0.52	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD04-0006	PEST/PCB	ALPHA-BHC	0.53	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD05-0006	PEST/PCB	ALPHA-BHC	0.53	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD05-0006-D	PEST/PCB	ALPHA-BHC	0.53	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD06-0006	PEST/PCB	ALPHA-BHC	0.42	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD07-0006	PEST/PCB	ALPHA-BHC	0.52	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD08-0006	PEST/PCB	ALPHA-BHC	0.52	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-01-0006	PEST/PCB	ALPHA-CHLORDANE	11	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-02-0006	PEST/PCB	ALPHA-CHLORDANE	6.8	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-03-0006	PEST/PCB	ALPHA-CHLORDANE	4	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Field Duplicate Imprecision, Surrogates Recovery Noncompliance
NASB-BG-SD-03-0006-D	PEST/PCB	ALPHA-CHLORDANE	8.4	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Field Duplicate Imprecision
NASB-BG-SD-04-0006	PEST/PCB	ALPHA-CHLORDANE	5.9	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-05-0006	PEST/PCB	ALPHA-CHLORDANE	6.2	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-06-0006	PEST/PCB	ALPHA-CHLORDANE	15	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-07-0006	PEST/PCB	ALPHA-CHLORDANE	6.5	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-08-0006	PEST/PCB	ALPHA-CHLORDANE	0.24	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD01-0006	PEST/PCB	ALPHA-CHLORDANE	11	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD02-0006	PEST/PCB	ALPHA-CHLORDANE	18	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD03-0006	PEST/PCB	ALPHA-CHLORDANE	14	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD04-0006	PEST/PCB	ALPHA-CHLORDANE	12	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD05-0006	PEST/PCB	ALPHA-CHLORDANE	13	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD05-0006-D	PEST/PCB	ALPHA-CHLORDANE	14	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD06-0006	PEST/PCB	ALPHA-CHLORDANE	16	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD07-0006	PEST/PCB	ALPHA-CHLORDANE	10	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD08-0006	PEST/PCB	ALPHA-CHLORDANE	3.0	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-01-0006	PEST/PCB	BETA-BHC	0.34	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-02-0006	PEST/PCB	BETA-BHC	0.33	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-03-0006	PEST/PCB	BETA-BHC	0.33	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-03-0006-D	PEST/PCB	BETA-BHC	0.33	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-04-0006	PEST/PCB	BETA-BHC	0.34	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance

Table B.2.8
NAS Brunswick Background
Coffins Ice Pond Sediment Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-SD-05-0006	PEST/PCB	BETA-BHC	0.40	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-06-0006	PEST/PCB	BETA-BHC	0.42	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-07-0006	PEST/PCB	BETA-BHC	0.46	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-08-0006	PEST/PCB	BETA-BHC	0.38	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD01-0006	PEST/PCB	BETA-BHC	0.34	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD02-0006	PEST/PCB	BETA-BHC	0.41	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD03-0006	PEST/PCB	BETA-BHC	0.51	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD04-0006	PEST/PCB	BETA-BHC	0.51	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , MS/MSD Recovery Noncompliance
NASB-BG-SD05-0006	PEST/PCB	BETA-BHC	0.51	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD05-0006-D	PEST/PCB	BETA-BHC	0.52	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD06-0006	PEST/PCB	BETA-BHC	0.41	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD07-0006	PEST/PCB	BETA-BHC	0.50	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD08-0006	PEST/PCB	BETA-BHC	0.51	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-01-0006	PEST/PCB	DELTA-BHC	0.33	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-02-0006	PEST/PCB	DELTA-BHC	0.32	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-03-0006	PEST/PCB	DELTA-BHC	0.32	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-03-0006-D.	PEST/PCB	DELTA-BHC	0.32	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-04-0006	PEST/PCB	DELTA-BHC	1.6	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics), Surrogates Recovery Noncompliance, % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD-05-0006	PEST/PCB	DELTA-BHC	0.39	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-06-0006	PEST/PCB	DELTA-BHC	4.9	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD-07-0006	PEST/PCB	DELTA-BHC	3.3	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD-08-0006	PEST/PCB	DELTA-BHC	0.37	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD01-0006	PEST/PCB	DELTA-BHC	1.8	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics), % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD02-0006	PEST/PCB	DELTA-BHC	1.9	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD03-0006	PEST/PCB	DELTA-BHC	2.8	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD04-0006	PEST/PCB	DELTA-BHC	2.3	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics), % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD05-0006	PEST/PCB	DELTA-BHC	3.2	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD05-0006-D	PEST/PCB	DELTA-BHC	3.4	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD06-0006	PEST/PCB	DELTA-BHC	3.2	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD07-0006	PEST/PCB	DELTA-BHC	1.7	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics), % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD08-0006	PEST/PCB	DELTA-BHC	1.5	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
NASB-BG-SD-02-0006	PEST/PCB	DIELDRIN	0.22	UG/KG	UJ	Surrogates Recovery Noncompliance
NASB-BG-SD-03-0006	PEST/PCB	DIELDRIN	0.22	UG/KG	UJ	Surrogates Recovery Noncompliance
NASB-BG-SD-04-0006	PEST/PCB	DIELDRIN	0.22	UG/KG	UJ	Surrogates Recovery Noncompliance
NASB-BG-SD-05-0006	PEST/PCB	DIELDRIN	0.27	UG/KG	UJ	Surrogates Recovery Noncompliance
NASB-BG-SD-01-0006	PEST/PCB	ENDOSULFAN I	40	UG/KG	UJ	% Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD-02-0006	PEST/PCB	ENDOSULFAN I	19	UG/KG	UJ	Surrogates Recovery Noncompliance, % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD-03-0006	PEST/PCB	ENDOSULFAN I	17	UG/KG	UJ	Field Duplicate Imprecision, Surrogates Recovery Noncompliance, % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD-03-0006-D	PEST/PCB	ENDOSULFAN I	34	UG/KG	UJ	Field Duplicate Imprecision, % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD-04-0006	PEST/PCB	ENDOSULFAN I	18	UG/KG	UJ	Surrogates Recovery Noncompliance, % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD-05-0006	PEST/PCB	ENDOSULFAN I	31	UG/KG	UJ	Surrogates Recovery Noncompliance, % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD-06-0006	PEST/PCB	ENDOSULFAN I	57	UG/KG	UJ	% Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD-07-0006	PEST/PCB	ENDOSULFAN I	33	UG/KG	UJ	% Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD-02-0006	PEST/PCB	ENDOSULFAN II	0.34	UG/KG	UJ	Surrogates Recovery Noncompliance
NASB-BG-SD-03-0006	PEST/PCB	ENDOSULFAN II	0.34	UG/KG	UJ	Surrogates Recovery Noncompliance
NASB-BG-SD-04-0006	PEST/PCB	ENDOSULFAN II	0.35	UG/KG	UJ	Surrogates Recovery Noncompliance
NASB-BG-SD-05-0006	PEST/PCB	ENDOSULFAN II	0.42	UG/KG	UJ	Surrogates Recovery Noncompliance
NASB-BG-SD-08-0006	PEST/PCB	ENDOSULFAN II	6.8	UG/KG	UJ	Surrogates Recovery Noncompliance, % Difference between columns/detectors >25% for positive results determined via GC/HPLC

Table B.2.8
NAS Brunswick Background
Coffins Ice Pond Sediment Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-SD01-0006	PEST/PCB	ENDOSULFAN II	9.8	UG/KG	J	% Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD02-0006	PEST/PCB	ENDOSULFAN II	10	UG/KG	UJ	% Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD03-0006	PEST/PCB	ENDOSULFAN II	16	UG/KG	UJ	% Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD04-0006	PEST/PCB	ENDOSULFAN II	11	UG/KG	UJ	MS/MSD Recovery Noncompliance, % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD05-0006	PEST/PCB	ENDOSULFAN II	16	UG/KG	UJ	% Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD05-0006-D	PEST/PCB	ENDOSULFAN II	19	UG/KG	UJ	% Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD06-0006	PEST/PCB	ENDOSULFAN II	19	UG/KG	UJ	% Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD07-0006	PEST/PCB	ENDOSULFAN II	7.1	UG/KG	UJ	% Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD08-0006	PEST/PCB	ENDOSULFAN II	5.5	UG/KG	UJ	% Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD-01-0006	PEST/PCB	ENDOSULFAN SULFATE	0.59	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-02-0006	PEST/PCB	ENDOSULFAN SULFATE	0.59	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-03-0006	PEST/PCB	ENDOSULFAN SULFATE	0.58	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-03-0006-D	PEST/PCB	ENDOSULFAN SULFATE	0.58	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-04-0006	PEST/PCB	ENDOSULFAN SULFATE	0.59	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-05-0006	PEST/PCB	ENDOSULFAN SULFATE	0.71	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-06-0006	PEST/PCB	ENDOSULFAN SULFATE	0.73	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-07-0006	PEST/PCB	ENDOSULFAN SULFATE	0.80	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-08-0006	PEST/PCB	ENDOSULFAN SULFATE	8.1	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance, % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD01-0006	PEST/PCB	ENDOSULFAN SULFATE	0.61	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD02-0006	PEST/PCB	ENDOSULFAN SULFATE	0.72	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD03-0006	PEST/PCB	ENDOSULFAN SULFATE	0.89	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD04-0006	PEST/PCB	ENDOSULFAN SULFATE	0.90	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD05-0006	PEST/PCB	ENDOSULFAN SULFATE	0.90	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD05-0006-D	PEST/PCB	ENDOSULFAN SULFATE	0.91	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD06-0006	PEST/PCB	ENDOSULFAN SULFATE	0.72	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD07-0006	PEST/PCB	ENDOSULFAN SULFATE	0.89	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD08-0006	PEST/PCB	ENDOSULFAN SULFATE	0.89	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-02-0006	PEST/PCB	ENDRIN	0.86	UG/KG	UJ	Surrogates Recovery Noncompliance
NASB-BG-SD-03-0006	PEST/PCB	ENDRIN	0.85	UG/KG	UJ	Surrogates Recovery Noncompliance
NASB-BG-SD-04-0006	PEST/PCB	ENDRIN	0.87	UG/KG	UJ	Surrogates Recovery Noncompliance
NASB-BG-SD-05-0006	PEST/PCB	ENDRIN	1	UG/KG	UJ	Surrogates Recovery Noncompliance
NASB-BG-SD-07-0006	PEST/PCB	ENDRIN	8.3	UG/KG	UJ	% Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD-02-0006	PEST/PCB	ENDRIN ALDEHYDE	0.50	UG/KG	UJ	Surrogates Recovery Noncompliance
NASB-BG-SD-03-0006	PEST/PCB	ENDRIN ALDEHYDE	0.49	UG/KG	UJ	Surrogates Recovery Noncompliance
NASB-BG-SD-04-0006	PEST/PCB	ENDRIN ALDEHYDE	0.50	UG/KG	UJ	Surrogates Recovery Noncompliance
NASB-BG-SD-05-0006	PEST/PCB	ENDRIN ALDEHYDE	0.60	UG/KG	UJ	Surrogates Recovery Noncompliance
NASB-BG-SD-01-0006	PEST/PCB	ENDRIN KETONE	0.41	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-02-0006	PEST/PCB	ENDRIN KETONE	0.40	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-03-0006	PEST/PCB	ENDRIN KETONE	0.40	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-03-0006-D	PEST/PCB	ENDRIN KETONE	0.40	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-04-0006	PEST/PCB	ENDRIN KETONE	0.41	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-05-0006	PEST/PCB	ENDRIN KETONE	0.49	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-06-0006	PEST/PCB	ENDRIN KETONE	0.50	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-07-0006	PEST/PCB	ENDRIN KETONE	0.55	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-08-0006	PEST/PCB	ENDRIN KETONE	0.46	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD04-0006	PEST/PCB	ENDRIN KETONE	0.62	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD05-0006	PEST/PCB	ENDRIN KETONE	0.62	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD05-0006-D	PEST/PCB	ENDRIN KETONE	0.63	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD06-0006	PEST/PCB	ENDRIN KETONE	0.49	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD07-0006	PEST/PCB	ENDRIN KETONE	0.61	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD08-0006	PEST/PCB	ENDRIN KETONE	0.62	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-01-0006	PEST/PCB	GAMMA-BHC (LINDANE)	0.28	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-02-0006	PEST/PCB	GAMMA-BHC (LINDANE)	0.27	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-03-0006	PEST/PCB	GAMMA-BHC (LINDANE)	0.27	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-03-0006-D	PEST/PCB	GAMMA-BHC (LINDANE)	0.27	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-04-0006	PEST/PCB	GAMMA-BHC (LINDANE)	0.28	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-05-0006	PEST/PCB	GAMMA-BHC (LINDANE)	0.33	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-06-0006	PEST/PCB	GAMMA-BHC (LINDANE)	0.34	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-07-0006	PEST/PCB	GAMMA-BHC (LINDANE)	0.37	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-08-0006	PEST/PCB	GAMMA-BHC (LINDANE)	0.31	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD01-0006	PEST/PCB	GAMMA-BHC (LINDANE)	0.28	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD02-0006	PEST/PCB	GAMMA-BHC (LINDANE)	0.34	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD03-0006	PEST/PCB	GAMMA-BHC (LINDANE)	0.41	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD04-0006	PEST/PCB	GAMMA-BHC (LINDANE)	0.42	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD05-0006	PEST/PCB	GAMMA-BHC (LINDANE)	0.42	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD05-0006-D	PEST/PCB	GAMMA-BHC (LINDANE)	0.42	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD06-0006	PEST/PCB	GAMMA-BHC (LINDANE)	0.33	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD07-0006	PEST/PCB	GAMMA-BHC (LINDANE)	0.41	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)

Table B.2.8
NAS Brunswick Background
Coffins Ice Pond Sediment Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-SD08-0006	PEST/PCB	GAMMA-BHC (LINDANE)	0.42	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-01-0006	PEST/PCB	GAMMA-CHLORDANE	0.23	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-02-0006	PEST/PCB	GAMMA-CHLORDANE	0.23	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-03-0006	PEST/PCB	GAMMA-CHLORDANE	3.3	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance, % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD-03-0006-D	PEST/PCB	GAMMA-CHLORDANE	0.23	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-04-0006	PEST/PCB	GAMMA-CHLORDANE	0.24	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-05-0006	PEST/PCB	GAMMA-CHLORDANE	0.28	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-06-0006	PEST/PCB	GAMMA-CHLORDANE	0.29	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-07-0006	PEST/PCB	GAMMA-CHLORDANE	0.32	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-08-0006	PEST/PCB	GAMMA-CHLORDANE	0.26	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD01-0006	PEST/PCB	GAMMA-CHLORDANE	63	UG/KG	J	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD02-0006	PEST/PCB	GAMMA-CHLORDANE	70	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD03-0006	PEST/PCB	GAMMA-CHLORDANE	110	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD04-0006	PEST/PCB	GAMMA-CHLORDANE	69	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , MS/MSD Recovery Noncompliance, % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD05-0006	PEST/PCB	GAMMA-CHLORDANE	89	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD05-0006-D	PEST/PCB	GAMMA-CHLORDANE	93	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD06-0006	PEST/PCB	GAMMA-CHLORDANE	86	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD07-0006	PEST/PCB	GAMMA-CHLORDANE	53	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD08-0006	PEST/PCB	GAMMA-CHLORDANE	34	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , % Difference between columns/detectors >25% for positive results determined via GC/HPLC
NASB-BG-SD-01-0006	PEST/PCB	HEPTACHLOR	0.30	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-02-0006	PEST/PCB	HEPTACHLOR	0.29	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-03-0006	PEST/PCB	HEPTACHLOR	0.29	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-03-0006-D	PEST/PCB	HEPTACHLOR	0.29	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-04-0006	PEST/PCB	HEPTACHLOR	0.30	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-05-0006	PEST/PCB	HEPTACHLOR	0.36	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-06-0006	PEST/PCB	HEPTACHLOR	0.36	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-07-0006	PEST/PCB	HEPTACHLOR	0.40	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-08-0006	PEST/PCB	HEPTACHLOR	0.34	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD01-0006	PEST/PCB	HEPTACHLOR	0.30	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD02-0006	PEST/PCB	HEPTACHLOR	0.36	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD03-0006	PEST/PCB	HEPTACHLOR	0.44	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD04-0006	PEST/PCB	HEPTACHLOR	0.45	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD05-0006	PEST/PCB	HEPTACHLOR	0.45	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD05-0006-D	PEST/PCB	HEPTACHLOR	0.46	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD06-0006	PEST/PCB	HEPTACHLOR	0.36	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD07-0006	PEST/PCB	HEPTACHLOR	0.44	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD08-0006	PEST/PCB	HEPTACHLOR	0.45	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-01-0006	PEST/PCB	HEPTACHLOR EPOXIDE	0.22	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-02-0006	PEST/PCB	HEPTACHLOR EPOXIDE	0.22	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-03-0006	PEST/PCB	HEPTACHLOR EPOXIDE	0.22	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-03-0006-D	PEST/PCB	HEPTACHLOR EPOXIDE	0.22	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-04-0006	PEST/PCB	HEPTACHLOR EPOXIDE	0.22	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-05-0006	PEST/PCB	HEPTACHLOR EPOXIDE	0.27	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-06-0006	PEST/PCB	HEPTACHLOR EPOXIDE	0.28	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-07-0006	PEST/PCB	HEPTACHLOR EPOXIDE	0.30	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-08-0006	PEST/PCB	HEPTACHLOR EPOXIDE	0.25	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD01-0006	PEST/PCB	HEPTACHLOR EPOXIDE	0.23	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD02-0006	PEST/PCB	HEPTACHLOR EPOXIDE	0.27	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD03-0006	PEST/PCB	HEPTACHLOR EPOXIDE	0.34	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD04-0006	PEST/PCB	HEPTACHLOR EPOXIDE	0.34	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD05-0006	PEST/PCB	HEPTACHLOR EPOXIDE	0.34	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD05-0006-D	PEST/PCB	HEPTACHLOR EPOXIDE	0.34	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD06-0006	PEST/PCB	HEPTACHLOR EPOXIDE	0.27	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD07-0006	PEST/PCB	HEPTACHLOR EPOXIDE	0.34	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD08-0006	PEST/PCB	HEPTACHLOR EPOXIDE	0.34	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-01-0006	PEST/PCB	METHOXYCHLOR	0.51	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-02-0006	PEST/PCB	METHOXYCHLOR	0.51	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-03-0006	PEST/PCB	METHOXYCHLOR	0.50	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-03-0006-D	PEST/PCB	METHOXYCHLOR	0.50	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)

Table B.2.8
NAS Brunswick Background
Coffins Ice Pond Sediment Qualified Data
Brunswick, Maine

SAMPLE NO	FRACTION	PARAMETER	RESULT	UNITS	VALIDATOR QUALIFIER	REASON CODE
NASB-BG-SD-04-0006	PEST/PCB	METHOXYCHLOR	0.51	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-05-0006	PEST/PCB	METHOXYCHLOR	0.61	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.) , Surrogates Recovery Noncompliance
NASB-BG-SD-06-0006	PEST/PCB	METHOXYCHLOR	0.63	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-07-0006	PEST/PCB	METHOXYCHLOR	0.69	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-08-0006	PEST/PCB	METHOXYCHLOR	0.58	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD01-0006	PEST/PCB	METHOXYCHLOR	0.52	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD02-0006	PEST/PCB	METHOXYCHLOR	0.62	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD03-0006	PEST/PCB	METHOXYCHLOR	0.77	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD04-0006	PEST/PCB	METHOXYCHLOR	0.78	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD05-0006	PEST/PCB	METHOXYCHLOR	0.78	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD05-0006-D	PEST/PCB	METHOXYCHLOR	0.78	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD06-0006	PEST/PCB	METHOXYCHLOR	0.62	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD07-0006	PEST/PCB	METHOXYCHLOR	0.76	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD08-0006	PEST/PCB	METHOXYCHLOR	0.77	UG/KG	UJ	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
NASB-BG-SD-02-0006	PEST/PCB	TOXAPHENE	7.1	UG/KG	UJ	Surrogates Recovery Noncompliance
NASB-BG-SD-03-0006	PEST/PCB	TOXAPHENE	7	UG/KG	UJ	Surrogates Recovery Noncompliance
NASB-BG-SD-04-0006	PEST/PCB	TOXAPHENE	7.2	UG/KG	UJ	Surrogates Recovery Noncompliance
NASB-BG-SD-05-0006	PEST/PCB	TOXAPHENE	8.6	UG/KG	UJ	Surrogates Recovery Noncompliance

Table B.2.9
NAS Brunswick
Completeness Evaluations
Brunswick, Maine

Groundwater Sample Collection and Laboratory Analysis Completeness

Upper Sand September 2009

Parameter	WP Field Samples	Field Samples Collected and Analyzed	Field Sample Percent Completeness
TAL Metals (Total)	15	15	100
TAL Metals (Dissolved)	15	15	100
Bromide and Chloride	15	15	100
Field Parameters (color,turbidity, DO, S.C., temperature, pH, ORP)	15	15	100

Upper Sand April 2010

Parameter	WP Field Samples	Field Samples Collected and Analyzed	Field Sample Percent Completeness
TAL Metals (Total)	15	15	100
TAL Metals (Dissolved)	15	15	100
Field Parameters (color,turbidity, DO, S.C., temperature, pH, ORP)	15	15	100

Lower Sand September 2009

Parameter	WP Field Samples	Field Samples Collected and Analyzed	Field Sample Percent Completeness
TAL Metals (Total)	15	16	107
TAL Metals (Dissolved)	15	16	107
Bromide and Chloride	15	16	107
Field Parameters (color,turbidity, DO, S.C., temperature, pH, ORP)	16	16	100

Lower Sand April 2010

Parameter	WP Field Samples	Field Samples Collected and Analyzed	Field Sample Percent Completeness
TAL Metals (Total)	15	16	107
TAL Metals (Dissolved)	15	16	107
Field Parameters (turbidity, DO, SC, temperature, pH, ORP)	16	15	94

Transition Unit September 2009

Parameter	WP Field Samples	Field Samples Collected and Analyzed	Field Sample Percent Completeness
TAL Metals (Total)	15	15	100
TAL Metals (Dissolved)	15	15	100
Bromide and Chloride	15	15	100
Field Parameters (color,turbidity, DO, S.C., temperature, pH, ORP)	15	15	100

Transition Unit April 2010

Parameter	WP Field Samples	Field Samples Collected and Analyzed	Field Sample Percent Completeness
TAL Metals (Total)	15	15	100
TAL Metals (Dissolved)	15	15	100
Field Parameters (turbidity, DO, SC, temperature, pH, ORP)	15	14	93

Table B.2.9
NAS Brunswick
Completeness Evaluations
Brunswick, Maine

Bedrock September 2009

Parameter	WP Field Samples	Field Samples Collected and Analyzed	Field Sample Percent Completeness
TAL Metals (Total)	4	4	100
TAL Metals (Dissolved)	4	4	100
Bromide and Chloride	4	4	100
Field Parameters (color,turbidity, DO, S.C., temperature, pH, ORP)	4	4	100

Bedrock April 2010

Parameter	WP Field Samples	Field Samples Collected and Analyzed	Field Sample Percent Completeness
TAL Metals (Total)	4	4	100
TAL Metals (Dissolved)	4	4	100
Field Parameters (turbidity, DO, SC, temperature, pH, ORP)	4	4	100

QC Samples

Parameter	Field Duplicates Expected (1)	Field Duplicates Collected and Analyzed	Field Duplicate Percent Completeness	Field Blanks Expected (2)	Field Blanks Collected and Analyzed	Field Blanks Percent Completeness	WP Rinsate Blanks (3)	Rinsate Blanks Collected and Analyzed	Rinsate Blank Percent Completeness
TAL Metals (Total)	10	10	100	2	2	100	5	5	100
TAL Metals (Dissolved)	10	10	100	2	2	100	5	5	100
Chloride and Bromide	5	5	102	1	1	100	2	2	100

Mere Brook Sample Collection and Laboratory Analysis Completeness

Sediment - September 2009

Parameter	WP Field Samples	Field Samples Collected and Analyzed	Field Sample Percent Completeness
TAL Metals	8	8	100
Herbicides	8	8	100
PAHs	8	8	100
Pesticides	8	8	100
ASTM Grain Size and TOC	8	8	100

Sediment - April 2010

Parameter	WP Field Samples	Field Samples Collected and Analyzed	Field Sample Percent Completeness
TAL Metals	8	8	100
Herbicides	8	8	100
PAHs	8	8	100
Pesticides	8	8	100
ASTM Grain Size and TOC	8	8	100

Surface Water - September 2009

Parameter	WP Field Samples	Field Samples Collected and Analyzed	Field Sample Percent Completeness
TAL Metals (Total)	8	8	100
TAL Metals (Dissolved)	8	8	100
PAHs	8	8	100

Surface Water - April 2010

Parameter	WP Field Samples	Field Samples Collected and Analyzed	Field Sample Percent Completeness
TAL Metals (Total)	8	8	100
TAL Metals (Dissolved)	8	8	100
PAHs	8	8	100

Table B.2.9
NAS Brunswick
Completeness Evaluations
Brunswick, Maine

Field Duplicate Samples - Sediment

Parameter	Field Duplicates Expected (1)	Field Duplicates Collected and Analyzed	Field Duplicate Percent Completeness
TAL Metals	2	2	100
Herbicides	2	2	100
PAHs	2	2	100
Pesticides	2	2	100
TOC	2	2	100

Field Duplicate Samples - Surface Water

Parameter	Field Duplicates Expected (1)	Field Duplicates Collected and Analyzed	Field Duplicate Percent Completeness
TAL Metals (Total)	2	2	100
TAL Metals (Dissolved)	2	2	100
PAHs	2	2	100

Coffins Ice Pond Sample Collection and Laboratory Analysis Completeness

Sediment - September 2009

Parameter	WP Field Samples	Field Samples Collected and Analyzed	Field Sample Percent Completeness
TAL Metals	8	8	100
Herbicides	8	8	100
PAHs	8	8	100
Pesticides	8	8	100
ASTM Grain Size and TOC	8	8	100

Sediment - April 2010

Parameter	WP Field Samples	Field Samples Collected and Analyzed	Field Sample Percent Completeness
TAL Metals	8	8	100
Herbicides	8	8	100
PAHs	8	8	100
Pesticides	8	8	100
ASTM Grain Size and TOC	8	8	100

Surface Water - September 2009

Parameter	WP Field Samples	Field Samples Collected and Analyzed	Field Sample Percent Completeness
TAL Metals (Total)	8	8	100
TAL Metals (Dissolved)	8	8	100
PAHs	8	8	100

Surface Water - April 2010

Parameter	WP Field Samples	Field Samples Collected and Analyzed	Field Sample Percent Completeness
TAL Metals (Total)	8	8	100
TAL Metals (Dissolved)	8	8	100
PAHs	8	8	100

Field Duplicate Samples - Sediment

Parameter	Field Duplicates Expected (1)	Field Duplicates Collected and Analyzed	Field Duplicate Percent Completeness
TAL Metals	2	2	100
Herbicides	2	2	100
PAHs	2	2	100
Pesticides	2	2	100
TOC	2	2	100

Field Duplicate Samples - Surface Water

Parameter	Field Duplicates Expected (1)	Field Duplicates Collected and Analyzed	Field Duplicate Percent Completeness
TAL Metals (Total)	2	2	100
TAL Metals (Dissolved)	2	2	100
PAHs	2	2	100

Table B.2.10
NAS Brunswick Background
Upper Sand Groundwater Sensitivity Evaluation
Brunswick, Maine

Parameter	PAL	Number of Non-Detected Results	Number of Non-Detected Results Exceeding PAL	Pecentage of Non-Detected Results Exceeding PAL	Number of Analyses	Percentage of Non-Detected Results Exceeding PAL for Entire Data Set
Inorganics (µg/L)						
Arsenic	0.045	27	27	100%	30	90%
Vanadium	0.26	22	22	100%	30	73%
Filtered Inorganics (µg/L)						
Arsenic	0.045	28	28	100%	30	93%
Vanadium	0.26	25	25	100%	30	83%

Table B.2..11
NAS Brunswick Background
Lower Sand Groundwater Sensitivity Evaluation
Brunswick, Maine

Parameter	PAL	Number of Non-Detected Results	Number of Non-Detected Results Exceeding PAL	Pecentage of Non-Detected Results Exceeding PAL	Number of Analyses	Percentage of Non-Detected Results Exceeding PAL for Entire Data Set
Inorganics (µg/L)						
Arsenic	0.045	14	14	100%	32	44%
Vanadium	0.26	23	23	100%	32	72%
Filtered Inorganics (µg/L)						
Arsenic	0.045	13	13	100%	32	41%
Vanadium	0.26	27	27	100%	32	84%

Table B.2.12
NAS Brunswick Background
Transition Groundwater Sensitivity Evaluation
Brunswick, Maine

Parameter	PAL	Number of Non-Detected Results	Number of Non-Detected Results Exceeding PAL	Pecentage of Non-Detected Results Exceeding PAL	Number of Analyses	Percentage of Non-Detected Results Exceeding PAL for Entire Data Set
Inorganics (µg/L)						
Arsenic	0.045	17	17	100%	30	57%
Vanadium	0.26	27	27	100%	30	90%
Filtered Inorganics (µg/L)						
Arsenic	0.045	18	18	100%	30	60%
Vanadium	0.26	30	30	100%	30	100%

Table B.2.13
NAS Brunswick Background
Bedrock Groundwater Sensitivity Evaluation
Brunswick, Maine

Parameter	PAL	Number of Non-Detected Results	Number of Non-Detected Results Exceeding PAL	Pecentage of Non-Detected Results Exceeding PAL	Number of Analyses	Percentage of Non-Detected Results Exceeding PAL for Entire Data Set
Inorganics (µg/L)						
Arsenic	0.045	5	5	100%	8	63%
Vanadium	0.26	8	8	100%	8	100%
Filtered Inorganics (µg/L)						
Arsenic	0.045	4	4	100%	8	50%
Vanadium	0.26	8	8	100%	8	100%

Table B.2.14
NAS Brunswick Background
Mere Brook Surface Water Sensitivity Evaluation
Brunswick, Maine

Parameter	PAL	Number of Non-Detected Results	Number of Non-Detected Results Exceeding PAL	Pecentage of Non-Detected Results Exceeding PAL	Number of Analyses	Percentage of Non-Detected Results Exceeding PAL for Entire Data Set
Inorganics (µg/L)						
Arsenic	0.018	16	16	100%	16	100%
Thallium	0.03	16	16	100%	16	100%
Filtered Inorganics (µg/L)						
Arsenic	0.018	11	11	100%	16	69%
Thallium	0.03	16	16	100%	16	100%
Polycylic Aromatic Hydrocarbons (µg/L)						
Benzo(a)anthracene	0.0038	15	15	100%	16	94%
Benzo(a)pyrene	0.0038	16	16	100%	16	100%
Benzo(b)fluoranthene	0.0038	16	16	100%	16	100%
Benzo(k)fluoranthene	0.0038	16	16	100%	16	100%
Chrysene	0.0038	16	16	100%	16	100%
Dibenzo(a,h)anthracene	0.0038	15	15	100%	16	94%
Indeno(1,2,3-CD)pyrene	0.0038	16	16	100%	16	100%

Table B.2.15
NAS Brunswick Background
Coffins Ice Pond Surface Water Sensitivity Evaluation
Brunswick, Maine

Parameter	PAL	Number of Non-Detected Results	Number of Non-Detected Results Exceeding PAL	Pecentage of Non-Detected Results Exceeding PAL	Number of Analyses	Percentage of Non-Detected Results Exceeding PAL for Entire Data Set
Inorganics (µg/L)						
Arsenic	0.018	10	10	100%	16	63%
Thallium	0.03	16	16	100%	16	100%
Filtered Inorganics (µg/L)						
Arsenic	0.018	14	14	100%	16	88%
Thallium	0.03	16	16	100%	16	100%
Polycylic Aromatic Hydrocarbons (µg/L)						
Benzo(a)anthracene	0.0038	14	14	100%	16	88%
Benzo(a)pyrene	0.0038	15	15	100%	16	94%
Benzo(b)fluoranthene	0.0038	15	15	100%	16	94%
Benzo(k)fluoranthene	0.0038	15	15	100%	16	94%
Chrysene	0.0038	15	15	100%	16	94%
Dibenzo(a,h)anthracene	0.0038	15	15	100%	16	94%
Indeno(1,2,3-CD)pyrene	0.0038	15	15	100%	16	94%

Table B.2.16
NAS Brunswick Background
Coffins Ice Pond Sediment Sensitivity Evaluation
Brunswick, Maine

Parameter	PAL	Number of Non-Detected Results	Number of Non-Detected Results Exceeding PAL	Pecentage of Non-Detected Results Exceeding PAL	Number of Analyses	Percentage of Non-Detected Results Exceeding PAL for Entire Data Set
Pesticides (µg/kg)						
Endosulfan I	5.5	16	8	50%	16	50%
Endosulfan II	5.5	15	8	53%	16	50%
Endrin	2.2	16	1	6%	16	6%
Gamma-Chlordane	3.2	14	7	50%	16	44%

APPENDIX C

FIELD LOGS

C.1 ROUND 1 SAMPLING FORMS

Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: TetraTech NUS | Contact: Chuck Rave | Phone #: (978) 474-8406 | Fax #: (978) 474-849

Address: 55 Jonspin Rd. | City: Wilmington | State: MA | Zip Code: 01887

Purchase Order # | Proj. Name / No.: NASB-Background Study-CT0432 | Katahdin Quote #

Bill (if different than above) | Address

Sampler (Print / Sign): Chelsea Pellows/[illegible] Michael Horton [illegible] | Copies To:

LAB USE ONLY WORK ORDER #:

KATAHDIN PROJECT NUMBER

REMARKS:

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT

AIRBILL NO:

TEMP°C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	TOC/Metals 2 oz jar (Filt. ☐Y ☒N)	PAHs 4 oz jar (Filt. ☐Y ☒N)	PCB/Pesticides 8 oz jar (Filt. ☐Y ☒N)	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
	NASB-BG-SB-SB18-0001	8/13/09/1330	Soil	3	1	1	1								
	NASB-BG-SB-SB18-0107	8/13/09/1350		2	1	1									
	NASB-BG-SB-SB19-0001	8/13/09/1520		3	1	1	1								
	NASB-BG-SB-SB19-0105	8/13/09/1530		2	1	1									
	NASB-BG-SB-SB21-0001	8/14/09/0955		3	1	1	1								
	NASB-BG-SB-SB21-0105	8/14/09/1000		2	1	1									
	NASB-BG-SB-SB22-0001	8/14/09/1110		3	1	1	1								
	NASB-BG-SB-SB22-0103	8/14/09/1120		2	1	1									
	NASB-BG-SB-SB25-0001	8/14/09/1200		3	1	1	1								
	NASB-BG-SB-SB25-0110	8/14/09/1205		2	1	1									
	NASB-BG-SB-DUP01-8/14/09	8/14/09/		3	1	1	1								
	NASB-BG-SB-SB24-0001	8/14/09/1310		3	1	1	1								
	NASB-BG-SB-SB24-0110	8/14/09/1315	✓	2	1	1									
		/													
		/													
		/													

FS 8/17/09

COMMENTS NASB-BG-SB-DUP01 → SB24

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[illegible]	8/14/09 1600	[illegible]			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS

Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: Tetra Tech NUS
Contact: Chuck Race
Phone #: (978) 474-8400
Fax #: (978) 474-8490
Address: 55 Jonspin Rd.
City: Wilmington
State: MA
Zip Code: 01887
Purchase Order #:
Proj. Name / No.: 670432 - NASB-Background Study
Katahdin Quote #:
Bill (if different than above):
Address:
Sampler (Print / Sign): Chuck Fellows / [signature]
Copies To:

LAB USE ONLY
WORK ORDER #:
KATAHDIN PROJECT NUMBER
REMARKS:

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT
AIRBILL NO:
TEMP°C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	TOC / Metals 2oz jar	PAHs 4oz jar	Pest / Herbicides 8oz jar	PAHs 1 Liter Amber	Pest ~~Herbicides~~ (CT5) 1 Liter Amber	Herbicides 1 Liter Amber	Herbicides 500ml poly				
	NASB-BG-SB-SB23-0001	8/17/09 / 0845	Soil	3	1	1	1								
	NASB-BG-SB-SB22-0110	8/17/09 / 0950		2	1	1									
	NASB-BG-SB-SB30-0001	8/17/09 / 1030		9	3	3	3								
	SB-BG-SB-SB30-0110	8/17/09 / 1035		2	1	1									
	NASB-BG-SB-SB10-0001	8/17/09 / 1230		3	1	1	1								
	NASB-BG-SB-SB10-0110	8/17/09 / 1235		2	1	1									
	NASB-BG-SB-SB11-0001	8/17/09 / 1355		3	1	1	1								
	NASB-BG-SB-SB11-0110	8/17/09 / 1400		2	1	1									
2	NASB-BG-SB-SB09-0001	8/17/09 / 1530		3	1	1	1								
	NASB-BG-SB-SB09-0110	8/17/09 / 1535		2	1	1									
2	NASB-BG-SB-DUP02-0001	8/17/09 /	↓	3	1	1	1								
	NASB-BG-SB-RB01-081709	8/17/09 / 1730	QC	4	—	—	—	2	2	2	2				
	NASB-BG-SB-SB12-0001	8/18/09 / 0900	Soil	3	1	1	1								
	NASB-BG-SB-SB12-0110	8/18/09 / 0905		2	1	1									
B	NASB-BG-SB-SB13-0001	8/18/09 / 1000		3	1	1	1								
	NASB-BG-SB-SB13-0110	8/18/09 / 1005	↓		1	1									

COMMENTS: LabQC → NASB-BG-SB-SB39-0001 OK
DUP02 → SB09-0001 DUP03 → (CT5) → NASB-BG-SB-SB13-0001

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[signature]	8/19/09 1615	[signature]			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS

CUSTOMER COPY

Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: Tetra Tech NUS
Contact: Chuck Pace
Phone #: (978) 474-8400
Fax #: (978) 474-8491
Address: 55 Jonspin Rd.
City: Wilmington
State: MA
Zip Code: 01887
Purchase Order #:
Proj. Name / No.: 670437 NASB Background Study
Katahdin Quote #:
Bill (if different than above):
Address:
Sampler (Print / Sign): Chelsea Fellows / Chelsea Z
Copies To:

LAB USE ONLY WORK ORDER #:
KATAHDIN PROJECT NUMBER
REMARKS:
SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT
AIRBILL NO:
TEMP°C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	Filt. ☐Y ☐N TOC/Metals 2oz jar	Filt. ☐Y ☐N DAH3 4oz jar	Filt. ☐Y ☐N Pest/Herbicides 8oz jar	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
03	NASB-BG-SB-DUP03-081904	8/19/09 /	Soil	3	1	1	1							
	NASB-BG-SB-SB314-0001	8/18/09 / 1100		3	1	1	1							
	NASB-BG-SB-SB314-0110	8/18/09 / 1105		2	1	1								
	NASB-BG-SB-SB308-0001	8/18/09 / 1225		3	1	1	1							
	NASB-BG-SB-SB308-0110	8/18/09 / 1230		2	1	1								
	NASB-BG-SB-SB307-0001	8/18/09 / 1320		3	1	1	1							
	NASB-BG-SB-SB307-0109	8/18/09 / 1325		2	1	1								
	NASB-BG-SB-SB306-0001	8/18/09 / 1445		3	1	1	1							
	NASB-BG-SB-SB306-0110	8/18/09 / 1450		2	1	1								
	NASB-BG-SB-SB326-0001	8/19/09 / 0845		9	3	3	3							
	NASB-BG-SB-SB326-0110	8/19/09 / 0850		2	1	1								
	NASB-BG-SB-SB328-0001	8/19/09 / 1000		3	1	1	1							
	NASB-BG-SB-SB328-0110	8/19/09 / 1005		2	1	1								
	NASB-BG-SB-SB327-0001	8/19/09 / 1145		3	1	1	1							
	NASB-BG-SB-SB327-0110	8/19/09 / 1150		2	1	1								
	NASB-BG-SB-DUP04-081904	8/19/09 /		3	1	1	1							

COMMENTS NASB-BG-SB-SB326-0001 → Lab QC
DUP03 → SB313-0001 DUP04 → SB328-0001

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[signature]	8/19/09 1605	[signature]			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS. CUSTOMER COPY

Katahdin ANALYTICAL SERVICES

600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: Tetra Tech NUS | Contact: Chuck Race | Phone #: (978) 474-8400 | Fax #: (978) 474-8499

Address: 55 Johnson Rd | City: Wilmington | State: MA | Zip Code: 01887

Purchase Order #: | Proj. Name / No.: CTO 432-NASB Background Study | Katahdin Quote #:

Bill (if different than above): | Address:

Sampler (Print / Sign): Chelsea Fellows / [signature] | Copies To:

LAB USE ONLY | WORK ORDER #: | KATAHDIN PROJECT NUMBER

REMARKS:

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT

AIRBILL NO:

TEMP°C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	TOC / Metals 2 oz Jar	PAHs 4 oz Jar	Pest / Herbicides 8 oz Jar	PAHs 1L Amber	Pesticides 1L Amber	Herbicides 1L Amber	Metals 500 ml Poly HNO3				
	NASB-BG-SB-SB29-0001	8/19/09 / 1345	soil	3	1	1	1								
	NASB-BG-SB-SB29-0110	8/19/09 / 1350		2	1	1									
	NASB-BG-SB-RB02-081909	8/19/09 / 1515	QC	8				2	2	2	2				

COMMENTS

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[signature]	8/19/2009 1515	[signature]			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS

Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: Tetra Tech NUS
Contact: Chuck Race
Phone #: (978) 474-8400
Fax #: (978) 474-8490
Address: 55 Jonspin Rd.
City: Wilmington
State: MA
Zip Code: 01887
Purchase Order #:
Proj. Name / No.: CTO 432 / MASB-Background Study
Katahdin Quote #:
Bill (if different than above):
Address:
Sampler (Print / Sign): Chelsea Fellows / [signature]
Copies To:

LAB USE ONLY WORK ORDER #:
KATAHDIN PROJECT NUMBER
REMARKS:

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT
AIRBILL NO:
TEMP°C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	TOC / Metals 2 oz jars (Filt. ☐Y ☒N)	PAH 4 oz jars (Filt. ☐Y ☒N)	Pest / Herbicides 8 oz jars (Filt. ☐Y ☒N)	PAHs 1 liter Amber (Filt. ☐Y ☐N)	Pesticides 1 liter Amber (Filt. ☐Y ☐N)	Herbicides 1 liter Amber (Filt. ☐Y ☐N)	Metals 500 ml poly (Filt. ☐Y ☐N)	(Filt. ☐Y ☐N)	(Filt. ☐Y ☐N)	(Filt. ☐Y ☐N)
	MASB-BG-SB-SB01-0001	8/20/09 / 1130	Soil	3	1	1	1							
	MASB-BG-SB-SB01-0110	8/20/09 / 1135		2	1	1								
	MASB-BG-SB-SB03-0001	8/20/09 / 1300		3	1	1	1							
	SB-BG-SB-SB03-0110	8/20/09 / 1305		2	1	1								
	MASB-BG-SB-SB04-0001	8/20/09 / 1330		3	1	1	1							
9	MASB-BG-SB-SB04-0110	8/20/09 / 1335		2	1	1								
	MASB-BG-SB-SB05-0001	8/20/09 / 1430		3	1	1	1							
	MASB-BG-SB-SB05-0110	8/20/09 / 1435		2	1	1								
	MASB-BG-SB-SB02-0001	8/20/09 / 1500		3	1	1	1							
	MASB-BG-SB-SB02-0110	8/20/09 / 1505		6	3	3								
5	MASB-BG-SB-DUP05-0820/09	8/20/09 / —		2	1	1								
	MASB-BG-SB-FB01-082109	8/21/09 / 0730	QC	8	—	—	—	2	2	2	8			
	MASB-BG-SB-RB03-082109	8/21/09 / 1320	QC	4	—	—	—	2	—	—	2			
		/												
		/												
		/												

COMMENTS Lab QC → SB02-0110
DUP05 → SB04-0110

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[signature]	8/21/09 1140	[signature]			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS. CUSTOMER COPY

Katahdin ANALYTICAL SERVICES

600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Page 1 of 1

Client: Tetra Tech NUS
Contact: Charles Race
Phone #: (978) 474-8400
Fax #: (978) 474-849
Address: 55 Jonspin Rd
City: Wilmington
State: MA
Zip Code: 01887
Purchase Order #:
Proj. Name / No.: NASB Background Study - CTO 432
Katahdin Quote #:
Bill (if different than above):
Address:
Sampler (Print / Sign): Michael Horton / [illegible] Chelsea Fellows / [illegible]
Copies To:

LAB USE ONLY
WORK ORDER #:
KATAHDIN PROJECT NUMBER
REMARKS:

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT
AIRBILL NO:
TEMP°C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	Filt. ☐Y ☒N Herbicide/Pesticide 8oz Glass Jar	Filt. ☐Y ☒N Metals/TOC 2oz Glass Jar	Filt. ☐Y ☒N PAHs 4oz Glass Jar	Filt. ☐Y ☒N PAHs 1 x Liter Amber	Filt. ☐Y ☒N Metals w/HNO3 1 x 500ml Poly	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
	NASB-BG-SB-SB17-0001	8/25/09 / 0815	Soil	3	1	1	1							
	NASB-BG-SB-SB17-0110	8/25/09 / 0820	↓	2		1	1							
	NASB-BG-SB-SB16-0001	8/25/09 / 1045		3	1	1	1							
DUP06	NASB-BG-SB-~~SB-0110~~ SB16-0110	8/25/09 / 1050		2		1	1							
	NASB-BG-SB-SB15-0001	8/25/09 / 1400		3	1	1	1							
	NASB-BG-SB-SB15-0110	8/25/09 / 1405		2		1	1							
DUP06	NASB-BG-SB-DUP06-082509	8/25/09 /	↓	2		1	1							
	NASB-BG-SB-RB04-082509	8/25/09 / 1600	QC	4				2	2					

OFS

COMMENTS
DUP06 was collected as duplicate of NASB-BG-SB-SB16-0110

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[signature]	8/26/09 1600	[signature]			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS

Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: Tetra Tech NUS | Contact: Chuck Race | Phone #: (978) 474-8400 | Fax #: (978) 474-8499

Address: 55 Johnson Rd. | City: Wilmington | State: MA | Zip Code: 01887

Purchase Order # | Proj. Name / No.: NASB Background Study 70432 | Katahdin Quote #

Bill (if different than above) | Address

Sampler (Print / Sign): C. Fellows / [illegible] | Copies To:

LAB USE ONLY WORK ORDER #:

KATAHDIN PROJECT NUMBER

REMARKS:

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT

AIRBILL NO:

TEMP°C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	Filt. ☐Y ☑N Grain Size 1 x 1 liter Poly	Filt. ☐Y ☑N PAH 1 x 8 oz jar	Filt. ☐Y ☑N Pesticides/Herbicides 1 x 8 oz jar	Filt. ☐Y ☑N Metals/TOC 1 x 4 oz jar	Filt. ☐Y ☑N PAH 1 x 1 liter Amber	Filt. ☐Y ☑N Metals-Totals 1 x 500 ml poly w/ HNO3	Filt. ☑Y ☐N Metals-Dissolved 1 x 500 ml poly w/ HNO3	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
	NASB-BG-SD16-0006	9/3/09 / 0930	SD	4	1	1	1	1						
	NASB-BG-SD15-0006	/ 1005	SD	4	1	1	1	1						
	NASB-BG-SD14-0006	/ 1040	SD	4	1	1	1	1						
	B-BG-SD-DUP01-090309	/ —	SD	4	1	1	1	1						
	NASB-BG-SD13-0006	/ 1165	SD	4	1	1	1	1						
	NASB-BG-SD12-0006	/ 1200	SD	4	1	1	1	1						
	NASB-BG-SD11-0006	/ 1220	SD	4	1	1	1	1						
	NASB-BG-SD10-0006	/ 1240	SD	4	1	1	1	1						
	NASB-BG-SD09-0006	/ 1310	SD	4	1	1	1	1						
	NASB-BG-SW16-090309	/ 0920	SW	3	—	—	—	—	2	1				
	NASB-BG-SW16-090309-F	/ 0920	SW	1	—	—	—	—	—	—	1			
	NASB-BG-SW15-090309	/ 0955	SW	3	—	—	—	—	2	1				
	NASB-BG-SW15-090309-F	/ 0955	SW	1	—	—	—	—	—	—	1			
	NASB-BG-SW14-090309	/ 1030	SW	3	—	—	—	—	2	1				
	NASB-BG-SW14-090309-F	/ 1030	SW	1	—	—	—	—	—	—	1			
	NASB-BG-SW-DUP01-090309	/ —	SW	3	—	—	—	—	2	1				

COMMENTS
NASB-BG-SD-DUP01-090309 @ SD15
NASB-BG-SW-DUP01-090309 @ SW15
NASB-BG-SW-DUP01-090309-F @ SW15

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[signature]	9/3/09 1100	[signature]			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES. EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS

Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: Tetra Tech NUS
Contact: Chuck Race
Phone #: (978) 474-8100
Fax #: (978) 474-8449
Address: 55 Jonspin Rd.
City: Wilmington
State: MA
Zip Code: 01887
Purchase Order #:
Proj. Name / No.: MASB Background Study 70432
Katahdin Quote #:
Bill (if different than above):
Address:
Sampler (Print / Sign): C. Fellows / [illegible]
Copies To:

LAB USE ONLY WORK ORDER #:
KATAHDIN PROJECT NUMBER
REMARKS:
SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT
AIRBILL NO:
TEMP°C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	Grain Size 1 x 1 liter Poly	PAH 1 x 8oz Jar	Pesticides/Herbicides 1 x 8oz Jar	Metals / TOC 1 x 4 oz Jar	PAH 1 x 1 liter Amber	Metals - Totals 1 x 500ml Poly w/ HNO3	Metals - Dissolved 1 x 500ml Poly w/ HNO3	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
	MASB-BG-SW-DUP01-090309-F	9/3/09 / —	SW	1	—	—	—	—	—	—	1					
	MASB-BG-SW13-090309	/ 1100	SW	3	—	—	—	—	2	1						
	MASB-BG-SW13-090309-F	/ 1100	SW	1	—	—	—	—	—	—	1					
	MASB-BG-SW12-090309	/ 1150	SW	3	—	—	—	—	2	1						
	MASB-BG-SW12-090309-F	/ 1150	SW	1	—	—	—	—	—	—	1					
	MASB-BG-SW11-090309	/ 1215	SW	3	—	—	—	—	2	1						
	MASB-BG-SW11-090309-F	/ 1215	SW	1	—	—	—	—	—	—	1					
	MASB-BG-SW10-090309	/ 1235	SW	3	—	—	—	—	2	1						
	MASB-BG-SW10-090309-F	/ 1235	SW	1	—	—	—	—	—	—	1					
	MASB-BG-SW09-090309	/ 1305	SW	3	—	—	—	—	2	1						
	MASB-BG-SW09-090309-F	/ 1305	SW	1	—	—	—	—	—	—	1					
		/														
		/														
		/														
		/														
		/														
		/														

MS

COMMENTS MASB-BG-SW-DUP01-090309-F @ SW15

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[illegible]	9-3-09 / 1600	[illegible]			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS

Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: Tetra Tech NUS | Contact: Chuck Rate | Phone #: (978) 474-8400 | Fax #: (978) 474-8490

Address: 55 Jonspin Rd. | City: Wilmington | State: MA | Zip Code: 01887

Purchase Order # | Proj. Name / No.: MASB Background Study-090432 | Katahdin Quote #

Bill (if different than above) | Address

Sampler (Print / Sign): Chris Fellows / Mike Fales | Copies To:

LAB USE ONLY WORK ORDER #:

KATAHDIN PROJECT NUMBER

REMARKS:

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT

AIRBILL NO:

TEMP°C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	Filt. ☐Y ☒N Grain Size 1 x Liter Poly	Filt. ☐Y ☒N PAH 1 x 8oz Jar	Filt. ☐Y ☒N Pest / Herbicides 1 x 8oz Jar	Filt. ☐Y ☒N TOC / Metals 1 x 4oz Jar	Filt. ☐Y ☒N PAH 2 x Liter Amber	Filt. ☐Y ☒N Metals - Total 1 x 500ml Poly	Filt. ☒Y ☐N Metals - Dissolved 1 x 500ml Poly	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
	NASB-BG-SD08-0006	9/8/09 / 1330	SD	4	1	1	1	1						
	NASB-BG-SD07-0006	/ 1345	SD	4	1	1	1	1						
	NASB-BG-SD06-0006	/ 1355	SD	4	1	1	1	1						
57	SB-BG-SD05-0006	/ 1410	SD	4	1	1	1	1						
72	NASB-BG-SD-DUP02-090809	/ —	SD	4	1	1	1	1						
	NASB-BG-SD04-0006	/ 1430	SD	10	1	3	3	3						
	NASB-BG-SD03-0006	/ 1450	SD	4	1	1	1	1						
	NASB-BG-SD02-0006	/ 1500	SD	4	1	1	1	1						
	NASB-BG-SD01-0006	/ 1510	SD	4	1	1	1	1						
	NASB-BG-SW08-090809	/ 0920	SW	3	—	—	—	—	2	1				
	NASB-BG-SW08-090809-F	/ 0920	SW	1	—	—	—	—	—	—	1			
	NASB-BG-SW07-090809	/ 0940	SW	3	—	—	—	—	2	1				
	NASB-BG-SW07-090809-F	/ 0940	SW	1	—	—	—	—	—	—	1			
72	NASB-BG-SW06-090809	/ 0955	SW	3	—	—	—	—	2	1				
72	NASB-BG-SW06-090809-F	/ 0955	SW	1	—	—	—	—	—	—	1			
72	NASB-BG-SW-DUP02-090809	/ —	SW	3	—	—	—	—	2	1				

COMMENTS: NASB-BG-SD04-0006 → Lab QC; NASB-BG-SW-DUP02-090809 → SW06; ~~NASB-BG-SD-DUP02-090809 → SD05~~; NASB-BG-SW-DUP02-090809-F → SW06

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
Mike Fales	9/9/09 1140	[illegible]			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS

Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: Tetra Tech NUS | Contact: Chuck Race | Phone #: (978) 474-8400 | Fax #: (978) 474-8400

Address: 55 Jonspin Rd. | City: Wilmington | State: MA | Zip Code: 01887

Purchase Order # | Proj. Name / No.: MASB Background Study - 001132 | Katahdin Quote #

Bill (if different than above) | Address

Sampler (Print / Sign): Corsa, Fellows/Mc Fall | Copies To:

LAB USE ONLY WORK ORDER #:

KATAHDIN PROJECT NUMBER

REMARKS:

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT

AIRBILL NO:

TEMP°C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	Grain Size 1x Liter Poly (Filt. ☐Y ☑N)	PAH 1x 802 Jar (Filt. ☐Y ☑N)	Pest / Herbicides 1x 802 Jar (Filt. ☐Y ☑N)	TOC / Metals 1x 402 Jar (Filt. ☐Y ☑N)	VOH 1x Liter Amber (Filt. ☐Y ☑N)	Metals - Total 1x 500 ml poly w/ HNO3 (Filt. ☐Y ☑N)	Metals - Dissolved 1x 500 ml poly w/ HNO3 (Filt. ☐Y ☑N)	Pest / Herbicides 1x Liter Amber (Filt. ☐Y ☑N)	(Filt. ☐Y ☐N)	(Filt. ☐Y ☐N)
D2	MASB-BG-SW-DUP02-090809-F	9/8/09 / —	SW	1	—	—	—	—	—	—	1			
	MASB-BG-SW05-090809	/ 1010	SW	3	—	—	—	—	2	1				
	MASB-BG-SW05-090809-F	/ 1010	SW	1	—	—	—	—	—	—	1			
	MASB-BG-SW04-090809	/ 1025	SW	9	—	—	—	—	6	3				
	MASB-BG-SW04-090809-F	/ 1025	SW	3	—	—	—	—	—	—	3			
	MASB-BG-SW03-090809	/ 1110	SW	3	—	—	—	—	2	1				
	MASB-BG-SW03-090809-F	/ 1110	SW	1	—	—	—	—	—	—	1			
	MASB-BG-SW02-090809	/ 1125	SW	3	—	—	—	—	2	1				
	MASB-BG-SW02-090809-F	/ 1125	SW	1	—	—	—	—	—	—	1			
	MASB-BG-SW01-090809	/ 1135	SW	3	—	—	—	—	2	1				
	MASB-BG-SW01-090809-F	✓ / 1135	SW	1	—	—	—	—	—	—	1			
	MASB-BG-SW-FB01-090909	9/9/09 / 0800	QC	3	—	—	—	—	2	1				
	MASB-BG-SW-RB01-090909	/ 0830	QC	3	—	—	—	—	2	1				
	MASB-BG-SW-RB01-090909-F	/ 0830	QC	1	—	—	—	—	—	—	1			
	MASB-BG-SD-FB01-090909	/ 0900	QC	5	—	—	—	—	2	1	—	2		
	MASB-BG-SD-RB01-090909	✓ / 0915	QC	5	—	—	—	—	2	1	—	2		

COMMENTS ~~MASB-BG-SW-DUP02-090809-F~~ → SW02

MASB-BG-SW04-090809 → Lab QC

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[signature]	9/9/09 1140	[signature]			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS

Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: Tetra Tech NUS
Contact: Chuck Rase
Phone #: (978) 474-2400
Fax #: (978) 474-8446
Address: 55 Jonspin Rd
City: Wilmington
State: MA
Zip Code: 02155
Purchase Order #:
Proj. Name / No.: NASB Background Study, 08-432
Katahdin Quote #:
Bill (if different than above): Same
Address:
Sampler (Print / Sign): C. Fellows / C. Gilm
Copies To:

LAB USE ONLY WORK ORDER #:
KATAHDIN PROJECT NUMBER
REMARKS:
SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT
AIRBILL NO:
TEMP°C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	Metals - total (500ml HNO3)	Metals - FDS (500ml HNO3)	Chloride/Bromide (125ml)	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
	NASB-BG-GW-MW25-0909	2009 ~~1320~~ 9/14 / 1320	GW	2	1	—	1										
	NASB-BG-GW-MW25-0909-F	9/14 / 1320	GW	1	—	1	—										
	NASB-BG-GW-MW23-0909	9/14 / 1530	GW	2	1	—	1										
	NASB-BG-GW-MW23-0909-F	9/14 / 1530	GW	1	—	1	—										
	NASB-BG-GW-MW21-0909	9/14 / 1622	GW	2	1	—	1										
	NASB-BG-GW-MW21-0909-F	9/14 / 1622	GW	1	—	1	—										
	NASB-BG-GW-MW19-0909	9/14 / 1755	GW	2	1	—	1										
	NASB-BG-GW-MW19-0909-F	9/14 / 1755	GW	1	—	1	—										
	NASB-BG-GW-MW24-0909	9/15 / 0800	GW	2	1	—	1										
	NASB-BG-GW-MW24-0909-F	9/15 / 0800	GW	1	—	1	—										
D1	NASB-BG-GW-MW17-0909	9/15 / 1000	GW	2	1	—	1										
D1	NASB-BG-GW-MW17-0909-F	9/15 / 1000	GW	1	—	1	—										
	NASB-BG-GW-DUP01-091509	9/15 / —	GW	2	1	—	1										
	NASB-BG-GW-DUP01-091509-F	9/15 / —	GW	1	—	1	—										
	NASB-BG-GW-MW16-0909	9/15 / 1070	GW	2	1	—	1										
	NASB-BG-GW-MW16-0909-F	9/15 / 1020	GW	1	—	1	—										

COMMENTS NASB-BG-GW-DUP01-091509 → MW17
NASB-BG-GW-DUP01-091509-F → MW17

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[signature]	9-16-09 / 1660	[signature]			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES. EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS

Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: Tetra Tech NUS | Contact: Chuck Race | Phone #: (978) 474-8400 | Fax #: (978) 474-8409

Address: 55 Jonspin Rd. | City: Wilmington | State: MA | Zip Code: 01887

Purchase Order # | Proj. Name / No.: MASB-Background Study-010432 | Katahdin Quote #

Bill (if different than above): Same | Address

Sampler (Print / Sign): C. Fellows / Chuck Race | Copies To:

LAB USE ONLY WORK ORDER #: KATAHDIN PROJECT NUMBER

REMARKS:

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT

AIRBILL NO:

TEMP°C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	Metals-Total 1 x 500 ml HNO3 (Filt. ☐Y ☒N)	Metals-Dissolved 1 x 500 ml HNO3 (Filt. ☒Y ☐N)	Cyanide/Bromide 125 ml NaOH (Filt. ☐Y ☐N)	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
	MASB-BG-GW-MW15-0909	9/15 / 1225	GW	2	1	—	1								
	MASB-BG-GW-MW15-0909-F	9/15 / 1225	GW	1	—	1	—								
	MASB-BG-GW-MW310-0909	9/15 / 1355	GW	2	1	—	1								
	SB-BG-GW-MW310-0909-F	9/15 / 1355	GW	1	—	1	—								
	MASB-BG-GW-MW219-0909	9/15 / 1410	GW	2	1	—	1								
	MASB-BG-GW-MW219-0909-F	9/15 / 1410	GW	1	—	1	—								
	MASB-BG-GW-MW335-0909	9/15 / 1500	GW	2	1	—	1								
	MASB-BG-GW-MW335-0909-F	9/15 / 1500	GW	1	—	1	—								
	MASB-BG-GW-MW314A-0909	9/16 / 0950	GW	4	2	—	2								
	MASB-BG-GW-MW314A-0909-F	9/16 / 0950	GW	2	—	2	—								
2	MASB-BG-GW-MW315A-0909	9/16 / 1150	GW	2	1	—	1								
2	MASB-BG-GW-MW315A-0909-F	9/16 / 1150	GW	1	—	1	—								
2	MASB-BG-GW-DUP02-091609	9/16 / —	GW	2	1	—	1								
2	MASB-BG-GW-DUP02-091609-F	9/16 / —	GW	1	—	1	—								
	MASB-BG-GW-MW731A-0909	9/16 / 1123	GW	2	1	—	1								
	MASB-BG-GW-MW731A-0909-F	9/16 / 1123	GW	1	—	1	—								

COMMENTS
MASB-BG-GW-DUP02-091609 → MW315A
MASB-BG-GW-DUP02-091609-F → MW315A
MASB-BG-GW-MW314A-0909 → Lab QC

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[illegible]	9-16-09 / 1600	[illegible]			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS

Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: Tetra Tech NUS | Contact: Chuck Pace | Phone #: (978) 474-8400 | Fax #: (978) 474-8499

Address: 55 Jonspin Rd. | City: Wilmington | State: MA | Zip Code: 01887

Purchase Order # | Proj. Name / No.: MASS Background Study 070432 | Katahdin Quote #

Bill (if different than above) | Address

Sampler (Print / Sign): C. Fallons / [signature] | Copies To:

LAB USE ONLY | WORK ORDER #: | KATAHDIN PROJECT NUMBER

REMARKS:

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT

AIRBILL NO:

TEMP°C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	Metals-Total 1x 500ml w/ HNO3	Metals-Dissolved 1x 500ml w/ HNO3	Chloride/Bicarb 1x 125ml pl								
	MASS-BG-GW-MW34B-0909	9/16 / 1330	GW	2	—	—	—								
	MASS-BG-GW-MW34B-0909-F	9/16 / 1330	GW	1	—	—	—								
	MASS-BG-GW-RB01-091609	9/16 / 1400	QC	2	—	—	—								
	MASS-BG-GW-RB01-091609-F	9/16 / 1400	QC	1	—	—	—								
	MASS-BG-GW-FB01-091609	9/16 / 1415	QC	2	—	—	—								
	MASS-BG-GW-MW8-0909	9/16 / 1511	GW	2	—	—	—								
	MASS-BG-GW-MW8-0909-F	9/16 / 1511	GW	1	—	—	—								
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COMMENTS

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[signature]	9-16-09 / 1600	[signature]			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS

Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: Tetra Tech NUS | Contact: Chuck Race | Phone #: (978) 474-8400 | Fax #: (978) 474-8499

Address: 55 Jonspin Rd. | City: Wilmington | State: MA | Zip Code: 01887

Purchase Order # | Proj. Name / No.: MASS Background Study CTO 432 | Katahdin Quote #

Bill (if different than above) | Address

Sampler (Print / Sign): C. Fellows / C. Fellows | Copies To:

LAB USE ONLY WORK ORDER #:

KATAHDIN PROJECT NUMBER

REMARKS:

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT

AIRBILL NO:

TEMP°C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd (2009)	Matrix	No. of Cntrs.	Filt. ☐Y ☒N Metals - Total (Secret Study w/ MWs)	Filt. ☒Y ☐N Metals - Dissolved 500 ml (Study w/ MWs)	Filt. ☐Y ☒N Chloride / Bromide 125 ml (Study)	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
	MASS-BG-GW-MW34-0909	9/17 / 1055	GW	2	1	—	1							
	MASS-BG-GW-MW34-0909-F	9/17 / 1055	GW	1	—	1	—							
	MASS-BG-GW-MW35-0909	9/17 / 1120	GW	2	1	—	1							
	SB-BG-GW-MW35-0909-F	9/17 / 1120	GW	1	—	1	—							
	MASS-BG-GW-MW37-0909	9/17 / 1123	GW	2	1	—	1							
	MASS-BG-GW-MW37-0909-F	9/17 / 1123	GW	1	—	1	—							
	MASS-BG-GW-MW303-0909	9/17 / 1355	GW	2	1	—	1							
	MASS-BG-GW-MW303-0909-F	9/17 / 1355	GW	1	—	1	—							
	MASS-BG-GW-MW36-0909	9/17 / 1440	GW	2	1	—	1							
	MASS-BG-GW-MW36-0909-F	9/17 / 1440	GW	1	—	1	—							
	MASS-BG-GW-MW29-0909	9/18 / 0915	GW	2	1	—	1							
	MASS-BG-GW-MW29-0909-F	9/18 / 0915	GW	1	—	1	—							
3	MASS-BG-GW-MW28-0909	9/18 / 0943	GW	2	1	—	1							
3	MASS-BG-GW-MW28-0909-F	9/18 / 0943	GW	1	—	1	—							
3	MASS-BG-GW-DUP03-091809	9/18 / —	GW	2	1	—	1							
3	MASS-BG-GW-DUP03-091809-F	9/18 / —	GW	1	—	1	—							

COMMENTS
MASS-BG-GW-DUP03-091809 → MW28
MASS-BG-GW-DUP03-091809-F → MW28

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[signature]	9/18/09 1520	[signature]			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS

Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: Tetra Tech NUS
Contact: Chuck Race
Phone #: (978) 474-8400
Fax #: (978) 474-8494
Address: 55 Jonspin Rd.
City: Wilmington
State: MA
Zip Code: 01887
Purchase Order #:
Proj. Name / No.: MRB Background Study 070432
Katahdin Quote #:
Bill (if different than above):
Address:
Sampler (Print / Sign): C. Fellows / C. Fellows
Copies To:

LAB USE ONLY WORK ORDER #:
KATAHDIN PROJECT NUMBER:
REMARKS:

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT
AIRBILL NO:
TEMP°C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd 2009	Matrix	No. of Cntrs.	Filt. ☐Y ☐N Metals - Total 500 ml poly w/ HNO3	Filt. ☐Y ☐N Metals - Dissolved 500 ml poly w/ HNO3	Filt. ☐Y ☐N Chloride / Bromide 125 ml poly	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
	MRBBG-GW-MW27-0909	9/18 / 1010	GW	2	1	—	1							
	MRBBG-GW-MW27-0909-F	9/18 / 1010	GW	1	—	1	—							
	MRBBG-GW-MW40-0909	9/18 / 1225	GW	2	1	—	1							
	MRBBG-GW-MW40-0909-F	9/18 / 1225	GW	1	—	1	—							
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COMMENTS

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[signature]	9/18/09 1520	[signature]			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS

Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: Tetra Tech NUS | Contact: Chuck Race | Phone #: (978) 474-8400 | Fax #: (978) 474-8499

Address: 55 Jonspin Rd. | City: Wilmington | State: VT | Zip Code: 01887

Purchase Order # | Proj. Name / No.: MASS Background Study (CTO-432) | Katahdin Quote #

Bill (if different than above): Same | Address

Sampler (Print / Sign): G Fellows / G Fellows | Copies To:

LAB USE ONLY WORK ORDER #:

KATAHDIN PROJECT NUMBER

REMARKS:

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT

AIRBILL NO:

TEMP°C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd 2009	Matrix	No. of Cntrs.	Metals - Total 1 x 500ml Poly w/ HNO_3 (Filt. ☐Y ☒N)	Metals - Dissolved 1 x 500ml Poly w/ HNO_3 (Filt. ☒Y ☐N)	Chloride / Bromide 1 x 125ml Poly (Filt. ☐Y ☒N)	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
	MASS-BG-GW-MW09-0909	9/21 / 1310	GW	2	1	—	1								
	MASS-BG-GW-MW09-0909-F	9/21 / 1310	GW	1	—	1	—								
	MASS-BG-GW-MW11-0909	9/21 / 1615	GW	2	1	—	1								
	MASS-BG-GW-MW11-0909-F	9/21 / 1615	GW	1	—	1	—								
	MASS-BG-GW-MW08-0909	9/21 / 1618	GW	2	1	—	1								
	MASS-BG-GW-MW08-0909-F	9/21 / 1618	GW	1	—	1	—								
	MASS-BG-GW-MW10-0909	9/21 / 1640	GW	2	1	—	1								
	MASS-BG-GW-MW10-0909-F	9/21 / 1640	GW	1	—	1	—								
	MASS-BG-GW-MW12-0909	9/22 / 0930	GW	2	1	—	1								
	MASS-BG-GW-MW12-0909-F	9/22 / 0930	GW	1	—	1	—								
	MASS-BG-GW-MW13-0909	9/22 / 0944	GW	2	1	—	1								
	MASS-BG-GW-MW13-0909-F	9/22 / 0944	GW	1	—	1	—								
4	MASS-BG-GW-MW06-0909	9/22 / 1015	GW	2	1	—	1								
4	MASS-BG-GW-MW06-0909-F	9/22 / 1015	GW	1	—	1	—								
4	MASS-BG-GW-DUP04-0922 09	9/22 / —	GW	2	1	—	1								
4	MASS-BG-GW-DUP04-0922 09-F	9/22 / —	GW	1	—	1	—								

COMMENTS
MASS-BG-GW-DUP04-0922 09 → MW06
MASS-BG-GW-DUP04-0922 09-F → MW06

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[signature]	9-23-09 / 1154	[signature]	[signature]		
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS

Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: Tetra Tech NUS | Contact: Chuck Race | Phone #: (978) 474-8400 | Fax #: (978) 474-845

Address: 55 Jonspin Rd. | City: Wilmington | State: MA | Zip Code: 01887

Purchase Order # | Proj. Name / No.: MASS Background Study C70437 | Katahdin Quote #

Bill (if different than above): Same | Address

Sampler (Print / Sign): C. Fellows / C. Fellows | Copies To:

LAB USE ONLY WORK ORDER #:

KATAHDIN PROJECT NUMBER

REMARKS:

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT

AIRBILL NO:

TEMP°C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd 2009	Matrix	No. of Cntrs.	Metals - Total 1 x 500ml plastic / HNO3 (Filt. ☐Y ☑N)	Metals - Dissolved 1 x 500ml Filtered HNO3 (Filt. ☐Y ☑N)	Chloride / Bromide 1 x 125 ml Poly (Filt. ☐Y ☑N)	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
	MASS-BG-GW-MW316B-0409	9/22 / 1407	GW	2	1	–	1								
	MASS-BG-GW-MW316B-0409-F	9/22 / 1407	GW	1	–	1	–								
	MASS-BG-GW-MW07-0409	9/22 / 1530	GW	2	1	–	1								
	MASS-BG-GW-MW07-0409-F	9/22 / 1530	GW	1	–	1	–								
	MASS-BG-GW-MW317B-0409	9/22 / 1535	GW	4	2	–	2								
	MASS-BG-GW-MW317B-0409-F	9/22 / 1535	GW	2	–	2	–								
	MASS-BG-GW-MW316A-0409	9/22 / 1627	GW	2	1	–	1								
	MASS-BG-GW-MW316A-0409-F	9/22 / 1627	GW	1	–	1	–								
	MASS-BG-GW-RB02-092309	9/23 / 0745	GW	2	1	–	1								
	MASS-BG-GW-RB02-092309-F	9/23 / 0745	GW	1	–	1	–								
	MASS-BG-GW-MW317A-0409	9/23 / 1200	GW	2	1	–	1								
	MASS-BG-GW-MW317A-0409-F	9/23 / 1200	GW	1	–	1	–								
		/													
		/													
		/													
		/													

COMMENTS Lab QC → MASS-BG-GW-MW317B-0409 and Filtered

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[signature]	9-23-09 / 1515	[signature]	[signature]		
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS

CUSTOMER COPY

Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: Tetra Tech NUS.
Contact: Chuck Race
Phone #: (978) 474-8400
Fax #: (978) 474-8400
Address: 55 Jonspin Rd.
City: Wilmington
State: MA
Zip Code: 01887
Purchase Order #:
Proj. Name / No.: MASS-BG Study CTO 432
Katahdin Quote #:
Bill (if different than above): Same
Address:
Sampler (Print / Sign): C Fellows / C Fellows
Copies To:

LAB USE ONLY
WORK ORDER #:
KATAHDIN PROJECT NUMBER
REMARKS:

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT
AIRBILL NO:
TEMP°C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd (2009)	Matrix	No. of Cntrs.	Filt. ☐Y ☒N Metals-total 1 x 500ml Poly/HNO3	Filt. ☒Y ☐N Metals-Dissolved 1 x 500ml poly HNO3	Filt. ☐Y ☒N Chloride / Bromide	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
	MASS-BG-GW-MW42-0909	9/23 / 1410	GW	2	1	–	1							
	MASS-BG-GW-MW42-0909-F	9/23 / 1410	GW	1	–	1	–							
	MASS-BG-GW-MW05-0909	9/23 / 1553	GW	2	1	–	1							
	SB-BG-GW-MW05-0909-F	9/23 / 1553	GW	1	–	1	–							
	MASS-BG-GW-MW41-0909	9/23 / 1720	GW	2	1	–	1							
	MASS-BG-GW-MW41-0909-F	9/23 / 1720	GW	1	–	1	–							
	MASS-BG-GW-MW02-0909	9/24 / 0853	GW	2	1	–	1							
	MASS-BG-GW-MW02-0909-F	9/24 / 0853	GW	1	–	1	–							
	MASS-BG-GW-MW01-0909	9/24 / 0940	GW	2	1	–	1							
	MASS-BG-GW-MW01-0909-F	9/24 / 0940	GW	1	–	1	–							
	MASS-BG-GW-MW03-0909	9/24 / 1025	GW	2	1	–	1							
	MASS-BG-GW-MW03-0909-F	9/24 / 1025	GW	1	–	1	–							
	MASS-BG-GW-MW04-0909	9/24 / 1203	GW	2	1	–	1							
	MASS-BG-GW-MW04-0909-F	9/24 / 1203	GW	1	–	1	–							
		/												
		/												

CFP

COMMENTS

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[signature]	9/24/09 1418	[signature]			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS

CUSTOMER COPY

Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: TetraTech, NUS | Contact: Chuck Race | Phone #: (978) 474-8400 | Fax #: (978) 474-8499

Address: 55 Jonspin Rd. | City: Wilmington | State: MA | Zip Code: 02155

Purchase Order # | Proj. Name / No.: MASB-Background Study CTO-432 | Katahdin Quote #

Bill (if different than above): Same | Address

Sampler (Print / Sign): C. Fellows / C. Fellows | Copies To:

LAB USE ONLY WORK ORDER #:

KATAHDIN PROJECT NUMBER

REMARKS:

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT

AIRBILL NO:

TEMP °C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd 2009	Matrix	No. of Cntrs.	Metals-total (500ml HNO3)	Metals-dissolved (500ml HNO3)	Chloride/Bromide (125ml)	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
DS	MASB-BG-GW-MW32-1109	11/30 / 1145	GW	2	1	–	1									
DS	MASB-BG-GW-MW32-1109-F	11/30 / 1145	GW	1	–	1	–									
	MASB-BG-GW-MW31-1109	11/30 / 1205	GW	4	2	–	2									
	MASB-BG-GW-MW31-1109-F	11/30 / 1205	GW	2	–	2	–									
DS	MASB-BG-GW-DUPOS-113009	11/30 / —	GW	2	1	–	1									
DS	MASB-BG-GW-DUPOS-113009-F	11/30 / —	GW	1	–	1	–									
	MASB-BG-GW-MW30-1109	11/30 / 1445	GW	2	1	–	1									
	MASB-BG-GW-MW30-1109-F	11/30 / 1445	GW	1	–	1	–									
	MASB-BG-GW-MW43-1209	12/01 / 0940	GW	2	1	–	1									
	MASB-BG-GW-MW43-1209-F	12/01 / 0940	GW	1	–	1	–									
	MASB-BG-GW-MW39-1209	12/01 / 1050	GW	2	1	–	1									
	MASB-BG-GW-MW39-1209-F	12/01 / 1050	GW	1	–	1	–									
	MASB-BG-GW-MW41-1209	12/01 / 1055	GW	2	1	–	1									
	MASB-BG-GW-MW41-1209-F	12/01 / 1055	GW	1	–	1	–									
		/														
		/														

COMMENTS: Lab QC - MASB-BG-GW-MW31-1109 and filtered.
MASB-BG-GW-DUPOS-113009 collected at MW32.

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[signature]	12-1-09 1420	[signature]			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS.

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Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: Tetra Tech NUS
Contact: Jeff Orient
Phone #: (412) 921-8778
Fax #: ( )
Address: 661 Anderson Dr. 7 Foster Plaza
City: Pittsburgh
State: PA
Zip Code:
Purchase Order #:
Proj. Name / No.: 112G00958 CTO 1132
Katahdin Quote #:
Bill (if different than above): Same
Address:
Sampler (Print / Sign): C. Fellows / C. Fellows
Copies To:

LAB USE ONLY
WORK ORDER #:
KATAHDIN PROJECT NUMBER
REMARKS:

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT
AIRBILL NO:
TEMP °C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd 2009	Matrix	No. of Cntrs.	PAH 8082 jar (Filt. ☐Y ☒N)	Pest/PCBs/Herbicides 2 oz jar (Filt. ☐Y ☒N)	TOC/Metals 2 oz jar (Filt. ☐Y ☐N)	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
	MASB-BG-SB-SB32-0001	11/11 / 1045	SO	4	1	2	1							
	MASB-BG-SB-SB32-0110	11/11 / 1055	SO	6	3	—	3							
	MASB-BG-SB-SB31-0001	11/11 / 1230	SO	4	1	2	1							
	BG-SB-SB31-0110	11/11 / 1235	SO	2	1	—	1							
	MASB-BG-SB-DUP07-111109	11/11 / —	SO	2	1	—	1							
	MASB-BG-SB-SB30-0001	11/11 / 1400	SO	4	1	2	1							
	MASB-BG-SB-SB30-0107	11/11 / 1405	SO	2	1	—	1							
		/												
		/												
		/												
		/												
		/												
		/												
		/												
		/												
		/												

COMMENTS: * Lab QC @ MASB-BG-SB-SB32-0110
MASB-BG-SB-SB31-0110 = DUP07

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[signature]	11/11 1630	[signature]			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES. EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS.

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study-NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW- MW43-1209
Sample Location: MW43
Sampled By: Fellows, Gerlinger
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 12/1/09								
Time: 0940								
Method: Low Flow	clear/colorless	7.47	102	0.00	7.68	-137.7	0.00	

PURGE DATA:

Date:	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC - 1 in								
Total Well Depth (TD):								
Static Water Level (WL):								
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals-Total	HNO3	1 x 500 mL poly	Yes / No
Metals-Dissolved	HNO3	1 x 500 mL poly	Yes / No
Chloride/Bromide	4 C	1 x 125 mL poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle If Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study-NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW339-1209
Sample Location: MW339
Sampled By: Fellows, Geringer
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 12/1/09								
Time: 1050								
Method: Low Flow	Clear/colorless	7.33	116	0.67	7.97	-96.3	2.21	

PURGE DATA:

Date:	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or (2 inch) / PVC								
Total Well Depth (TD):								
Static Water Level (WL):								
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals-Total	HNO3	1 x 500 mL poly	(Yes) / No
Metals-Dissolved	HNO3	1 x 500 mL poly	(Yes) / No
Chloride/Bromide	4 C	1 x 125 mL poly	(Yes) / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or (no) If yes, describe:

Olfactory evidence of contamination - yes or (no) If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s): C. Fellows

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study-NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW44-120909
Sample Location: MW44
Sampled By: Fellows, Geringer
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 12/1/09								
Time: 1055								
Method: Low Flow	Clear/colorless	6.45	187	0.29	8.34	-263.9	11.4	

PURGE DATA:

Date:	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC 1 in								
Total Well Depth (TD):								
Static Water Level (WL):								
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals-Total	HNO3	1 x 500 mL poly	Yes / No
Metals-Dissolved	HNO3	1 x 500 mL poly	Yes / No
Chloride/Bromide	4 C	1 x 125 mL poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study-NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW32-110
Sample Location: MW32
Sampled By: Fellows, Geringer
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 11/30/09								
Time: 1145								
Method: Low Flow	Clear/colorless	7.30	139	11.55	5.59	210.0	0.39	

PURGE DATA:

Date:	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC - 1in								
Total Well Depth (TD):								
Static Water Level (WL):								
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals-Total	HNO3	1 x 500 mL poly	Yes / No
Metals-Dissolved	HNO3	1 x 500 mL poly	Yes / No
Chloride/Bromide	4 C	1 x 125 mL poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	NASB-BG-GW-DUP05-113009

Signature(s): C. Fellows

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study-NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW31-1109
Sample Location: MW31
Sampled By: Fellows, Gerhcar
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 11/30/09								
Time: 1205								
Method: Low Flow	Clear/colorless	8.16	40	10.70	4.93	306.8	0.47	

PURGE DATA:

Date:	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC -1in								
Total Well Depth (TD):								
Static Water Level (WL):								
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals-Total	HNO3	1 x 500 mL poly	Yes / No
Metals-Dissolved	HNO3	1 x 500 mL poly	Yes / No
Chloride/Bromide	4 C	1 x 125 mL poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
Yes	—

Signature(s): O. Fellows

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study-NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW30-1109
Sample Location: MW30
Sampled By: Fellows, Gerringer
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 11/30/09								
Time: 1445								
Method: Low Flow	Clear/colorless	7.80	407	9.48	5.09	298.6	5.65	

PURGE DATA:

Date:	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC - 2 in								
Total Well Depth (TD):								
Static Water Level (WL):								
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals-Total	HNO3	1 x 500 mL poly	Yes / No
Metals-Dissolved	HNO3	1 x 500 mL poly	Yes / No
Chloride/Bromide	4 C	1 x 125 mL poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s): [illegible]

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB BG-GW-MW01-0904
Sample Location: MW01
Sampled By: Fellows/Horton
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9/24/09								
Time: 0940								
Method: Low Flow / Bladder	Clear/colorless	14.80	29	9.55	557	197.0	0.00	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date: 9/24/09								
Method: Low Flow / MicroBladder								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC / 1"								
Total Well Depth (TD): 24.50								
Static Water Level (WL): 15.07								
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs): 0920								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals - total	HNO_3	1 x 500 ml poly	Yes / No
Metals - Dissolved	HNO_3	1 x 500 ml poly	Yes / No
Chloride / Bromide	4°C	1 x 125 ml poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s): C. Fellows

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW02-0909
Sample Location: MW02
Sampled By: Fellows/Horton Cardinal
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9/24/09								
Time: 853								
Method: Low Flow	Clear/colorless	13.69	20	10.44	5.56	215.2	2.30	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date:								
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD):	See purge data sheet							
Static Water Level (WL):								
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Chloride and bromide	—	125mL	Yes / No
total metals	HNO_3	500mL	Yes / No
dissolved metals	HNO_3	500mL	yes

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:
Olfactory evidence of contamination - yes or no If yes, describe:

Pulled bladder pump up 1ft from bottom due to low water level

Circle if Applicable:

MS/MSD	Duplicate ID No.:
NA	NA

Signature(s): [signature]

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW03-0909
Sample Location: MW03
Sampled By: ~~Fellows/Horton~~ P. Sewell
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9-24-09								
Time: 1025								
Method: low flow w/micro bladder	colorless	18.87	21	11.15	5.51	-98.9	4.9	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date:								
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD):	See purge data sheet							
Static Water Level (WL):								
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Total Metals	HNO_3 & ice	1-500 ml poly	(Yes) No
Dissolved Metals	HNO_3 & ice	1-500 ml poly	(Yes) No
Chloride/Bromide	ice only	1-125 ml poly	(Yes) No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or (no) If yes, describe:

Olfactory evidence of contamination - yes or (no) If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): Peter Sewell

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW04-0909
Sample Location: MW04
Sampled By: Fellows/Horton Cardinal
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9/24/09								
Time: 1203								
Method: low flow	clear	16.90	14	9.21	5.77	341.8	6.26	

PURGE DATA:

Date:	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD):	see purge data sheet							
Static Water Level (WL):								
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
chloride and bromide	—	125mL	(Yes) / No
total metals	HNO_3	500mL	(Yes) / No
dissolved metals	HNO_3	500mL	yes

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or (no) If yes, describe:

Olfactory evidence of contamination - yes or (no) If yes, describe:

Pulled bladder pump up 3 feet from bottom of well

Circle If Applicable:

MS/MSD	Duplicate ID No.:
NA	NA

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW05-0909
Sample Location: MW05
Sampled By: Fellows/Horton Cardinal
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9/23/09								
Time: 1553								
Method: Low Flow	Clear	16.36	33	9.72	6.54	147.2	20.5	

PURGE DATA:

Date:	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD):	See purge data sheet							
Static Water Level (WL):								
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Chloride and bromide	—	125mL	Yes No
total metals	HNO3	500mL	Yes No
dissolved metals	HNO3	500mL	yes

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe: Pulled bladder pump up 5 feet from bottom of well

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
NA	NA

Signature(s): [illegible]

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type: Duplicate #4

Sample ID No. NASB-BG-GW-MW06-0909
Sample Location: MW06
Sampled By: ~~Fellows/Horton~~ P. Sevard
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9-22-09								
Time: 1015								
Method: low flow w/ micro bladder	colorless	13.25	82	1.25	6.20	-181.7	4.7	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date:								
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD):	See purge data sheet							
Static Water Level (WL):								
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Total Metals	HNO_3 & ice	1-500 ml poly	Yes / No
Dissolved Metals	HNO_3 & ice	1-500 ml poly	Yes / No
Chloride / Bromide	ice only	1-125 ml poly	Yes / No
Duplicate sample collection info.	~~H_2SO_4~~ & ice		
Total Metals	HNO_3 & ice	1-500 ml poly	Yes / No
Dissolved metals	HNO_3 & ice ~~only~~	1-500 ml poly	Yes / No
Chloride / Bromide	ice only	1-125 ml poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.: NASB-BG-GW-DUP04-092209

Signature(s): Peter S

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW07-0909
Sample Location: MW07
Sampled By: ~~Fellows/Horton~~ P.S
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

Date: 9-22-09	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Time: 1530								
Method: low flow w/ micro bladder	colorless	16.40	110	1.31	7.04	-178.0	8.3	

PURGE DATA:

Date:	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD):	see purge data sheet.							
Static Water Level (WL):								
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Total Metals	HNO_3 & ice	1- 500 ml poly	(Yes) / No
Dissolved Metals	HNO_3 & ice	1- 500 ml poly	(Yes) / No
Chloride/Bromide	ice only	1- 125 ml poly	(Yes) / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or (no) If yes, describe:

Olfactory evidence of contamination - yes or (no) If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): [signature]

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. MB3-BG-GW-MW08-09.04
Sample Location: MW08
Sampled By: Fellows/Horton
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9/21/06								
Time: 1615								
Method: Low Flow / Bladder	Clear/colorless	13.88	96	1.86	6.18	99.8	0.00	

PURGE DATA:

Date:	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC	See data purge sheets							
Total Well Depth (TD):								
Static Water Level (WL):								
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals- Total	HNO_3	1x 500 ml Poly	Yes / No
Metals- Dissolved	HNO_3	1x 500 ml poly	Yes / No
Chloride / Bromide	4°C	1x 125 ml poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s): C. Fellows

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. ~~NSB-BG-GW-MW9~~-0909
Sample Location: MW9
Sampled By: ~~Fellows/Horton~~ P. Seward
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9-21-09								
Time: 1310								
Method: low flow w/ micro bladder	Colorless	16.80	99	1.18	5.90	-192.1	32	

PURGE DATA:

Date:	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD):	See purge data sheet							
Static Water Level (WL):								
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Total Metals	HNO_3 & ice	1- 500 ml poly	(Yes) / No
Dissolved Metals	HNO_3 & ice	1- 500 ml poly	(Yes) / No
Chloride/Bromide	ice only	1- 125 ml poly	(Yes) / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or (no) If yes, describe:

Olfactory evidence of contamination - yes or (no) If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): Peter S

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-B6-GW-MW10-0909
Sample Location: MW 10
Sampled By: ~~Fellows/Horton~~ P. Seward
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9-21-09								
Time: 1640								
Method: low stress	tan	14.42	231	0.61	6.26	-197.0	140	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date:								
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD):	see purge data sheet							
Static Water Level (WL):								
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Total metals	HNO_3 & ice	1- 500 ml poly	Yes / No
Dissolved metals	HNO_3 & ice	1- 500 ml poly	Yes / No
Chloride/Bromide	ice only	1- 125 ml poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle If Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW11-0909
Sample Location: MW11
Sampled By: Fellows/Horton Cardinal
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9/21/09								
Time: 1615								
Method: Low flow	Cloudy	14.77	1106	1.09	6.25	134.5	195	

PURGE DATA:

Date:	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD):								
Static Water Level (WL):								
Well or Sat. Scrn. Vol. (gal):	See purge data sheet							
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Chloride and bromide	—	125 mL	(Yes) / No
total metals	HNO_3	500mL	(Yes) / No
dissolved metals	HNO_3	500mL	Yes

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or (no) If yes, describe:

Olfactory evidence of contamination - yes or (no) If yes, describe:

Pulled up bladder 2ft from bottom due to dewatering during well development

left new tubing in well

Circle if Applicable:

MS/MSD	Duplicate ID No.:
NA	NA

Signature(s): [signature]

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASBBG-GW-MW12-0909
Sample Location: MW12
Sampled By: Fellows/Horton
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9/22/09								
Time: 0930								
Method: Low Flow/Bladder	Clear/colorless	15.29	128	2.86	7.26	205.2	0.00	

PURGE DATA:

Date:	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC	See purge data sheet							
Total Well Depth (TD):								
Static Water Level (WL):								
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals- total	HNO_3	1 x 500 ml poly	Yes / No
Metals - Dissolved	HNO_3	1 x 500 ml poly	Yes / No
Chloride / Bromide	4°C	1 x 125 ml poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW13-0909
Sample Location: MW13
Sampled By: Fellows/Horton Cardinal
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9/22/09								
Time: 944								From 9/21/09
Method: Low Flow		13.60	70	7.77	6.09	172.1	3.61	1141

PURGE DATA:

Date:	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD):								
Static Water Level (WL):	See purge data sheet							
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Chloride and bromide	—	125mL	(Yes) / No
Total metals	HNO3	500mL	(Yes) / No
Dissolved metals	HNO3	500mL	

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or (no) If yes, describe: Replaced dedicated tubing

Olfactory evidence of contamination - yes or (no) If yes, describe:

9/21/09 Due to well dewatering during development, pulled up bladder 1 ft from bottom. Well dewatered. Sample 9/22/09.

Circle if Applicable:		Signature(s):
MS/MSD	Duplicate ID No.:	
NA	NA	[signature]

9/22/09 Placed bladder pump at bottom of well. Collected chloride/bromide and total metals grab sample. Well dewatered. Collect dissolved metals 9/23/09.

9/23/09 P. Seward collected dissolved metals grab sample.

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NSB-BG-GW-MW15-0909
Sample Location: MW15
Sampled By: ~~Fellows/Horton~~ P. Seward
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9/15/09								
Time: 1225								
Method: Low Flow	clear	13.24	214	1.38	7.43	-95.1	49	

PURGE DATA:

Date: 9/15/09	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method: Low Flow / Bladder								
Monitor Reading (ppm):								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD):	see purge data sheet							
Static Water Level (WL):								
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Total Metals	HNO3 & ice	1- 500 ml poly	Yes / No
Dissolved Metals	HNO3 & ice	1- 500 ml poly	Yes / No
Chloride & Bromide	ice only	1- 125 ml poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD | Duplicate ID No.: NA

Signature(s): Peter Seward

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. MASB-BG-GW-MW16-0909
Sample Location: MW16
Sampled By: Fellows/Horton
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9/15/09								
Time: 1020								
Method: Low Flow	Clear/colorless	13.20	115	3.49	6.77	-39.5	201	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date: 9/15/09								
Method: Low Flow / Bladder								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.0 or 2 inch / PVC								
Total Well Depth (TD): 29.55								
Static Water Level (WL): 15.1								
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs): 0910								
End Purge (hrs): 1020								
Total Purge Time (min): 70								
Total Vol. Purged (gal/L): 1 3/4 gal								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals - Totals	HNO_3	1x 500 ml Poly	Yes / No
Metals - Dissolved	HNO_3	1x 500 ml poly	Yes / No
Chloride / Bromide	4°C	1x 250 ml poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s): C Fahr

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW17-0909
Sample Location: MW17
Sampled By: Fellows/Horton J. Cardinal
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9/15/09								
Time: 1000								
Method: Low Flow	Clear	12.07	143	0.32	7.04	-75.4	4.96	

PURGE DATA:

Date:	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	★ See separate low-flow purge data sheet ★							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD):								
Static Water Level (WL):	See purge data sheet							
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Total metals	HNO3	500mL	Yes / No
Dissolved metals	HNO3	500mL	Yes / No
Chloride + Bromide	—	125mL	Yes

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

dedicated tubing
pulled up bladder 2ft from bottom

Circle if Applicable:

MS/MSD	Duplicate ID No.:
NA	NASB-BG-GW-DUP01-0909

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW18-0909
Sample Location: MW18
Sampled By: Fellows/Horton J. Cardinal
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

Date: 9/16/09	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Time: 1511								
Method: LowFlow		13.69	20	3.09	4.88	219.9	3.71	

PURGE DATA:

Date:	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	* See separate low-flow purge data sheet *							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD):								
Static Water Level (WL):	See purge data sheet							
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Chloride and bromide	—	125 mL	Yes / No
total metals	HNO_3	500 mL	Yes / No
dissolved metals	HNO_3	500 mL	Yes

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe: replaced dedicated tubing

Olfactory evidence of contamination - yes or no If yes, describe: pulled up bladder 2ft from bottom

Circle if Applicable:

MS/MSD	Duplicate ID No.:
NA	NA

Signature(s): Jean Card

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW19-0409
Sample Location: MW19
Sampled By: Fellows/Horton J. Traut
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9/14/09								
Time: 1755								
Method: Low Flow	Clear	14.04	46	0.31	5.59	-32.7	4.58	

PURGE DATA:

Date:	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	☆ See separate low-flow purge data sheet ☆							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD):								
Static Water Level (WL):								
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
total metals	HNO_3	500 mL	Yes / No
dissolved metals	HNO_3	500 mL	Yes / No
chloride and bromide	—	125 mL	Yes

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
NA	NA

Signature(s): J. Traut

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW21-0909
Sample Location: MW21
Sampled By: Fellows/Horton J. Cardinal
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9/14/09								
Time: 1422								
Method: Low Flow	Color	16.22	29	1.56	5.08	212.4	0.55	

PURGE DATA:

Date:	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	★ See separate low-flow purge data sheet ★							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD):	See purge data sheet							
Static Water Level (WL):								
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Total metals	HNO_3	500 mL	Yes / No
Dissolved metals	HNO_3	500 mL	Yes / No
bromide and chloride	—	125 mL	Yes

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Removed tubing
Pulled up bladder 1ft from bottom

Circle if Applicable:

MS/MSD	Duplicate ID No.:
NA	NA

Signature(s): [signature]

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW23-0900
Sample Location: MW23
Sampled By: ~~Fellows/Horton~~ P. Seward
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9-14-09								
Time: 1530								
Method: low flow w/ micro bladder	clear	14.77	138	0.38	6.34	-102.9	11	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date:								
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD):								
Static Water Level (WL):	See purge data sheet							
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Dissolved metals	HNO_3	500-ml poly	Yes / No
Total Metals	HNO_3	500-ml poly	Yes / No
Chloride / Bromide	ice only	120 ml poly	Yes

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:	Signature(s):
—	—	

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Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study-NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW24-0904
Sample Location: MW24
Sampled By: Fellows, J. Traut
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 04/15/08								
Time: 0800								
Method: Low Flow / Grab	Clear/colorless	16.43	104	5.91	6.49	273.9	16.2	

PURGE DATA:

Date:	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC	see purge data sheet							
Total Well Depth (TD):								
Static Water Level (WL):								
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals-Total	HNO3	1 x 500 mL poly	Yes / No
Metals-Dissolved	HNO3	1 x 500 mL poly	Yes / No
Chloride/Bromide	4 C	1 x 125 mL poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s):
Sampled by J. Traut and P. Seward
Form filled out by C. Fellows

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW25-0909
Sample Location: MW25
Sampled By: Fellows/Horton J. Cardinal
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9/14/09								
Time: 1315								
Method: Low Flow	Clear	15.08	72	4.50	6.19	197.8	5.0	

PURGE DATA:

Date: 9/14/09	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	☆ See separate low-flow purge data sheet ☆							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD):								
Static Water Level (WL):	See purge data sheet							
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Total metals	HNO_3	500 mL	Yes / No
Dissolved metals	HNO_3	500 mL	Yes / No
Chloride and Bromide	none	125 mL	Yes

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe: Pulled up bladder 1 ft from bottom

Olfactory evidence of contamination - yes or no If yes, describe:

Removed Replaced tubing JD ~~9/15~~ 9/14/09

Circle if Applicable:

MS/MSD	Duplicate ID No.:
NA	NA

Signature(s): Jason Card

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. MSB-BG-GW-MW27-0909
Sample Location: MW27
Sampled By: Fellows/Horton
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9/18/09								
Time: 1010								
Method: Low Flow / Bladder	Clear/colorless	13.32	143	10.40	6.40	191.0	1.50	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date:								
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC	See data purge sheet							
Total Well Depth (TD):								
Static Water Level (WL):								
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals - total	HNO_3	1 x 500 ml poly	Yes / No
Metals - dissolved	HNO_3	1 x 500 ml poly	Yes / No
Chloride / Bromide	4°C	1 x 125 ml poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s): C. Fellows

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW28-0909
Sample Location: MW28
Sampled By: Fellows/Horton Cardinal
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9/18/09								
Time: 943								
Method: Low Flow		12.37	345	12.80	5.46	225.2	0.00	

PURGE DATA:

Date:	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD):								
Static Water Level (WL):	See purge data sheet							
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Chloride and bromide	—	125mL	(Yes) / No
total metals	HNO3	500mL	(Yes) / No
dissolved metals	HNO3	500mL	Yes

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or (no) If yes, describe:

Olfactory evidence of contamination - yes or (no) If yes, describe:

Pulled up bladder ~~2½ft~~ 4ft due to low water level
JJ 9/18/09

Circle if Applicable:

MS/MSD	Duplicate ID No.:
NA	NASB-BG-GW-DUP03-0909

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW29090909
Sample Location: MW29
Sampled By: ~~Fellows/Horton~~ P. Soward
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9/18/09								
Time: 0915								
Method: LW Flow	Colorless	10.96	35	11.21	5.92	77.3	0.0	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date:								
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD):	See purge data sheet							
Static Water Level (WL):								
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Total Metals	HNO_3 & ice	1-500 ml poly	Yes / No
Dissolved Metals	HNO_3 & ice	1-500 ml poly	Yes / No
Chloride & Bromide	ice only	1-125 ml poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:	Signature(s):
—	—	Peter S

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NSB-BG-GW-MW36-090909
Sample Location: MW36
Sampled By: ~~Fellows/Horton~~ P. Sieracki
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9/17/09								
Time: 1440								
Method: LW Flow	colorless	12.42	267	0.43	5.78	-106.0	3.5	

PURGE DATA:

Date:	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD):	See purge data sheet							
Static Water Level (WL):								
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Total Metals	HNO_3 & ice	1-500 ml poly	Yes / No
Dissolved Metals	HNO_3 & ice	1-500 ml poly	Yes / No
Chloride & Bromide	ice only	1-125 ml poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): Peter C. M

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW37-0909
Sample Location: MW37
Sampled By: Fellows/Horton Cardinal
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9/17/09								
Time: 1123								
Method: Low Flow	slightly cloudy	13.58	157	0.31	7.68	-158.6	26.3	

PURGE DATA:

Date:	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD):	See purge data sheet							
Static Water Level (WL):								
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Chloride and bromide	—	125 mL	Yes / No
total metals	HNO3	500 mL	Yes / No
dissolved metals	HNO3	500 mL	Yes

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or (no) If yes, describe: Pulled bladder pump up 5 ft from bottom

Olfactory evidence of contamination - yes or (no) If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
NA	NA

Signature(s): Jeff Cal

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NBB-BG-GW-MW38-0909
Sample Location: MW 38
Sampled By: Fellows/Horton
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9/17/09								
Time: 1120								
Method: Low Flow Bladder	Clear/colorless	11.19	145	0.56	8.20	-171.6	0.00	

PURGE DATA:

Date:	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC 1"								
Total Well Depth (TD):	see purge data sheet							
Static Water Level (WL):								
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals - Total	HNO_3	1 x 500 ml poly	Yes / No
Metals - Dissolved	HNO_3	1 x 500 ml poly	Yes / No
Chloride / Bromide	4°C	1 x 125 ml poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

C. Fah

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-GW-MW39-0909
Sample Location: MW39
Sampled By: ~~Fellows/Horton~~ P. Seward
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9/17/09								
Time: 1055								
Method: Low Flow	colorless	12.89	242	2.96	6.01	-100.1	0.15	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date:								
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD):	see purge data sheet							
Static Water Level (WL):								
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Total Metals	HNO_3 & ice	1-500 ml poly	Yes / No
Dissolved Metals	HNO_3 & ice	1-500 ml poly	Yes / No
Chloride & Bromide	ice only	1-125 ml poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): Peter Sd

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW40-0909
Sample Location: MW 40
Sampled By: ~~Fellows/Horton~~ P. Seward
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9/18/09								
Time: 1225								
Method: Low Flow	Colorless	14.94	81	8.87	4.93	-62.7	3.2	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date:								
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD):	See purge data sheet							
Static Water Level (WL):								
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	~~Collected~~
Total Metals	HNO_3 & ice	1- 500 ml poly	Yes / No
Dissolved Metals	HNO_3 & ice	1- 500 ml poly	Yes / No
Chloride & Bromide	ice only	1- 125 ml poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): Peter S

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. ~~NASB-BG-GW-MW41-0909~~
Sample Location: MW41
Sampled By: ~~Fellows/Horton~~ P. Seward
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9-23-09								
Time: 1720								
Method: low flow w/ micro bladder	Gray	16.90	88	1.05	8.10	-205.2	310	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date:								
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD):	See purge data sheet							
Static Water Level (WL):								
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Total Metals	HNO_3 & ice	1-500 ml poly	(Yes) / No
Dissolved Metals	HNO_3 & ice	1-500 ml poly	(Yes) / No
Chloride / Bromide	ice only	1-125 ml poly	(Yes) / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or (no) If yes, describe:

Olfactory evidence of contamination - yes or (no) If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): Peter C. [illegible]

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW42-0909
Sample Location: MW42
Sampled By: ~~Fellows/Horton~~ P. Seward
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9-23-09								
Time: 1410								
Method: low stress w/micro bladder	Grey	16.68	100	0.45	8.42	-199.8	310	

PURGE DATA:

Date:	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Materia	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD):	See purge data sheet							
Static Water Level (WL):								
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Total Metals	HNO_3 & ice	1- 500 ml poly	(Yes) / No
Dissolved metals	HNO_3 & ice	1- 500 ml poly	(Yes) / No
Chloride / Bromide	ice only	1- 125 ml poly	(Yes) / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or (no) If yes, describe:

Olfactory evidence of contamination - yes or (no) If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): Peter S

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW219-09 09
Sample Location: MW219
Sampled By: Fellows/Horton J. Cardinal
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9/15/09								
Time: 1410								
Method: Low Flow	clear	14.04	90	8.64	5.80	320.0	0.01	

PURGE DATA:

Date:	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	☆ See separate low-flow purge data sheet ☆							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD):	See purge data sheet							
Static Water Level (WL):								
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Total metals	HNO3	500 mL	(Yes) / No
Dissolved metals	HNO3	500 mL	(Yes) / No
Chloride and bromide	—	125 mL	yes

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or (no) If yes, describe:

Olfactory evidence of contamination - yes or (no) If yes, describe:

Pulled up bladder 5ft from bottom

Circle if Applicable:

MS/MSD	Duplicate ID No.:
NA	NA

Signature(s): [illegible]

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW231A-0909
Sample Location: MW231A
Sampled By: Fellows/Horton J. Cardinal
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9/16/09								
Time: 1123								
Method: LowFlow	clear	11.99	45	9.82	6.70	150.1	0.00	

PURGE DATA:

Date:	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	☆ See separate low-flow purge data sheet ☆							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD):								
Static Water Level (WL):								
Well or Sat. Scrn. Vol. (gal):	See purge sheet							
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Total metals	HNO_3	500mL	(Yes) / No
dissolved metals	HNO_3	500mL	(Yes) / No
Chloride and bromide	—	125 mL	Yes

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or (no) If yes, describe:

Olfactory evidence of contamination - yes or (no) If yes, describe:

pulled up bladder 5 ft from bottom

Circle if Applicable:

MS/MSD	Duplicate ID No.:
NA	NA

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW303-0909
Sample Location: MW 303
Sampled By: Fellows/Horton Cardinal
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9/17/09								
Time: 1355								
Method: Low Flow		10.53	155	0.85	7.87	-161.3	0.00	

PURGE DATA:

Date:	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD):								
Static Water Level (WL):	See purge data sheet							
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Chloride and bromide	—	125mL	(Yes) / No
total metals	HNO3	500mL	(Yes) / No
dissolved metals	HNO3	500mL	Yes

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or (no) If yes, describe: Pulled up bladder pump 5 feet from bottom

Olfactory evidence of contamination - yes or (no) If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
NA	NA

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB- MW310
Sample Location: MW-310
Sampled By: Fellows/Horton
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9/15/09								
Time: 1355								
Method: Low Flow	Clear/colorless	15.31	1.58	6.50	6.07	232.9	0.00	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date: 9/15/09								
Method: Low Flow/Bladder								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD): 72.9								
Static Water Level (WL): 23.5								
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs): 1310								
End Purge (hrs): 1355								
Total Purge Time (min): 45								
Total Vol. Purged (gal/L): 1 1/4 gal								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals - Total	HNO_3		Yes / No
Metals - Dissolved	HNO_3		Yes / No
Chloride / Bromide	4°C		~~Yes~~ / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

NASB-36-GW-MW314A-0909

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. MW314A
Sample Location: MW314A
Sampled By: Fellows/Horton
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9-16-09								
Time: 0950								
Method: low flow w/ micro bladder	colorless	13.05	107	7.77	7.45	-85.9	4.9	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date:								
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD):								
Static Water Level (WL):	see purge data sheet							
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
~~2-500~~ Total Metals	HNO_3 / ice	2 - 500 ml poly bottles	(Yes) / No
Dissolved Metals	HNO_3 / ice	2-500 ml poly bottles	(Yes) / No
Chloride & Bromide	ice only	2-125 ml poly bottles	(Yes) / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or (no) If yes, describe:

Olfactory evidence of contamination - yes or (no) If yes, describe:

Circle if Applicable:

(MS/MSD) Duplicate ID No.:

Signature(s): Peter Sl

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW314B-0909
Sample Location: MW314B
Sampled By: ~~Fellows/Horton~~ P. Sevard
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9/16/09								
Time: 1330								
Method: low flow w/micro bladder	colorless	16.79	59	6.20	7.56	-96.4	39	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date:								
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD):								
Static Water Level (WL):	see purge data sheet							
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Total Metals	HNO_3 & ice	1-500 ml poly bottle	Yes / No
Dissolved Metals	HNO_3 & ice	1-500 ml poly bottle	Yes / No
Chloride / Bromide	ice only	1-125 ml poly bottle	

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): Peter C M

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-B6-GW-MW335-0909
Sample Location: MW335
Sampled By: ~~Fellows/Horton~~ P. Seward
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9/15/09								
Time: 1500								
Method: Low Flow	clear	15.66	303	1.19	7.30	-101.1	4.9	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date: 9/15/09								
Method: Low Flow / Bladder								
Monitor Reading (ppm):								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD):	see purge data sheet							
Static Water Level (WL):								
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Total metals	HNO_3	1-500 ml poly bottle	(Yes) / No
Dissolved metals	HNO_3	1-500 ml poly bottle	(Yes) / No
Chloride & Bromide	ice only	1-125 ml poly	(Yes) / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or (no) If yes, describe:

Olfactory evidence of contamination - yes or (no) If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): Peter S

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW315A-0909
Sample Location: MW315A
Sampled By: Fellows/Horton
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9/16/09								
Time: 1150								
Method: LOW FLOW	Cloudy/gray	13.05	110	0.59	7.31	-154.8	317	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date: 9/16/09								
Method: Low Flow / Bladder								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or (2) inch / (PVC)								
Total Well Depth (TD): 77.2								
Static Water Level (WL): 0.05								
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs): 0940								
End Purge (hrs): 1145								
Total Purge Time (min): 125								
Total Vol. Purged (gal/L): 4 gal								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals- total	HNO3	1x 500 ml poly	(Yes) / No
Metals- Dissolved	HNO3	1 x 500 ml poly	(Yes) / No
Chloride/Bromide	4°C	1 x 125 ml poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or (no) If yes, describe:

Olfactory evidence of contamination - yes or (no) If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	NASB-BG-GW-DUP02-091609 TIME:

Signature(s): [illegible]

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW316A-0909
Sample Location: MW316A
Sampled By: Fellows/Horton Cardinal
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9/22/09								
Time: 1627								
Method: Low Flow	Clear/colorless	13.17	154	2.64	9.18	48.4	0.00	

PURGE DATA:

Date:	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD):	see purge data sheet							
Static Water Level (WL):								
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Chloride and bromide	—	125mL	Yes / No
total metals	HNO_3	500mL	Yes / No
dissolved metals	HNO_3	500mL	Yes/No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:
Olfactory evidence of contamination - yes or no If yes, describe:

Pulled bladder pump up 5 ft from bottom

Circle if Applicable:

MS/MSD	Duplicate ID No.:
NA	NA

Signature(s): Jeff Card

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW316B-09 09
Sample Location: MW316B
Sampled By: Fellows/Horton Cardinal
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9/22/09								
Time: 1407								
Method: Low Flow	clear, colorless	12.24	140	2.49	7.95	182.0	0.00	

PURGE DATA:

Date:	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD):	See purge data sheet							
Static Water Level (WL):								
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Chloride and bromide	—	125mL	Yes / No
total metals	HNO_3	500mL	Yes / No
dissolved metals	HNO_3	500mL	Yes

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Pulled up bladder pump 6 1/2 feet from bottom JD 9/23/09

Circle if Applicable:

MS/MSD	Duplicate ID No.:
NA	NA

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW317A-0001
Sample Location: MW317A
Sampled By: Fellows/Horton
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9/23/09								
Time: 1700								
Method: Low Flow/Bladder	Clear/Odorless	14.49	299	0.68	7.89	115.6	58.8	

PURGE DATA:

Date:	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC	See purge data sheet							
Total Well Depth (TD):								
Static Water Level (WL):								
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals - Total	HNO_3	1 x 500 ml poly	Yes/No
Metals - Dissolved	HNO_3	1 x 500 ml poly	Yes/No
Chloride / Bromide	4°C	1 x 125 ml poly	Yes/No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:	Signature(s):
—	—	[signature]

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NBB-BG-GW-MW317B-0909
Sample Location: MW-317B
Sampled By: Fellows/Horton
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 9/22/09								
Time: 1535								
Method: Low Flow/Bladder	Sl. Cloudy/Colorless	13.85	257	5.80	7.80	193.5	88.2	

PURGE DATA:

Date:	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC	See purge data sheets							
Total Well Depth (TD):								
Static Water Level (WL):								
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals-Total	HNO3	2 x 500 ml poly	Yes / No
Metals-Dissolved	HNO3	2 x 500 ml poly	Yes / No
Chloride / Bromide	None	2 x 125 ml poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
Yes	—

Signature(s):

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: ANSB13-BG-GW-MW01-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432
QC: NA (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump
Depth Sampled: ~21 (TOR) Screen Int. Depth 12-22 ft bgs
Sample Date & Time: 9/29/2009 0940 hours ——— (Dup Time)
Sampler(s): C.Fellows / M.Horton /
Data Recorded By: CFS Signature: C.Fellows;
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness;
Visual Evidence of Sheen (Yes/No);
Olfactory Evidence of Odor (Yes/No);
TD= 24.50 (TOR); Well S/U = 2.52;
Weather: Sunny 70's, Humid;

H&S Survey Meter BZ/W/PW 0/0/0 PPM Field Instrument Group A / B / C / D
Initial WL 15.07 ft btor (Dedicated tubing)
A: YSI; B: PID + LaMotte

Casing = 2.73
Well = 2.52
1" PVC
(Well locked ~~[illegible]~~ + labeled)

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1 CD/HZ	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
0820	* Begin purging, measuring drawdown, and filling flow-through cell.										
0849	15.07	9.2/2.8	40		16.60	39	5.60	208.2	9.59	85	sl. cloudy/odorless
0855	15.08	"	50	1/4	15.17	30	5.45	213.6	9.85	65	"
0905	15.10	"	"		14.82	29	5.46	207.1	9.73	27	"
0915	"	"	"	1/2	14.53	29	5.49	202.5	9.70	8.1	Clear/odorless
0925	"	"	"		14.66	29	5.55	198.2	9.58	0.00	Clear/odorless
0930	"	"	"		14.74	29	5.56	197.7	9.56	0.00	"
0935	"	"	"	1	14.80	29	5.57	197.0	9.55	0.00	"
0940	End Purge. Begin sampling. All parameters stable.										
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW02-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: NA (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump
Depth Sampled: 18.50 (TOR) Screen Int. Depth 12-17 ft bgs
Sample Date & Time: 9/24/2009 853 hours NA (Dup Time)
Sampler(s): C.Fellows / M.Horton / Cardinal
Data Recorded By: Cardinal Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness ;
Visual Evidence of Sheen (Yes/No) ;
Olfactory Evidence of Odor (Yes/No) ;
TD= 19.50 (TOR); Well S/U = 12-17 ft bgs
Weather: 60s, cloudy ;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 15.05 ft btor (Dedicated tubing)

PID B
YSI B
turbidimeter A

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
805	15.07	CPM4 10/5									
808	15.06	↓									
811	15.06	↓									
822	15.06	↓									
826	15.06	↓	50	<0.5	14.10	20	5.62	199.7	10.23	14.2	clear, colorless
830	15.06	↓	50	<0.5	14.25	20	5.61	202.0	10.28	10.31	clear, colorless
834	15.06	↓	50	<0.5	14.11	20	5.60	205.0	10.36	9.78	clear, colorless
838	15.06	↓	50	<0.5	13.95	20	5.59	207.8	10.40	6.03	clear, colorless
842	15.06	↓	50	<0.5	13.69	20	5.58	210.8	10.45	3.94	clear, colorless
846	15.06	↓	50	~0.5	13.59	20	5.57	213.6	10.47	3.40	clear, colorless
850	15.06	↓	50	~0.5	13.69	20	5.56	215.2	10.44	2.30	clear, colorless
Stabilization achieved per workplan criteria											
Begin sampling		853									
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- ~~1.0~~ 0.5 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW03-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: _____ (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic Pump~~ micro bladder
Depth Sampled: ~14.85 (TOR) Screen Int. Depth 8-18 ft bgs
Sample Date & Time: 9 /24 /2009 1025 hours NA (Dup Time)
Sampler(s): C.Fellows ~~/ M.Horton /~~ P. Seward
Data Recorded By: P. Seward Signature: Peter Seward
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/(No)); if yes, report depths/describe thickness _____;
Visual Evidence of Sheen (Yes/(No)) _____;
Olfactory Evidence of Odor (Yes/(No)) _____;
TD= 19.85 (TOR); Well S/U = 1.8' _____:
Weather: _____;

H&S Survey Meter* _____ PPM Field Instrument Group A / B / (C) / D
Initial WL 11.53 ft btor (Dedicated tubing)
* PID malfunctioned - did not use

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
0840	11.50	4cpm	60	initiated purge							
0850	11.56	"	60		17.86	29	5.93	-118.7	9.47	200	tan-cloudy
0900	11.56	"	60		17.20	26	5.69	-125.0	9.62	65	clear-colorless
0910	11.56	"	60		16.90	23	5.62	-126.4	9.91	65	" "
0915	11.56	"	60		16.73	22	5.60	-126.3	10.23	38	" "
0930	11.56	"	60		17.89	22	5.58	-121.4	10.17	20	" "
0940	11.56	"	60		17.81	22	5.56	-113.7	10.55	15	" "
0950	11.56	"	60		17.99	22	5.57	-110.3	10.73	9.5	" "
1000	11.56	"	60		18.47	22	5.54	-105.8	10.79	9.2	" "
1005	11.56	"	60		18.74	22	5.54	-104.4	10.82	6.7	" "
1010	11.55	"	60		18.73	21	5.53	-162.7	10.94	4.8	" "
1015	11.55	"	60		18.67	21	5.52	-101.2	11.07	4.7	" "
1020	11.55	"	60		18.87	21	5.51	-98.9	11.15	4.9	" "
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

purge complete per work plan

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW04-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 2
QC: NA (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump
Depth Sampled: 16.58 (TOR) Screen Int. Depth 8-18 ft bgs
Sample Date & Time: 9/24/2009 1203 hours NA (Dup Time)
Sampler(s): C.Fellows / M.Horton / Cardinal
Data Recorded By: Cardinal Signature: [signature]
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No), if yes, report depths/describe thickness ____;
Visual Evidence of Sheen (Yes/No) ____;
Olfactory Evidence of Odor (Yes/No) ____;
TD= 19.58 (TOR); Well S/U = 8-18 feet bgs
Weather: 70s, Sunny ____;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 11.89 ft btor (Dedicated tubing)
PID C
YSI B
turbidimeter A

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1001	11.87	Clmy 10/5									
1004	11.87	↓									
1011	11.87	↓	50	<0.5	16.58	15	5.79	214.8	11.18	308	cloudy
1021	11.88	↓	50	<0.5	16.46	14	5.81	229.8	10.56	109.4	cloudy
1028	11.89	↓	50	<0.5	16.23	14	5.81	243.9	9.90	67.9	cloudy
1033	11.88	↓	50	<0.5	15.97	14	5.79	251.8	9.75	53.3	slightly cloudy
1038	11.89	↓	50	<0.5	15.94	14	5.78	262.3	9.60	46.7	slightly cloudy
1043	11.89	↓	50	~0.5	15.95	14	5.77	274.9	9.49	40.3	clear
1048	11.89	↓	50	~0.5	16.04	14	5.77	284.4	9.39	38.1	clear
1053	11.90	↓	50	~0.5	16.13	14	5.78	292.4	9.26	33.1	clear
1057	11.89	↓	50	~0.5	16.06	14	5.77	298.5	9.17	36.7	clear
1101	11.89	↓	50	~0.5	16.22	14	5.77	304.7	9.12	29.6	clear
1105	11.90	↓	50	~1	16.35	14	5.79	308.3	9.11	25.5	clear
1110	11.89	↓	50	~1	16.34	14	5.79	312.0	9.06	27.0	clear
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- ~~10~~ 0.5 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) ____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW04-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432
QC: NA (If applicable)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1114	11.89	Qmy 10/s	50	~1	16.43	14	5.77	315.8	8.98	21.4	clear
1119	11.89	↓	50	~1	16.55	14	5.78	320.9	8.97	25.2	clear
1124	11.90	↓	50	~1	16.53	14	5.79	324.1	8.97	19.6	clear
1129	11.89	↓	50	~1	16.55	14	5.78	326.2	8.97	17.0	clear
1134	11.89	↓	50	~1	16.66	14	5.78	329.1	8.96	17.7	clear
1139	11.89	↓	50	~1	16.76	14	5.77	333.7	8.98	13.6	clear
1144	11.89	↓	50	~1	16.80	14	5.77	335.0	9.05	10.31	clear
1149	11.89	↓	50	~1.5	16.89	14	5.76	338.9	9.10	8.43	clear
1154	11.89	↓	50	~1.5	16.88	14	5.77	340.5	9.16	7.37	clear
1159	11.89	↓	50	~1.5	16.90	14	5.77	341.8	9.21	6.26	clear
1201	Stabilization not complete.										
Per work plan collect samples after 2hr purge if stabilization not achieved.											
Begin sampling 1203											
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- ~~1.0~~ 0.5 S.U.	+/- 10mV	10%	10%	

TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW05-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432
QC: NA (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump
Depth Sampled: 58.77 (TOR) Screen Int. Depth 52-62 ft bgs
Sample Date & Time: 9/23/2009 1553 hours NA (Dup Time)
Sampler(s): C.Fellows / M.Horton / Cardinal
Data Recorded By: Cardinal Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness ____;
Visual Evidence of Sheen (Yes/No) ____;
Olfactory Evidence of Odor (Yes/No) ____;
TD= 63.77 (TOR); Well S/U = 52-62 ft bgs;
Weather: 70s, Sunny;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 31.45 ft btor (Dedicated tubing)

YSI B
turbidimeter A
PID A

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1403	31.45										
1407	31.52	CPM 10/s									
1411	31.51	↓		10 9/23/09							
1415	31.48	↓	65	~~10~~ <0.5	16.60	42	6.67	137.8	9.49	112	cloudy
1421	31.47	↓	60	<0.5	15.41	38	6.52	147.3	9.45	140	cloudy
1426	31.47	↓	60	<0.5	15.25	36	6.48	148.0	9.46	98.6	cloudy
1431	31.47	↓	60	<0.5	15.13	35	6.47	146.3	9.49	75.3	slightly cloudy
1436	31.46	↓	60	<0.5	15.12	35	6.46	144.2	9.53	60.3	slightly cloudy
1448	31.47	↓	60	<0.5	14.91	33	6.46	139.2	9.81	40.8	clear
1453	31.49	↓	60	<0.5	15.08	33	6.47	139.1	9.82	35.4	clear
1458	31.45	↓	60	<0.5	14.92	33	6.47	140.5	9.88	26.5	clear
1503	31.50	↓	60	~0.5	14.75	32	6.45	142.2	9.90	26.7	clear
1508	31.50	↓	60	~0.5	15.12	33	6.46	143.6	9.86	20.3	clear
1513	31.46	↓	60	~0.5	15.35	34	6.46	145.6	9.84	23.3	clear
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- ~~1.0~~ 0.5 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) ____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW05-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432
QC: NA (If applicable)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1518	31.44	CAMY 10/5	60	~0.5	15.75	33	6.46	146.4	9.80	17.7	clear
1523	31.45	↓	60	~0.5	16.28	35	6.47	148.1	9.70	17.1	clear
1527	31.45	↓	60	~1	16.63	33	6.48	147.9	9.66	14.9	clear
1531	31.50	↓	40	~1	17.05	34	6.48	150.8	9.63	20.2	clear
1535	31.45	↓	50	~1	16.99	35	6.49	149.0	9.62	16.6	clear
1540	31.45	↓	50	~1	16.52	33	6.51	150.2	9.76	19.6	clear
1545	31.45	↓	50	~1	16.29	33	6.54	148.6	9.78	19.3	clear
1550	31.45	↓	50	~1	16.36	33	6.54	147.2	9.72	20.5	clear
Stabilization achieved per workplan criteria											
Begin Sampling		1553									
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- ~~1.0~~ 0.5 S.U.	+/- 10mV	10%	10%	

TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW006-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: NASB-BG-GW-DUP04-092209 (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic Pump~~ microbladder
Depth Sampled: ~17.0 (TOR) Screen Int. Depth 13-18 ft bgs
Sample Date & Time: 9/22/2009 1015 hours 1020 (Dup Time)
Sampler(s): C.Fellows / ~~M.Horton~~ / P. Seward
Data Recorded By: P. Seward Signature: Peter Seward;
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness ;
Visual Evidence of Sheen (Yes/No) ;
Olfactory Evidence of Odor (Yes/No) ;
TD= 19.50 (TOR); Well S/U = 2.23 ;
Weather: cloudy; ~50°F; winds-calm ;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 4.75 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
0908	4.75		70								
0915	6.70		60-70		13.63	47	6.51	-127.2	4.53	29	clear-colorless
0925	7.12		50		13.30	97	6.31	-165.0	2.82	16	" "
0935	7.28		50		13.23	90	6.25	-172.4	1.98	11	" "
0945	7.42		50		13.07	86	6.21	-170.5	1.66	6.9	" "
0955	7.45		50		13.07	84	6.20	-180.7	1.32	5.2	" "
1000	7.45		50		13.16	83	6.20	-179.7	1.28	4.6	" "
1005	7.45		50		13.20	83	6.20	-180.4	1.26	4.0	" "
1010	7.45		50	~0.5	13.25	82	6.20	-181.7	1.25	4.7	" "
		purge	complete	per work	plan						
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW07-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: NA (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic Pump~~ microbladder
Depth Sampled: ~~M~~ ~9.3' (TOR) Screen Int. Depth 4-9 ft bgs
Sample Date & Time: 9/22/2009 1530 hours NA (Dup Time)
Sampler(s): C.Fellows / ~~M.Horton~~ / P.Seward
Data Recorded By: P. seward Signature: Peter Seward;
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness ;
Visual Evidence of Sheen (Yes/No) ;
Olfactory Evidence of Odor (Yes/No) ;
TD= 11.88 (TOR); Well S/U = 3.03 ;
Weather: cloudy; ~52°F; winds-calm ;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 6.68 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1325	~~6.68~~ 6.68		40								
1335	7.69	~~100~~	40		18.74	100	6.60	-139.5	10.12	45	clear - colorless
1345	7.79		40		16.32	106	6.61	-159.9	6.09	50	" "
1357	7.91		40		16.39	105	6.65	-165.9	3.83	60	" "
1409	8.14		50		16.24	106	6.79	-172.1	2.35	55	" "
1421	8.10		40		16.51	107	6.82	-175.4	2.13	36	" "
1433	8.15		40		16.65	109	6.91	-174.2	2.82	34	" "
1445	8.18		40		16.48	110	6.95	-177.2	1.97	24	" "
1457	8.19		40		16.40	110	6.99	-177.5	1.52	19	" "
1509	8.19		40		16.39	110	7.10	-177.0	1.37	16	" "
1514	8.20		40		16.41	110	7.02	-176.8	1.34	16	" "
1519	8.20		40		16.39	111	7.03	-178.7	1.33	14	" "
~~1525~~ 1525	8.22		40	~0.5	16.40	110	7.04	-178.0	1.31	8.3	" "
			purge complete per work plan								
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NAB BG - ~~GW~~ - MW08-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: NA (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump
Depth Sampled: 11.5 (TOR) Screen Int. Depth 5-10 ft bgs
Sample Date & Time: 9 / 21 /2009 1618 hours — (Dup Time)
Sampler(s): C.Fellows / M.Horton /
Data Recorded By: CFS Signature: C. Fellows ;
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No) if yes, report depths/describe thickness ;
Visual Evidence of Sheen (Yes/No) ;
Olfactory Evidence of Odor (Yes/No) ;
TD= 12.56 (TOR); Well S/U = 2.63 :
Weather: ;

H&S Survey Meter 0/0/0 PPM Field Instrument Group A / B / C / D
Initial WL 6.5 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1 CPM	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1520	* Begin purging, measuring drawdown, and filling flow through cell.										
1540	8.55	4 / 5/10	140		14.76	95	6.22	123.9	2.86	20	Overflowing
1550	8.60	"	"		14.06	96	6.19	96.2	2.06	9	"
1600	8.70	"	"	1/2	13.96	95	6.18	98.5	1.92	0.00	"
1605	8.73	"	"		13.91	94	6.18	99.4	1.89	0.00	"
1610	8.75	"	"	1	13.88	94	6.18	99.8	1.86	0.00	"
1618	* End purge. Begin sampling. ~~Drawdown~~ CFS										
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW09-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: NA (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic Pump~~ microbladder
Depth Sampled: ~10.3' (TOR) Screen Int. Depth 5-10' ft bgs
Sample Date & Time: 9/21/2009 1310 hours NA (Dup Time)
Sampler(s): ~~G.Fellows / M.Horton~~ P. Seward
Data Recorded By: P. Seward Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness ;
Visual Evidence of Sheen (Yes/No) ;
Olfactory Evidence of Odor (Yes/No) ;
TD= 12.80 (TOR); Well S/U = 2.90' :
Weather: ;

H&S Survey Meter 7.1 PPM Field Instrument Group A / B / C / D
Initial WL 11.07 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1050	10.26										
1100	10.30		45		15.38	54	5.99	-131.8	5.29	Error 2	tan-cloudy
1120	10.52		40		15.68	102	5.97	-181.2	3.24	Error 2	tan-cloudy
* set pump ~ 6" off the bottom of the well - could not control drawdown. Later discovered the the water level measurements that were previously collected were inaccurate (problem w/ sensitivity control). Will adjust meter & resume ~~sample~~ purging.											
1230	6.52		50		16.59	93	5.89	-190.6	1.35	85	clear-colorless
1240	6.49		50		16.53	98	5.89	-190.6	1.34	55	"
1245	6.48		50		16.43	98	5.89	-191.0	1.29	45	"
1250	6.49		50		16.37	98	5.89	-191.1	1.21	45	"
1255	6.49		50		16.39	99	5.89	-191.4	1.22	37	"
1300	6.49		50		16.65	99	5.90	-191.2	1.20	35	"
1305	6.49		50	~1	16.80	99	5.90	-191.2	1.18	32	"
			purge complete per work plan								
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW10-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: _____ (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump
Depth Sampled: ~10.02 (TOR) Screen Int. Depth 5-10 ft bgs
Sample Date & Time: 9/21/2009 1640 hours NA (Dup Time)
Sampler(s): C.Fellows / M.Horton / P. Seward
Data Recorded By: P. Seward Signature: Peter Seward
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness _____;
Visual Evidence of Sheen (Yes/No) _____;
Olfactory Evidence of Odor (Yes/No) _____;
TD= 12.52 (TOR); Well S/U = 2.90' ;
Weather: _____;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 6.44 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1515	~~6.25~~ 6.45		50								
1525	7.86		50		16.54	261	6.17	-166.1	3.55	95	tan - slightly cloudy
1535	7.86		50		15.78	272	6.17	-175.7	2.56	550	tan - cloudy
1545	7.86		50		15.12	257	6.16	-185.6	1.65	250	"
1600	7.90		50		14.76	247	6.20	-191.5	1.00	120	"
1610	7.97		50		14.65	242	6.22	-194.2	0.83	85	tan - slightly cloudy
1615	7.98		50		14.65	239	6.23	-195.1	0.79	65	"
1620	7.99		50		14.61	238	6.23	-195.1	0.74	55	"
1623	7.99		50		14.53	237	6.24	-190.0	0.68	85	"
1626	8.00		50		14.50	237	6.25	-196.3	0.68	110	"
1629	8.00		50		14.47	236	6.25	-196.9	0.63	150	"
1632	8.00		50		14.43	233	6.26	-197.5	0.62	150	"
1635	8.00		50	~0.5	14.42	231	6.26	-197.0	0.61	140	"
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

purge complete per work plan

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW11-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of
QC: N A (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump
Depth Sampled: 10.43 (TOR) Screen Int. Depth 5-10 ft bgs
Sample Date & Time: 9 / 21 /2009 1615 hours NA (Dup Time)
Sampler(s): C.Fellows / M.Horton / Cardinal
Data Recorded By: Cardinal Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No) if yes, report depths/describe thickness ;
Visual Evidence of Sheen (Yes/No) ;
Olfactory Evidence of Odor (Yes/No) ;
TD= 12.43 (TOR); Well S/U = 5-10 ft bgs ;
Weather: 70s Sunny ;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 6.39 ft btor (Dedicated tubing)
YSI A
Turbidimeter A
PID B

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1518	6.25										
1521	6.46	Clmy 10/5									
1526	6.59	↓									
1530	6.68	↓									
1535	7.07	↓	45	<0.5	16.00	181	6.31	92.4	2.78	108.5	Cloudy
1540	7.47	↓	45	<0.5	14.75	168	6.19	115.6	1.78	84.8	Slightly Cloudy
1545	7.34	↓	40	<0.5	14.92	168	6.16	124.6	1.56	89.3	Slightly cloudy
1550	7.35	↓	40	<0.5	14.86	168	6.18	131.4	1.33	116	Cloudy
1555	7.54	↓	45	<0.5	14.22	165	6.20	131.9	1.13	251	Cloudy
1601	7.33	↓	30	<0.5	14.32	164	6.20	129.1	1.03	203	Cloudy
1604	7.25	↓	30	<0.5	14.50	164	6.21	131.8	1.08	210	Cloudy
1608	7.23	↓	30	<0.5	14.64	166	6.22	133.9	1.13	210	Cloudy
1612	7.21	↓	30	<0.05	14.77	166	6.25	134.5	1.09	195	Cloudy
Stabilization Complete per workplan criteria. Begin Sampling							1615				
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- ~~1.0~~ 0.5 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: MBSB-BG-GW-MW12-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432
QC: NA (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump
Depth Sampled: 11.5 (TOR) Screen Int. Depth 5-10 ft bgs
Sample Date & Time: 9/22/2009 0930 hours _____(Dup Time)
Sampler(s): C.Fellows / M.Horton /
Data Recorded By: CFS Signature: C. Fellows;
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness _____;
Visual Evidence of Sheen (Yes/No) _____;
Olfactory Evidence of Odor (Yes/No) _____;
TD= 12.41 (TOR); Well S/U = 2.56:
Weather: Sunny 60's;

H&S Survey Meter BZ/W/PW 0/0/0 PPM Field Instrument Group A / B / C / D
Initial WL 6.00 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1 CPM	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1100	* Begin purge, measuring drawdown, and filling flow through cell.										
1120	* Switch out nitrogen tank.										
1140	* Very low flow rate of 10ml/min and WL fluctuating between 6.5 to 7.5 ft bgs										
1145	6.5	4 / 5/10	10	350	16.61	175	7.18	188.6	7.19	9.3	Clear/colorless
1155	7.3	"	"	450	16.90	173	7.22	191.8	7.11	3.7	"
1205	6.9	"	"	550	17.08	173	7.23	192.8	7.16	3.7	"
	* Still can't get flow rate above 10ml/min. Pull up pump and change pumps.										
1300	8.5	Restart purging.									
1323	10.05	4 10/5	55	< 1/2	15.20	128	7.34	202.4	2.56	0.00	Clear/colorless
1328	11.5	"	"	< 1/2	15.29	128	7.26	205.2	2.86	0.00	"
	* Water level drops below pump.										
1331	De-water well - collect sample w/in 24 hrs										
1357	Dewatering of well complete.										
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW12-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432
QC: NA (If applicable)

7/22

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1 CPM 4	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
0855	8.64	5/10	35							0.00	clear/colorless
0930	Collect grab sample.										
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

TtNUS Form 0009

Saturated screen or well volume (gallons) ____________ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW13-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of
QC: NA (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump
Depth Sampled: 11.00 (TOR) Screen Int. Depth 5-10 ft bgs
Sample Date & Time: 9 / 22 /2009 944 hours NA (Dup Time)
Sampler(s): C.Fellows / M.Horton / Cardinal
Data Recorded By: Cardinal Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness ;
Visual Evidence of Sheen (Yes/No) ;
Olfactory Evidence of Odor (Yes/No) ;
TD= 12.00 (TOR); Well S/U = 5-10 bgs ;
Weather: Sunny, 60s ;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 7.65 ft btor (Dedicated tubing) PID B
YSI A
Turbidimeter A

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1056	7.44	Clm4 10/5									
1057	7.58	↓									
1059	7.79	↓									
1103	8.01	↓									
1107	8.05	↓									
1110	8.08	↓									
1115	8.17	↓									
1117	8.20	↓	10	<0.5	14.34	84	6.21	128.8	7.93	5.90	
1122	8.34	↓	40	<0.5	14.42	84	6.21	136.4	7.95	6.09	
1132	9.20	↓	40	<0.5	13.64	72	6.11	159.1	7.74	4.91	
1136	9.57	↓	40	<0.5	13.55	70	6.09	166.5	7.78	3.63	
1141	9.88	↓	40	<0.5	13.60	70	6.09	172.1	7.77	3.61	
1145	Water level below pump.										
	Dewatered well. Will collect sample tomorrow.										
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- ~~1.0~~ 0.5 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.	PURGE DATA SHEET - "LOW FLOW" GROUNDWATER
Site Name: Background Study, NASB Brunswick, ME Sample ID: NASB-BG-GW-MWB-0909	Tetra Tech NUS Charge No. 112G00958 / CTO 432 QC: NA (If applicable)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
122 Starting water level 10.08											
Per conversation with L. Guzman, collect according to heirarchy: chloride/bromide, total metals, then dissolved metals											
Placed bladder pump at bottom of well											
919	9.85	water level before pumping begins, with tubing and pump in well									
923	10.00	CPM 4 10/5									
927	9.93	↓									
930	9.93	↓									
934	9.96	↓									
936	10.11	↓									
937	10.20	↓									
941	10.30	↓								10.51	clear colorless
943	10.20	↓								8.33	clear colorless
944	collect chloride/bromide grab sample										
953	collect total metals grab sample - water level 10.73										
well ran dry. collect dissolved metals tomorrow											
13-09 0915 - initial water level 10.00' below top of PVC riser. Bladder pump was placed @ the bottom of the well and sample collection began @ 0920											
- collected dissolved metals grab sample.											clean · colorless

Acceptance Criteria: <0.3 ft (drawdown) — Temp 3% — Spec. Cond. 3% — pH +/- 1.0 S.U. — ORP +/- 10mV — DO 10% — Turbidity 10%

TtNUS Form 0009

Saturated screen or well volume (gallons) ____________ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW15-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 2
QC: NA (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump
Depth Sampled: ~28.5 (TOR) Screen Int. Depth 24-29 ft bgs
Sample Date & Time: 9 / 15 /2009 1225 hours _____(Dup Time)
Sampler(s): ~~C.Fellows / M.Horton~~ / P. Seward
Data Recorded By: P. Seward Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness_____;
Visual Evidence of Sheen (Yes/No)_____;
Olfactory Evidence of Odor (Yes/No)_____;
TD= 31.25 (TOR); Well S/U = 2.70 ;
Weather: Sunny, ~65°, winds 5-10 mph;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 18.75 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
0930	18.75	began well purge.			problems w/ pump - will attempt to resolve						
~~1025~~ 1020	18.90										
1030	18.92		50		15.14	190	7.19	-63.6	6.43	Error 3	tan - cloudy
1040	18.94		60		13.97	208	7.31	-91.9	3.71	"	" "
1050	18.95		60		12.67	221	7.36	-93.9	1.72	Error 2	" "
1100	18.95		60		12.21	223	7.38	-94.8	1.11	Error 2	"
1110	18.95		60		12.27	223	7.40	-95.7	0.96	700	grey - cloudy
1120	18.92		60		12.36	222	7.41	-96.1	0.91	320	" "
1130	18.92		60		12.56	221	7.43	-96.7	0.88	190	" "
1140	18.92		60	~1.0	12.53	220	7.42	-96.8	0.87	100	light grey -
1150	18.95		60		12.89	219	7.43	-96.4	0.88	70	" "
1200	18.95		60		13.01	218	7.42	-96.2	0.98	55	clear - colorless
1205	18.95		60		13.04	211	7.42	-96.3	1.09	55	" "
1210	18.95		60		13.10	216	7.43	-95.8	1.19	49	" "
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: MW15

Tetra Tech NUS Charge No. 112G00958 / CTO 432
QC: NA (If applicable)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1215	18.95		60		13.18	215	7.43	-95.6	1.32	50	clear-colorless
1220	18.95		60	~1.5	13.24	214	7.43	-95.1	1.38	49	" "
			purge complete per work plan								
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW16-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: NA (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump
Depth Sampled: 27 (TOR) Screen Int. Depth 24-29 ft bgs
Sample Date & Time: 9 / 15 /2009 1020 hours _____(Dup Time)
Sampler(s): C.Fellows / M.Horton /
Data Recorded By: C.Fellows Signature: [signature]
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness _____;
Visual Evidence of Sheen (Yes/No) _____;
Olfactory Evidence of Odor (Yes/No) _____;
TD= 29.55 (TOR); Well S/U = 1.82 :
Weather: Sunny 70's ;

H&S Survey Meter BZ 0 | W 0 | PW 0 PPM Field Instrument Group A (B) / C / D
Initial WL 15.1 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1 CPM	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
0910	15.3	4 / 10/5	Begin purging, measuring drawdown and filling flow through cell.								
0925	15.3	"	60		11.46	196	6.94	28.3	2.01	110	slightly cloudy/colorless
0935	15.35	"	60	1/2	11.46	146	6.92	-36.5	2.88	33	clear/colorless
0945	15.35	"	60		11.55	128	6.84	-39.9	3.13	20	"
0955	"	"	60	1	12.22	117	6.81	-42.0	3.23	8.1	"
1005	15.32	"	60		13.00	115	6.79	-43.3	3.41	5.0	"
1010	"	"	"	1 1/2	13.17	115	6.78	-41.6	3.47	2.4	"
1015	"	"	"	1 3/4	13.20	115	6.77	-39.5	3.49	2.1	"
1020	End Purge. Collect sample, meet stabilization criteria stated in SAP.										
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW17-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432
QC: NASB-BG-GW-DUP01-0909 (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump
Depth Sampled: 17.47 (TOR) Screen Int. Depth 11.5 - 16.5 ft bgs
Sample Date & Time: 9/15 /2009 1000 hours _____(Dup Time)
Sampler(s): C.Fellows / M.Horton / J. Cardinal
Data Recorded By: J. Cardinal Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/(No)); if yes, report depths/describe thickness_____;
Visual Evidence of Sheen (Yes/No) No;
Olfactory Evidence of Odor (Yes/No) No;
TD= 19.47 (TOR); Well S/U = 11.5 - 16.5;
Weather: overcast, 60s, damp;

H&S Survey Meter 0.0 PPM Field Instrument Group (A) / B / C / D
Initial WL 12.34 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
812	12.65	CPM4 10/5									
817	12.75	↓									
820	12.76	↓									
824	12.76	↓	50	<0.5gal	11.62	123	6.81	25.1	0.88	368	cloudy
829	12.73	↓	50	<0.5gal	11.57	124	6.84	-9.4	0.79	256	cloudy
833	12.77	↓	50	<0.5gal	11.49	126	6.87	-30.6	0.68	182	cloudy
837	12.76	↓	50	~0.5gal	11.44	128	6.89	-50.7	0.60	101.4	cloudy
842	12.75	↓	50	~0.5gal	11.54	130	6.91	-64.7	0.55	67.2	cloudy
846	12.75	↓	50	~0.5gal	11.36	131	6.94	-70.0	0.50	46.3	slightly cloudy
854	12.76	↓	50	~0.5gal	11.46	133	6.96	-76.3	0.44	28.5	slightly cloudy
900	12.77	↓	50	~0.5gal	11.45	134	6.97	-73.6	0.41	20.5	slightly cloudy
906	12.78	↓	50	~0.5gal	11.67	136	6.98	-73.7	0.39	16.3	clear
914	12.77	↓	50	~0.5gal	11.76	138	7.00	-77.7	0.37	12.4	clear
921	12.74	↓	50	~0.5gal	11.86	139	7.01	-76.6	0.36	10.00	clear
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- ~~1.0~~ 0.5 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW17-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432
QC: NASB-BG-GW-DUP01-0909 (If applicable)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
926	12.74	cpm4 10/5	50	~ 0.5 gal	12.01	140	7.01	-81.2	0.35	10.22	clear
933	12.76	↓	50	~ 0.5 gal	12.08	141	7.02	-72.7	0.34	7.57	clear
938	12.78	↓	50	~ 0.5 gal	12.19	142	7.03	-75.9	0.34	6.82	clear
943	12.77	↓	50	~ 0.5 gal	12.26	142	7.03	-79.0	0.33	6.25	clear
947	12.77	↓	50	~ 1 gal	12.21	143	7.04	-75.4	0.33	5.47	clear
952	12.78	↓	50	~ 1 gal	12.11	143	7.04	-75.6	0.33	5.11	clear
956	12.78	↓	50	~ 1 gal	12.07	143	7.04	-75.4	0.32	4.96	clear
Stabilization Parameters achieved per Work plan											
Begin Sampling		1000									
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- ~~1.0~~ 0.5 S.U.	+/- 10mV	10%	10%	

TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW18-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 2
QC: NA (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump
Depth Sampled: 7.71 (TOR) Screen Int. Depth 3-8 ft bgs
Sample Date & Time: 9 / 16 /2009 1511 hours NA (Dup Time)
Sampler(s): C.Fellows / M.Horton / J. Cardinal
Data Recorded By: J. Cardinal Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness ____;
Visual Evidence of Sheen (Yes/No) ____;
Olfactory Evidence of Odor (Yes/No) ____;
TD= 9.71 (TOR); Well S/U = 3-8 :
Weather: 60s, sunny ____;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 4.24 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1402	4.45	CPM4 11/4									
1406	4.32	CPM4 10/5									
1413	4.36	↓	50	<0.5	14.54	35	5.43	141.6	4.18	34.2	
1420	4.36	↓	50	<0.5	14.35	28	5.24	161.5	4.11	18.8	
1426	4.36	↓	40	<0.5	14.16	24	5.08	179.1	3.89	11.5	
1430	4.37	↓	40	<0.5	14.05	22	5.02	187.1	3.66	9.74	
1434	4.36	↓	50	~0.5	13.97	21	4.99	191.0	3.56	7.09	
1438	4.36	↓	55	~0.5	13.90	21	4.95	196.0	3.51	7.30	
1442	4.36	↓	55	~0.5	13.85	21	4.94	198.3	3.44	6.12	
1446	4.38	↓	55	~0.5	13.82	20	4.92	201.4	3.37	5.17	
1450	4.40	↓	55	~0.5	13.78	20	4.91	204.8	3.29	5.45	
1454	4.37	↓	55	~0.5	13.75	20	4.90	208.5	3.27	5.71	
1458	4.35	↓	55	~0.5	13.73	20	4.89	212.3	3.12	4.69	
1502	4.36	↓	55	~0.5	13.71	20	4.89	216.4	3.10	4.31	
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U. 0.5	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) ____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW18-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432
QC: NA (If applicable)

p. 2 of 2

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1506	4.39	Qmy 10/5	55	~1	13.69	20	4.88	219.9	3.09	3.71	
Stabilization	achieved per work plan Criteria										
Begin Sampling	1511										
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- ~~1.0~~ 0.5 S.U.	+/- 10mV	10%	10%	

TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME -GW-
Sample ID: NASB-BG-MW19-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of
QC: _____ (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump
Depth Sampled: 8.67 (TOR) Screen Int. Depth 1.5-6.5 ft bgs
Sample Date & Time: 9/14/2009 1755 hours NA (Dup Time)
Sampler(s): C.Fellows / M.Horton / J.Trau
Data Recorded By: Fellows Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness _____;
Visual Evidence of Sheen (Yes/No) _____;
Olfactory Evidence of Odor (Yes/No) Slight odor when opened
TD= 9.67 (TOR); Well S/U = 1.5-6.5:
Weather: _____;

H&S Survey Meter 0.3 PPM Field Instrument Group A / B / C / D
Initial WL 4.59 ft btor (Dedicated tubing)
0.0 % of purge water

Sampling Hierarchy and Lab Analyses:
Chloride / Bromide - 125 mL Metals (Dissolved) (HNO_3) 1x500 mL
Metals - Total (HNO_3) - 500mL
(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1430	4.57	Begin low flow purging									
1700	4.65	CPM6	60	0.5	14.91	51	5.70	-27.2	0.73	44.6	
1710	4.65	7/3	60	0.75	14.38	49	5.64	-31.2	0.51	20.7	
1715	4.67		60	1	14.26	49	5.62	-32.7	0.55	21.6	
1720	4.70			1	14.17	49	5.61	-33.5	0.53	11.9	
1725	4.70				14.14	47	5.61	-33.5	0.60	9.35	
~~1730~~ 1730				1.25	14.13	47	5.61	-33.5	0.43	7.89	
1735					14.13	47	5.60	-33.0	0.41	6.65	
1740				1.5	14.09	46	5.60	-33.0	0.37	4.85	
1745					14.06	46	5.59	-32.7	0.35	4.69	
1750				1.75	14.04	46	5.59	-32.7	0.34	4.58	
1755		Parameters stable - collect sample									
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME -GW-
Sample ID: NASB-BG-MW21-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: NA (If applicable)

Sample Method: 9/14/09 Low Stress (flow) with Peristaltic Pump Depth Sampled 8.81 (TOR)
Depth Sampled: ~~9/14/09~~ (TOR) Screen Int. Depth 1-6 ft bgs
Sample Date & Time: 9/14/2009 1622 hours NA (Dup Time)
Sampler(s): C.Fellows / M.Horton / J.Cardinal
Data Recorded By: J.Cardinal Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness ;
Visual Evidence of Sheen (Yes/No) no ;
Olfactory Evidence of Odor (Yes/No) no ;
TD= 9.81 (TOR); Well S/U = 1-6 ft bgs
Weather: Sunny, 60s ;

H&S Survey Meter 0.0 PPM Field Instrument Group A / (B) C / D
Initial WL 6.64 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1527	6.67	Cmpy 10/5									
1533	6.78	↓									
1537	6.78	↓									
1543	6.77	↓	40	<0.5 gal	17.12	47	5.30	192.1	1.75	12	
1550	6.79	↓	40	<0.5gal	17.20	46	5.28	193.4	1.83	6.4	
1555	6.80	↓	50	<0.5gal	16.99	36	5.22	199.2	1.70	4.4	
1600	6.80	↓	50	<0.5gal	16.75	33	5.17	203.9	1.66	2.9	
1605	6.81	↓	50	0.5gal	16.63	32	5.13	207.2	1.53	2.2	
1610	6.81	↓	40	0.5gal	16.52	30	5.10	209.8	1.52	0.85	
1614	6.81	↓	50	0.5gal	16.43	30	5.09	211.0	1.52	0.70	
1619	6.83	↓	50	0.5 gal	16.22	29	5.08	212.4	1.56	0.55	
Stabilization achieved per work plan											
begin sampling 1622											
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- ~~1.0~~ 0.5 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: West Gate Landfil
Sample ID: NASB-BG-GW-MW23-0909

Tetra Tech NUS Charge No. 112G00864/ CTO 407
QC: NA (If applicable)

Sample Method: low flow w/ micro bladder pump
Depth Sampled: ~14 Feet bgs Screened Interval Depth 6-16 feet bgs
Sample Date & Time: 9/14/09 1530 hours NA /Dup
Sampler(s): P. Seward
Data Recorded By: P. Seward Signature: [signature]
Notes:
initial WL = 8.79

H&S Survey Meter 0.0 PPM Field Instrument Group A/B/C/D
Pre-pump insertion WL 8.69 ft Post - pump insertion WL _____ ft

Analysis	Bottle Lot #	Analysis	Bottle Lot #	Analysis	Bottle Lot #

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cumm. Volume Purged ~~liters~~ gal	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1320	8.79	initiated purge - attempted to increase flow rate - bladder worked only pump ~ 50 mls/min									
1330	8.79		50		16.62	72	6.34	-72.9	2.29	160	cloudy
1340	8.79		50		15.93	123	6.11	-100.7	1.36	270	"
1350	8.85		50		15.78	123	6.15	-101.7	0.96	140	"
1400	8.89		50		15.93	124	6.17	-101.7	0.75	85	"
1410	8.90		50		15.52	128	6.19	-101.0	0.74	80	"
1420	8.90		50		14.71	130	6.23	-101.4	0.57	55	"
1430	8.90		50		14.45	137	6.26	-102.6	0.47	36	clear-colorless
1440	8.91		50	0.5	14.28	135	6.28	-102.1	0.40	29	clear-colorless
1450	8.91		50		14.23	136	6.30	-101.7	0.37	21	"
1455	8.91		50		14.46	137	6.31	-101.6	0.38	18	"
1500	8.91		50		14.63	137	6.32	-101.4	0.38	13	"
1505	8.91		50		14.66	138	6.33	-101.2	0.38	13	"
1510	8.91		50		14.67	138	6.33	-100.8	0.38	12	"

TtNUS Form 0009

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: West Gate Landfil
Sample ID: ~~NASB-BG-GW-~~ MW23-0909

Tetra Tech NUS Charge No. 112G00864/ CTO 407
QC: _____ (If applicable)

Sample Method: see pg 1 of 2
Depth Sampled: _____ Feet Screened Interval Depth _____ feet
Sample Date & Time: __/__/__ _____ hours _____ /Dup
Sampler(s): _____
Data Recorded By: _____ Signature: _____
Notes: _____

H&S Survey Meter _____ PPM
Pre-pump insertion WL _____ ft
Field Instrument Group A/B/C/D
Post - pump insertion WL _____ ft

Analysis	Bottle Lot #	Analysis	Bottle Lot #	Analysis	Bottle Lot #

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cumm. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1515	8.91		50		14.79	138	6.33	-100.4	0.38	12	clear-colorless
1520	8.91		50		14.77	138	6.34	-102.9	0.38	11	" "
				purge complete							

TtNUS Form 0009

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-MW24-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of
QC: _____ (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump
Depth Sampled: ~~14.27~~ (TOR) Screen Int. Depth 3-13 ft bgs
Sample Date & Time: ~~9/14~~/2009 09/15/09 hours NA (Dup Time) 0800
Sampler(s): C.Fellows / ~~M.Horton~~ J. Trant
Data Recorded By: J. Trant Signature: J. Trant;
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness TPVC;
Visual Evidence of Sheen (Yes/No) _____;
Olfactory Evidence of Odor (Yes/No) _____;
TD= 14.7 PVC (TOR); Well S/U = 3-13' bgs;
Weather: 65° Sunny;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 5.24 ft ~~btor~~ btoPVC (Dedicated tubing)

Grab Sample

Sampling Hierarchy and Lab Analyses:
Chloride/Bromide 125mL poly Metals-Dissolved - 500mL poly (HNO3)
Metals (Total) 500mL poly (HNO3)
(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1300	5.24	Begin low flow									
1315	6.85	lower pump 40		0.25	14.34	128	6.63	223.7	7.15	11.4	
1325	7.45	CPM4		~~25.0~~	15.07	128	6.62	231.5	7.26	25.0	
1340	8.53	10/5	30	0.5	15.91	123	6.53	247.8	7.17	72.5	
1350	9.10				16.24	121	6.51	256.1	7.18	72.6	
1400	9.51			0.75	16.21	121	6.49	264.5	7.24	61.1	
1410	9.87				15.99	118	6.48	272.0	7.25	41.5	
1420	10.73			1	16.21	117	6.48	277.4	7.10	26.5	
1430	11.25				16.17	115	6.47	282.2	6.43	22.4	
1440	11.87			1.25	16.15	113	6.45	279.6	5.81	22.6	
1450	12.2		25		16.24	109	6.45	273.8	5.83	16.2	
1500	>12.7		25	1.5	16.93	104	6.49	273.9	5.91		
1505	Two hour purge limit per workplan - collect sample - ~~parameters stable~~										
	*Grab sample			~~except for turbidity & ORP~~			- wait for recharge - run dry				
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

Set pump on lowest setting - cannot control drawdown

- Grab sample collected on 9/15 - after recharge -

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME (GW)
Sample ID: NASB-BG-MW25-0909.

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 2
QC: NA (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump
Depth Sampled: 16.65 (TOR) Screen Int. Depth 5-15 ft bgs
Sample Date & Time: 9/14 /2009 1120 hours NA (Dup Time)
Sampler(s): C.Fellows / M.Horton / J. Cardinal
Data Recorded By: J.Cardinal Signature: J. Cardinal
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/(No)); if yes, report depths/describe thickness ;
Visual Evidence of Sheen (Yes/No) No ;
Olfactory Evidence of Odor (Yes/No) No ;
TD= 17.65 (TOR); Well S/U = 5-15 bgs;
Weather: Sunny, 60s ;

H&S Survey Meter 0.0 PPM Field Instrument Group A / (B) / C / D
Initial WL 14.05 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1133	14.00										
1149	14.10	Cpmy 10/5	50								
1153	14.20	↓									
1157	14.20	↓									
1159	14.22	↓									
1203	14.19	↓	45	<0.5gal	13.73	77	6.22	187.7	5.25	150	
1208	14.19	↓	45	<0.5gal	13.92	75	6.23	184.5	5.04	95	
1217	14.18	↓	45	<0.5gal	14.11	72	6.22	184.0	4.91	55	
1223	14.19	↓	50	<0.5gal	14.31	72	6.22	185.8	4.76	31	
1229	14.19	↓	50	<0.5gal	14.42	72	6.21	187.6	4.65	19	
1236	14.18	↓	40	0.5gal	14.89	72	6.21	188.4	4.53	13	
1242	14.17	↓	40	0.5gal	14.96	72	6.21	191.2	4.45	10	
1249	14.20	↓	40	0.5gal	14.91	71	6.21	192.8	4.42	6.7	
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- ~~1.0~~ 0.5 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME (GW)
Sample ID: NASB-B6-MW25-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432
QC: _____ (If applicable)

2 of 2

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1255	14.18	Cpm4	50	0.5gal	14.86	71	6.20	194.1	4.40	5.2	
1259	14.18	10/5	50	0.5gal	14.82	71	6.21	195.2	4.37	5.0	
1305	14.20	↓	50	0.5gal	14.90	71	6.20	195.3	4.37	4.3	
1310	14.20	↓	50	0.5gal	14.94	71	6.20	196.8	4.44	3.2	
1315	14.20	↓	50	0.5gal	15.08	72	6.19	197.8	4.50	5.0	
Stabilization Parameters met per workplan											
Begin Sampling			120								
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW27-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: NA (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump (→ to pull up ~ 2-2.5 ft due to WL)
Depth Sampled: 34.5 (TOR) Screen Int. Depth 25-35 ft bgs
Sample Date & Time: 9/18/2009 1010 hours ____ (Dup Time)
Sampler(s): C.Fellows / M.Horton /
Data Recorded By: C.Fellows Signature: C.Fellows;
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness;
Visual Evidence of Sheen (Yes/No);
Olfactory Evidence of Odor (Yes/No);
TD= 36.82 (TOR); Well S/U = 1.92;
Weather: Sunny 60's;

H&S Survey Meter BZ 0 | W 0 | BN 0 PPM Field Instrument Group A / B / C / D
Initial WL 28.08 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1 CPM	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
0930	28.65	* Begin purging measuring drawdown, and filling flow through cell.									
0945	28.65	4 1/10/5	40		12.74	147	6.40	188.4	11.00	6.19	Clear/colorless
0955	"	"	"	1/2	13.12	144	6.41	189.6	10.94	4.37	"
1000	"	"	"		13.27	143	6.41	190.6	10.90	3.49	"
1005	"	"	"	3/4	13.32	143	6.40	191.0	10.90	1.50	"
1010	End Purge. Begin Sampling. All parameters meet stabilization criteria stated in SAP.										
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW28-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432
QC: NASB-BG-GW-DU003-0909 (If applicable)

JD 9/18/09
Sample Method: Low Stress (flow) with Peristaltic Pump
Depth Sampled: ~~34.04~~ 32.54 (TOR) Screen Int. Depth 25-35 ft bgs
Sample Date & Time: 9 / 18 /2009 943 hours _____ (Dup Time)
Sampler(s): C.Fellows / M.Horton / Cardinal
Data Recorded By: J. Cardinal Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness _____;
Visual Evidence of Sheen (Yes/No) _____;
Olfactory Evidence of Odor (Yes/No) _____;
TD= 36.54 (TOR); Well S/U = 25-35;
Weather: Cloudy, 60s;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 28.28 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
759	28.80	CPM4 10/5									
804	28.80	↓									
810	Pulled up bladder pump since no water was pumping out. Reconnected tubing.										
	Replaced bladder pump back in well										
817	28.81	CPM4 10/5									
822	28.81	↓									
824	28.83	↓									
827	28.83	↓									
837	28.83	↓	30	<0.5	10.68	232	5.85	203.2	12.87	1.3	
842	28.84	↓	40	<0.5	10.63	240	5.81	205.6	12.52	0.00	
* 854	28.82	↓	30	<0.5	10.69	248	5.77	209.2	12.66	0.00	
900	28.83	↓	45	<0.5	11.17	255	5.75	209.1	12.62	0.00	
905	28.83	CPM5 8/4	45	<0.5	11.45	295	5.69	211.9	12.73	0.00	
910	28.83	CPM4 9/6	30	<0.5	11.50	312	5.67	213.7	12.70	0.00	
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- ~~1.0~~ 0.5 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

* lowered bladder from ~29 ft to 32.5 ft

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW28-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432
QC: NASB-BG-GW-DUP03-0909 (If applicable)

p. 2 of 2

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
915	28.84	Opmy 916	40	<0.5	11.76	329	5.66	216.7	12.65	0.00	
919	28.82	↓	40	<0.5	11.88	332	5.66	218.0	12.61	0.00	
932	28.85	↓	40	~0.5	12.21	342	5.64	222.7	12.70	0.00	
936	28.84	↓	40	~0.5	12.29	343	5.64	223.9	12.73	0.00	
940	28.84	↓	40	~0.5	12.37	345	5.64	225.2	12.80	0.00	
Stabilization complete per work plan criteria											
Begin sampling 943											
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- ~~1.0~~ 0.5 S.U.	+/- 10mV	10%	10%	

TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW29-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: _____ (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump
Depth Sampled: ~32.85 (TOR) Screen Int. Depth 22-32 ft bgs
Sample Date & Time: 9 / 18/2009 0915 hours NA (Dup Time)
Sampler(s): ~~C.Fellows / M.Horton /~~ P. Seward
Data Recorded By: P. Seward Signature: Peter Sd ;
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness _____;
Visual Evidence of Sheen (Yes/No) _____;
Olfactory Evidence of Odor (Yes/No) _____;
TD= 34.35 (TOR); Well S/U = 2.88 :
Weather: _____ ;

H&S Survey Meter * PPM Field Instrument Group A / B (C) D
Initial WL 27.48 ft btor (Dedicated tubing)
*PID malfunctioning - background reading was 20 ppm & still climbing

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged ~~Gals.~~ mls	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
0825	27.51	- initiated well purge @ 60 mls/min									
0835	27.51		60		10.77	45	6.22	-74.3	11.82	2.4	clear - colorless
0845	27.51		60		10.58	37	6.01	-74.1	11.57	0.0	"
0855	27.49		60		10.65	35	5.94	-78.1	11.51	0.0	"
0900	27.49		60		10.72	34	5.93	-78.8	11.38	0.0	"
0905	27.51		60	~1200 mls	10.78	34	5.93	-78.5	11.31	0.0	"
0910	27.51		60		10.86	35	5.92	-77.3	11.21	0.0	"
				purge complete per work plan							
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW30-1104

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: NA (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump
Depth Sampled: 12 (TOR) Screen Int. Depth 7-17 ft bgs
Sample Date & Time: 11/30/2009 1445 hours NA (Dup Time)
Sampler(s): C.Fellows / ~~M.Horton~~ / B.Geringer
Data Recorded By: C.Fellows Signature: C. Fellows;
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness ____;
Visual Evidence of Sheen (Yes/No) ____;
Olfactory Evidence of Odor (Yes/No) ____;
TD= ____ (TOR); Well S/U = see well construction logs
Weather: 40's Showers. ____;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 7.20 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1 CPM 4	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1350	* Begin purging, filling flow through cell, and measuring drawdown										
1400	7.23	5/10 10/5	50	<1/4	7.30	367	5.21	247.8	9.91	27.6	clear/colorless
1410	7.24	10/5	50	1/4	7.70	402	5.10	264.7	9.56	35.9	clear/colorless
1420	7.24	"	"	1/2	7.78	404	5.09	277.2	9.53	22.1	"
1430	"	"	"	3/4	7.76	407	5.09	289.2	9.50	9.34	"
1435	"	"	"	1	7.78	408	5.09	293.9	9.50	8.33	"
1440	"	"	"	1 1/4	7.80	407	5.09	298.6	9.48	8.65	"
1445	*End purge. Begin sampling.										
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) ____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

*DO high - tightened flow through cell connections - no air bubbles observed. and DO still high.

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-MW31

Tetra Tech NUS Charge No. 112G00958 / CTO 432 — Page 1 of 1
QC: Collected Lab QC (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump MicroBladder
Depth Sampled: ~12 (TOR) Screen Int. Depth 7-17 ft bgs
Sample Date & Time: 11 / 30 /2009 1205 hours _____(Dup Time)
Sampler(s): C.Fellows / M.Horton / B.Geringer
Data Recorded By: B.Geringer Signature: [signature]
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness
Visual Evidence of Sheen (Yes/No) No
Olfactory Evidence of Odor (Yes/No) No
TD= 19.14 (TOR); Well S/U = See well construction log
Weather: Rainy - Cool

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 10.19 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr Start 1040	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1050	10.19	60 PSI	60		7.84	46	4.93	251.8	10.80*	15.1	Clear / colorless
1100	10.19		60		7.76	43	4.90	263.6	10.72	39.2	~~Clear~~ little cloudy
1110	10.19		60	1/2	7.90	42	4.89	273.2	10.71	8.14	Clear / Colorless
1120	10.19		60		8.02	41	4.90	282.8	10.70	1.82	" "
1130	10.19		60	1	8.08	40	4.91	291.2	10.70	0.83	
1140	10.19		60		8.20	40	4.92	298.2	10.69	0.27	
1150	10.19		60	2	8.18	40	4.92	302.2	10.71	0.55	
1200	10.19		60		8.16	40	4.93	306.8	10.70	0.42	
		Reached	Stabilization	- Collected	Samples						
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

* DO high - tightened flow through cell connections no air bubbles observed - DO still high

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW32-1109

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: NASB-BG-GW-DUP05-113009 (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump
Depth Sampled: 12 (TOR) Screen Int. Depth 7-17 ft bgs
Sample Date & Time: 11/30/2009 1145 hours — (Dup Time) DUP05
Sampler(s): C.Fellows / M.Horton /
Data Recorded By: C.Fellows Signature: C.Fellows;
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness ;
Visual Evidence of Sheen (Yes/No) ;
Olfactory Evidence of Odor (Yes/No) ;
TD= (TOR); Well S/U = See well construction log.
Weather: 40's Snowy.

H&S Survey Meter 0.0 PPM Field Instrument Group A B C / D
Initial WL 11.34 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1 CDM4	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L *	Turbidity NTU	Comments
1100	* Begin purge, measuring drawdown, and filling flow through cell.										
1120	11.38	10/5	~~10/5~~ 50	< 1/4	7.40	155	5.62	200.4	11.42	1.34	Clear/colorless
1130	11.35	~~10/5~~ 9/6	50	1/4	7.33	145	5.59	206.0	11.55	0.75	"
1135	11.35	9/6	50		7.31	140	5.59	208.3	11.54	0.42	"
1140	11.35	"	"	1/2	7.30	139	5.59	210.0	11.55	0.39	"
1145	* End purge. Begin sampling.										
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

* DO noted as high but flow through cell was air tight and no sign of air bubbles.

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NSB-BG-GW-MW36-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: NA (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump
Depth Sampled: ~61.25 (TOR) Screen Int. Depth 54-64 ft bgs
Sample Date & Time: 9 / 17 /2009 1440 hours NA (Dup Time)
Sampler(s): ~~C.Follows / M.Horton~~ / P. Seward
Data Recorded By: P. Seward Signature: Peter C. Seward ;
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness ;
Visual Evidence of Sheen (Yes/No) ;
Olfactory Evidence of Odor (Yes/No) ;
TD= 66.25 (TOR); Well S/U = 2.97 ;
Weather: Sunny, ~55°F, winds - calm ;

H&S Survey Meter HS = 7.6 ppm PPM Field Instrument Group A / B / C / D
Initial WL 6.85 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1250	6.85	initiated well purge									
1300	6.90		50		16.72	105	6.65	-104.8	7.01	140	light tan - cloudy
1320	6.90		40		14.46	251	5.73	-104.7	2.84	180	" "
1330	6.90		~~50~~ 60		13.52	257	5.69	-102.4	1.97	80	" "
1340	6.90		60		12.74	261	5.71	-102.5	1.22	28	clear - colorless
1350	6.90		60		12.46	264	5.73	-103.8	0.86	10	" "
1400	6.90		60		12.39	265	5.74	-103.2	0.66	8.5	" "
1410	6.90		60		12.62	265	5.75	-105.1	0.55	6.1	" "
1420	6.91		60		12.61	265	5.76	-104.8	0.50	5.3	" "
1425	6.91		60		12.52	267	5.77	-105.5	0.48	4.4	" "
1430	6.90		60		12.48	267	5.77	-104.9	0.46	4.5	" "
1435	6.91		60	~1.5	12.42	267	5.78	-106.0	0.43	3.5	" "
			purge complete per work plan								
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-136-GW-MW37-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 2
QC: NA (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump
Depth Sampled: 44.04 (TOR) Screen Int. Depth 38.5-48.5 ft bgs
Sample Date & Time: 9/17/2009 1123 hours NA (Dup Time)
Sampler(s): C.Fellows / M.Horton / J. Cardinal
Data Recorded By: J. Cardinal Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness ____;
Visual Evidence of Sheen (Yes/No) ____;
Olfactory Evidence of Odor (Yes/No) ____;
TD= 49.04 (TOR); Well S/U = 38.5-48.5 ;
Weather: 60s, Sunny ;

H&S Survey Meter 0.0 PPM Field Instrument Group (A) / B / C / D
Initial WL 14.70 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
939	13.90	Cpm4 10/s									
944	14.50	↓									
949	14.56	↓	70	<0.5	11.99	181	7.53	86.8	2.28	211	cloudy
956	14.45	↓	70	<0.5	12.05	172	7.64	-107.3	1.17	157	slightly cloudy
1003	14.55	↓	60	<0.5	12.67	170	7.68	-125.4	0.83	128	slightly cloudy
1009	14.44	↓	50	<0.5	13.18	169	7.67	-142.6	0.68	113	slightly cloudy
1012	changed N2 tank										
1019	14.33	Cpm4 10/s	50	~0.5	15.60	173	7.65	-147.1	0.88	103.2	slightly cloudy
1023	14.38	↓	55	~0.5	14.45	168	7.68	-150.4	0.84	93.1	slightly cloudy
1027	14.39	↓	60	~0.5	14.23	167	7.67	-150.7	0.58	70.5	slightly cloudy
1037	14.35	↓	50	~0.5	14.21	163	7.64	-154.1	0.43	53.3	slightly cloudy
1043	14.43	↓	50	~0.5	14.48	163	7.62	-160.1	0.46	42.2	slightly cloudy
1049	14.46	↓	50	~0.5	14.33	163	7.63	-162.4	0.43	32.9	slightly cloudy
1056	14.37	↓	50	~0.5	14.18	161	7.64	-160.6	0.35	28.3	slightly cloudy
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- ~~1.0~~ 0.5 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW37-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432
QC: NA (If applicable)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1101	14.35	0.9mg 10/s	50.	~0.5	13.61	158	7.66	-161.0	0.32	29.0	slightly cloudy
1106	14.38	↓	50	~0.5	13.14	156	7.67	-161.0	0.32	28.8	slightly cloudy
1110	14.38	↓	50	~1	13.37	156	7.68	-160.7	0.34	26.6	slightly cloudy
1114	14.41 ~~13.41~~ 9/17/09	↓	50	~1	13.48	157	7.68	-160.4	0.33	25.2	slightly cloudy
1118	14.40	↓	50	~1	13.58	157	7.68	-158.6	0.31	26.3	slightly cloudy
Stabilization complete per workplan criteria											
Begin sampling		1123									

Acceptance Criteria: <0.3 ft (drawdown) | 3% | 3% | +/- ~~1.0~~ 0.5 S.U. | +/- 10mV | 10% | 10%

TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW38-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: NA (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump
Depth Sampled: 37 (TOR) Screen Int. Depth 33.-38 ft bgs
Sample Date & Time: 9 / 17 /2009 1120 hours NA (Dup Time)
Sampler(s): C.Fellows / M.Horton /
Data Recorded By: CFS Signature: C. Fellows ;
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No) if yes, report depths/describe thickness ;
Visual Evidence of Sheen (Yes/No) ;
Olfactory Evidence of Odor (Yes/No) ;
TD= 39.12 (TOR); Well S/U = 1.17 ;
Weather: Sunny 60's ;

H&S Survey Meter BZ/W/PP 0/0/0 PPM Field Instrument Group A (B) C / D
Initial WL 14.42 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1 cpm	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1000	Begin purging, measuring drawdown, and filling flow through cell.										
1015	14.42	4 / 10/5	50		10.98	148	8.04	-35.1	1.97	60	sl. cloudy / colorless
1025	14.42	"	50		10.68	148	8.13	-109.9	1.02	35	clear / colorless
1035	"	"	"	1/2	10.88	146	8.17	-140.9	0.75	24	"
1045	"	4 / 9/6	"		11.07	145	8.17	-148.5	0.70	22	"
1055	"	"	"		11.29	145	8.18	-160.1	0.62	13	"
1105	"	"	"	1	11.18	145	8.20	-169.5	0.58	0.00	"
1110	"	"	"		11.18	145	8.20	-170.7	0.57	0.00	"
1115	"	"	"	1 1/4	11.19	145	8.20	-171.6	0.56	0.00	"
1120	End Purge, Begin Sampling.										
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-GW-MW39-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: NA (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump
Depth Sampled: ~19.75 (TOR) Screen Int. Depth 12-22 ft bgs
Sample Date & Time: 9 / 17 / 2009 1055 hours NA (Dup Time)
Sampler(s): ~~G.Follows / M.Horton~~ / P. Seward
Data Recorded By: P. Seward Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); If yes, report depths/describe thickness ;
Visual Evidence of Sheen (Yes/No) ;
Olfactory Evidence of Odor (Yes/No) ;
TD= 24.75 (TOR); Well S/U = 3.09 ;
Weather: Sunny; ~50°F; winds - calm ;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 16.1 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
0935	16.1	initialed purge									
0950	16.1		PS ~~90~~ 50		12.70	131	6.51	-80.2	6.36	700	tan
0955	16.1		PS ~~90~~ 50		12.24	228	6.11	-91.5	4.47	750	tan
1005	16.1		50		11.87	244	6.09	-102.0	3.19	150	lighter tan color
1015	16.1		50		12.04	243	6.05	-101.8	2.79	29	clear - ~~close~~ colorless
1025	16.1		50		12.19	242	6.04	-100.9	2.81	21	clear - colorless
1035	16.1		50		12.25	242	6.03	-100.9	2.85	8.1	"
1040	16.1		50		12.51	242	6.02	-100.4	2.88	3.5	"
1045	16.1		50	~0.5	12.74	242	6.01	-100.4	2.95	1.3	"
1050	16.1		50		12.89	242	6.01	-100.1	2.96	0.15	"
~~1055~~	~~16.1~~		purge complete per work plan								
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW40-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: NA (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic Pump~~ micro bladder
Depth Sampled: ~27.02 (TOR) Screen Int. Depth 20-30 ft bgs
Sample Date & Time: 9 /18 /2009 1225 hours NA (Dup Time)
Sampler(s): ~~G.Fellows / M.Horton~~ / P. Seward
Data Recorded By: P. Seward Signature: Peter Seward;
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness ;
Visual Evidence of Sheen (Yes/No) ;
Olfactory Evidence of Odor (Yes/No) ;
TD= 32.00 (TOR); Well S/U = 2.55' ;
Weather: Sunny ~ 53°F - winds 7-10 mph ;

H&S Survey Meter * PPM Field Instrument Group A / B / C / D
Initial WL 24.08 ft btor (Dedicated tubing)
* PID malfunctioning - did not use

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1130	24.10	~~50~~	50	initiated well purge							
1140	24.12		50		8 ~~14.21~~ 14.07	75	4.98	-68.7	9.69	50	clear - colorless
1150	24.12		50		13.57	83	4.89	-67.5	9.51	24	clear - colorless
1200	24.12		50		14.15	83	4.89	-65.6	9.18	14	clear - colorless
1205	24.12		50		14.44	83	4.90	-64.7	9.07	8.8	"
1210	24.12		50		14.64	82	4.91	-64.1	9.00	3.1	"
1215	24.11		50		14.88	81	4.92	-63.1	8.91	2.7	"
1220	24.11		50	~2100 mls	14.94	81	4.93	-62.7	8.87	3.2	"
				purge complete per work plan							
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW41-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: _____ (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic Pump~~ micro bladder
Depth Sampled: ~39.95 (TOR) Screen Int. Depth 36-41 ft bgs
Sample Date & Time: 9 / 23 /2009 1720 hours NA (Dup Time)
Sampler(s): C.Fellows ~~/ M.Horton /~~ P. Seward
Data Recorded By: Peter Seward Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No): If yes, report depths/describe thickness _____;
Visual Evidence of Sheen (Yes/No) _____;
Olfactory Evidence of Odor (Yes/No) _____;
TD= 43.45 (TOR); Well S/U = 2.72' ;
Weather: _____;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 28.86 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1540	26.82									~~80~~	~~clear colorless~~
1550	28.85		50		17.77	100.7	8.20	-176.1	5.97	80	clear-colorless
1600	28.99		50		17.80	88	8.11	-178.0	5.10	60	" "
1610	29.74		50		16.67	88	7.91	-191.3	2.80	85	" "
1620	30.22		50		16.39	87	7.89	-196.6	2.04	210	~~" "~~ gray-cloudy
1630	30.22		50		16.45	87	7.91	-197.7	1.78	750	gray-turbid
1640	30.35		50		16.46	87	7.97	-199.9	1.35	550	" "
1650	30.15		50		16.63	87	8.02	-202.8	1.14	400	" "
1700	29.98		50		17.01	88	8.04	-203.7	1.19	430	" "
1705	30.00		50		17.04	88	8.06	-204.4	1.17	330	gray-cloudy
1710	30.00		50		16.90	88	8.08	-205.0	1.09	300	" "
1715	30.00		50	~0.5	16.90	88	8.10	-205.2	1.05	310	"
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

purge complete per work plan

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW42-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: _____ (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic Pump~~ micro bladder
Depth Sampled: ~40.0 (TOR) Screen Int. Depth 35-40 ft bgs
Sample Date & Time: 9 /23 /2009 1410 hours NA (Dup Time)
Sampler(s): C.Fellows / ~~M.Horton~~ / P. Seward
Data Recorded By: P. Seward Signature: Peter Seward
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness _____;
Visual Evidence of Sheen (Yes/No) _____;
Olfactory Evidence of Odor (Yes/No) _____;
TD= 42.50 (TOR); Well S/U = 2.91 :
Weather: Sunny; ~60°F; winds gusting @ 10 mph ;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL PS ~~NA~~ 15.14 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1215	14.98										
1225	15.88	4CPM	50		17.66	120	7.94	-175.5	3.59	Error 2	Gray-cloudy
1235	16.63	"	50		16.57	~~40~~ 106	8.15	-192.1	1.50	"	"
1245	16.68	"	50		16.74	105	8.22	~~-~~ -194.3	1.19	1100	"
1255	16.30	"	50		17.28	104	8.22	-197.7	0.98	850	"
1315	15.82	"	40		18.78	107	8.22	-187.0	0.87	600	"
1325	16.05	"	40		17.63	102	8.30	-199.2	0.83	500	"
1335	16.05	"	50		17.21	105	8.34	-198.6	0.72	400	"
1345	16.15	"	50		16.91	101	8.37	-199.4	0.61	450	"
1355	16.16	"	50		16.73	104	8.40	-200.7	0.51	360	"
1400	16.15	"	50		16.70	100	8.41	-199.0	0.48	330	"
1405	16.18	"	50	~0.5	16.68	100	8.42	-199.8	0.45	310	"
		purge	complete	per	work	plan					
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW43-1209

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: NA (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump
Depth Sampled: 61 (TOR) Screen Int. Depth 56-61 ft bgs
Sample Date & Time: 12/1/2009 0940 hours NA (Dup Time)
Sampler(s): C.Fellows / ~~M.Horton~~ / B.Gerhager
Data Recorded By: C. Fellows Signature: C. Fellows ;
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness ;
Visual Evidence of Sheen (Yes/No) ;
Olfactory Evidence of Odor (Yes/No) ;
TD= (TOR); Well S/U = See well construction logs.
Weather: Sunny 40's ;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 0.0 ft btor (Dedicated tubing)
WL at top of PVC

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
0955	* Begin pumping filling flow through cell and measuring parameters, Artesian well so no need for pump or nitrogen gas.										
0910	0.0	NA	150	1/2	7.56	103	7.58	-182.1	0.73	6.64	Clear/Colorless
0920	0.0	NA	150	1	7.54	103	7.62	-164.6	0.70	4.96	"
0925	"	"	"	1 1/2	7.51	103	7.66	-147.0	0.64	0.00	"
0930	"	"	"	2	7.51	102	7.67	-145.1	0.61	0.00	"
0935	"	"	"	2 1/2	7.47	102	7.68	-137.7	0.60	0.00	"
0940	* End purge. Begin sampling.										
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW24-1209

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: _____ (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump
Depth Sampled: 75 (TOR) Screen Int. Depth 70-80 ft bgs
Sample Date & Time: 12 / 1 /2009 1055 hours _____(Dup Time)
Sampler(s): C.Fellows / ~~M.Horton~~ / B. Geringer
Data Recorded By: B.Geringer Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness _____;
Visual Evidence of Sheen (Yes/No) _____;
Olfactory Evidence of Odor (Yes/No) _____;
TD= _____(TOR); Well S/U = see well construction log
Weather: Sunny 40's;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 0.89 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm[c]	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
0850	0.94	60 PSI	50		YSI did	not turn	on -	replaced	batteries	—	
0910	0.94		50		5.13	196	8.35	-304.4	1.11	143	Cloudy
0920	0.94		50	1	6.11	192	8.35	-287.1	0.60	94.8	" "
0930	0.94		50		6.39	191	8.34	-336.8	0.48	64.4	Little Cloudy
0940	0.94		50		6.36	189	8.35	-325.2	0.41	49.0	" "
0950	0.94		50	2	6.52	189	8.35	-277.3	0.37	38.3	Clear/colorless
1000	0.94		50		6.48	188	8.36	-265.8	0.34	31.1	" "
1010	0.94		50		6.46	188	8.35	-260.2	0.32	21.1	
1020	0.94		50	3	6.48	187	8.35	-277.5	0.31	18.8	
1030	0.94		50		6.37	187	8.35	-269.2	0.30	15.9	
1040	0.94		50		6.35	187	8.34	-262.8	0.29	13.9	
1050	0.94		50	4	6.45	187	8.34	-263.9	0.29	11.4	
	Reached	2 hour	purge limit	- Collected	Samples						
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: MASB-BG-GW-MW339-1209

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: MA (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump 62-72 (CFS)
Depth Sampled: ~70 (TOR) Screen Int. Depth ~~65-75~~ ft bgs
Sample Date & Time: 12/1/2009 1050 hours MA (Dup Time)
Sampler(s): C.Fellows / ~~M.Horton~~ / B. Geringer
Data Recorded By: C.Fellows Signature: C.Fellows;
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness ____;
Visual Evidence of Sheen (Yes/No) ____;
Olfactory Evidence of Odor (Yes/No) ____;
TD= 74.8 (TOR); Well S/U = 2.8:
Weather: Sunny 40's;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 1.34 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1 CPM 4	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm uS/cm c	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1005		10/5	*Begin pumping, filling flow through cell and measuring drawdown								
1020	1.42	10/5	110	1/4	6.55	119	7.69	-78.5	2.72	6.38	Clear/colorless
1030	1.44	"	"	1	7.26	117	7.90	-93.2	0.85	5.62	"
1035	"	"	"	1 1/4	7.31	116	7.94	-95.8	0.73	3.45	"
1040	"	"	"	1 1/2	7.33	116	7.96	-97.4	0.69	1.00	"
1045	"	"	"	1 3/4	7.33	116	7.97	-96.3	0.67	2.21	"
1050	* End purge. Begin sampling.										
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) ____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW219-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 2
QC: NA (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump
Depth Sampled: 67.25 (TOR) Screen Int. Depth 58.4-68.4 ft bgs
Sample Date & Time: 9/15/2009 1410 hours NA (Dup Time)
Sampler(s): C.Fellows / M.Horton / J. Cardinal
Data Recorded By: J.Cardinal Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness ____;
Visual Evidence of Sheen (Yes/No) ____;
Olfactory Evidence of Odor (Yes/No) ____;
TD= 72.25 (TOR); Well S/U = 58.4-68.4 ;
Weather: Sunny, 70s ;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 28.58 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1234	28.54										
1240	28.54	CPM4 10/5									
1245	28.54	↓	70	<0.5	14.73	94	6.32	151.2	8.28	13.6	
1250	28.54	↓	70	<0.5	14.41	92	6.27	160.3	8.77	11.2	
1255	28.54	↓	70	<0.5	14.33	92	6.22	172.8	9.00	9.52	
1300	28.55	↓	70	<0.5	13.95	90	6.18	188.5	9.03	5.06	
1305	28.55	↓	70	~0.5	14.33	90	6.17	196.5	8.94	3.77	
1310	28.54	↓	70	~0.5	14.82	91	6.10	209.3	8.85	3.21	
1316	28.54	↓	70	~0.5	14.95	92	6.02	226.3	8.78	1.27	
1320	28.56	↓	70	~0.5	15.30	93	5.98	235.7	8.71	1.48	
1325	28.56	↓	70	~0.5	14.89	92	5.91	233.6	8.71	1.25	
1330	28.56	↓	70	~0.5	14.73	92	5.82	237.9	8.74	0.91	
1335	28.55	↓	70	~0.5	14.94	92	5.73	251.4	8.64	0.71	
1341	28.55	↓	70	~1	15.09	93	5.69	275.0	8.61	0.55	
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- ~~1.0~~ 0.5 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) ____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW219-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432
QC: NA (If applicable)

P. 2 of 2

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1345	28.55	Chirpy 10/5	70	~1	14.99	93	5.63	282.3	8.57	0.50	
1350	28.56	↓	70	~1	15.05	93	5.59	297.9	8.58	0.41	
1355	28.56	↓	70	~1	15.07	93	5.62	305.8	8.52	0.28	
1359	28.56	↓	70	~1	14.66	92	5.67	309.8	8.61	0.06	
1402	28.56	↓	70	~1	14.07	91	5.71	314.0	8.68	0.19	
1405	28.56	↓	70	~1.5	14.10	91	5.78	313.5	8.63	0.12	
1408	28.56	↓	70	~1.5	14.04	90	5.80	320.0	8.64	0.01	
Stabilization complete per work plan											
Begin sampling 1410											
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U. 0.5	+/- 10mV	10%	10%	

TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME -GW-
Sample ID: NASB-BG-MW231A-0909.

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: NA (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump
Depth Sampled: 56.19 (TOR) Screen Int. Depth 50-60 ft bgs
Sample Date & Time: 9 / 16 /2009 1123 hours NA (Dup Time)
Sampler(s): C.Fellows / M.Horton / J. Cardinal
Data Recorded By: J. Cardinal Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/(No)); if yes, report depths/describe thickness ____;
Visual Evidence of Sheen (Yes/(No)) ____;
Olfactory Evidence of Odor (Yes/(No)) ____;
TD= 61.19 (TOR); Well S/U = 50-60;
Weather: 60s, sunny;

H&S Survey Meter 0.0 PPM Field Instrument Group A / (B) / C / D
Initial WL 18.48 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1038	18.41	cpm4 10/5									
1042	18.41	↓									
Pulled up bladder pump to check connections since no water was coming up											
tightened connections											
1056	18.41	cpm4 10/5									
1104	18.44	↓	60	<0.5	12.84	49	6.73	142.5	10.32	1.4	clear
1108	18.43	↓	60	<0.5	12.40	48	6.70	144.1	10.06	0.55	clear
1112	18.44	↓	60	<0.5	12.20	46	6.69	147.2	9.82	0.30	clear
1117	18.44	↓	60	<0.5	12.02	46	6.70	150.6	9.79	0.10	clear
1121	18.44	↓	60	<0.5	11.99	45	6.70	150.1	9.82	0.00	clear
Stabilization complete per work plan											
begin sampling 1123											
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U. 0.5	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) ____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW303-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: NA (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump
Depth Sampled: 67.76 (TOR) Screen Int. Depth 59-69 ft bgs
Sample Date & Time: 9/17/2009 1355 hours NA (Dup Time)
Sampler(s): C.Fellows / M.Horton / J. Cardinal
Data Recorded By: J. Cardinal Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness ____;
Visual Evidence of Sheen (Yes/No) ____;
Olfactory Evidence of Odor (Yes/No) ____;
TD= 72.76 (TOR); Well S/U = 59-69 :
Weather: 60s, sunny ;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 10.49 ft btor (Dedicated tubing)
PIDA
YSI B
turbidimeter B

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1301	10.49										
1307	10.51	Cpm4 10/5									
1309	10.50	↓									
1314	10.51	↓	60	<0.5	11.84	153	7.37	-104.4	2.76	0.00	
1319	10.50	↓	60	<0.5	11.31	156	7.59	-126.7	1.86	0.00	
1324	10.51	↓	60	<0.5	11.01	155	7.74	-141.7	1.41	0.00	
1329	10.51	↓	60	<0.5	10.80	154	7.80	-150.5	1.21	0.00	
1334	10.51	↓	60	~0.5	10.67	154	7.84	-153.4	1.08	0.00	
1339	10.51	↓	60	~0.5	10.65	155	7.85	-156.7	1.01	0.00	
1344	10.51	↓	60	~0.5	10.57	155	7.86	-158.8	0.93	0.00	
1348	10.51	↓	60	~0.5	10.55	154	7.87	-160.3	0.89	0.00	
1352	10.51	↓	60	~0.5	10.53	155	7.87	-161.3	0.85	0.00	
Stabilization complete per work plan criteria											
Begin sampling 1355											
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U. 0.5	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NBSB-MW-310-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: NA (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump
Depth Sampled: 66 (TOR) Screen Int. Depth 61-71 ft bgs
Sample Date & Time: 9 / 15 /2009 1355 hours _____(Dup Time)
Sampler(s): C.Fellows / M.Horton / _____.
Data Recorded By: C.Fellows Signature: [signature] ;
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness_____;
Visual Evidence of Sheen (Yes/No) _____;
Olfactory Evidence of Odor (Yes/No)_____;
TD= 72.9 (TOR); Well S/U = 2.2 ;
Weather: Sunny 70's ;

H&S Survey Meter 0 / 0 / 0 PPM Field Instrument Group A / B / C / D
Initial WL 23.5 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1 CPM	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1310	23.55	4 / 10/5	Begin purging, measuring drawdown, and filling flow through cell.								
1325	23.55	"	70		15.58	157	6.08	199.5	6.75	0.00	clear/colorless
1335	"	"	65	1/2	15.29	157	6.07	209.9	6.63	0.00	"
1340	"	"	65		15.26	157	6.07	225.4	6.54	0.00	"
1345	"	"	65	1	15.30	157	6.07	229.1	6.51	0.00	"
1350	"	"	65	1 1/4	15.31	158	6.07	232.9	6.50	0.00	"
1355	Stop purging. Begin sampling.										
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW314A-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: MSMSD (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump
Depth Sampled: ~~T-TOR-09.545~~ 56.9 (TOR) Screen Int. Depth 49.5-59.5 ft bgs
Sample Date & Time: 9 /16 /2009 0950 hours NA (Dup Time)
Sampler(s): ~~C.Fellows / M.Horton~~ P. Seward
Data Recorded By: Peter Signature: Peter C. Seward
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No) if yes, report depths/describe thickness ;
Visual Evidence of Sheen (Yes/No) ;
Olfactory Evidence of Odor (Yes/No) ;
TD= 62' (TOR); Well S/U = 2.9' ;
Weather: sunny ~63° winds ~8-12mph ;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 4.44 ft btor (Dedicated tubing)
MSMSD

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
0840	4.44		60								
0850	4.61		60		12.45	119	7.40	-83.7	7.15	28	clear · colorless
0900	4.61		90		12.43	123	7.45	-84.1	6.77	21	"
0910	4.61		80		12.32	119	7.48	-85.1	6.95	16	"
0920	4.61		80	~1	12.31	115	7.47	-85.3	7.29	14	"
0925	4.63		80		12.32	114	7.46	-83.9	7.37	10	"
0930	4.63		80		12.76	112	7.46	-82.4	7.48	7.2	"
0935	4.63		80		12.88	112	7.47	-84.0	7.37	4.4	"
0940	4.64		80		12.99	110	7.46	-85.2	7.53	4.1	"
0945	4.60		80	~2	13.05	107	7.45	-85.9	7.77	~~2.9~~ 4.9	"
			Purge	complete	per work	plan					
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW314B-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: NA (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump
Depth Sampled: ~ 20 (TOR) Screen Int. Depth 23-33 ft bgs
Sample Date & Time: 9 / 16 /2009 1330 hours NA (Dup Time)
Sampler(s): ~~G.Fellows / M.Horton~~ / P. Seward
Data Recorded By: P. Seward Signature: Peter Seward ;
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No), if yes, report depths/describe thickness ;
Visual Evidence of Sheen (Yes/No) ;
Olfactory Evidence of Odor (Yes/No) ;
TD= 35.30 (TOR); Well S/U = 2.38 ;
Weather: Sunny ~65°F wind 8-12 mph ;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 4.41 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1125	4.41'	began purge									
1140	5.64		60		18.98	42	7.72	-90.0	8.74	170	cloudy
1150	5.72		60		16.46	60	7.64	-103.7	8.32	140	"
1200	5.81		50		16.86	59	7.58	-100.4	7.58	140	"
1220	5.86		50		17.75	59	7.58	-96.4	6.80	120	"
1230	5.86		50	~0.5	16.71	59	7.58	-88.6	6.75	100	"
1240	5.88		50		16.60	59	7.57	-99.1	6.61	95	"
1250	5.89		50		16.83	59	7.57	-101.3	6.52	70	"
1300	5.91		50		17.02	59	7.57	-96.5	6.37	65	"
1310	5.92		50		16.48	58	7.56	-96.8	6.31	50	Clear - colorless
1315	5.92		50		16.99	58	7.56	-95.6	6.44	47	" "
1320	5.92		50	~1.0	16.81	58	7.56	-99.4	6.49	44	" "
1325	5.93		50		16.79	59	7.56	-96.4	6.20	39	" "
		purge complete per work plan									
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW315A-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: NASB-BG-GW-DUP02-091609 (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump
Depth Sampled: 72.2 (TOR) Screen Int. Depth 64.5-74.5 ft bgs
Sample Date & Time: 9 / 15 /2009 1150 hours — (Dup Time)
Sampler(s): C.Fellows / M.Horton /
Data Recorded By: C.Fellows Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness;
Visual Evidence of Sheen (Yes/No);
Olfactory Evidence of Odor (Yes/No);
TD= 77.2 (TOR); Well S/U = 2.52:
Weather: Sunny 60's;

H&S Survey Meter BZ/W/PW 0/0/0 PPM Field Instrument Group A (B) / C / D
Initial WL 0.05 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1 CPM	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
0940	Begin purging, measuring drawdown, not filling, flow through cell, GW flowing w/o pump.										
1010	1.3	4/10/5	60	1/2	12.02	116	7.90	-145.8	1.21	883	Cloudy / gray
1020	1.3	"	60		12.07	115	7.91	-146.9	1.06	860	"
1030	1.3	"	"	1	12.18	113	7.91	-150.7	0.91	781	"
1045	1.3	"	"		12.85	111	7.91	-153.6	0.81	631	"
1055	"	"	"	2	11.94	110	7.92	-153.8	0.77	564	"
1105	"	"	"		12.22	110	7.92	-155.9	0.73	502	"
1115	"	"	"	3	12.28	111	7.90	-156.9	0.65	439	"
1125	"	"	"		12.88	110	7.87	-156.5	0.65	415	"
1135	"	"	"	3 1/2	12.91	111	7.83	-155.1	0.62	381	"
1140	"	"	"		13.00	111	7.83	-155.8	0.60	330	"
1145	"	"	"	4	13.05	110	7.81	-154.8	0.59	317	"
1150	End Purge, Begin Sampling. All parameters meet stabilization criteria except turbidity → 2hr limit.										
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW316A-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: NA (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump
Depth Sampled: 98.81 (TOR) Screen Int. Depth 89.5-99.5 ft bgs
Sample Date & Time: 9 / 22 /2009 1627 hours NA (Dup Time)
Sampler(s): C.Fellows / M.Horton / Cardinal
Data Recorded By: Cardinal Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness ;
Visual Evidence of Sheen (Yes/No) ;
Olfactory Evidence of Odor (Yes/No) ;
TD= 103.81 (TOR); Well S/U = 89.5 - 99.5 ft bgs
Weather: Cool, Sunny ;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 21.26 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO * mg/L	Turbidity NTU	Comments
1535	20.84	CAM4 10/s									
1538	20.94	↓									
1543	20.94	↓									
1548	21.04	↓									
1556	21.50	↓	40	<0.5	13.68	128	7.92	170.9	6.80	0.00	clear, colorless
1600	21.69	↓	40	<0.5	13.16	137	8.29	154.8	5.43	0.00	clear, colorless
1604	21.89	↓	40	<0.5	12.92	147	8.80	114.2	4.18	0.00	clear, colorless
1608	22.02	↓	35	<0.5	12.96	149	8.97	85.0	3.67	0.00	clear, colorless
1612	22.17	9/22/09 ↓	35	<0.5	13.10	150	9.02	65.6	3.35	0.00	clear, colorless
1616	~~23.01~~ 22.31	↓	35	<0.5	13.03	153	9.10	55.2	2.78	0.00	clear, colorless
1620	22.40	↓	35	<0.5	13.12	154	9.15	51.5	2.53	0.00	clear, colorless
1624	22.49	↓	35	<0.5	13.17	154	9.18	48.4	2.64	0.00	clear, colorless
Stabilization complete per workplan criteria											
Begin sampling		1627									
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- ~~1.0~~ 0.5 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

*DO Probe membrane may need to be changed, measurements fluctuating frequently

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW316D-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: NA (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump
Depth Sampled: ~~53.20~~ 51.70 (TOR) Screen Int. Depth 45-58 ft bgs
Sample Date & Time: 9/22/2009 1407 hours NA (Dup Time)
Sampler(s): C.Fellows / M.Horton / Cardinal
Data Recorded By: Cardinal Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness ;
Visual Evidence of Sheen (Yes/No) ;
Olfactory Evidence of Odor (Yes/No) ;
TD= 58.20 (TOR); Well S/U = 45-58 ft bgs
Weather: 70s, Sunny ;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 11.81 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	* DO mg/L	Turbidity NTU	Comments
1319	11.72										
1326	11.91	CPM4 10/5									
1329	12.01	↓									
1332	12.04	↓	55	<0.5	12.49	140	7.81	170.9	4.60	0.00	clear, colorless
1337	12.07	↓	55	<0.5	11.97	140	7.91	166.1	3.35	0.00	clear, colorless
1342	12.04	↓	45	<0.5	11.87	140	7.97	170.7	2.56	0.00	clear, colorless
1347	12.05	↓	35	<0.5	11.89	140	7.98	172.7	1.80	0.00	clear, colorless
1352	12.05	↓	35	<0.5	12.08	140	7.98	176.0	2.56	0.00	clear, colorless
1357	12.05	↓	35	<0.5	12.19	140	7.97	178.5	2.41	0.00	clear, colorless
1402	12.06	↓	35	<0.5	12.24	140	7.95	182.0	2.49	0.00	clear, colorless
Stabilization complete per workplan criteria											
Begin sampling		1407									
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- ~~10~~ 0.5 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

* Suspect membrane on DO probe may need to be changed since DO measurements are fluctuating frequently

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW317A-0009

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of
QC: NA (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump
Depth Sampled: ~115 (TOR) Screen Int. Depth 108-118 ft bgs
Sample Date & Time: 9/23/2009 1200 hours — (Dup Time)
Sampler(s): C.Fellows / M.Horton /
Data Recorded By: CFS Signature: C.Fellows;
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness;
Visual Evidence of Sheen (Yes/No);
Olfactory Evidence of Odor (Yes/No);
TD= 121.4 (TOR); Well S/U = 3.23;
Weather: 70's Cloudy + Humid;

H&S Survey Meter BZ/W/PW 0/0/0 PPM Field Instrument Group A / B / C / D
Initial WL 15.06 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1 CPM 4	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
0910	* Begin purging, measuring drawdown, and filling flow through cell.										
0920	* Not getting water → Pull up pump. Replace O Ring and check ball.										
1015	* Begin purging, measuring drawdown, and filling flow through cell.										
1020	15.34	3/10	40		14.86	299	7.67	184.6	2.30	11.5	Cloudy/colorless
1030	15.40	5/10	60	<1/2	14.26	305	8.44	132.8	1.20	654	cloudy/colorless
1040	"	"	"		14.86	302	8.38	124.0	1.02		
	* Change out Nitrogen tank.										
1050	15.41	5/10	60	1/2	15.26	304	8.24	115.4	1.09	395	cloudy/colorless
1100	15.44	"	"		14.62	302	8.14	113.2	1.03	429	"
1110	15.44	"	"		14.59	300	8.07	109.0	0.83	327	"
1120	15.45	"	"	1	14.77	300	8.04	106.7	0.81	273	"
1125	15.45	"	"		14.85	300	8.01	106.6	0.80	253	"
1130	15.45	"	"	1 1/2	14.97	299	7.98	108.8	0.78	167	"
1135	"	"	"		15.00	299	7.97	109.2	0.77	128	"
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW317A-0609

Tetra Tech NUS Charge No. 112G00958 / CTO 432
QC: NA (If applicable)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1 OPM4	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1140	15.46	5/10	60		15.08	300	7.95	111.8	0.76	99.7	Slightly cloudy, colorless
1145	"	"	"	2	15.01	300	7.93	113.3	0.73	60.7	"
1150	15.48	"	"		14.62	300	7.90	115.0	0.68	59.2	"
1155	"	"	"	2 1/4	14.49	299	7.88	115.6	0.68	58.8	"
1200	* End purge. Begin sampling.										
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW3717B-0909

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: AHA (CFS) LAB QC (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump
Depth Sampled: 92 (TOR) Screen Int. Depth 84.5-94.5 ft bgs
Sample Date & Time: 9 / 22 /2009 1535 hours — (Dup Time)
Sampler(s): C.Fellows / M.Horton /
Data Recorded By: CFS Signature: C. Fellows ;
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No) If yes, report depths/describe thickness ;
Visual Evidence of Sheen (Yes/No) ;
Olfactory Evidence of Odor (Yes/No) ;
TD= 97.7 (TOR); Well S/U = 2.47 :
Weather: Cloudy, 70's ;

H&S Survey Meter 0 | 0 | 0 PPM Field Instrument Group A / B / C / D
Initial WL 15.72 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1 CPM 4	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1490	15.30	5/10	* Begin purging, measuring drawdown and filling flow through cell								
1500	15.35	"	50	1	14.12	259	7.83	182.1	6.82	85.8	sl. cloudy/colorless
1510	15.40	"	"		14.11	259	7.83	187.3	6.34	78.4	"
1520	15.45	"	"		13.98	258	7.81	191.4	5.85	82.9	"
1525	15.50	"	"		13.89	257	7.81	192.5	5.82	88.9	"
1530	15.53	"	"	1 1/2	13.85	257	7.80	193.5	5.80	88.2	"
1535	* End purge, Begin sampling.										
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) _____ (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background study, NASB Brunswick, ME ~~West Gate Landfill~~
Sample ID: NSB-BG-GW-MW335-0909

Tetra Tech NUS Charge No. 112600958 / CTO 432 ~~112G00864/ CTO 407~~
QC: NA (If applicable)

Sample Method: low flow w/ micro bladder pump
Depth Sampled: ~81 Feet Screened Interval Depth 76-86 feet
Sample Date & Time: 9/15/09 1500 hours NA /Dup
Sampler(s): P. Seward
Data Recorded By: P. Seward Signature: [signature]
Notes:

initial WL = 16.90 TD = 88.48

H&S Survey Meter 0.0 PPM Field Instrument Group A/B/C/D
Pre-pump insertion WL _____ ft Post - pump insertion WL _____ ft

Analysis	Bottle Lot #	Analysis	Bottle Lot #	Analysis	Bottle Lot #

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cumm. Volume Purged ~~liters~~ gal	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1410	16.90	initiated purge									
1420	16.90		50		21.97	161	7.54	-182.4	6.23	39	clear-colorless
1430	16.92		50		18.62	295	7.09	-125.2	3.01	15	"
1435	16.90		60		16.89	306	7.20	-108.0	1.84	14	"
1440	16.90		60		16.34	305	7.25	-105.0	1.53	9.4	"
1445	16.90		60		15.70	305	7.27	-103.5	1.37	5.0	"
1450	16.90		60		15.73	303	7.28	-102.2	1.28	4.3	"
1455	16.90		60	~0.5	15.66	303	7.30	-101.1	1.19	4.9	"
"			purge complete per work plan								

TtNUS Form 0009

- unknown odor coming from well
- pulled up parts of a dead mouse was sitting on top of the pump.

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

GROUNDWATER LEVEL MEASUREMENT

SITE INFORMATION

Site Name: NASB - Background Study

Project Number: CTO 432 - 112G00958/0510

Personnel: C. Fellows / ~~M. Horton~~

Date: Various

Municipality:

County: Cumberland

State: ME

Street or Map Location:

(If Off-Site):

WEATHER CONDITIONS AND EQUIPMENT

Temperature Range: 70's

Precipitation: None

Barometric Pressure:

Tidally-Influenced [ ] Yes [ ] No

Equipment No.:

Equipment Number:

Latest Calibration Date:

Well or Piezometer Number	Date/Time	Elevation of Reference Point (Feet)*	Water Level Indicator Reading (Feet)*	Adjusted Depth (Feet)*	Groundwater Elevation (Feet)*
MW01	9/24/09/0800		15.07		
MW02	9/24/09/0752		15.05		
MW03	9/24/09/0830		11.53		
MW04	9/24/09/0953		11.89		
MW05	9/23/09/1332		31.45		
MW06	9/22/09/0840		4.75		
MW07	9/22/09/1320		6.68		
MW08	9/21/09/1500		6.50		
MW09	9/21/09/1025		6.52		
MW10	9/21/09/1500		6.44		
MW11	9/21/09/1505		6.39		
MW12	9/21/09/1050		6.00		

TtNUS Form 0010

* measured made to 0.00 feet

TETRA TECH NUS, INC.

GROUNDWATER LEVEL MEASUREMENT

SITE INFORMATION

Site Name: NASB - Background Study

Project Number: CTO 432 - 112G00958/0510

Personnel: C. Fellows / ~~M. Horton~~

Date:

Municipality:

County: Cumberland

State: ME

Street or Map Location:

(If Off-Site):

WEATHER CONDITIONS AND EQUIPMENT

Temperature Range: 70's

Precipitation: None

Barometric Pressure:

Tidally-Influenced [ ] Yes [ ] No

Equipment No.:

Equipment Number:

Latest Calibration Date:

Well or Piezometer Number	Date/Time	Elevation of Reference Point (Feet)*	Water Level Indicator Reading (Feet)*	Adjusted Depth (Feet)*	Groundwater Elevation (Feet)*
MW13	9/21/09 / 1023		7.65		
MW15	9/15/09 / 0920		18.75		
MW16	09/15/09 / 0900		15.10		
MW17	9/15/09 / 0758		12.34		
MW18	9/16/09 / 1337		4.24		
MW19	9/14/09 / 1645		4.59		
MW21	9/14/09 / 1508		6.64		
MW23	9/14/09 / 1300		8.79		
MW24	9/14/09 / 1215		5.24		
MW25	9/14/09 / 1059		14.05		
MW27	9/18/09 / 0815		28.78		
MW28	9/18/09 / 0749		28.82		

TtNUS Form 0010

* measured made to 0.00 feet

TETRA TECH NUS, INC.

GROUNDWATER LEVEL MEASUREMENT

SITE INFORMATION

Site Name: NASB - Background Study
Project Number: CTO 432 - 112G00958/0510
Personnel: C. Fellows / M. Horton
Date:

Municipality:
County: Cumberland
State: ME
Street or Map Location:
(If Off-Site):

WEATHER CONDITIONS AND EQUIPMENT

Temperature Range: 70's
Precipitation: None
Barometric Pressure:
Tidally-Influenced [ ] Yes [ ] No

Equipment No.:
Equipment Number:
Latest Calibration Date:

Well or Piezometer Number	Date/Time	Elevation of Reference Point (Feet)*	Water Level Indicator Reading (Feet)*	Adjusted Depth (Feet)*	Groundwater Elevation (Feet)*
MW29	9/18/09/0800		27.48		
MW30	9/18/09/1206		6.90		
MW37	9/17/09/0925		14.70		
MW38	9/17/09/0944		14.42		
MW39	9/17/09/0902		16.10		
MW40	9/18/09/1030		24.08		
MW41	9/23/09/1507		28.86		
MW42	9/23/09/1143		15.14		
MW-335	9/15/09/1405		16.85		
MW-219	9/15/09/1212		28.58		
MW-231A	9/16/09/1017		18.48		
MW-303	9/17/09/1246		10.49		

TtNUS Form 0010

* measured made to 0.00 feet

TETRA TECH NUS, INC.

GROUNDWATER LEVEL MEASUREMENT

SITE INFORMATION

Site Name: NASB - Background Study

Project Number: CTO 432 - 112G00958/0510

Personnel: C. Fellows / M. Horton

Date:

Municipality:

County: Cumberland

State: ME

Street or Map Location:

(If Off-Site):

WEATHER CONDITIONS AND EQUIPMENT

Temperature Range: 70's

Precipitation: None

Barometric Pressure:

Tidally-Influenced [ ] Yes [ ] No

Equipment No.:

Equipment Number:

Latest Calibration Date:

Well or Piezometer Number	Date/Time	Elevation of Reference Point (Feet)*	Water Level Indicator Reading (Feet)*	Adjusted Depth (Feet)*	Groundwater Elevation (Feet)*
MW-310	9/15/09/1300		23.50		
MW-314A	9/16/09/0800		4.55		
MW-314B	9/16/09/1115		4.41		
MW-315A	9/16/09/0930		77.2		
MW-316A	9/22/09/1457		21.26		
MW-316B	9/22/09/1305		11.81		
MW-317A	9/23/09/0845		15.06		
MW-317B	9/22/09/1350		15.72		

TtNUS Form 0010

* measured made to 0.00 feet

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: MW01

PROJECT NAME: NASB-Background Study

DATE/TIME: 9/24/09 / 0800

PROJECT MANAGER: Jeff Orient

INSPECTED BY: C. Fellows

VENT WELL

MONITORING INSTRUMENT READING: PID

LEL/02 READING: 0.0

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC)	24.50
WATER LEVEL DEPTH (FEET FROM TOP OF PVC)	15.07
WELL STICK-UP	2.52
CASING STICK-UP (FEET)	2.73
WELL DIAMETER (INCHES)	1"
WELL CONSTRUCTION (PVC, STEEL, ETC.)	PVC

LOCKED UPON ARRIVAL?	YES	NO
LOCKED REPLACED?	YES	NO
OBSTRUCTIONS?	YES	NO
WELL RELABELED?*	YES	NO
SLUG TEST CONDUCTED?	YES	NO (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS:

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: NASB-BG-GW-MW02-0909 PROJECT NAME: NASB - Background Study

DATE/TIME: 9/24/09 752 PROJECT MANAGER: J. Orient

INSPECTED BY: Cardinal

VENT WELL

MONITORING INSTRUMENT READING: PID : 0.0 ppm

LEL/02 READING:

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC)	19.50
WATER LEVEL DEPTH (FEET FROM TOP OF PVC)	15.05
WELL STICK-UP	2.84
CASING STICK-UP (FEET)	2.95
WELL DIAMETER (INCHES)	1 inch
WELL CONSTRUCTION (PVC, STEEL, ETC.)	PVC

LOCKED UPON ARRIVAL?	(YES)	NO
LOCKED REPLACED?	YES	(NO)
OBSTRUCTIONS?	YES	(NO)
WELL RELABELED?	YES	(NO)
SLUG TEST CONDUCTED?	YES	(NO) (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS: dedicated tubing

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: MW03

PROJECT NAME: NASB - Background Study

DATE/TIME: 9-24-09

PROJECT MANAGER: J. Orient

INSPECTED BY: PS

VENT WELL

MONITORING INSTRUMENT READING: PID malfunctioned - did not use

LEL/02 READING: NA

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC) 19.85'

WATER LEVEL DEPTH (FEET FROM TOP OF PVC) 11.53'

WELL STICK-UP 2.42 - 0.62' (stickdown from casing) = 1.8'

CASING STICK-UP (FEET) 2.42'

WELL DIAMETER (INCHES) 1/2"

WELL CONSTRUCTION (PVC) STEEL, ETC.)

LOCKED UPON ARRIVAL?	(YES)	NO
LOCKED REPLACED?	(YES)	NO
OBSTRUCTIONS?	YES	(NO)
WELL RELABELED?	YES	(NO) - not necessary
SLUG TEST CONDUCTED?	YES	(NO) (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS:

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: NASB-BG-GW-MW04-0909 PROJECT NAME: NASB - Background Study

DATE/TIME: 9/24/09 953 PROJECT MANAGER: J. Orient

INSPECTED BY: J. Cardinal

VENT WELL

MONITORING INSTRUMENT READING: PID: 0.0ppm

LEL/02 READING:

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC)	19.58
WATER LEVEL DEPTH (FEET FROM TOP OF PVC)	11.89
WELL STICK-UP	1.71
CASING STICK-UP (FEET)	2.10
WELL DIAMETER (INCHES)	1 inch
WELL CONSTRUCTION (PVC, STEEL, ETC.)	PVC

LOCKED UPON ARRIVAL?	(YES)	NO
LOCKED REPLACED?	YES	(NO)
OBSTRUCTIONS?	YES	(NO)
WELL RELABELED?	YES	(NO)
SLUG TEST CONDUCTED?	YES	(NO) (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS: dedicated tubing

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: NASB-BG-GW-MW05-0909 PROJECT NAME: NASB - Background Study

DATE/TIME: 9/23/09 1332 PROJECT MANAGER: J. Orient

INSPECTED BY: J. Cardinal

VENT WELL

MONITORING INSTRUMENT READING: PID: 0.0 ppm

LEL/02 READING:

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC) 63.77

WATER LEVEL DEPTH (FEET FROM TOP OF PVC) ~~21.45~~ 31.45 JO 9/23/09

WELL STICK-UP 1.93

CASING STICK-UP (FEET) 2.37

WELL DIAMETER (INCHES) 1inch PVC

WELL CONSTRUCTION (PVC, STEEL, ETC.) PVC

LOCKED UPON ARRIVAL?	(YES)	NO
LOCKED REPLACED?	YES	(NO)
OBSTRUCTIONS?	YES	(NO)
WELL RELABELED?	YES	(NO)
SLUG TEST CONDUCTED?	YES	(NO) (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS: no dedicated tubing

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: MW06

PROJECT NAME: NASB - Background Study

DATE/TIME: 9-22-09 / 0840

PROJECT MANAGER: J. Orient

INSPECTED BY: P. Seward

VENT WELL

MONITORING INSTRUMENT READING: 0.0

LEL/02 READING: NA

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC) 19.50

WATER LEVEL DEPTH (FEET FROM TOP OF PVC) 4.75

WELL STICK-UP 3.13' - 0.90 (pvc stick down) = 2.23'

CASING STICK-UP (FEET) 3.13' ~~- 0.90 (pvc stick down)~~ = PS 9-22-09

WELL DIAMETER (INCHES) 1/2"

WELL CONSTRUCTION (PVC, STEEL, ETC.)

LOCKED UPON ARRIVAL?	(YES)	NO
LOCKED REPLACED?	(YES)	NO
OBSTRUCTIONS?	YES	(NO)
WELL RELABELED?	YES	(NO) - not necessary
SLUG TEST CONDUCTED?	YES	(NO) (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS:

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: MW 7

PROJECT NAME: NASB - Background Study

DATE/TIME: 9/22/09

PROJECT MANAGER: J. Orient

INSPECTED BY: P. Seward

VENT WELL

MONITORING INSTRUMENT READING: 0.0

LEL/02 READING: NA

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC) 11.88

WATER LEVEL DEPTH (FEET FROM TOP OF PVC) ~~6.68'~~ 6.68'

WELL STICK-UP 3.51' - 0.48' (pvc stick-down) = 3.03'

CASING STICK-UP (FEET) 3.51'

WELL DIAMETER (INCHES) 1/2"

WELL CONSTRUCTION (PVC, STEEL, ETC.)

LOCKED UPON ARRIVAL?	YES	NO
LOCKED REPLACED?	YES	NO
OBSTRUCTIONS?	YES	NO
WELL RELABELED?	YES	NO not necessary
SLUG TEST CONDUCTED?	YES	NO (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS:

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: NASB-DG-MW08 PROJECT NAME: NASB - Background Study

DATE/TIME: 9/21/09 1500 PROJECT MANAGER: J. Orient

INSPECTED BY: CFEllas

VENT WELL

MONITORING INSTRUMENT READING: PID 8+

LEL/02 READING: 0.0

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC) 12.56

WATER LEVEL DEPTH (FEET FROM TOP OF PVC) 6.5

WELL STICK-UP 2.63

CASING STICK-UP (FEET) 2.86

WELL DIAMETER (INCHES) 1"

WELL CONSTRUCTION (PVC, STEEL, ETC.) PVC

LOCKED UPON ARRIVAL?	YES	NO
LOCKED REPLACED?	YES	NO
OBSTRUCTIONS?	YES	NO
WELL RELABELED?	YES	NO
SLUG TEST CONDUCTED?	YES	NO (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS:

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: MW09

PROJECT NAME: NASB - Background Study

DATE/TIME: 9-21-09 /1025

PROJECT MANAGER: J. Orient

INSPECTED BY: P. Seward

VENT WELL

MONITORING INSTRUMENT READING: 7.1 ppm

LEL/02 READING: NA

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC) 12.28

WATER LEVEL DEPTH (FEET FROM TOP OF PVC) 11.0' *

WELL STICK-UP 3.16 - 0.26 (pvc stick-down) = 2.90'

CASING STICK-UP (FEET) 3.16'

WELL DIAMETER (INCHES) 1/2"

WELL CONSTRUCTION (PVC, STEEL, ETC.)

LOCKED UPON ARRIVAL?	YES	NO
LOCKED REPLACED?	YES	NO
OBSTRUCTIONS?	YES	NO
WELL RELABELED?	YES	NO - not necessary
SLUG TEST CONDUCTED?	YES	NO (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS: * Water level meter malfunctioned. Depth to water measurement is inaccurate.

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: MW10

PROJECT NAME: NASB - Background Study

DATE/TIME: 9-21-09

PROJECT MANAGER: J. Orient

INSPECTED BY: P. Seward

VENT WELL

MONITORING INSTRUMENT READING: 0.0

LEL/02 READING: NA

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC) 12.52'

WATER LEVEL DEPTH (FEET FROM TOP OF PVC) 6.44'

WELL STICK-UP 3.21' - 0.31' (pvc stick-down) = 2.90'

CASING STICK-UP (FEET) 3.21'

WELL DIAMETER (INCHES) 1/2"

WELL CONSTRUCTION (PVC, STEEL, ETC.)

LOCKED UPON ARRIVAL?	YES	NO
LOCKED REPLACED?	YES	NO
OBSTRUCTIONS?	YES	NO
WELL RELABELED?	YES	NO - not necessary
SLUG TEST CONDUCTED?	YES	NO (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS:

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: NASB-BG-GW-MW11-0909 PROJECT NAME: NASB - Background Study

DATE/TIME: 9/21/09 1505 PROJECT MANAGER: J. Orient

INSPECTED BY: J. Cardinal

VENT WELL

MONITORING INSTRUMENT READING: PID= 0.0 ppm

LEL/02 READING:

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC)	12.43
WATER LEVEL DEPTH (FEET FROM TOP OF PVC)	6.39
WELL STICK-UP	2.87
CASING STICK-UP (FEET)	3.47
WELL DIAMETER (INCHES)	1 inch
WELL CONSTRUCTION (PVC, STEEL, ETC.)	PVC

LOCKED UPON ARRIVAL?	(YES)	NO
LOCKED REPLACED?	YES	(NO)
OBSTRUCTIONS?	YES	(NO)
WELL RELABELED?	YES	(NO)
SLUG TEST CONDUCTED?	YES	(NO) (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS: no dedicated tubing

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: NASB-BG-MW12

PROJECT NAME: NASB - Background Study

DATE/TIME: 9/21/09 ~ 1050

PROJECT MANAGER: J. Orient

INSPECTED BY: C Fellows

VENT WELL

MONITORING INSTRUMENT READING: PID

LEL/02 READING: 0.0

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

8.91
-35
56

WELL DEPTH (FEET FROM TOP OF PVC) 12.41

WATER LEVEL DEPTH (FEET FROM TOP OF PVC) 6.00

WELL STICK-UP 2.56

CASING STICK-UP (FEET) 2.91

WELL DIAMETER (INCHES) 1"

WELL CONSTRUCTION (PVC, STEEL, ETC.) PVC

LOCKED UPON ARRIVAL?	(YES)	NO
LOCKED REPLACED?	YES	(NO)
OBSTRUCTIONS?	YES	(NO)
WELL RELABELED?	YES	(NO)
SLUG TEST CONDUCTED?	YES	(NO) (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS:

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: NASB-BG-GW-MW13-0909 PROJECT NAME: NASB - Background Study

DATE/TIME: 9/21/09 1023 PROJECT MANAGER: J. Orient

INSPECTED BY: J. Cardinal

VENT WELL

MONITORING INSTRUMENT READING: PID = 0.0 ppm

LEL/02 READING:

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC)	12.00
WATER LEVEL DEPTH (FEET FROM TOP OF PVC)	7.65
WELL STICK-UP	3.32
CASING STICK-UP (FEET)	4.07
WELL DIAMETER (INCHES)	1 inch
WELL CONSTRUCTION (PVC, STEEL, ETC.)	PVC

LOCKED UPON ARRIVAL?	(YES)	NO
LOCKED REPLACED?	YES	(NO)
OBSTRUCTIONS?	YES	(NO)
WELL RELABELED?	YES	(NO)
SLUG TEST CONDUCTED?	YES	(NO) (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS: dedicated tubing

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: MW15

PROJECT NAME: NASB - Background Study

DATE/TIME: 9-15-09

PROJECT MANAGER: J. Orient

INSPECTED BY: P. Seward

VENT WELL

MONITORING INSTRUMENT READING: 0.0

LEL/02 READING: NA

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC) ~~18.75~~ PS 31.25

WATER LEVEL DEPTH (FEET FROM TOP OF PVC) 18.75

WELL STICK-UP 2.95 - (0.25 ~~diff.~~ dist from top of pvc to casing) = 2.7

CASING STICK-UP (FEET) 2.95

WELL DIAMETER (INCHES) 1"

WELL CONSTRUCTION (PVC, STEEL, ETC.)

LOCKED UPON ARRIVAL?	YES	NO
LOCKED REPLACED?	YES	NO
OBSTRUCTIONS?	YES	NO
WELL RELABELED?	YES	NO
SLUG TEST CONDUCTED?	YES	NO (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS:

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: NASB-BG-MW16

PROJECT NAME: NASB - Background Study

DATE/TIME: 9/15/06 / 0900

PROJECT MANAGER: J. Orient

INSPECTED BY: C. Fellows

VENT WELL

MONITORING INSTRUMENT READING: PID

LEL/02 READING: 0.0

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC) 29.55

WATER LEVEL DEPTH (FEET FROM TOP OF PVC) 15.1

WELL STICK-UP ~~2.12~~ 1.82

CASING STICK-UP (FEET) ~~1.82~~ 2.12

WELL DIAMETER (INCHES) 1"

WELL CONSTRUCTION (PVC, STEEL, ETC.) PVC

LOCKED UPON ARRIVAL?	YES	NO
LOCKED REPLACED?	YES	NO
OBSTRUCTIONS?	YES	NO
WELL RELABELED?	YES	NO
SLUG TEST CONDUCTED?	YES	NO (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS:

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: NASB-BG-GW-MW17-0909 PROJECT NAME: NASB - Background Study

DATE/TIME: 9/15/09 758 Am PROJECT MANAGER: J. Orient

INSPECTED BY: J. Cardinal

VENT WELL

MONITORING INSTRUMENT READING: PID: 0.0 ppm

LEL/02 READING:

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC) 19.47

WATER LEVEL DEPTH (FEET FROM TOP OF PVC) 12.34

WELL STICK-UP 3.24

CASING STICK-UP (FEET) 3.45

WELL DIAMETER (INCHES) 1 inch

WELL CONSTRUCTION (PVC, STEEL, ETC.) PVC

LOCKED UPON ARRIVAL?	(YES)	NO
LOCKED REPLACED?	YES	(NO)
OBSTRUCTIONS?	YES	(NO)
WELL RELABELED?	YES	(NO)
SLUG TEST CONDUCTED?	YES	(NO) (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS: dedicated tubing
Soft bottom

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: NASB-BG-GW-MW18-0909 PROJECT NAME: NASB - Background Study

DATE/TIME: 9/16/09 1337 PROJECT MANAGER: J. Orient

INSPECTED BY: J. Cardinal

VENT WELL

MONITORING INSTRUMENT READING: PID: 0.0 ppm

LEL/02 READING:

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC)	9.71
WATER LEVEL DEPTH (FEET FROM TOP OF PVC)	4.24
WELL STICK-UP	2.16
CASING STICK-UP (FEET)	2.52
WELL DIAMETER (INCHES)	1 inch
WELL CONSTRUCTION (PVC, STEEL, ETC.)	PVC

LOCKED UPON ARRIVAL?	YES	NO
LOCKED REPLACED?	YES	NO
OBSTRUCTIONS?	YES	NO
WELL RELABELED?	YES	NO
SLUG TEST CONDUCTED?	YES	NO (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS: dedicated tubing, replaced tubing soft bottom

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: NASB-B6-MW19-0909 -GW- PROJECT NAME: NASB - Background Study

DATE/TIME: 9/14/09 1645 PROJECT MANAGER: J. Orient

INSPECTED BY: J Traut

VENT WELL

MONITORING INSTRUMENT READING: 0.3

LEL/02 READING: —

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC) 9.67

WATER LEVEL DEPTH (FEET FROM TOP OF PVC) 4.59

WELL STICK-UP 3.3'

CASING STICK-UP (FEET) 3.4'

WELL DIAMETER (INCHES) 1"

WELL CONSTRUCTION (PVC, STEEL, ETC.) PVC

LOCKED UPON ARRIVAL?	YES	NO
LOCKED REPLACED?	YES	NO
OBSTRUCTIONS?	YES	NO
WELL RELABELED?	YES	NO
SLUG TEST CONDUCTED?	YES	NO (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS: hard bottom

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: NASB-BG-GW-MW21-0909 PROJECT NAME: NASB - Background Study

DATE/TIME: 9/14/09 1508 PROJECT MANAGER: J. Orient

INSPECTED BY: J. Cardinal

VENT WELL

MONITORING INSTRUMENT READING: PID 0.0 ppm

LEL/02 READING:

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC)	9.81
WATER LEVEL DEPTH (FEET FROM TOP OF PVC)	6.64
WELL STICK-UP	3.85
CASING STICK-UP (FEET)	3.87
WELL DIAMETER (INCHES)	1inch
WELL CONSTRUCTION (PVC, STEEL, ETC.)	PVC

LOCKED UPON ARRIVAL?	(YES)	NO
LOCKED REPLACED?	YES	(NO)
OBSTRUCTIONS?	YES	(NO)
WELL RELABELED?	YES	(NO)
SLUG TEST CONDUCTED?	YES	(NO) (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS:

Soft bottom

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: MW23

PROJECT NAME: NASB - Background Study

DATE/TIME: 9-14-09

PROJECT MANAGER: J. Orient

INSPECTED BY: P. Seward

VENT WELL

MONITORING INSTRUMENT READING: 0.0

LEL/02 READING: NA

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC) 17.56'

WATER LEVEL DEPTH (FEET FROM TOP OF PVC) 8.79'

WELL STICK-UP difference from casing ~~to stickup~~ is 0.4' ∴ 2.82 - 0.4 = 2.42'

CASING STICK-UP (FEET) 2.82'

WELL DIAMETER (INCHES) 1"

WELL CONSTRUCTION (PVC, STEEL, ETC.)

LOCKED UPON ARRIVAL?	YES	NO
LOCKED REPLACED?	YES	NO
OBSTRUCTIONS?	YES	NO
WELL RELABELED?	YES	NO - not necessary
SLUG TEST CONDUCTED?	YES	NO (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS:

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: NASB-BG-MW24

PROJECT NAME: NASB - Background Study

DATE/TIME: 9/14/09 / 1215

PROJECT MANAGER: J. Orient

INSPECTED BY: J. Trauth

VENT WELL

MONITORING INSTRUMENT READING: 0.0

LEL/02 READING: NA

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC) 14.7

WATER LEVEL DEPTH (FEET FROM TOP OF PVC) 5.24 +PVC

WELL STICK-UP ~~2.9'~~ 2.1'

CASING STICK-UP (FEET) 2.9'

WELL DIAMETER (INCHES) 1"

WELL CONSTRUCTION (PVC, STEEL, ETC.) PVC

LOCKED UPON ARRIVAL?	YES	NO
LOCKED REPLACED?	YES	NO
OBSTRUCTIONS?	YES	NO
WELL RELABELED?	YES	NO
SLUG TEST CONDUCTED?	YES	NO (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS:

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: NASB-BG-GW-MW25-0909 PROJECT NAME: NASB - Background Study

DATE/TIME: 9/14/09 1059 PROJECT MANAGER: J. Orient

INSPECTED BY: J. Cardinal

VENT WELL

MONITORING INSTRUMENT READING: PID 0.0ppm

LEL/02 READING:

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC) 17.65

WATER LEVEL DEPTH (FEET FROM TOP OF PVC) 14.05

WELL STICK-UP JD 9/14/09 ~~3.15~~ SD 9/14/09 ~~0.45~~ 2.70

CASING STICK-UP (FEET) 3.15

WELL DIAMETER (INCHES) 1in

WELL CONSTRUCTION (PVC, STEEL, ETC.) PVC

LOCKED UPON ARRIVAL?	(YES)	NO
LOCKED REPLACED?	YES	(NO)
OBSTRUCTIONS?	YES	(NO)
WELL RELABELED?	YES	(NO)
SLUG TEST CONDUCTED?	YES	(NO) (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS:
Very soft bottom

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: NASB-BG-MW27 PROJECT NAME: NASB - Background Study

DATE/TIME: 9/18/09 / 0815 PROJECT MANAGER: J. Orient

INSPECTED BY: C. Fellows

VENT WELL

MONITORING INSTRUMENT READING: PID

LEL/02 READING: 0.0

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC) 36.82

WATER LEVEL DEPTH (FEET FROM TOP OF PVC) 28.78

WELL STICK-UP 1.92

CASING STICK-UP (FEET) 2.32

WELL DIAMETER (INCHES) 1"

WELL CONSTRUCTION (PVC, STEEL, ETC.) PVC

LOCKED UPON ARRIVAL?	(YES)	NO
LOCKED REPLACED?	YES	(NO)
OBSTRUCTIONS?	YES	(NO)
WELL RELABELED?	YES	(NO)
SLUG TEST CONDUCTED?	YES	(NO) (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS:

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: NASB-BG-GW-MW28-0909 PROJECT NAME: NASB - Background Study

DATE/TIME: 9/18/09 749 PROJECT MANAGER: J. Orient

INSPECTED BY: J Cardinal

VENT WELL

MONITORING INSTRUMENT READING: PID 0.0ppm

LEL/02 READING:

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC)	36.54
WATER LEVEL DEPTH (FEET FROM TOP OF PVC)	28.82
WELL STICK-UP	2.05
CASING STICK-UP (FEET)	2.48
WELL DIAMETER (INCHES)	1 inch
WELL CONSTRUCTION (PVC, STEEL, ETC.)	PVC

LOCKED UPON ARRIVAL?	YES	NO
LOCKED REPLACED?	YES	NO
OBSTRUCTIONS?	YES	NO
WELL RELABELED?	YES	NO
SLUG TEST CONDUCTED?	YES	NO (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS:

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: MW 29

PROJECT NAME: NASB - Background Study

DATE/TIME: 9-18-09 / 0800

PROJECT MANAGER: J. Orient

INSPECTED BY: P. Seward

VENT WELL

MONITORING INSTRUMENT READING: - PID malfunctioning - did not use

LEL/02 READING: NA

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC) 34.35'

WATER LEVEL DEPTH (FEET FROM TOP OF PVC) 27.48'

WELL STICK-UP 2.88 - 0.26 (well stick-down) = 2.62'

CASING STICK-UP (FEET) 2.88'

WELL DIAMETER (INCHES) 1/2"

WELL CONSTRUCTION (PVC, STEEL, ETC.)

LOCKED UPON ARRIVAL?	(YES)	NO
LOCKED REPLACED?	(YES)	NO
OBSTRUCTIONS?	YES	NO
WELL RELABELED?	YES	(NO) - not necessary
SLUG TEST CONDUCTED?	YES	(NO) (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS:

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: MW36 PROJECT NAME: NASB - Background Study

DATE/TIME: 9-17-09 / 1206 PROJECT MANAGER: J. Orient

INSPECTED BY: P. Seward

VENT WELL

MONITORING INSTRUMENT READING: 7.6 ppm (headspace) ~~- reading suspect~~ PS background is 0.0 outside well

LEL/02 READING: NA

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC) 66.25

WATER LEVEL DEPTH (FEET FROM TOP OF PVC) 6.90

WELL STICK-UP 2.92 - 0.32 (pvc stickdown) = 2.60'

CASING STICK-UP (FEET) 2.92

WELL DIAMETER (INCHES) 1/2"

WELL CONSTRUCTION (PVC, STEEL, ETC.)

LOCKED UPON ARRIVAL?	YES	NO
LOCKED REPLACED?	YES	NO
OBSTRUCTIONS?	YES	NO
WELL RELABELED?	YES	NO - not necessary
SLUG TEST CONDUCTED?	YES	NO (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS:

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: NASB-B6-GW-MW37-0909 PROJECT NAME: NASB - Background Study

DATE/TIME: 9/17/09 925 PROJECT MANAGER: J. Orient

INSPECTED BY: J. Cardinal

VENT WELL

MONITORING INSTRUMENT READING: PID 0.0ppm

LEL/02 READING:

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC)	49.04
WATER LEVEL DEPTH (FEET FROM TOP OF PVC)	14.70
WELL STICK-UP	2.61
CASING STICK-UP (FEET)	2.92
WELL DIAMETER (INCHES)	1inch
WELL CONSTRUCTION (PVC, STEEL, ETC.)	PVC

LOCKED UPON ARRIVAL?	(YES)	NO
LOCKED REPLACED?	YES	(NO)
OBSTRUCTIONS?	YES	(NO)
WELL RELABELED?	YES	(NO)
SLUG TEST CONDUCTED?	YES	(NO) (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS: dedicated tubing

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: NASB-BG-MW38

PROJECT NAME: NASB - Background Study

DATE/TIME: 9/17/09 / 0944

PROJECT MANAGER: J. Orient

INSPECTED BY: C. Fellows

VENT WELL

MONITORING INSTRUMENT READING: PID

LEL/02 READING: 0.0

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC) 39.12

WATER LEVEL DEPTH (FEET FROM TOP OF PVC) 14.42

WELL STICK-UP 1.17

CASING STICK-UP (FEET) 2.12

WELL DIAMETER (INCHES) 1"

WELL CONSTRUCTION (PVC, STEEL, ETC.) PVC

LOCKED UPON ARRIVAL?	(YES)	NO
LOCKED REPLACED?	YES	(NO)
OBSTRUCTIONS?	YES	(NO)
WELL RELABELED?	YES	(NO)
SLUG TEST CONDUCTED?	YES	(NO) (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS:

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: MW 39

PROJECT NAME: NASB - Background Study

DATE/TIME: 9-17-09 / 0902

PROJECT MANAGER: J. Orient

INSPECTED BY: P. Seward

VENT WELL

MONITORING INSTRUMENT READING: 0.0

LEL/02 READING: NA

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC) 24.75'

WATER LEVEL DEPTH (FEET FROM TOP OF PVC) 16.1'

WELL STICK-UP 3.09' - stickdown (0.32) = 2.77'

CASING STICK-UP (FEET) 3.09'

WELL DIAMETER (INCHES) 1/2"

WELL CONSTRUCTION (PVC, STEEL, ETC.)

LOCKED UPON ARRIVAL?	YES	NO
LOCKED REPLACED?	YES	NO
OBSTRUCTIONS?	YES	NO
WELL RELABELED?	YES	NO - not needed
SLUG TEST CONDUCTED?	YES	NO (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS:

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: MW 40

PROJECT NAME: NASB - Background Study

DATE/TIME: 9/18/09 /1030

PROJECT MANAGER: J. Orient

INSPECTED BY: P. Seward

VENT WELL

MONITORING INSTRUMENT READING: PID malfunctioning - did not use

LEL/02 READING:

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC) 32.06'

WATER LEVEL DEPTH (FEET FROM TOP OF PVC) 24.08'

WELL STICK-UP 2.76 - 0.21 (pvc stick down) = 2.55'

CASING STICK-UP (FEET) 2.76

WELL DIAMETER (INCHES) 1/2"

WELL CONSTRUCTION (PVC, STEEL, ETC.)

LOCKED UPON ARRIVAL?	YES	NO
LOCKED REPLACED?	YES	NO
OBSTRUCTIONS?	YES	NO
WELL RELABELED?	YES	NO - not necessary
SLUG TEST CONDUCTED?	YES	NO (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS:

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: MW41

PROJECT NAME: NASB - Background Study

DATE/TIME: 9/23/09 - 1507

PROJECT MANAGER: J. Orient

INSPECTED BY: PS

VENT WELL

MONITORING INSTRUMENT READING: 0.0

LEL/02 READING: NA

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC) 43.45'

WATER LEVEL DEPTH (FEET FROM TOP OF PVC) 28.86'

WELL STICK-UP 2.95 - 0.23 (pvc stick-down from top of casing) = 2.7

CASING STICK-UP (FEET) 2.95'

WELL DIAMETER (INCHES) 1/2"

WELL CONSTRUCTION (PVC, STEEL, ETC.)

LOCKED UPON ARRIVAL?	YES	NO
LOCKED REPLACED?	YES	NO
OBSTRUCTIONS?	YES	NO
WELL RELABELED?	YES	NO - unnecessary
SLUG TEST CONDUCTED?	YES	NO (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS:

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: MW42

PROJECT NAME: NASB - Background Study

DATE/TIME: 9-23-09 / 1143

PROJECT MANAGER: J. Orient

INSPECTED BY: PS

VENT WELL

MONITORING INSTRUMENT READING: 0.0

LEL/02 READING: NA

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC) 42.50'

WATER LEVEL DEPTH (FEET FROM TOP OF PVC) 15.14'

WELL STICK-UP 3.20 - 0.29 (pvc stickdown from top of casing) = 2.91

CASING STICK-UP (FEET) 3.20

WELL DIAMETER (INCHES) 1/2"

WELL CONSTRUCTION (PVC, STEEL, ETC.)

LOCKED UPON ARRIVAL?	YES	NO
LOCKED REPLACED?	YES	NO
OBSTRUCTIONS?	YES	NO
WELL RELABELED?	YES	NO - unnecessary
SLUG TEST CONDUCTED?	YES	NO (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS:

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: MW 335

PROJECT NAME: NASB - Background Study

DATE/TIME: 9-15-09 / 1405

PROJECT MANAGER: J. Orient

INSPECTED BY: P. Seward

VENT WELL

MONITORING INSTRUMENT READING: 0.0

LEL/02 READING: NA

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC) 88.46

WATER LEVEL DEPTH (FEET FROM TOP OF PVC) 16.85

WELL STICK-UP 2.70 - 0.24 = 2.46

CASING STICK-UP (FEET) 2.70

WELL DIAMETER (INCHES) 2"

WELL CONSTRUCTION (PVC, STEEL, ETC.)

LOCKED UPON ARRIVAL?	YES	NO
LOCKED REPLACED?	YES	NO
OBSTRUCTIONS?	YES	NO
WELL RELABELED?	YES	NO
SLUG TEST CONDUCTED?	YES	NO (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS:

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: NASB-BG-GW-MW219-0909 PROJECT NAME: NASB - Background Study

DATE/TIME: 9/15/09 1212 PROJECT MANAGER: J. Orient

INSPECTED BY: J. Cardinal

VENT WELL

MONITORING INSTRUMENT READING: PID: 0.0 ppm

LEL/02 READING:

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC) 72.25

WATER LEVEL DEPTH (FEET FROM TOP OF PVC) 28.58

WELL STICK-UP 2.82

CASING STICK-UP (FEET) 2.42

WELL DIAMETER (INCHES) 2in

WELL CONSTRUCTION (PVC, STEEL, ETC.) PVC

LOCKED UPON ARRIVAL? YES NO

LOCKED REPLACED? YES NO

OBSTRUCTIONS? YES NO

WELL RELABELED? YES NO

SLUG TEST CONDUCTED? YES NO (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS:

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: NASB-BG-GW-MW231A-0909 PROJECT NAME: NASB - Background Study

DATE/TIME: 9/16/09 1017 PROJECT MANAGER: J. Orient

INSPECTED BY: J. Cardinal

VENT WELL

MONITORING INSTRUMENT READING: PID 0.0ppm

LEL/02 READING:

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC)	61.19
WATER LEVEL DEPTH (FEET FROM TOP OF PVC)	18.48
WELL STICK-UP	2.74
CASING STICK-UP (FEET)	2.57
WELL DIAMETER (INCHES)	2inch
WELL CONSTRUCTION (PVC, STEEL, ETC.)	PVC

LOCKED UPON ARRIVAL?	(YES)	(~~NO~~) JO 9/16/09
LOCKED REPLACED?	YES	(NO)
OBSTRUCTIONS?	YES	(NO)
WELL RELABELED?	YES	(NO)
SLUG TEST CONDUCTED?	YES	(NO) (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS:

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: NASB-BG-GW-MW303-0909 PROJECT NAME: NASB - Background Study

DATE/TIME: 9/17/09 1246 PROJECT MANAGER: J. Orient

INSPECTED BY: J. Cardinal

VENT WELL

MONITORING INSTRUMENT READING: PID 0.0 ppm

LEL/02 READING:

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC) 72.76

WATER LEVEL DEPTH (FEET FROM TOP OF PVC) 10.49

WELL STICK-UP 2.10

CASING STICK-UP (FEET) 1.106

WELL DIAMETER (INCHES) 2inch

WELL CONSTRUCTION (PVC, STEEL, ETC.) PVC

LOCKED UPON ARRIVAL?	(YES)	NO
LOCKED REPLACED?	YES	(NO)
OBSTRUCTIONS?	YES	(NO)
WELL RELABELED?	YES	(NO)
SLUG TEST CONDUCTED?	YES	(NO) (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS:

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: MW-310

PROJECT NAME: NASB - Background Study

DATE/TIME: 9/15/09 / 1300

PROJECT MANAGER: J. Orient

INSPECTED BY: C. Fellows

VENT WELL

MONITORING INSTRUMENT READING: PID=

LEL/02 READING: 0.0

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC)	~~25.5~~ OKB 72.9
WATER LEVEL DEPTH (FEET FROM TOP OF PVC)	23.5
WELL STICK-UP	2.2 3.8
CASING STICK-UP (FEET)	1.88
WELL DIAMETER (INCHES)	2"
WELL CONSTRUCTION (PVC, STEEL, ETC.)	PVC

LOCKED UPON ARRIVAL?	(YES)	NO
LOCKED REPLACED?	YES	(NO)
OBSTRUCTIONS?	YES	(NO)
WELL RELABELED?	YES	(NO)
SLUG TEST CONDUCTED?	YES	(NO) (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS:

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: MW 314 A

PROJECT NAME: NASB - Background Study

DATE/TIME: 9/16/09 / 0800

PROJECT MANAGER: J. Orient

INSPECTED BY: P. Seward

VENT WELL

MONITORING INSTRUMENT READING: 0.0

LEL/02 READING: NA

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC) 62'

WATER LEVEL DEPTH (FEET FROM TOP OF PVC) 4.55'

WELL STICK-UP 2.91' (0.41' above steel casing)

CASING STICK-UP (FEET) 2.5'

WELL DIAMETER (INCHES) 2"

WELL CONSTRUCTION (PVC, STEEL, ETC.)

LOCKED UPON ARRIVAL?	YES	NO
LOCKED REPLACED?	YES	NO
OBSTRUCTIONS?	YES	NO
WELL RELABELED?	YES	NO
SLUG TEST CONDUCTED?	YES	NO (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS:

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: MW314B

PROJECT NAME: NASB - Background Study

DATE/TIME: 9/16/09 / 1115

PROJECT MANAGER: J. Orient

INSPECTED BY: P. Savard

VENT WELL

MONITORING INSTRUMENT READING: 0.0

LEL/02 READING: NA

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC) 35.30'

WATER LEVEL DEPTH (FEET FROM TOP OF PVC) 4.41'

WELL STICK-UP 1.88 + 0.5 = 2.38' 0.5' was cut PVC rise above well casing

CASING STICK-UP (FEET) 1.88

WELL DIAMETER (INCHES) 2"

WELL CONSTRUCTION (PVC, STEEL, ETC.)

LOCKED UPON ARRIVAL?	YES	NO
LOCKED REPLACED?	YES	NO
OBSTRUCTIONS?	YES	NO
WELL RELABELED?	YES	NO
SLUG TEST CONDUCTED?	YES	NO (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS:

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: NASB-MW31SA

PROJECT NAME: NASB - Background Study

DATE/TIME: 9/16/09 / 0930

PROJECT MANAGER: J. Orient

INSPECTED BY: C. Fellas

VENT WELL

MONITORING INSTRUMENT READING: PID

LEL/02 READING: 0.0

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC) 0.05'

WATER LEVEL DEPTH (FEET FROM TOP OF PVC) 77.2

WELL STICK-UP ~~0.05' OFS~~ 2.32

CASING STICK-UP (FEET) 1.81

WELL DIAMETER (INCHES) 2"

WELL CONSTRUCTION (PVC, STEEL, ETC.) PVC

LOCKED UPON ARRIVAL?	YES	NO
LOCKED REPLACED?	YES	NO
OBSTRUCTIONS?	YES	NO
WELL RELABELED?	YES	NO
SLUG TEST CONDUCTED?	YES	NO (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS:

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: NASB-BG-GW-MW316A-0909 PROJECT NAME: NASB - Background Study

DATE/TIME: 9/22/09 1457 PROJECT MANAGER: J. Orient

INSPECTED BY: J. Cardinal

VENT WELL

MONITORING INSTRUMENT READING: PID: 0.0 ppm

LEL/02 READING:

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC) 103.81

WATER LEVEL DEPTH (FEET FROM TOP OF PVC) 21.20

WELL STICK-UP 3.09

CASING STICK-UP (FEET) 1.97

WELL DIAMETER (INCHES) 2inch

WELL CONSTRUCTION (PVC, STEEL, ETC.) PVC

LOCKED UPON ARRIVAL?	YES	NO
LOCKED REPLACED?	YES	NO
OBSTRUCTIONS?	YES	NO
WELL RELABELED?	YES	NO
SLUG TEST CONDUCTED?	YES	NO (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS:

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: NASB-BG-GW-MW316B-0909 PROJECT NAME: NASB - Background Study

DATE/TIME: 9/22/09 1305 PROJECT MANAGER: J. Orient

INSPECTED BY: J. Cardinal

VENT WELL

MONITORING INSTRUMENT READING: PID = 0.0 ppm

LEL/02 READING:

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC) 58.20

WATER LEVEL DEPTH (FEET FROM TOP OF PVC) 11.81

WELL STICK-UP 2.46

CASING STICK-UP (FEET) 2.11

WELL DIAMETER (INCHES) 2 inch

WELL CONSTRUCTION (PVC, STEEL, ETC.) PVC

LOCKED UPON ARRIVAL?	(YES)	NO
LOCKED REPLACED?	YES	(NO)
OBSTRUCTIONS?	YES	(NO)
WELL RELABELED?	YES	(NO)
SLUG TEST CONDUCTED?	YES	(NO) (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS:

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: MW-317A

PROJECT NAME: NASB - Background Study

DATE/TIME: 9/23/09 / 0845

PROJECT MANAGER: J. Orient

INSPECTED BY: G. Fellows

VENT WELL

MONITORING INSTRUMENT READING: PID

LEL/02 READING: 0.0

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC) 121.4 (v. soft bottom)

WATER LEVEL DEPTH (FEET FROM TOP OF PVC) 15.06

WELL STICK-UP 3.23

CASING STICK-UP (FEET) 3.04

WELL DIAMETER (INCHES) 2"

WELL CONSTRUCTION (PVC, STEEL, ETC.) PVC

LOCKED UPON ARRIVAL?	YES	NO
LOCKED REPLACED?	YES	NO
OBSTRUCTIONS?	YES	NO
WELL RELABELED?	YES	NO
SLUG TEST CONDUCTED?	YES	NO (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS:

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: MW-317B

PROJECT NAME: NASB - Background Study

DATE/TIME: 9/22/09 / 1350

PROJECT MANAGER: J. Orient

INSPECTED BY: C. Pellas

VENT WELL

MONITORING INSTRUMENT READING: PID

LEL/02 READING: 0.0

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC) 97.7 (Sonde)

WATER LEVEL DEPTH (FEET FROM TOP OF PVC) 15.72

WELL STICK-UP 2.47

CASING STICK-UP (FEET) 2.35

WELL DIAMETER (INCHES) 2"

WELL CONSTRUCTION (PVC, STEEL, ETC.) PVC

LOCKED UPON ARRIVAL?	YES	NO
LOCKED REPLACED?	YES	NO
OBSTRUCTIONS?	YES	NO
WELL RELABELED?	YES	NO
SLUG TEST CONDUCTED?	YES	NO (If YES, refer to "Hydraulic Conductivity Testing Data Sheet")

GENERAL CONDITION/COMMENTS:

TtNUS Form 0021

TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: NASB-BG-MW01

PROJECT: NASB - Background Study
PROJECT NO.: CTO 432 - 112G00958 / 0510
SAMPLE ID:

DATE: 8/27/09
WEATHER: Sunny 70s
PERSONNEL: Glennon

TD = 24.5 initial WL = ~~14.5~~ ok 14.51

Well Screen Depth: 12 / 22 ft. bgs
H&S Monitoring Instrument Reading

Pump Type/Material: Peri / Teflon
Pump Intake Depth: various

Total Purge Volume = 4 (gal)
Data Recorded By: Glennon

Time	Water Level ft below top PVC	Volume ~~mL~~ gal	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments	ORP
1438	~~14.5~~ ok 14.51	Start	pump						TD = 24.5	
1443	14.48		250	11.12		48	10.24	117	@ bottom	123.6
1453	14.48	1		9.96	5.42	40	11.64	36.9	@ bottom	175.1
1500	14.48			10.03	5.54	38	11.42	14.0	@ bottom	
1505	14.48			9.88	5.51	38	11.70	9.68	@ bottom	210.4
1510	14.49	2	250	9.87	5.47	36	11.95	8.73	bottom+2'	231.6
1520	14.49			10.27	5.45	36	12.18	5.76	bot + 4'	
1528				10.31	5.47	35	11.99	2.42	bot + 6'	
1538	14.49			10.64	5.42	36	12.62	1.97	bot + 8'	
1548	14.49	~~5~~ ok 4		9.89	5.47	42	11.59	3.48	@ bottom	
1549	stop pump - well developed.									

TtNUS Form 0013

TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: MW02

PROJECT: NASB - Background Study
PROJECT NO.: CTO 432 - 112G00958 / 0510
SAMPLE ID:

DATE: 8-27-09
WEATHER: Sunny ~ 78°
PERSONNEL: P. Seward

Well Screen Depth: 12 / 17 ft. bgs
H&S Monitoring Instrument Reading 0.0 ppm ~~well~~ well HS
DTW = 14.50' below top of PVC

Pump Type/Material: peristaltic w/ teflon tubing
Pump Intake Depth: variable -

Total Purge Volume = _____ (gal)
Data Recorded By: P. Seward

Time	Water Level ft below top PVC	Volume ~~mL~~ gal	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments
1450	began w/ development								
1500	14.52		115	12.14	6.34	29	0.49	51.6	tan - cloudy
1510	14.52		115	11.64	5.88	27	0.36	17.5	clear - colorless
1520	14.52		115	11.28	5.94	27	0.36	15.2	" "
1525	14.52		115	11.40	5.83	27	0.38	8.19	" "
1530	14.52		115	11.50	5.79	28	0.36	5.24	" "
1535	14.52		115	11.56	~~5.75~~ 5.65	28	0.41	4.77	" "
1540	14.52		115	11.55	5.63	27	0.41	5.75	" "
1545	14.52	~15	115	11.37	5.63	27	0.41	2.80	" "
1550	14.52		115	11.31	5.68	27	0.43	3.85	" "
			development complete.						

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TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: MW03

PROJECT: NASB - Background Study
PROJECT NO.: CTO 432 - 112G00958 / 0510
SAMPLE ID: N/A

DATE: 8/27/09
WEATHER: 75° Sunny light breeze
PERSONNEL: M. Horton / C. Fellows
Initial Water Level - 11.44

Well Screen Depth: 8 / 18 ft. bgs
H&S Monitoring Instrument Reading 0.6

Pump Type/Material: peri pump
Pump Intake Depth: 18'

Total Purge Volume = 4 1/2 (gal)
Data Recorded By: M. Horton / C. Fellows

Time	Water Level ft below top PVC	Volume ~~mL~~ gal.	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments	Depth of Intake
1205	10.81		190	12.76	5.82	19	7.23	73	sl. cloudy / colorless	@ bott
1215	10.83	1/2	190	12.67	5.65	18	5.24	114	"	@ botto
1225	10.83		"	12.67	5.59	17	4.79	12.5	Clear/colorless	1' off bott
1230	10.83	1	"	12.78	5.56	17	4.76	9.71	"	2' off bo
1235	10.83		"	12.84	5.55	17	4.79	6.26	"	3' off bo
1240	10.82	2	"	12.97	5.54	17	4.63	4.13	"	4' off bott
1245	10.82		"	12.99	5.55	18	4.70	4.73	"	5' off bot
1250	10.82	3	"	13.04	5.55	18	4.56	7.01	"	6' off bo
1255	10.82		"	12.96	5.54	18	4.62	7.45	"	7' off bo
1300	10.83	~~4~~ 3 1/2	"	13.01	5.54	17	4.73	5.90	"	8' off bo
1305	10.82		"	13.06	5.55	17	4.55	4.52	"	9' off bo
1310	10.83	4	"	13.04	5.55	17	4.57	4.83	"	Mid Poi
1315	10.83		"	12.81	5.55	17	4.59	4.61	"	Mid Poi
1320	10.83	4 1/2	"	12.89	5.54	17	4.60	4.85	"	Mid Poi
	End Well Development									

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TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: NASB-BG-MW04

PROJECT: NASB - Background Study
PROJECT NO.: CTO 432 - 112G00958 / 0510
SAMPLE ID:

DATE: 8/27/09
WEATHER: Sunny 80°
PERSONNEL: M. Horton
Initial Water level 11.61' TOC

Well Screen Depth: 8 / 18 ft. bgs
H&S Monitoring Instrument Reading ~~Various~~ 0.0

Pump Type/Material: Peri Pump
Pump Intake Depth: Various

Total Purge Volume = 6.5 (gal)
Data Recorded By: M. Horton

Time	Water Level ft below top PVC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments	PUMP INTAKE ABOVE BOTTOM
1342	11.65		190	12.60	6.35	24	4.18	231		0
1347	11.64		190	11.43	6.12	15	4.47	68.4		0
1352	11.64		250	10.83	5.93	15	4.16	69.5		0
1357	11.64		250	10.80	5.85	15	4.37	39.1		1
1402	11.64		250	10.78	5.78	16	4.60	18.8		1
1407	11.64		250	10.78	5.74	16	4.72	11.9		1
1412	11.64		250	10.82	5.72	16	4.74	8.78		2
1417	11.64		250	10.92	5.71	15	4.77	7.80		2
1422	11.65		250	10.87	5.72	16	4.81	6.48		2
1427	11.64		250	10.77	5.73	16	4.76	5.89		3
1432	11.64	3.5	250	10.96	5.74	17	4.85	6.55		3
1437	11.64	4	250	11.04	5.74	17	4.94	7.44		4
1442	11.64		250	10.90	5.74	17	4.95	6.94		4
1447	11.64	4.5	250	10.46	5.78	16	4.93	11.9		0
1452	11.64		250	10.50	5.72	17	4.94	11.3		0
1457	11.64	5	256	10.54	5.71	16	4.82	7.17		0
1502	11.64		250	10.48	5.71	16	4.86	6.79		0
1507	11.64	5.5	250	10.45	5.72	16	4.93	5.37		0

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End of purge - stabilization complete in accordance w/ work plan

TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: NASB-BG-MW05

PROJECT: NASB - Background Study
PROJECT NO.: CTO 432 - 112G00958 / 0510
SAMPLE ID: NA

DATE: 9/2/09
WEATHER: Sunny 70's
PERSONNEL: CFS MH

Initial WL = 31.13

Well Screen Depth: 52 / 62 ft. bgs
H&S Monitoring Instrument Reading PID=0.0

Pump Type/Material: Waterra
Pump Intake Depth: Variable

Total Purge Volume = 85 (gal)
Data Recorded By: CFS MH

Time	Water Level ft below top PVC	Volume ~~mL~~ gal	Flow Rate ~~mL/min~~ gal/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments
1700	Begin purging / development. WL not recorded during well development due to tubing fineness.								
1705		5	1/min	9.61	8.24	38	10.59	OFF SCALE	Brown / cloudy
1710		10	"	8.78	7.66	34	10.71	"	"
1715		15	"	8.49	7.41	33	10.81	"	"
1720		20	"	8.27	7.05	32	10.96	370	"
1~~725~~30		30	"	8.30	6.83	32	11.30	OFF Scale	"
1~~730~~35		35	"	8.26	6.73	32	13.16	222	"
1740		40	"	8.23	6.62	32	13.63	211	"
1750		45	"	8.30	6.60	32	13.21	193	"
1755		50	"	8.22	6.57	31	13.09	224	"
1800		55	"	8.32	6.54	31	13.60	174	"
1805		60	"	8.24	6.57	31	13.44	154	"
1815		65	"	8.25	6.54	31	13.42	143	"
1820		70	"	8.25	6.51	32	13.47	143	"
1825		75	"	8.28	6.47	31	11.12	125	"
1835		80	"	8.28	6.47	30	10.44	128.5	"
1840		85	"	8.31	6.48	31	10.26	124	"
	* End development - All parameters stable, ~~exc~~ turbidity stable but not below 10 NTU, ~~[illegible]~~								

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TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: NASB-BG-MW06

PROJECT: NASB - Background Study
PROJECT NO.: CTO 432 - 112G00958 / 0510
SAMPLE ID:

DATE: 8/26/09
WEATHER: Sunny
PERSONNEL: P. Seward
Initial WL - 2.00' Top of PVC

Well Screen Depth: ~~8~~ 13 / 18 ft. bgs
H&S Monitoring Instrument Reading 0.0

Pump Type/Material: peri pump
Pump Intake Depth: 18

Total Purge Volume = _____ (gal)
Data Recorded By: M. Horton

Time	Water Level ft below top PVC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments
1552	5.19		130	14.65	6.38	98	6.80	74.3	
1602	9.91		130	13.17	6.14	88	5.80	35.5	
~~160~~ 1612	12.64	1 gal	165	11.74	6.04	78	5.61	26.4	
1623	15.65	1.5	165	11.61	6.06	77	5.65	51.9	
End of Purge, well dry									
8/27/09 - Second purge initial water level 3.11' TOC									
1041	5.52		230	10.62	6.60	69	5.34	208	
1046	10.03		230	9.57	6.24	61	3.62	63.3	
1051	13.80		230	9.51	6.20	60	3.21	48.9	
1056	16.63		230	9.46	6.20	60	2.98	56.4	
1101	17.98		230	9.08	6.20	58	2.81	78.0	
1106	20.25	1.5 gal	230	8.52	6.20	61	2.21	688	
- End of Purge, well dry									
0946 began ~~purge~~ development			8-28-09						
0945	11.35		300	10.53	6.16	83	2.09	25.4	clear - colorless
0950	15.73		300	10.34	6.24	82	0.14	24.2	clear - colorless
0955	17.70		300	9.83	6.19	83	0.24	17.70	" "
1000	20.01	~1.5	300	9.26	6.34	85	0.23	18.00	" "

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~~Day 3~~ Day 3 static WL = 2.40 ft below top of PVC

Day 3 - well ran dry @ 1000

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TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: NASB-BG-MW07

PROJECT: NASB - Background Study
PROJECT NO.: CTO 432 - 112G00958 / 0510
SAMPLE ID:

DATE: 8/26/09
WEATHER: Sunny 85° Humid
PERSONNEL: M. Horton

Initial WL 4.00' TOC

Well Screen Depth: 4 / 10 ft. bgs
H&S Monitoring Instrument Reading 0.0

Pump Type/Material: peri pump w/ teflon Tubing
Pump Intake Depth:

Total Purge Volume = _____ (gal)
Data Recorded By: M. Horton

Time	Water Level ft below top PVC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments
1459	8.39		150	14.99	6.42	145	8.20	993	
1509	10.98		150	14.21	6.25	128	6.30	275	
1514	—	1 gal	0	13.58	6.25	107	4.59	1240	
End of purge - well dry - last reading collected once peri pump was off									
8/27/09 - Second Purge - initial WL 4.41									
1010	7.15		230	11.16	6.74	91	4.36	662	
1015	10.89	0.5	230	11.70	6.62	88	3.82	465	
1018	end of purge well dry								
8/28/09 - Third purge - initial WL 4.61 TOC									
0920	6.92		250	9.86	6.61	89	4.86	183	
0925	10.48		250	11.57	6.55	86	4.57	139	
0928 - end of purge well dry									

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TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: NASB-BG-MW08

PROJECT: NASB - Background Study
PROJECT NO.: CTO 432 - 112G00958 / 0510
SAMPLE ID:

DATE: 8/26/09
WEATHER: Sunny 85 Humid
PERSONNEL: M. Horton

Well Screen Depth: 5 / 10 ft. bgs
H&S Monitoring Instrument Reading 0.0

Pump Type/Material: Peri Pump w/ Teflon Tubing
Pump Intake Depth: 10'

Total Purge Volume = _____ (gal)
Data Recorded By: M. Horton

Time	Water Level ft below top PVC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments
1320	5.62		150	15.07	6.59	137	7.77	283	
1330	8.89		150	13.90	6.23	111	5.40	1131	
1335	9.84		150	13.37	6.12	89	~~4.40~~ 4.69	1282	
1340	10.11		150	13.01	6.03	81	~~4.83~~ 4.40	1203	
1345	10.71		150	13.14	5.97	76	~~5.22~~ 4.83	733	
1350	11.50	1 gal	~~1 gal~~ 150	12.82	5.94	78	5.22	708	
1355	12.10	~~+~~	150	12.73	5.96	80	4.96	1029	
1400	—	1.5 gal	~~1.5 gal~~ 150	12.81	6.01	79	3.94	1096	
well Purged Dry - last reading collected once pump was turned off. Turbidity reading came from water left in the tubing									
8/27/09 - purge for second time initial WL = 3.67' TOR									
0935	6.15		250	10.90	6.57	71	5.72	955	
0940	9.55		250	11.47	6.33	71	4.16	232	
0945	—	0.5	0	10.63	6.28	73	3.63	2616	
8/28/09	0913 Start pump		initial WL = 3.90			Gary Oleson		3rd purge	
0918	8.20	800	130	11.78	6.65	113	6.41	89.8	@ bottom
0923	11.85	1600		11.99	6.23	97	4.90	172	@ bottom
0925	well dry	2000	stop	pump,	development		complete		

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TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: NASB-BG-MW09

PROJECT: NASB - Background Study
PROJECT NO.: CTO 432 - 112G00958 / 0510
SAMPLE ID:
Init WL=4.04 TD=12.0

DATE: 8/26/09
WEATHER: Sunny 80's
PERSONNEL: Glennon
Inst Group (A)

Well Screen Depth: 5 / 10 ft. bgs
H&S Monitoring Instrument Reading 0.0 BZ / 0.0 WH

Pump Type/Material: Peri / Teflon
Pump Intake Depth: Various

Total Purge Volume = 4 (gal)
Data Recorded By: Glennon

Time	Water Level ft below top PVC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments	ORP
1258	Start pump			~~15.48~~						
1304	5.45	120		~~15.32~~	15.48 / 6.26	123	2.57	853	@ bottom	112
1314	5.24	150		15.24	15.32 / 6.07	113	1.86	305	↓	
1324	5.25		1	15.04	15.24 / 6.05	112	1.74	87.5		143.1
1334	5.25			15.54	15.04 / 6.04	110	1.67	117	↓	147.4
1348	5.28			15.45	15.54 / 6.01	105	1.45	76.3	bottom+2'	186.3
1358	5.25		2	14.53	15.45 / 6.03	110	1.35	17.5	↓	206.0
1403	5.28			14.57	15.53 / 6.04	108	1.32	14.6		213.2
1408	5.28		2.5	16.13	15.57 / 6.06	110	1.35	22.3	↓	207.8
1423	5.28			~~14.94~~	16.13 / 6.01	103	1.29	9.64	bottom+4'	215.2
1433	5.21	130		14.94	6.22	135	1.55	56.6	@ bottom	54.2
1443	5.25			14.97	6.11	119	1.37	28.5	↓	119.8
1448	5.25		3	15.06	6.10	117	1.33	14.2		136.8
1453	5.25			15.20	6.09	115	1.28	11.3		149.9
1458	5.25			15.45	6.09	115	1.25	12.5	↓	156.2
1504	5.29		4	15.50	6.07	112	1.25	8.98	bottom+6"	
1507	pump stopped, well is developed									

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TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: NASB-BG-MW10

PROJECT: NASB - Background Study
PROJECT NO.: CTO 432 - 112G00958 / 0510
SAMPLE ID:
Init WL = 4.50 TD = 12.32

DATE: 8/26/09
WEATHER: Sunny 80's
PERSONNEL: Glennon
Equip group (A)

Well Screen Depth: 5 / 10 ft. bgs
H&S Monitoring Instrument Reading 0.0 BZ, 0.2 WH

Pump Type/Material: Peri/Teflon
Pump Intake Depth: Various

Total Purge Volume = 3 (gal)
Data Recorded By: Glennon

Time	Water Level ft below top PVC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	~~Comments~~ ORP	Comments
1035	Start pump									
1038	7.30		170	14.39	6.49	297	2.54	299	-197.9	@bottom
1043	7.90		125	13.63	6.39	249	1.61	1679	-227.0	
1053	7.95		125	13.53	6.45	245	1.60	889	-231.5	
1100	7.96	1	130	13.64	6.45	248	1.52	502	-242.3	
1110	8.13		130	13.42	6.36	249	1.67	306	-221.1	
1120	8.31	2	110	13.87	6.39	241	1.52	240	-189.3	
1130	8.41			14.68	6.39	246	1.49	262	-181.9	bottom+2'
1137	8.40			14.91	6.45	238	1.38	284	-193.7	
1149	8.45	2.5		14.81	6.47	231	1.17	167	-197.5	
1202	8.58			14.69	6.46	231	1.16	143	-170.2	
1213	8.69		110	13.94	6.50	217	1.14	317	-204.5	@bottom
1225	8.94			14.62	6.42	240	1.05	159	-146.0	bottom+2'
1235	9.10	3		14.15	6.48	220	0.96	136	-187.3	bottom+6"
Purge ended - 2 hour limit						~~22.60~~				

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TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: NASB-BG-MW11

PROJECT: NASB - Background Study

PROJECT NO.: CTO 432 - 112G00958 / 0510

SAMPLE ID:

DATE: 8/26/09

WEATHER: Sunny 80° very humid

PERSONNEL: M. Horton

Well Screen Depth: 5 / 10 ft. bgs

H&S Monitoring Instrument Reading 0.0

Pump Type/Material: peri pump w/ Teflon Tubing

Pump Intake Depth: 10'

Total Purge Volume = 5 (gal)

Data Recorded By: M. Horton

Time	Water Level ft below top PVC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments
1025	5.97		125	14.48	6.63	228	5.54	416.1	
1035	8.25		125	13.53	6.45	198	2.99	144	
1045	8.58			12.80	6.36	177	1.91	109.4	
1055	8.58			12.84	6.32	166	1.62	103.4	
~~10~~ 1105	8.59			12.73	6.23	161	1.19	187	
1115	8.59	2 gal		12.77	6.14	158	1.22	132	
1125	8.78			12.91	6.16	159	1.35	31.7	
1135	9.21	2.5 gal		12.68	6.17	159	1.26	55.6	
1145	9.43			12.74	6.22	158	1.09	57.0	
1155	9.60	3 gal		12.67	6.20	157	0.93	72.9	
1205	9.75			12.57	6.22	156	0.88	59.4	
1210	9.79			12.80	6.18	157	0.85	53.4	
1215	9.81	4 gal		12.67	6.21	156	0.83	56.3	
1220	9.84			12.76	6.19	157	0.82	42.7	
1225	9.85	5 gal		12.89	6.13	158	0.80	48.9	
End of development - 2hr purge limit - 5 gal total purged									

TtNUS Form 0013

TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

NASB-BG-
Well No.: MW12

PROJECT: NASB - Background Study
PROJECT NO.: CTO 432 - 112G00958 / 0510
SAMPLE ID:

DATE: 8/26/09
WEATHER: Sunny 70's
PERSONNEL: Glennon

2.85 = init WL 12.4 = TD

Well Screen Depth: 5 / 10 ft. bgs
H&S Monitoring Instrument Reading 0.0 BZ, 0.3 WH

Pump Type/Material: Peri / Teflon
Pump Intake Depth: ~~0.5~~ 12.4'

Total Purge Volume = 0.75 (gal) 8/26/09
Data Recorded By: Glennon

Time	Water Level ft below top PVC	Volume ~~mL~~ gal	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments
0830	Start pump								
0835	6.20								
0840	8.40		100	14.44	6.72	276	10.03	9.72	@ bottom
845	9.37			14.24	6.67	255	9.06	63.5	@ bottom
850	10.55	~0.5	110	14.06	6.63	222	8.99	92.9	@ bottom
858	well dry	~0.75		13.42	6.57	201	8.96	15.1	@ bottom
918	11.85	recharging at rate of about 1.5 ft/hour, full recharge in about 7 hrs.							
8/27/09	- Second Purge initial water level 3.37 ~~FOC~~ TOR								
0855	6.63		230	10.53	6.66	124	6.93	10.71	
0900	10.41		230	11.39	6.57	115	6.76	25.7	
0903	Well dry - end of purge for today								
8/28/09	3rd purge - initial WL = 3.70 0832 start pump Gary Glennon								
0838	10.29	0.25	140	12.03	6.24	153	9.61	11.4	@ bottom
0843	12.05	0.3		11.89	6.30	153	9.54	13.2	
0845	well dry / development complete								

TtNUS Form 0013

MWIL

OB32 Stand pump

TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: _____

PROJECT: NASB - Background Study

PROJECT NO.: CTO 432 - 112G00958 / 0510

SAMPLE ID: _____

DATE: _____

WEATHER: _____

PERSONNEL: _____

Well Screen Depth: _____ / _____ ft. bgs

H&S Monitoring Instrument Reading _____

Pump Type/Material: _____

Pump Intake Depth: _____

Total Purge Volume = _____(gal)

Data Recorded By: _____

Time	Water Level ft below top PVC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments

TtNUS Form 0013

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TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: NASB-BG-MW13

PROJECT: NASB - Background Study
PROJECT NO.: CTO 432 - 112G00958 / 0510
SAMPLE ID: NA

DATE: 8/26/09
WEATHER: Sunny 80° very humid
PERSONNEL: M. Horton
Initial WL 4.03

Well Screen Depth: 5 / 10 ft. bgs
H&S Monitoring Instrument Reading 0.0

Pump Type/Material: PeriPump, Teflon Tubing
Pump Intake Depth: 10'

Total Purge Volume = ~0.5 (gal)
Data Recorded By: M. Horton

Time	Water Level ft below top ~~PVC~~ steel Casing	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond µS/cm	DO mg/L	Turbidity NTU	Comments
0846	6.53		110	13.50	7.17	156	9.24	9.87	Pump set as low as possible
0856	10.48		110	13.18	6.69	144	8.56	4.45	
~~08~~ 0901	11.50		110	12.72	6.60	121	8.84	4.24	
0906	12.71	0.5gal	110	12.18	6.35	92	8.03	8.16	
Purged Dry Purge complete for today									
8/27/09 - Purge dry for second time initial WL 6.02' TOC									
0828	8.58		210	10.32	6.30	103	8.72	64.8	
0833	11.90	0.5gal	210	10.60	6.26	88	7.26	12.0	
0835	well pumped dry								
8/28/09 - Purge dry for 3rd time - initial WL 6.81' TOC									
0841	9.25		250	10.23	6.22	89	6.86	15.9	
0846	—	0.5	250	9.90	6.15	75	7.58	8.50	
end of purge well pumped dry - last reading collected while pump was turned off									

TtNUS Form 0013

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TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: MW15

PROJECT: NASB - Background Study
PROJECT NO.: CTO 432 - 112G00958 / 0510
SAMPLE ID:

DATE: 8-27-09
WEATHER: Sunny & 105°
PERSONNEL: P. Seward

Well Screen Depth: 24 / 29 ft. bgs
H&S Monitoring Instrument Reading H_2S = 15.4
DTW = 18.4' from top of PVC

Pump Type/Material: peristaltic w/ teflon tubing
Pump Intake Depth: variable

Total Purge Volume = _____ (gal)
Data Recorded By: _____

Time	Water Level ft below top PVC	Volume ~~mL~~ gal	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments
0835	began purge	purged sand	from bottom of	well then	started	development			6" from the
	well bottom								
0845	18.58		100	14.69	6.03	133	8.81	179	tan - cloudy
0855	18.60		100	10.20	7.20	240	2.04	111	tan - cloudy
0905	18.61		100	9.76	7.37	238	1.46	29.5	clear - colorless
0915	18.61		100	9.48	7.42	238	1.17	20.8	clear - colorless
0925	18.61		100	9.51	7.43	238	0.96	10.0	clear - colorless
0935	18.61		100	9.66	7.40	237	0.94	8.67	clear - colorless
0945	18.63		100	9.67	7.34	232	1.00	9.36	clear - colorless
0955	18.63		100	9.57	7.32	223	0.70	7.66	clear - colorless
1000	18.63		100	9.65	7.29	226	0.55	6.93	clear - colorless
1005	18.63		100	9.63	7.22	226	0.50	8.72	clear - colorless
1010	18.63	~2.5	100	9.65	7.24	224	0.46	7.06	clear - colorless
		purge	complete						

TtNUS Form 0013

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TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: NASB-BG-MW16

PROJECT: NASB - Background Study
PROJECT NO.: CTO 432 - 112G00958 / 0510
SAMPLE ID:
Initial WL=14.43 TD=29.37

DATE: 8/27/09
WEATHER: Sunny 70's, dry
PERSONNEL: Glennon
Inst group (A)

Well Screen Depth: 24 / 29 ft. bgs
H&S Monitoring Instrument Reading

Pump Type/Material: Peri
Pump Intake Depth: various

Total Purge Volume = 4 (gal)
Data Recorded By: Glennon

Time	Water Level ft below top PVC	Volume ~~mL~~ gal	Flow Rate mL/min	Temp °C	pH	Sp Cond ~~mS~~ µS/cm	DO mg/L	Turbidity NTU	Comments	ORP
0813	start pump									
0825	15.11			9.98	6.69	190	3.60	143	@ bottom	
0835	15.18	~0.5	120	9.42	6.64	143	3.72	85.6	@ bottom	
0847	15.18			9.32	6.50	77	4.45	57.3	@ bottom	
0858	15.27		130	9.26	6.42	90	4.74	37.7	@ bottom	
0908	15.28	1.5		9.20	6.34	90	4.97	22.8	@ bottom	
0913	15.31			9.15	6.29	87	5.51	18.6	@ bottom	-184.3
0929	15.31			9.29	6.29	86	4.94	17.6	bottom+2'	
0940	15.33	3	130	9.35	6.24	82	4.98	9.28	bottom+2'	-174.5
0950	15.35			9.43	6.24	83	5.61	20.1	bottom+4'	
0955	15.34			9.56	6.20	79	5.44	15.1	bottom+4'	-169.6
1005	15.32			9.33	6.13	70	5.35	10.58	@ bottom	-171.3
1013		4		9.36	6.07	68	5.40	2.73	@ bottom	-159.9
1014	stop	pump	- well	developed						

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TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: MW17

PROJECT: NASB - Background Study
PROJECT NO.: CTO 432 - 112G00958 / 0510
SAMPLE ID:

DATE: 8-27-09
WEATHER: Sunny ~ 72°
PERSONNEL: P. Seward

Well Screen Depth: 11.5 / 16.5 ft. bgs
H&S Monitoring Instrument Reading 0 1.9 ppm well headspace
DTW: 11.27' from top of PVC

Pump Type/Material: peristaltic w/ teflon tubing
Pump Intake Depth: variable

Total Purge Volume = 2.5 (gal)
Data Recorded By: P. Seward

Time	Water Level ft below top PVC	Volume ~~mL~~ gal	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments
1050	begun well development. pulled sand/silt from bottom of well @ max flow rate; lot of drawdown								
at shallow screen.									
1100	12.37		100	16.29	7.57	190	1.27	1008	tan-cloudy
1120	12.51		100	10.75	7.40	198	0.05	176	tan-cloudy
1130	12.49		100	10.71	7.41	200	0.04	101.7	tan-cloudy
1140	12.51		100	10.59	7.42	204	0.05	56.8	tan-cloudy
1150	12.52	1.0	100	10.68	7.46	205	0.03	39.3	light tan-cloudy
1200	12.52		100	10.60	7.47	207	0.02	27.4	" cloudy
1210	12.52		100	10.80	7.48	207	0.02	20.3	clear-colorless
1215	12.52		100	10.57	7.48	208	0.03	14.6	clear-colorless
1225	12.52		100	10.61	7.49	208	0.03	9.60	clear-colorless
1230	12.52		100	10.74	7.49	208	0.03	9.94	clear-colorless
1235	12.52		100	10.88	7.44	206	0.04	9.77	clear-colorless
1240	12.52	2.5	100	11.01	7.40	202	0.03	8.71	clear-colorless
		development complete							

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PVC stickup is 3.3' - top of screen = 14.8' below top of PVC

TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: NASB-06-MW18

PROJECT: NASB - Background Study
PROJECT NO.: CTO 432 - 112G00958 / 0510
SAMPLE ID:

DATE: 8/25/09
WEATHER: Sunny 70's
PERSONNEL: Glennon

init WL = 3.61 TD = 9.70

Well Screen Depth: 3 / 8 ft. bgs
H&S Monitoring Instrument Reading 0.0

Pump Type/Material: Peri / Teflon
Pump Intake Depth: various

Total Purge Volume = 4 (gal)
Data Recorded By: Glennon

Time	Water Level ft below top PVC	Volume ~~mL~~ gal	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments	ORP
0900										
0911	3.95			14.72	5.60	41	1.13	53.6	start pump	
0921	4.02		150	14.80	5.44	33	1.25	32.3	bottom	-113.2
0933	3.97			15.16	5.36	31	1.48	9.32	bottom	-62.7
0941	3.93			15.53	5.32	30	1.37	5.40	bot + 2'	
0951	3.97	2.5	190	14.76	5.29	29	2.04	43.8	bot + 4'	
1004	4.01			15.08	5.26	28	1.81	10.77	bottom	-27.4
1013		3		15.12	5.24	28	1.88	3.26	bottom + 6 inches	54.6
										59.8
1026	3.95	3.5		15.30	5.25	28	2.01	1.24	bot + 6 in	
1031	3.98	4		14.76	5.21	28	2.05	8.72	bot + 2'	
1039	3.99	4	170	15.82	5.24	28	1.44	2.79	bottom	44.6
1042	stop	pump	- finished		demeighment				bottom + 4'	

TtNUS Form 0013

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TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: NASB-BG-MW19

PROJECT: NASB - Background Study
PROJECT NO.: CTO 432 - 112G00958 / 0510
SAMPLE ID:

DATE: 8/25/09
WEATHER: Sunny ~ 75°
PERSONNEL: P Seward

4.02 = Initial WL TD = 9.70

Well Screen Depth: 1.5 / 6.5 ft. bgs
H&S Monitoring Instrument Reading: **

Pump Type/Material: peristaltic
Pump Intake Depth: variable*
*moving tubing intake up & down the screen

Total Purge Volume = 3 gal (gal)
Data Recorded By: P. Seward

Time	Water Level ft below top PVC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments
~~8-31~~ 0900	began purge								
0910	4.42		180	14.83	5.89	97	0.80	64.9	tan
0917	4.42		180	15.00	6.02	85	0.44	27.5	tan
0927	4.42		180	14.86	5.76	74	0.31	19.9	light tan
0937	4.42		180	14.97	5.51	71	0.30	11.5	clear - colorless
0947	4.42		180	15.25	5.69	68	0.26	9.7	clear - colorless
0957	4.42	~3 gal	180	15.58	5.75	67	0.26	4.42	clear - colorless
1007	4.42		180	15.52	5.35	66	0.23	8.52	clear - colorless
1017	4.42		180	15.17	5.40	64	0.23	4.55	clear - colorless
1027	4.42		180	15.12	5.42	64	0.24	8.84	clear - colorless
1032	4.42		180	15.15	5.43	64	0.23	7.79	clear - colorless
1037	4.42	5 gal	180	14.95	5.39	64	0.23	6.69	clear - colorless
1042	4.42		~~180~~	15.17	5.49	63	0.24	5.46	clear - colorless

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** PID - malfunctioning due to high humidity
* purged along entire length of screen - turbidity values < 10 were recorded @ each interval

TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: NASB-BG-MW21

PROJECT: NASB - Background Study
PROJECT NO.: CTO 432 - 112G00958 / 0510
SAMPLE ID:

DATE: 8/24/09
WEATHER: P. Cloudy 80's humid
PERSONNEL: Glennon

Well Screen Depth: 1.0 / 6.0 ft. bgs
H&S Monitoring Instrument Reading 2.3BZ ppm, 7.0 WH ppm
1433 start pump

Pump Type/Material: Peri / Teflon
Pump Intake Depth:
WL = 5.70 TD = 9.70

Total Purge Volume = _____ (gal)
Data Recorded By: Glennon

Time	Water Level ft below top PVC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond µ ~~m~~S/cm	DO mg/L	Turbidity NTU	Comments	ORP
1437	6.04			17.21	5.96	89	2.29	~~5.96~~ 154	brown	
1447	6.11		150	16.39	5.34	49	3.21	17.9	@bottom	44.7
1455	6.10			15.52	5.49	57	2.85	30	@bottom	30.7
1501	6.11			16.01	5.23	41	2.82	8.95	bottom+1'	
1507	6.15			16.14	5.16	39	2.44	3.24	bottom+2'	
~~1512~~									~~bottom+~~	125
1519	6.15			15.40	5.08	42	2.35	3.62	bottom + 3	- clear
1524	6.16			15.47	5.07	43	2.11	4.28	bottom + 4	"
1530	6.16			15.77	5.08	42	1.94	4.36	bottom + 0.5"	"
1535	6.16			15.54	5.08	41	1.83	3.79	bottom + 1.5"	"
1540										

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TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: NASBBG-MW23

PROJECT: NASB - Background Study
PROJECT NO.: CTO 432 - 112G00958 / 0510
SAMPLE ID: NA

DATE: 8/24/09
WEATHER: Humid 80's Cloudy
PERSONNEL: C. Fellows

Well Screen Depth: 6 / 16 ft. bgs
H&S Monitoring Instrument Reading PID = 0.0

Pump Type/Material: Peristaltic Pump
Pump Intake Depth: Variable
Initial WL = 8.1 TD = 18.41

Total Purge Volume = _____ (gal)
Data Recorded By: C. Fellows

Time	Water Level ft below top PVC	Volume ~~mL~~ gal	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments
1250	Begin purging, measuring drawdown, and filling flow through cell.								
1300	8.5		150						
1310	8.53	1/4	150	12.26	6.13	102	1.92	122	cloudy / sl. Brown
1320	8.52	1/2	150	11.82	6.34	106	1.27	93	"
1330	8.54	1	150	11.95	6.46	115	0.86	67	sl. cloudy / pale-lwr
1340	8.52	1 1/2	150	12.38	6.50	116	1.05	38.5	clear / colorless
1350	8.52	2	"	12.44	6.52	117	0.77	23.1	"
1400	8.54	2 1/2	"	12.34	6.55	119	0.53	16.9	"
1410	8.54	3	"	12.44	6.56	119	0.53	15	"
1420	8.56	3 1/2	"	12.17	6.56	117	0.48	7.13	"
1430	8.54	4	"	11.85	6.61	121	0.49	7.29	"
1435 ~~1445~~	8.54		"	12.10	6.60	118	0.46	9.67	"
1440	8.53	5	"	12.16	6.60	118	0.46	7.95	"
	End Development. Reach stabilization criteria.								

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* Begin development at bottom of screen and pull up intake 1 ft every ~ 10-~~20~~ min. Last 3 readings taken 1 ft ~~below~~ above bottom.

TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

NASB-BG

Well No.: MW24

Instrument Group D

PROJECT: NASB - Background Study

PROJECT NO.: CTO 432 - 112G00958 / 0510

SAMPLE ID: NASB-BG-MW24

DATE: 8/24/09

WEATHER: Partly Cloudy 80

PERSONNEL: Glennon

TD = 14.62 bgs WL = 6.02 bgs @ 8/24/09

Well Screen Depth: 3 / 13 ft. bgs

H&S Monitoring Instrument Reading 0.9 ppm BZ 1.1 ppm VOC

start pump @ 1215

Pump Type/Material: Peri

Pump Intake Depth: 14

Total Purge Volume = 0.75 (gal)

Data Recorded By: Glennon

Time	Water Level ft below top PVC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond ~~µ~~mS/cm	DO mg/L	Turbidity NTU	Comments
~~1215~~ 21	7.27								
1225	9.47			13.50	6.85	~~224~~ 174	7.71	8.81	bottom
1230	10.05		100	13.05	6.80	167	7.74	48.1	bottom
1241	12.42			13.63	6.70	144	7.75		bottom + 2'
1247	12.36		100	15.08	6.60	121	7.38	45.9	bottom
1253	14.55								
1256	well dry stop pump wait for recovery								
1304	enough water in well to be sensed by WL indicator = 0.27 ft								
1307	14.60 start measuring time to recover 1 foot								
1338	~~13.60~~ 14.25 It's recovering at about 1 foot/1.5 hours								
	Allow well to recharge overnight								
8/25 0754	8.90								
0811	start pump			10.70	7.15	120	11.12	50.9	
0817	well dry			~~10.80~~					
8/26 0730	9.88		420	10.50	6.21	133	13.39	15.2	
735	well dry 20.5 gal								
			Development Done - purged dry 3X						

ORP

91.9

186.9

TtNUS Form 0013

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TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: MW25

PROJECT: NASB - Background Study
PROJECT NO.: CTO 432 - 112G00958 / 0510
SAMPLE ID: MW25

DATE: 8-24-09
WEATHER: mostly cloudy
PERSONNEL: P. Seward

Well Screen Depth: 5 / 15 ft. bgs
H&S Monitoring Instrument Reading 0.0

Pump Type/Material: peristaltic
Pump Intake Depth: variable

Total Purge Volume = _____ (gal)
Data Recorded By: P. Seward

Time	Water Level ft below top ~~PVC~~ steel casing	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments
1210	initiated	well purge		~ 16.5' below top of steel casing					
1225	13.50		90	16.57	6.77	125	5.65	856	brown-cloudy
1235	13.51		90	15.67	6.27	92	4.85	120	tan-cloudy
1245	13.51		90	15.40	6.28	88	6.88	PS ~~19.6~~ 9.6	clear-colorless
1255	13.55		90	15.61	6.14	97	6.77	840	brown-cloudy *
1305	13.55		90	14.87	6.12	92	6.30	102	clear-colorless
1315	13.52		90	14.64	6.12	92	6.19	68.2	" "
1325	13.52		100	14.58	6.04	92	6.23	61.0	" "
1335	13.52		100	14.46	6.10	92	5.95	64.4	" "
1350	13.52	~2gal	100	15.07	6.04	91	5.87	74.9	" "
1400	13.52		100	14.32	6.07	91	5.90	41.3	" "
1410	13.52		100	14.65	6.06	90	5.87	33.2	" "
1420	13.52		100	14.42	6.10	90	5.93	45.3	" "

TtNUS Form 0013

Initial water level ~~13.5~~ 13.05 PS to ~~17.5~~ 17.05 PS ft. below top of metal casing
metal casing ~ 2.9' tall
* lowered tubing to ~ 6" from bottom of well
- Turbidity readings collected @ the bottom of the screen (15.5 - 17.0 ft bgs) ranged from 33.2 to 856 NTUs
- Turbidity readings collected at the upper portion of the screen ~~ranged~~ were < 10.

TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: NASB-BG-MW27

PROJECT: NASB - Background Study
PROJECT NO.: CTO 432 - 112G00958 / 0510
SAMPLE ID: NA

DATE: 9/2/09
WEATHER: Sunny 70°
PERSONNEL: CFS MH

Initial WL = 28.51 Post WL = 28.53

Well Screen Depth: 25 / 35 ft. bgs
H&S Monitoring Instrument Reading PID=0.0

Pump Type/Material: Waterra
Pump Intake Depth: Variable

Total Purge Volume = 40 (gal)
Data Recorded By: CFS MH

Time	Water Level ft below top PVC	Volume ~~mL~~ gal	Flow Rate ~~mL/min~~ gal/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments
1005	Begin purging. *Water level not recorded during development → tubing and WL indicator can't fit down well at same time.								
1010	*	5	0.5/min	7.81	6.29	119	15.00	159	Brown/cloudy
1020		10	"	7.68	6.31	115	14.14	39.8	sl. cloudy/ colorless
1030		15	"	7.73	6.30	114	14.07	45.2	"
1040		20	"	7.71	6.42	113	14.36	34.9	"
1050		25	"	7.73	6.31	113	14.26	49.8	"
1100		30	"	7.73	6.31	112	14.65	11.8	"
1110		35	"	7.80	6.39	111	14.82	7.67	"
1115		~~40~~ 37.5	"	7.72	6.35	111	13.83	8.89	"
1120		40	"	7.75	6.37	112	14.22	8.74	"
	*End development. All parameters stable except DO due to Waterra pumping method.								

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TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: NASB-BG-MW28

PROJECT: NASB - Background Study
PROJECT NO.: CTO 432 - 112G00958 / 0510
SAMPLE ID:

DATE: 9/2/09
WEATHER: Sunny 70°
PERSONNEL: CFS MH

Initial WL = 28.65 / Post Development WL = 28.68

Well Screen Depth: 25 / 35 ft. bgs
H&S Monitoring Instrument Reading 0.0

Pump Type/Material: Waterra
Pump Intake Depth: Various

Total Purge Volume = 52 (gal)
Data Recorded By: MH, CFS

Time	Water Level ft below top PVC	Volume ~~mL~~ gal	Flow Rate ~~mL~~/min Gal	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments
0826	*	0		10.10	7.29	327	17.45	OFF SCALE	Brown/cloudy
0836		5	0.5/min	8.24	6.91	291	17.87	~~OFF SCALE~~ ←	110.0 "
*0846		11		~~8.38~~ 8.15	~~6.27~~ 6.09	~~3~~ 287	17.72	69.4	colorless/sl. cloudy
0851		14		8.14	5.94	286	17.29	41.2	
0856		17.5		8.10	5.92	282	16.36	39.4	
0901		21		8.00	5.89	280	16.60	31.5	
0906		25		8.10	5.90	280	15.80	16.9	Clear/colorless
0911		29		8.14	5.87	282	15.64	21.1	
0916		32		8.19	5.86	281	15.71	19.3	
0921		36		8.18	5.85	281	15.70	17.4	
0926		40		8.09	5.86	277	15.73	15.3	
0931		44		8.19	5.87	279	15.53	17.8	
0936		48		8.21	5.87	275	15.49	19.1	
0941		52		8.20	5.89	277	15.47	21.5	

* End development all parameters stable except DO due to using waterra pump. Turbidity not decreasing after ~40 min stable but not <10 NTU.

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* Water Level not recorded during development b/c waterra tubing is too big to also fit water level indicator down well. Both tubing + WL indicator don't fit down well.

TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: NASB-BG-MW29

PROJECT: NASB - Background Study
PROJECT NO.: CTO 432 - 112G00958 / 0510
SAMPLE ID:

DATE: 9/2/09
WEATHER: Sunny 70's
PERSONNEL: CFS, MH

Initial WL = 27.34 Post WL = 27.33

Well Screen Depth: 22 / 32 ft. bgs
H&S Monitoring Instrument Reading PID=0.0

Pump Type/Material: Waterra
Pump Intake Depth: Variable

Total Purge Volume = _____ (gal)
Data Recorded By: CFS, MH

Time	Water Level ft below top PVC	Volume mL	Flow Rate ~~mL/min~~ gal/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments
1140	Begin Purge								
1145				10.37	6.57	58	13.56	OFF SCALE	
1150				9.74	6.22	56	13.74	486	
1200		5 gal	4	8.93	6.24	57	13.74	306	
1210		9 gal		8.94	6.25	56	13.40	207	
1220		13 gal		8.94	6.40	57	13.62	123	
1230		17 gal		8.96	6.27	59	12.94	109.8	
1240		20 gal		8.88	6.24	58	12.87	80.9	
1250		23 gal		8.76	6.25	58	12.91	62.2	
~~100~~ 1300		27 gal		8.82	6.25	58	12.77	55.5	
1310		31 gal		8.79	6.25	59	12.93	76.5	
1320		35 gal		8.68	6.20	58	12.55	70.1	
1330		38 gal		8.82	6.28	59	15.69	54.1	
1335		40 gal		8.77	6.24	58	15.80	43.3	
1340		42 gal		8.77	6.28	59	16.02	49.7	
	* End development reach 2 hr limit.								

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TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: NASB-B67-MW30

PROJECT: NASB-Background Study
PROJECT NO.: 112G00958 / CTO432
SAMPLE ID:

DATE: 11/12/09
WEATHER: Sun 35° calm
PERSONNEL: R. Clark B Geringer

Well Screen Depth: 7 / 17 ft. bgs
H&S Monitoring Instrument Reading 0.0

Pump Type/Material: peristaltic
Pump Intake Depth: Various

Total Purge Volume = 4 1/2 (gal)
Data Recorded By: RC

Time	Water Level ft below top PVC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments
1025	8.65 DTB = 19.08			pump on		Silty to start-		Cleared	Quickly
1033	9.05	1 gal	400	9.58	5.52	648	6.26	59.2	pump set bottom
1045	9.01	2 1/2 gal	400	9.65	5.77	656	4.48	210	
1055	9.01	3 1/2 gal	400	9.67	5.72	651	4.60	10.23	pump middle
1105	9.02	4 1/2 gal	400	9.68	5.72	640	4.38	2.22	water column

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TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: NASB-BG-MW31

PROJECT: NASB-Background Study
PROJECT NO.: 112G00958 / CTO432
SAMPLE ID: N/A

Initial water level: 11.62'
TD: 19.21'

DATE: 11/12/09
WEATHER: Cold / Pty Cloudy
PERSONNEL: B. Geringer

Well Screen Depth: 7 / 17 ft. bgs
H&S Monitoring Instrument Reading 0.0

Pump Type/Material: Peristaltic / Teflon
Pump Intake Depth: Various

Total Purge Volume = 5 (gal)
Data Recorded By: BG

Time START: 0900	Water Level ft below top PVC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments Initially Brown
0910	11.72	3000	300	9.36	5.63	310	0.85	30.3	Clear/Colorless
0920	11.74	6500	350	9.53	5.53	353	0.96	5.81	" "
0930	11.74	10000	350	9.55	5.56	445	0.69	1.85	
0940	11.74	13500	350	9.49	5.58	392	0.64	0.78	
0945	11.74		350	9.55	5.60	356	1.51	0.65	
0950	11.74	17000	350	9.59	5.60	276	2.23	0.50	
1000	11.74	20500	350	9.73	5.59	332	0.56	0.84	

At Bottom
1' from bottom
2' " "
3'
4'
5'
At Bottom
3' from Bottom

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TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: NASB-BG-MW32

PROJECT: NASB-Background Study
PROJECT NO.: 112G00958 / CTO432
SAMPLE ID:

DATE: 11/12/09
WEATHER: Thin clouds 30° calm
PERSONNEL: R Clark

Well Screen Depth: 7 / 17 ft. bgs
H&S Monitoring Instrument Reading 0.0

Pump Type/Material: peristaltic
Pump Intake Depth: Various

Total Purge Volume = 4 (gal)
Data Recorded By: RC

Time	Water Level ft below top PVC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments
0900	13.02 static		DTB		18.60	pump	on		
water is light brown - lots of sediment									
0910 most of sediment cleared from well - YSI hooked up									
0915	13.33	1 gal	400	9.58	5.39	603	8.21	503	
moved pump 2½ ft off bottom - middle of water column							—	—	
0930	13.33	3 gal	400	9.66	5.38	606	8.13	12.9	
0940	13.31	4 gal	400	9.66	5.38	619	8.16	3.60	

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TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: MW 36

PROJECT: NASB - Background Study
PROJECT NO.: CTO 432 - 112G00958 / 0510
SAMPLE ID:
DTW 6.15 TD 66.5

DATE: 8-25-09
WEATHER: Sunny ~80
PERSONNEL: P. Seward

Well Screen Depth: 54 / 64 ft. bgs
H&S Monitoring Instrument Reading 0.0

Pump Type/Material: peristaltic w/teflon tubing
Pump Intake Depth: variable - moved up & down the entire length of the screen

Total Purge Volume = _____ (gal)
Data Recorded By: P. Seward

Time	Water Level ft below top PVC	Volume ~~mL~~ gal	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments
1445	began purge. - material being pulled from well was too dirty to allow go through the flow through cell. purged water directly into the purge bucket until sand/silt was observed								dark brown - less
1455	6.25		180	12.57	6.93	323	0.93	184	tan - turbid
1505	6.25		180	12.33	6.73	330	0.50	118	tan - turbid
1515	6.25		180	12.27	7.06	339	0.38	51.4	light tan
1520	6.25		180	12.16	8.23	332	0.36	16.5	clear - colorless
1525	6.25		180	12.42	6.91	328	0.34	18.5	clear - colorless
1530	6.25		180	12.36	7.54	325	0.34	10.5	clear - colorless
1534	6.25		180	12.40	6.16	313	0.34	10.0	clear colorless
1540	6.25		180	12.38	6.06	313	0.35	9.42	clear colorless
1545	6.25	~2.5	180	12.80	6.15	310	0.35	8.71	clear - colorless
1550	6.25		180	13.27	5.97	304	0.34	6.47	clear - colorless
1555	6.25		180	13.40	6.04	304	0.33	5.89	clear - colorless
1600	6.25		180	13.25	6.11	306	0.33	7.70	clear - colorless
1605	6.25		180	13.12	6.19	318	0.31	9.76	clear - colorless
1610	6.25		180	12.73	6.14	329	0.29	13.2	" "
1615	6.25		180	12.36	6.39	323	0.28	38.8	" "

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TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: MW36 Cont.

PROJECT: NASB - Background Study

PROJECT NO.: CTO 432 - 112G00958 / 0510

SAMPLE ID:

DATE: 8-25-09

WEATHER: Sunny ~80°F

PERSONNEL: P. Seward

See pg 1.

Well Screen Depth: 54 / 64 ft. bgs

H&S Monitoring Instrument Reading

Pump Type/Material:

Pump Intake Depth:

Total Purge Volume = (gal)

Data Recorded By:

Time	Water Level ft below top PVC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments
1620	6.25		180	11.98	6.79	350	0.26	31.7	clear colorless
1625	6.25		180	12.11	6.37	340	0.27	21.1	" "
1630	6.25		180	12.00	6.07	326	0.28	15.3	" "
1635	6.25		180	11.97	5.99	317	0.28	8.97	" "
1640	6.25		180	11.89	6.04	313	0.29	12.0	" "
1645	6.25		180	11.90	5.99	311	0.29	14.6	" "
		development complete per work plan - 2 hr limit							

- bottom 3' of screen had turbidity values > 10 NTUs

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TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: MW 37

PROJECT: NASB - Background Study
PROJECT NO.: CTO 432 - 112G00958 / 0510
SAMPLE ID:

DATE: 8-25-09
WEATHER: Sunny ~80°
PERSONNEL: P. Seward

Depth to water 13.60 TD= 49.10

Well Screen Depth: 35.5 / 48.5 ft. bgs
H&S Monitoring Instrument Reading
H_2S = 1.0 ppm

Pump Type/Material: peristaltic w/ teflon tubing
Pump Intake Depth: variable* up & down the screen

Total Purge Volume = 2 (gal)
Data Recorded By: P. Seward

Time	Water Level ft below top PVC	Volume ~~mL~~ gal	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments
1200	initiated purge - very soft bottom - lot of sand accumulated @ bottom of the well, too much to allow purge water to enter the flow through cells. will attempt to remove sediment from well bottom before continuing well purge/development.								
1215	15.00		90	17.37	6.84	144	2.07	5974	tan-cloudy
1225	15.00		90	14.52	7.33	256	0.44	2829	grey-cloudy
1235	14.95		90	15.25	7.37	247	0.42	1,225	" "
1245	14.93		90	15.64	7.36	~~100~~ 239	0.48	2,254	" "
1255	14.95		90	17.25	7.45	242	0.57	1,901	" "
1305	14.95	~1.5(g)	90	17.53	7.48	241	0.59	1,103	" "
1320	14.90		90	16.14	7.50	248	0.54	1,340	" "
1340	14.90		90	15.69	7.43	232	0.53	843	" "
1345	14.90		90	16.32	7.43	229	0.54	331	" "
1350	14.90		90	16.52	7.43	231	0.54	774	" "
1355	14.90		90	16.41	7.37	227	0.55	900	" "
1400	14.90	~2.0	90	16.44	7.40	229	0.54	900	" "
			~~pump~~ TS	development complete per work plan - 2 hr time limit					

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TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: NASB - BG - MW38

PROJECT: NASB - Background Study

PROJECT NO.: CTO 432 - 112G00958 / 0510

SAMPLE ID:

DATE: 8/28/09

WEATHER: Sunny, 80's

PERSONNEL: Glennon

initial WL = 14.19 TD = 39.18

Well Screen Depth: 33 / 38 ft. bgs

H&S Monitoring Instrument Reading 0.0

Pump Type/Material: Peri / Teflon

Pump Intake Depth: Various

Total Purge Volume = 6.5 (gal)

Data Recorded By: Glennon

Time	Water Level ft below top PVC	Volume ~~mL~~ gal	Flow Rate mL/min	Temp °C	pH	Sp Cond ~~µ~~mS/cm	DO mg/L	Turbidity NTU	Comments	ORP
1150									Start pump	
1205	14.27	1	280	10.18	7.21	101	2.95	42.8	@ bottom	
1217	14.27		280	9.95	7.55	120	2.23	109.8	@ bottom	-312.3
1223	14.27	2		9.78	7.68	131	1.61	53.3	@ bottom	-342.0
1228	14.27		360	9.68	7.74	135	1.28	34.3	@ bottom	-351.4
1240	14.27	3		9.66	7.85	140	0.75	24.3	@ bottom	-349.6
1250	14.27	3.5	320	9.97	7.92	143	0.47	17.7	bottom + 2'	-356.6
1301	14.27	4.5		10.34	7.97	143	0.35	7.76	bottom + 4'	-372.8
1306	14.27	4.75		9.95	7.99	149	0.28	17.2	@ bottom + 6"	-371.3
1316	14.27	5		9.71	8.01	145	0.40	7.89	bottom + 6"	-349.
1323	14.27		320	10.00	8.02	145	0.34	14.2	bottom + 2'	-317.3
1328	14.27	6.5		9.94	8.02	145	0.29	6.31	bottom + 2'	-315.9
	End - well is developed									

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TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: NASB-BG - MW39

PROJECT: NASB - Background Study
PROJECT NO.: CTO 432 - 112G00958 / 0510
SAMPLE ID:

DATE: 8/25/09
WEATHER: Sunny, 80's
PERSONNEL: Glennon

initial WL = 15.68 TD = 24.50

Well Screen Depth: 12 / 22 ft. bgs
H&S Monitoring Instrument Reading 0.0

Pump Type/Material: Peri/Teflon
Pump Intake Depth: various

Total Purge Volume = 7 (gal)
Data Recorded By: Glennon

Time	Water Level ft below top PVC	Volume ~~mL~~ gal	Flow Rate mL/min	Temp °C	pH	Sp Cond ~~mS~~ uS/cm	DO mg/L	Turbidity NTU	Comments	ORP
1440									Start pump	
1444	15.7	0.5	340	11.10	5.87	210	3.52	718	@bottom	16.2
1454	15.7			10.78	5.74	209	3.39	31.2	@ bottom	187.6
1503	15.7	2		10.75	5.76	207	3.39	12.0	@bottom	203.3
1510	15.7			10.69	5.78	206	3.81	37.8	@ bottom	208.3
1520	15.7	3.0		10.82	5.85	206	4.32	35.1	bottom+2'	214.2
1530	15.7	~~4~~ 3.5		10.87	5.88	206	4.30	7.79	bottom+2'	
1541	15.7	5		11.01	5.93	207	4.40	8.17	bottom+4"	215.6
1552	15.7	5.5	310	10.65	5.95	206	4.44	20.6	bottom+6" inches	
1557	15.7	~6.5		10.90	5.95	207	4.28	4.68	bottom+6"	
1606	15.7	7		10.73	5.96	206	4.41	5.82	@bottom	205.4
	Stop pump - well is developed									

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TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: NASB-BG-MW 40

PROJECT: NASB - Background Study
PROJECT NO.: CTO 432 - 112G00958 / 0510
SAMPLE ID:

DATE: 9/4/09
WEATHER: Sun 65°
PERSONNEL: CFS MH

Initial Water Level 24.00 Post = 23.98

Well Screen Depth: 20 / 30 ft. bgs
H&S Monitoring Instrument Reading 0.0

Pump Type/Material: Waterra
Pump Intake Depth: Various

Total Purge Volume = 33 (gal)
Data Recorded By: CFS MH

Time	Water Level ft below top PVC	Volume ~~mL~~ gal	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments
0815	Begin Purge			10.56	4.93	88	10.14	OFFSCALE	
0825		3	3gal/10min	9.45	4.77	85	10.89	>349	
0840		~~8~~ 7	"	9.24	4.83	86	9.32	158	
0850		9	"	9.10	4.87	86	10.96	174	
0900		12	"	~~9.52~~ 9.30	~~4.92~~ 4.92	~~86~~ 91	8.82	92.1	
0910		15	"	9.09	4.91	86	10.83	83.0	
0920		18	"	9.30	4.94	87	10.58	62.3	
0935		22	"	9.43	4.97	87	8.09	42.4	
0946		25	"	9.30	4.91	88	10.57	41.8	
0955		27	"	9.32	4.98	87	10.89	32.4	
1005		30	"	9.41	4.95	88	10.61	26.8	
1015		33	"	9.51	4.98	88	10.75	24.3	
* End development period 2hr limit									

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TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: NASB-BG-MW41

PROJECT: NASB - Background Study
PROJECT NO.: CTO 432 - 112G00958 / 0510
SAMPLE ID: NA

DATE: 9/2/09
WEATHER: Sunny 70's
PERSONNEL: CFS MH

Initial WL = 26.52 Post WL = Dry

Well Screen Depth: 36 / 41 ft. bgs
H&S Monitoring Instrument Reading PID=0.0

Pump Type/Material: Waterra
Pump Intake Depth: Variable

Total Purge Volume = _____ (gal)
Data Recorded By: CFS MH

Time	Water Level ft below top PVC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments
1420	Began Purge								
1425		0.5 gal		12.71	7.31	129	11.26	OFF SCALE	Well Dry
	Recharge rate = 1 ft / 5 min								
1525	27.03	Water level recharged.							
1528				13.71	8.20	115	6.80	OFF SCALE	Well Dry
1620	26.98	Water level recharged.							
1622				14.16	8.30	118	6.71	OFFSCALE	Well Dry
	* End development, removed 3x well volume of water.								

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TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: NASB-BG-MW12

PROJECT: NASB - Background Study
PROJECT NO.: CTO 432 - 112G00958 / 0510
SAMPLE ID: NA
DTW - 31.15

DATE: 8/31/09
WEATHER: Sunny 75°, Windy
PERSONNEL: CFS MH
Initial WL - 14.16

Well Screen Depth: 35 / 40 ft. bgs
H&S Monitoring Instrument Reading 0.0

Pump Type/Material: Peripump - Teflon Tubing
Pump Intake Depth: Various

Total Purge Volume = _____ (gal)
Data Recorded By: MH CFS

Time	Water Level ft below top PVC	Volume ~~mL~~ gal	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments
1130	18.91		140	10.67	7.75	90	1.91	1220	Cloudy/gray
1140	20.55		80	11.33	8.09	91	1.39	1266	"
1150	20.99		80	11.47	8.14	90	1.14	684	"
1200	21.31		80	11.50	8.14	85	1.41	480	"
1210	21.67	1	"	11.03	8.16	83	1.17	362	"
1220	21.84		"	10.91	8.18	82	0.99	249	"
1230	21.94		"	10.82	8.19	77	0.87	235	"
1240	22.07	2	"	10.86	8.19	79	0.80	194	"
1250	22.28		"	10.96	8.19	79	0.75	163	"
1300	22.37		"	10.83	8.20	79	0.69	119	"
1310	22.44	3	"	10.87	8.20	78	0.68	104	Sl. Cloudy/gray
1320	22.42		"	10.86	8.21	78	0.65	155	"
1330	22.41	3½		~~10.93~~ 10.94	8.22	78	0.63	138	"

* Ehil development. Drawdown continued to drop but began to stabilized at 1330 (7.30). Turbidity did not reach criteria > 100 NTU.

All other parameters stabilized.

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TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: NASB-BG-MW43

PROJECT: NASB-Background Study
PROJECT NO.: 112G00958 / CTO432
SAMPLE ID: NA

DATE: 11/16/09
WEATHER: Sunny 50's
PERSONNEL: C. Fellows, B. Geringer

Well Screen Depth: 56 / 51 ft. bgs
H&S Monitoring Instrument Reading 0.0

Pump Type/Material: Peristaltic Pump
Pump Intake Depth: Variable

Total Purge Volume = 13 1/2 (gal)
Data Recorded By: CFS / BG

Time	Water Level ft below top PVC	Volume ~~mL~~ gal	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments
0920	At top of PVC	* Begin purging, filling flow through cell, and measuring drawdown.							
0930	0.23	1 1/2	450	8.75	7.07	113	0.48	829	Cloudy / Brown
0940	0.23	3	450	8.67	7.35	111	0.33	207	"
0950	0.27	4 1/2	470	8.66	7.46	109	0.30	98.2	Sl. cloudy / colorless
1000	0.26	6	470	8.65	7.47	108	0.27	70.2	"
1010	0.26	7 1/2	470	8.67	7.50	108	0.28	58.9	"
1020	0.27	9	470	8.67	7.52	108	0.27	30.3	"
1030	"	10	"	8.67	7.55	108	0.36	23.5	Clear / colorless
1040	"	11 1/2	"	8.67	7.54	108	0.22	20.2	"
1045	"	12 1/2	"	8.68	7.54	107	0.21	19.5	"
1050	"	13 1/2	"	8.68	7.56	108	0.22	19.0	"
	* End Development.								

TtNUS Form 0013

TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: NASB-BG--MW44

PROJECT: NASB-Background Study
PROJECT NO.: 112G00958 / CTO432
SAMPLE ID: NA

DATE: 11/16/09
WEATHER: Sunny 50's
PERSONNEL: C. Fellows B. Geringer

Well Screen Depth: 70 / 80 ft. bgs
H&S Monitoring Instrument Reading 0.0

Pump Type/Material: Peristaltic Pump
Pump Intake Depth: Variable

Total Purge Volume = _____ (gal)
Data Recorded By: CFS / BG

Time	Water Level ft below top PVC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments
1105	0.91	* Begin purging, filling flow through cell, and measuring drawdown							
1115	1.28	2 1/2	490	8.77	8.09	184	0.67	706	cloudy / Brown
1125	1.29	3 1/2	"	8.70	8.12	186	0.36	348	"
1135	1.28	4	"	8.70	8.16	184	0.35	244	"
1145	1.29	5 1/2	"	8.68	8.01	185	0.36	213	"
1155	1.30	6 1/2	"	8.68	8.05	183	0.42	218	"
1205	1.29	7 1/2	"	8.78	8.03	183	0.44	197	"
1210	1.30	9	"	8.87	8.03	183	0.44	187	"
1215	1.30	10 1/2	"	8.78	8.24	183	0.55	180	"
1220	1.30	11	"	8.88	8.24	183	0.45	171	"
1230	"	12 1/2	"	8.76	8.22	183	0.36	156	"
1240	"	13 1/2	"	8.73	8.21	184	0.33	139	"
1250	1.32	15	"	8.71	8.20	184	0.30	130	"
1255 ~~1300~~	1.32	16	"	8.74	8.21	183	0.31	126	"
1300	1.32	16 1/2	"	8.76	8.20	184	0.30	131	"
1305	"	17	"	8.73	8.20	183	0.29	134	"
	* End development.								

TtNUS Form 0013

OVERBURDEN MONITORING WELL CONSTRUCTION LOG — **TETRA TECH NUS, INC.**

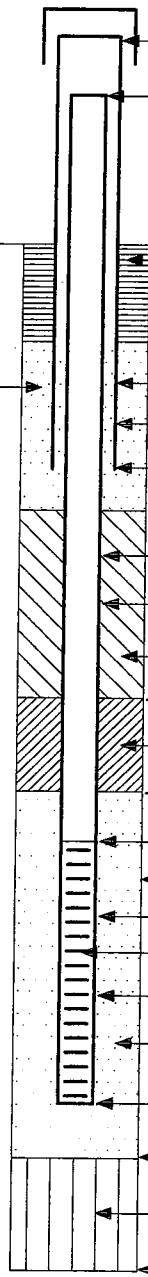
PROJECT NAME: NASB – Background Study
PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB- Brunswick, ME
WELL NO: NASB-BG-MW01
CLIENT: U.S. Navy
BORING NO: NASB-BG-SB01
CONTRACTOR: MAI
DRILLER: S. Brown
BORING LOCATION:
LOGGED BY: C. Fellows
DATE: 8/20/09
CHECKED BY:
DATE:

PAGE: 1 OF 1

ELEVATION TOP OF PROTECTIVE CASING

ELEVATION TOP OF RISER PIPE

GROUND ELEVATION



LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	3.05
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	2.84
TYPE OF SURFACE SEAL	Bentonite Chips (hand)
DIA. SURFACE SEAL BGS (In.)	6in
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	6in.
I.D. OF PROTECTIVE CASING (In.)	4.3
TYPE OF PROTECTIVE CASING	Steel Guard Pipe
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	1.95
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	3.00
RISER PIPE (In.) I.D.: 1 O.D.:	1.5
TYPE OF RISER PIPE	Schedule 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Chips (hand)
DEPTH TOP OF SEAL (Ft.)	~~10~~ 3
TYPE OF SEAL	~~Silica sand (20-40)~~ Bentonite Chips (n
DEPTH BOTTOM OF SEAL (Ft.)	~~12~~ 10
DEPTH TOP OF PERVIOUS SECTION (Ft.)	12
DIAMETER OF BOREHOLE (In.)	4.5
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.010" slot openings
PERVIOUS SECTION (In.) I.D.: 1 O.D.:	2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	Silica sand (20-40)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	22
DEPTH BOTTOM OF FILTER PACK (Ft.)	23
TYPE OF BACKFILL BELOW FILTER PACK	Silica Sand (20-40)
END OF BORING (Ft.)	23

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

OVERBURDEN MONITORING WELL CONSTRUCTION LOG **TETRA TECH NUS, INC.**

PROJECT NAME: NASB – Background Study
PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB- Brunswick, ME
WELL NO: NASB-BG-MW02
CLIENT: U.S. Navy
BORING NO: NASB-BG-SB02
CONTRACTOR: MAI
DRILLER: S. Brown
BORING LOCATION:
LOGGED BY: C. Fellows
DATE: 8/20/09
CHECKED BY:
DATE:

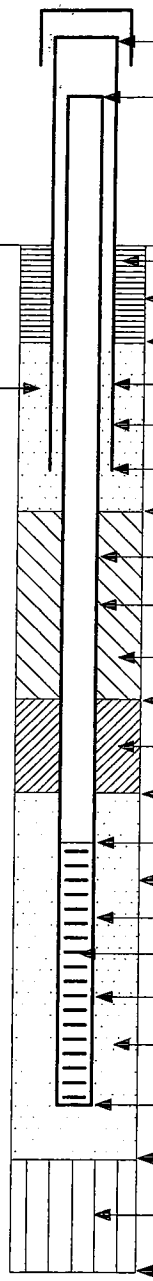
PAGE: 1 OF 1

ELEVATION TOP OF PROTECTIVE CASING

ELEVATION TOP OF RISER PIPE

GROUND ELEVATION

SAND DRAIN LAYER



LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	3.25
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	3.16
TYPE OF SURFACE SEAL	Bentonite Chips (med)
DIA. SURFACE SEAL BGS (In.)	6in
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	6in
I.D. OF PROTECTIVE CASING (In.)	4.3
TYPE OF PROTECTIVE CASING	Steel Guard Pipe
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	1.75
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	3.0
RISER PIPE (In.) I.D.: 1 O.D.:	1.5
TYPE OF RISER PIPE	Schedule 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Chips (med)
DEPTH TOP OF SEAL (Ft.)	~~10'~~ 3'
TYPE OF SEAL	~~Silica Sand (20-40)~~ Bentonite Chips (med)
DEPTH BOTTOM OF SEAL (Ft.)	10' ~~12 Silica Sand (20-40)~~
DEPTH TOP OF PERVIOUS SECTION (Ft.)	12
DIAMETER OF BOREHOLE (In.)	4.5
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.010" slot openings
PERVIOUS SECTION (In.) I.D.: 1 O.D.:	2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	Silica Sand (20-40)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	17
DEPTH BOTTOM OF FILTER PACK (Ft.)	18
TYPE OF BACKFILL BELOW FILTER PACK	Silica Sand (20-40)
END OF BORING (Ft.)	18

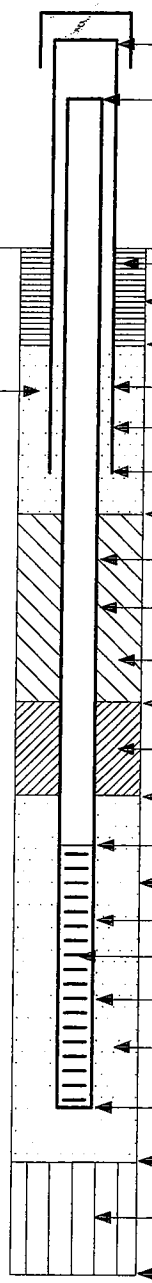
GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

OVERBURDEN MONITORING WELL CONSTRUCTION LOG — **TETRA TECH NUS, INC.**

PROJECT NAME: NASB – Background Study
PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB- Brunswick, ME
WELL NO: NASB-BG-MW03
CLIENT: U.S. Navy
BORING NO: NASB-BG-B03
CONTRACTOR: MAI
DRILLER: S. Brown
BORING LOCATION:
LOGGED BY: C. Fellows
DATE: 8/20/09
CHECKED BY:
DATE:

PAGE: 1 OF 1



ELEVATION TOP OF PROTECTIVE CASING	
LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	2.43
ELEVATION TOP OF RISER PIPE	
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	1.91
GROUND ELEVATION	
TYPE OF SURFACE SEAL	Bentonite Chips (med)
DIA. SURFACE SEAL BGS (In.)	6 in
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	6 in
I.D. OF PROTECTIVE CASING (In.)	4.3
TYPE OF PROTECTIVE CASING	Steel Cased Pipe
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	2.57
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	3.5
RISER PIPE (In.) I.D.: 1	O.D.: 1.5
TYPE OF RISER PIPE	Schedule 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Chips (med)
DEPTH TOP OF SEAL (Ft.)	6 3.5'
TYPE OF SEAL	~~silica sand (20-40)~~ Bentonite Chips (med)
DEPTH BOTTOM OF SEAL (Ft.)	~~8~~ 6'
DEPTH TOP OF PERVIOUS SECTION (Ft.)	8
DIAMETER OF BOREHOLE (In.)	4.5
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.010" slot openings
PERVIOUS SECTION (In.) I.D.: 1	O.D.: 2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	silica sand (20-40)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	18
DEPTH BOTTOM OF FILTER PACK (Ft.)	19
TYPE OF BACKFILL BELOW FILTER PACK	silica sand (20-40)
END OF BORING (Ft.)	19

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

OVERBURDEN MONITORING WELL CONSTRUCTION LOG **TETRA TECH NUS, INC.**

PROJECT NAME: NASB – Background Study
PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB- Brunswick, ME
WELL NO: NASB-BG-MW04
CLIENT: U.S. Navy
BORING NO: NASB-BG-SB04
CONTRACTOR: MAI
DRILLER: S. Brown
BORING LOCATION:
LOGGED BY: C. Fellows
DATE: 8/20/09
CHECKED BY:
DATE:

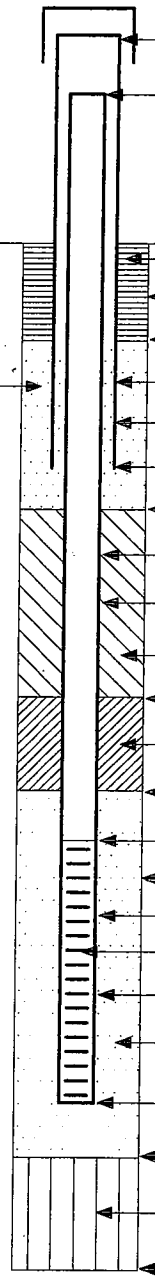
PAGE: 1 OF 1

ELEVATION TOP OF PROTECTIVE CASING

ELEVATION TOP OF RISER PIPE

GROUND ELEVATION

SAND DRAIN LAYER



LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	2.33
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	1.91
TYPE OF SURFACE SEAL	Bentonite Chips (hand)
DIA. SURFACE SEAL BGS (In.)	6in
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	6in
I.D. OF PROTECTIVE CASING (In.)	4.3
TYPE OF PROTECTIVE CASING	Steel Guard Pipe
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	~~Stee~~ 2.67
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	3.6
RISER PIPE (In.) I.D.: 1 O.D.:	1.5
TYPE OF RISER PIPE	Schedule 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Chips (Grouted)
DEPTH TOP OF SEAL (Ft.)	~~6~~ 3.6
TYPE OF SEAL	~~Silica Sand (20-40)~~ Bentonite Chips (hand)
DEPTH BOTTOM OF SEAL (Ft.)	~~8~~ 6
DEPTH TOP OF PERVIOUS SECTION (Ft.)	8
DIAMETER OF BOREHOLE (In.)	4.5
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.010" Slot openings
PERVIOUS SECTION (In.) I.D.: 1 O.D.:	2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	Silica Sand (20-40)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	18
DEPTH BOTTOM OF FILTER PACK (Ft.)	19
TYPE OF BACKFILL BELOW FILTER PACK	Silica Sand (20-40)
END OF BORING (Ft.)	19

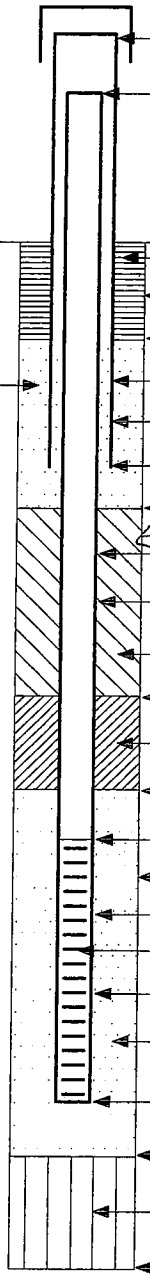
GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

OVERBURDEN MONITORING WELL CONSTRUCTION LOG **TETRA TECH NUS, INC.**

PROJECT NAME: NASB – Background Study
PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB- Brunswick, ME
WELL NO: NASB-BG-MW05
CLIENT: U.S. Navy
BORING NO: EC01 / no boring
CONTRACTOR: MAI
DRILLER: S. Brown
BORING LOCATION:
LOGGED BY: C. Fellows
DATE: 8/12/09
CHECKED BY:
DATE:

PAGE: 1 OF 1



ELEVATION TOP OF PROTECTIVE CASING	
LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	2.58'
ELEVATION TOP OF RISER PIPE	
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	2.18'
GROUND ELEVATION	
TYPE OF SURFACE SEAL	Silica sand (20-40)
DIA. SURFACE SEAL BGS (In.)	6in (sand)
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	6in (sand)
I.D. OF PROTECTIVE CASING (In.)	4.3 in
TYPE OF PROTECTIVE CASING	Steel Guard Pipe
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	2.42 ft
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	3.5 ft
Depth Top of Bentonite	3.5 ft
RISER PIPE (In.) I.D.: 1.0 in	O.D.: 1.5 in
TYPE OF RISER PIPE	Schedule 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Chips (hred)
DEPTH TOP OF SEAL (Ft.)	~~50 ft~~ 3.5
TYPE OF SEAL	~~Silica Sand (20-40)~~ Bentonite Chips
DEPTH BOTTOM OF SEAL (Ft.)	50 ft
DEPTH TOP OF PERVIOUS SECTION (Ft.)	52 ft
DIAMETER OF BOREHOLE (In.)	4.5 in
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.010" slot openings
PERVIOUS SECTION (In.) I.D.: 1 in	O.D.: 2.4 in
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	Silica sand (20-40)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	62 ft
DEPTH BOTTOM OF FILTER PACK (Ft.)	62 ft
TYPE OF BACKFILL BELOW FILTER PACK	None
END OF BORING (Ft.)	62 ft

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

OVERBURDEN MONITORING WELL CONSTRUCTION LOG — **TETRA TECH NUS, INC.**

PROJECT NAME: NASB – Background Study
PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB- Brunswick, ME
WELL NO: NASB-BG-MW06
CLIENT: U.S. Navy
BORING NO: NASB-BG-SB06
CONTRACTOR: MAI
DRILLER: S. Brown
BORING LOCATION:
LOGGED BY: C. Fellows
DATE: 8/18/09
CHECKED BY:
DATE:

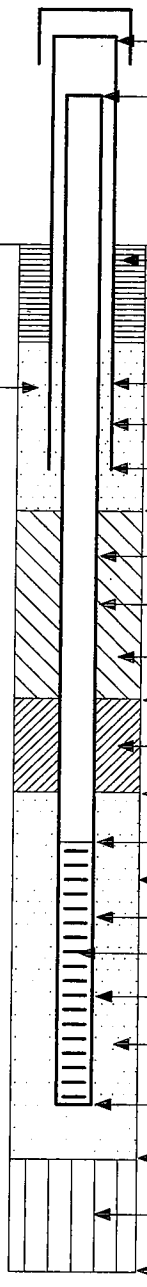
PAGE: 1 OF 1

ELEVATION TOP OF PROTECTIVE CASING

ELEVATION TOP OF RISER PIPE

GROUND ELEVATION

SAND DRAIN LAYER



LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	3.18
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	2.72
TYPE OF SURFACE SEAL	Bentonite Chips (hand)
DIA. SURFACE SEAL BGS (In.)	Cells
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	Cells
I.D. OF PROTECTIVE CASING (In.)	4.3
TYPE OF PROTECTIVE CASING	Steel Guard Pipe
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	1.82
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	3
RISER PIPE (In.) I.D.:	O.D.: 1.5
TYPE OF RISER PIPE	Schedule 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Chips (hand)
DEPTH TOP OF SEAL (Ft.)	~~11~~ 3'
TYPE OF SEAL	~~Silica Sand (20-40)~~ Bentonite Chips (hand)
DEPTH BOTTOM OF SEAL (Ft.)	~~13~~ 11'
DEPTH TOP OF PERVIOUS SECTION (Ft.)	13
DIAMETER OF BOREHOLE (In.)	4.5
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.010" Slot openings
PERVIOUS SECTION (In.) I.D.:	O.D.: 2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	Silica sand (20-40)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	18
DEPTH BOTTOM OF FILTER PACK (Ft.)	19
TYPE OF BACKFILL BELOW FILTER PACK	Silica Sand (20-40)
END OF BORING (Ft.)	19

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

OVERBURDEN MONITORING WELL CONSTRUCTION LOG **TETRA TECH NUS, INC.**

PROJECT NAME: NASB – Background Study
PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB- Brunswick, ME
WELL NO: NASB-BG-MW07
CLIENT: U.S. Navy
BORING NO: NASB-BG-SB07
CONTRACTOR: MAI
DRILLER: S. Brown
BORING LOCATION:
LOGGED BY: C. Fellows
DATE: 8/18/09
CHECKED BY:
DATE:

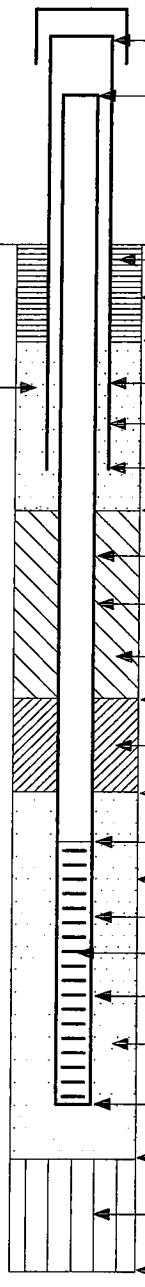
PAGE: 1 OF 1

ELEVATION TOP OF PROTECTIVE CASING

ELEVATION TOP OF RISER PIPE

GROUND ELEVATION

SAND DRAIN LAYER



LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	3.5
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	2.98
TYPE OF SURFACE SEAL	Bentonite Chips (med)
DIA. SURFACE SEAL BGS (In.)	Gin
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	Gin
I.D. OF PROTECTIVE CASING (In.)	4.3
TYPE OF PROTECTIVE CASING	Steel Guard Pipe
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	1.5
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	2
RISER PIPE (In.) I.D.: 1	O.D.: 1.5
TYPE OF RISER PIPE	Schedule 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Chips (med)
DEPTH TOP OF SEAL (Ft.)	2
TYPE OF SEAL	~~Silica Sand (20-40)~~ Bentonite Chips
DEPTH BOTTOM OF SEAL (Ft.)	~~4~~ 2
DEPTH TOP OF PERVIOUS SECTION (Ft.)	4
DIAMETER OF BOREHOLE (In.)	4.5
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.010" slot opening
PERVIOUS SECTION (In.) I.D.: 1	O.D.: 2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	Silica Sand (20-40)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	9
DEPTH BOTTOM OF FILTER PACK (Ft.)	10
TYPE OF BACKFILL BELOW FILTER PACK	Silica Sand (20-40)
END OF BORING (Ft.)	10

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

OVERBURDEN MONITORING WELL CONSTRUCTION LOG **TETRA TECH NUS, INC.**

PROJECT NAME: NASB – Background Study
PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB- Brunswick, ME
WELL NO: NASB-BG-MW08
CLIENT: U.S. Navy
BORING NO: NASB-BG-SB08
CONTRACTOR: MAI
DRILLER: S. Brown
BORING LOCATION:
LOGGED BY: C. Fellows
DATE: 8/18/09
CHECKED BY:
DATE:

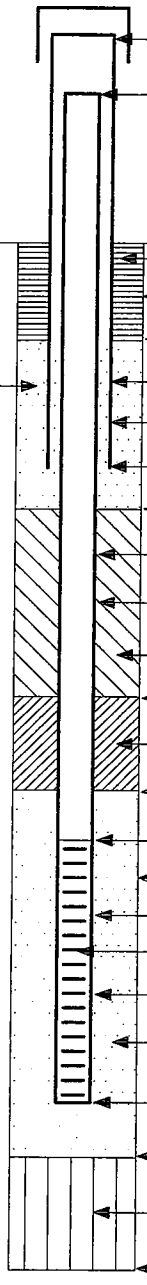
PAGE: 1 OF 1

ELEVATION TOP OF PROTECTIVE CASING

ELEVATION TOP OF RISER PIPE

GROUND ELEVATION

SAND DRAIN LAYER



LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	3.15
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	2.91
TYPE OF SURFACE SEAL	Bentonite Chips (med)
DIA. SURFACE SEAL BGS (In.)	6in
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	6in
I.D. OF PROTECTIVE CASING (In.)	4.3
TYPE OF PROTECTIVE CASING	Steel Guard Pipe
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	2.85
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	3
RISER PIPE (In.) I.D.: 1	O.D.: 1.5
TYPE OF RISER PIPE	Schedule 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Chips (med)
DEPTH TOP OF SEAL (Ft.)	3
TYPE OF SEAL	Bentonite Chips (med) ~~Silica Sand (20-40)~~
DEPTH BOTTOM OF SEAL (Ft.)	5.3
DEPTH TOP OF PERVIOUS SECTION (Ft.)	5
DIAMETER OF BOREHOLE (In.)	4.5
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.010" slot openings
PERVIOUS SECTION (In.) I.D.: 1	O.D.: 2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	Silica Sand (20-40)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	10
DEPTH BOTTOM OF FILTER PACK (Ft.)	11
TYPE OF BACKFILL BELOW FILTER PACK	Silica Sand (20-40)
END OF BORING (Ft.)	11

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

OVERBURDEN MONITORING WELL CONSTRUCTION LOG **TETRA TECH NUS, INC.**

PROJECT NAME: NASB – Background Study
PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB- Brunswick, ME
WELL NO: NASB-BG-MW09
CLIENT: U.S. Navy
BORING NO: NASB-BG-SB09
CONTRACTOR: MAI
DRILLER: S. Brown
BORING LOCATION:
LOGGED BY: C. Fellows
DATE: 8/17/09
CHECKED BY:
DATE:

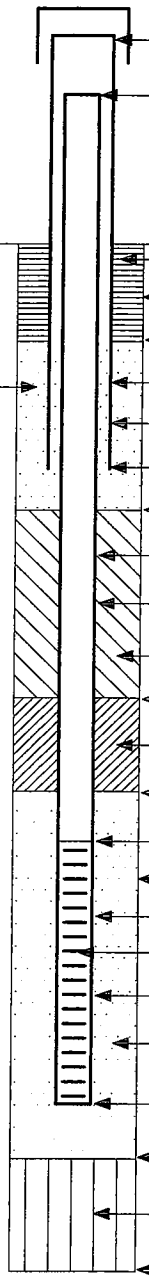
PAGE: 1 OF 1

ELEVATION TOP OF PROTECTIVE CASING

ELEVATION TOP OF RISER PIPE

GROUND ELEVATION

SAND DRAIN LAYER



LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	3.2
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	2.94
TYPE OF SURFACE SEAL	Bentonite Chips (med)
DIA. SURFACE SEAL BGS (In.)	6in
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	6in
I.D. OF PROTECTIVE CASING (In.)	4.3
TYPE OF PROTECTIVE CASING	Steel Guard Pipe
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	1.8
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	3
RISER PIPE (In.) I.D.: 1	O.D.: 1.5
TYPE OF RISER PIPE	Schedule 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite
DEPTH TOP OF SEAL (Ft.)	3
TYPE OF SEAL	Bentonite Chips (med) ~~Silica Sand (20-40)~~
DEPTH BOTTOM OF SEAL (Ft.)	5.3
DEPTH TOP OF PERVIOUS SECTION (Ft.)	5
DIAMETER OF BOREHOLE (In.)	4.5
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.010" Slot openings
PERVIOUS SECTION (In.) I.D.: 1	O.D.: 2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	Silica Sand (20-40)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	10
DEPTH BOTTOM OF FILTER PACK (Ft.)	11
TYPE OF BACKFILL BELOW FILTER PACK	Silica Sand (20-40)
END OF BORING (Ft.)	11

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

OVERBURDEN MONITORING WELL CONSTRUCTION LOG **TETRA TECH NUS, INC.**

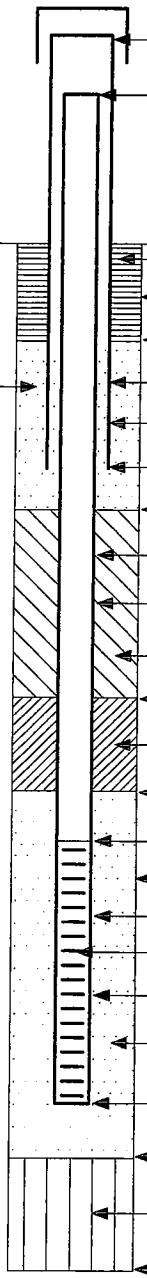
PROJECT NAME: NASB – Background Study
PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB- Brunswick, ME
WELL NO: NASB-BG-MW10
CLIENT: U.S. Navy
BORING NO: NASB-BG-SB10
CONTRACTOR: MAI
DRILLER: S. Brown
BORING LOCATION:
LOGGED BY: C. Fellows
DATE: 8/17/09
CHECKED BY:
DATE:

ELEVATION TOP OF PROTECTIVE CASING

ELEVATION TOP OF RISER PIPE

GROUND ELEVATION

SAND DRAIN LAYER



LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	3.09
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	2.77
TYPE OF SURFACE SEAL	Bentonite Chips (mixed)
DIA. SURFACE SEAL BGS (In.)	6in
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	6 in
I.D. OF PROTECTIVE CASING (In.)	4.3
TYPE OF PROTECTIVE CASING	Steel Guard Pipe
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	1.91
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	~~1.91~~ ~~3~~ 2.0
RISER PIPE (In.) I.D.: 1 O.D.: 1.5	
TYPE OF RISER PIPE	Schedule 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Chips (mixed)
DEPTH TOP OF SEAL (Ft.)	~~3~~ 2
TYPE OF SEAL	Bentonite Chips ~~Silica Sand (20-40)~~
DEPTH BOTTOM OF SEAL (Ft.)	~~5~~ 3
DEPTH TOP OF PERVIOUS SECTION (Ft.)	5
DIAMETER OF BOREHOLE (In.)	4.5
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.010" Slot Openings
PERVIOUS SECTION (In.) I.D.: 1 O.D.: 2.4	
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	Silica Sand (20-40)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	10
DEPTH BOTTOM OF FILTER PACK (Ft.)	11
TYPE OF BACKFILL BELOW FILTER PACK	Silica Sand (20-40)
END OF BORING (Ft.)	11

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

OVERBURDEN MONITORING WELL CONSTRUCTION LOG — **TETRA TECH NUS, INC.**

PROJECT NAME: NASB – Background Study
PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB- Brunswick, ME
WELL NO: NASB-BG-MW11
CLIENT: U.S. Navy
BORING NO: NASB-SB-SB11
CONTRACTOR: MAI
DRILLER: S. Brown
BORING LOCATION:
LOGGED BY: C. Fellows
DATE: 8/17/09
CHECKED BY:
DATE:

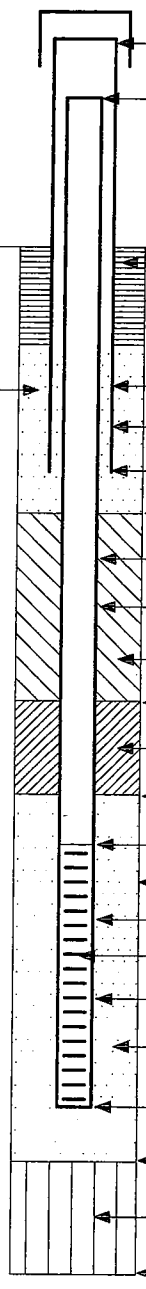
PAGE: 1 OF 1

ELEVATION TOP OF PROTECTIVE CASING

ELEVATION TOP OF RISER PIPE

GROUND ELEVATION

SAND DRAIN LAYER



LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	3.48
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	2.88
TYPE OF SURFACE SEAL	Bentonite Chips (med)
DIA. SURFACE SEAL BGS (In.)	6in
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	6in
I.D. OF PROTECTIVE CASING (In.)	4.3
TYPE OF PROTECTIVE CASING	Steel Flush Pipe
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	1.52
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	~~3~~ 2
RISER PIPE (In.) I.D.: 1	O.D.: 1.5
TYPE OF RISER PIPE	Schedule 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Chips (med)
DEPTH TOP OF SEAL (Ft.)	~~3~~ 2
TYPE OF SEAL	~~Silica Sand (20-40)~~ Bentonite Chips (med)
DEPTH BOTTOM OF SEAL (Ft.)	~~5~~ 3
DEPTH TOP OF PERVIOUS SECTION (Ft.)	5
DIAMETER OF BOREHOLE (In.)	4.5
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.010" slot openings
PERVIOUS SECTION (In.) I.D.: 1	O.D.: 2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	Silica Sand (20-40)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	10
DEPTH BOTTOM OF FILTER PACK (Ft.)	11
TYPE OF BACKFILL BELOW FILTER PACK	Silica Sand (20-40)
END OF BORING (Ft.)	11

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

OVERBURDEN MONITORING WELL CONSTRUCTION LOG **TETRA TECH NUS, INC.**

PROJECT NAME: NASB – Background Study
PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB- Brunswick, ME
WELL NO: NASB-BG-MW12
CLIENT: U.S. Navy
BORING NO: NASB-BG-SB12
CONTRACTOR: MAI
DRILLER: S. Brown
BORING LOCATION:
LOGGED BY: C. Fellows
DATE: 8/18/09
CHECKED BY:
DATE:

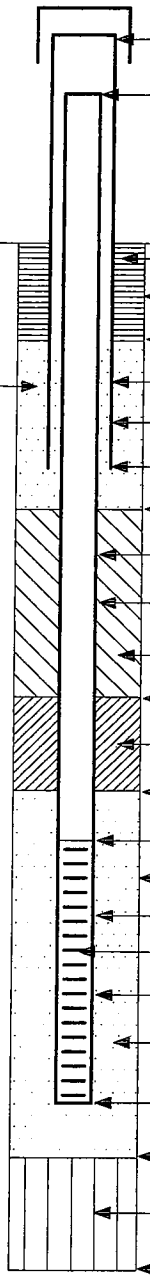
PAGE: 1 OF 1

ELEVATION TOP OF PROTECTIVE CASING

ELEVATION TOP OF RISER PIPE

GROUND ELEVATION

SAND DRAIN LAYER



LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	3.19
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	2.82
TYPE OF SURFACE SEAL	Bentonite Chips (med)
DIA. SURFACE SEAL BGS (In.)	6in
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	6in
I.D. OF PROTECTIVE CASING (In.)	4.3
TYPE OF PROTECTIVE CASING	Steel Guard Pipe
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	1.81
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	~~3~~ 2
RISER PIPE (In.) I.D.: 1	O.D.: 1.5
TYPE OF RISER PIPE	Schedule 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Chips (med)
DEPTH TOP OF SEAL (Ft.)	~~3~~ 2
TYPE OF SEAL	~~Silica Sand (20-40)~~ Bentonite Chips (med)
DEPTH BOTTOM OF SEAL (Ft.)	~~5~~ 3
DEPTH TOP OF PERVIOUS SECTION (Ft.)	5
DIAMETER OF BOREHOLE (In.)	4.5
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.010" slot openings
PERVIOUS SECTION (In.) I.D.: 1	O.D.: 2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	Silica Sand (20-40)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	10
DEPTH BOTTOM OF FILTER PACK (Ft.)	11
TYPE OF BACKFILL BELOW FILTER PACK	Silica Sand (20-40)
END OF BORING (Ft.)	11

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

OVERBURDEN MONITORING WELL CONSTRUCTION LOG **TETRA TECH NUS, INC.**

PROJECT NAME: NASB – Background Study
PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB- Brunswick, ME
WELL NO: NASB-BG-MW13
CLIENT: U.S. Navy
BORING NO: NASB-BG-SB13
CONTRACTOR: MAI
DRILLER: S. Brown
BORING LOCATION:
LOGGED BY: C. Fellows
DATE: 8/18/09
CHECKED BY:
DATE:

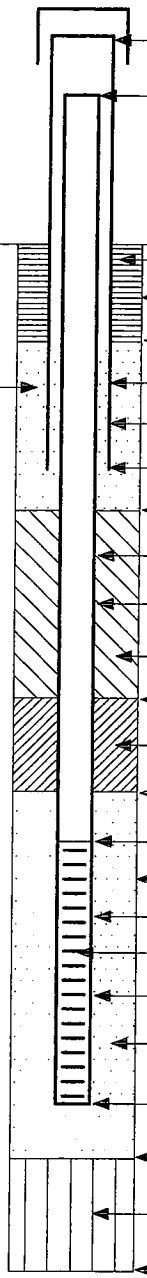
PAGE: 1 OF 1

ELEVATION TOP OF PROTECTIVE CASING

ELEVATION TOP OF RISER PIPE

GROUND ELEVATION

SAND DRAIN LAYER



LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	3.04
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	2.27
TYPE OF SURFACE SEAL	Bentonite Chips (hand)
DIA. SURFACE SEAL BGS (In.)	Cem
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	Cem
I.D. OF PROTECTIVE CASING (In.)	4.3
TYPE OF PROTECTIVE CASING	Steel Guard Pipe
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	1.96
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	~~3~~ 2.5
RISER PIPE (In.) I.D.: 1	O.D.: 1.5
TYPE OF RISER PIPE	Schedule 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Chips (hand)
DEPTH TOP OF SEAL (Ft.)	~~3~~ 2.5
TYPE OF SEAL	~~Silica Sand (20-40)~~ Bentonite Chips (hand)
DEPTH BOTTOM OF SEAL (Ft.)	~~3~~ 3
DEPTH TOP OF PERVIOUS SECTION (Ft.)	5
DIAMETER OF BOREHOLE (In.)	4.5
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.010" slot openings
PERVIOUS SECTION (In.) I.D.: 1	O.D.: 2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	Silica Sand (20-40)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	10
DEPTH BOTTOM OF FILTER PACK (Ft.)	11
TYPE OF BACKFILL BELOW FILTER PACK	Silica Sand (20-40)
END OF BORING (Ft.)	11

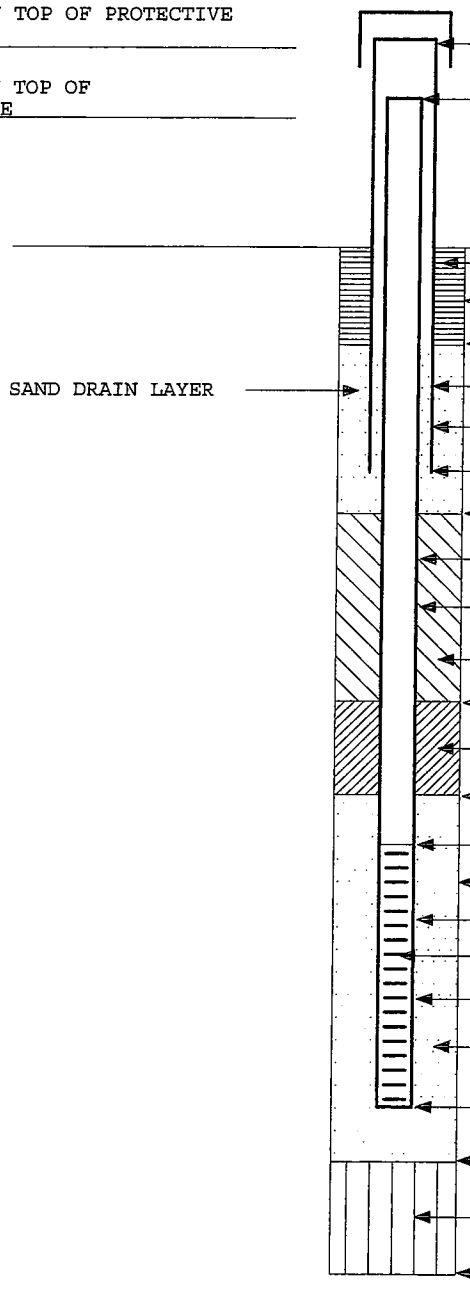
GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

OVERBURDEN MONITORING WELL CONSTRUCTION LOG — **TETRA TECH NUS, INC.**

PROJECT NAME: NASB – Background Study
PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB- Brunswick, ME
WELL NO: NASB-BG-MW15
CLIENT: U.S. Navy
BORING NO: NASB-BG-SB15
CONTRACTOR: MAI
DRILLER: S. Brown
BORING LOCATION:
LOGGED BY: C. Fellows
DATE: 8/25/09 (Start)
CHECKED BY:
DATE: 8/26/09 (Finish)

PAGE: 1 OF 1



ELEVATION TOP OF PROTECTIVE CASING	
LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	3.11
ELEVATION TOP OF RISER PIPE	
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	2.88
GROUND ELEVATION	
TYPE OF SURFACE SEAL	Bentonite Chips (med)
DIA. SURFACE SEAL BGS (In.)	6in
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	6in
I.D. OF PROTECTIVE CASING (In.)	4.3
TYPE OF PROTECTIVE CASING	Steel Guard Pipe
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	1.89
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	3.0
RISER PIPE (In.) I.D.: 1	O.D.: 1.5
TYPE OF RISER PIPE	Schedule 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Chips (med)
DEPTH TOP OF SEAL (Ft.)	~~22~~ 3
TYPE OF SEAL	~~Silica Sand 20-40~~ Bentonite Chips (med)
DEPTH BOTTOM OF SEAL (Ft.)	~~24~~ 22
DEPTH TOP OF PERVIOUS SECTION (Ft.)	24
DIAMETER OF BOREHOLE (In.)	4.5
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.010" slot openings
PERVIOUS SECTION (In.) I.D.: 1	O.D.: 2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	Silica Sand (20-40)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	29
DEPTH BOTTOM OF FILTER PACK (Ft.)	29
TYPE OF BACKFILL BELOW FILTER PACK	No Sand
END OF BORING (Ft.)	29

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

OVERBURDEN MONITORING WELL CONSTRUCTION LOG **TETRA TECH NUS, INC.**

PROJECT NAME: NASB – Background Study
PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB – Brunswick, ME
WELL NO: NASB-BG-MW16
CLIENT: U.S. Navy
BORING NO: NASB-BG-SB16
CONTRACTOR: MAI
DRILLER: S. Brown
BORING LOCATION:
LOGGED BY: C. Fellows
DATE: 8/25/09
CHECKED BY:
DATE:

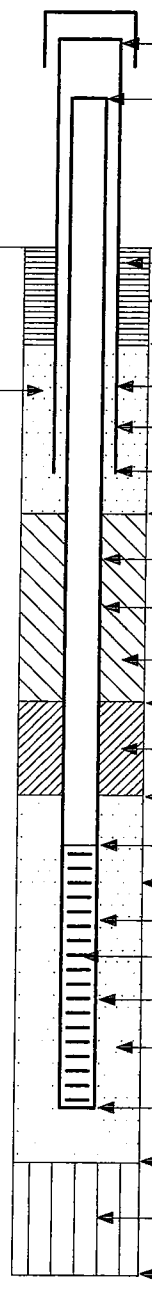
PAGE: 1 OF 1

ELEVATION TOP OF PROTECTIVE CASING

ELEVATION TOP OF RISER PIPE

GROUND ELEVATION

SAND DRAIN LAYER



LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	2.42
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	2.12
TYPE OF SURFACE SEAL	Bentonite Chips (med)
DIA. SURFACE SEAL BGS (In.)	6
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	6
I.D. OF PROTECTIVE CASING (In.)	4.3
TYPE OF PROTECTIVE CASING	Steel Guard Pipe
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	2.58
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	3.5
RISER PIPE (In.) I.D.: 1 O.D.:	1.5
TYPE OF RISER PIPE	schedule 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Chips (med)
DEPTH TOP OF SEAL (Ft.)	3.5
TYPE OF SEAL	Bentonite Chips (med)
DEPTH BOTTOM OF SEAL (Ft.)	22
DEPTH TOP OF PERVIOUS SECTION (Ft.)	24
DIAMETER OF BOREHOLE (In.)	4.5
TYPE OF PERVIOUS SECTION	schedule 40 PVC
TYPE OF OPENINGS	0.010" slot openings
PERVIOUS SECTION (In.) I.D.: 1 O.D.:	2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	silica sand (20-40)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	29
DEPTH BOTTOM OF FILTER PACK (Ft.)	29
TYPE OF BACKFILL BELOW FILTER PACK	No sand below filter pack
END OF BORING (Ft.)	29

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

OVERBURDEN MONITORING WELL CONSTRUCTION LOG — **TETRA TECH NUS, INC.**

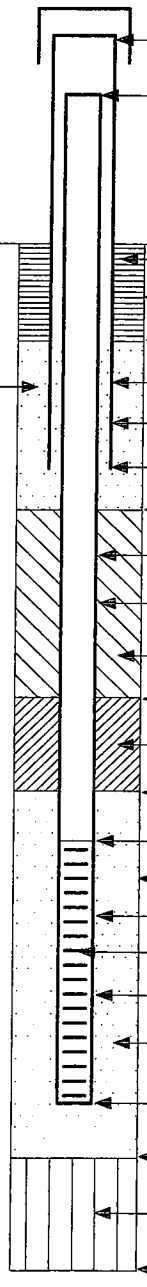
PROJECT NAME: NASB – Background Study	PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB- Brunswick, ME	WELL NO: NASB-BG-MW17
CLIENT: U.S. Navy	BORING NO: NASB-BG-SB17
CONTRACTOR: MAI — DRILLER: S. Brown	BORING LOCATION:
LOGGED BY: C. Fellows — DATE: 8/25/09	
CHECKED BY: — DATE:	PAGE: 1 OF 1

ELEVATION TOP OF PROTECTIVE CASING

ELEVATION TOP OF RISER PIPE

GROUND ELEVATION

SAND DRAIN LAYER



LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	3.49
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	3.28
TYPE OF SURFACE SEAL	Bentonite Chips (hand)
DIA. SURFACE SEAL BGS (In.)	6in
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	6in
I.D. OF PROTECTIVE CASING (In.)	4.3
TYPE OF PROTECTIVE CASING	Steel Guard Pipe
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	1.51
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	2.5
RISER PIPE (In.) I.D.: 1	O.D.: 1.5
TYPE OF RISER PIPE	Schedule 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Chips (hand)
DEPTH TOP OF SEAL (Ft.)	9.5
TYPE OF SEAL	Bentonite Chips (hand) ~~Silica Sand (20-40)~~
DEPTH BOTTOM OF SEAL (Ft.)	~~11.5~~ 9.5
DEPTH TOP OF PERVIOUS SECTION (Ft.)	11.5
DIAMETER OF BOREHOLE (In.)	4.5
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.010" Slot openings
PERVIOUS SECTION (In.) I.D.: 1	O.D.: 2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	Silica sand (20-40)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	16.5
DEPTH BOTTOM OF FILTER PACK (Ft.)	17.0
TYPE OF BACKFILL BELOW FILTER PACK	Silica Sand (20-40)
END OF BORING (Ft.)	17.0

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

OVERBURDEN MONITORING WELL CONSTRUCTION LOG — **TETRA TECH NUS, INC.**

PROJECT NAME: NASB – Background Study
PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB- Brunswick, ME
WELL NO: NASB-BG-MW18
CLIENT: U.S. Navy
BORING NO: NASB-BG-SB18
CONTRACTOR: MAI
DRILLER: S. Brown
BORING LOCATION:
LOGGED BY: C. Fellows
DATE: 8/13/09
CHECKED BY:
DATE:

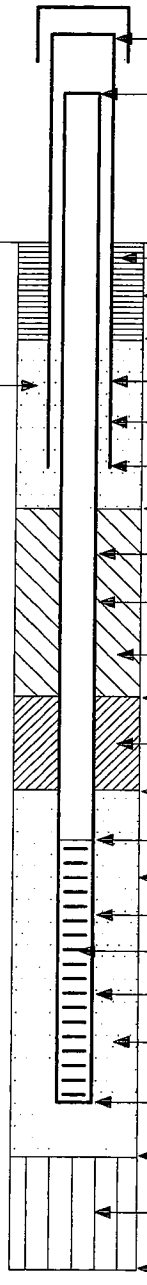
PAGE: 1 OF 1

ELEVATION TOP OF PROTECTIVE CASING

ELEVATION TOP OF RISER PIPE

GROUND ELEVATION

SAND DRAIN LAYER



LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	2.59
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	2.21
TYPE OF SURFACE SEAL	Bentonite Chips (med)
DIA. SURFACE SEAL BGS (In.)	6 in
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	6 in
I.D. OF PROTECTIVE CASING (In.)	4.3
TYPE OF PROTECTIVE CASING	Steel Curved Pipe
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	2.41
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	No Drain layer
RISER PIPE (In.) I.D.: 1" O.D.:	1.5"
TYPE OF RISER PIPE	Schedule 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Chips (med)
DEPTH TOP OF SEAL (Ft.)	~~2.0~~ 1.0
TYPE OF SEAL	~~Silica Sand (20-40)~~ Bentonite Chips (med)
DEPTH BOTTOM OF SEAL (Ft.)	~~3~~ 2.5
DEPTH TOP OF PERVIOUS SECTION (Ft.)	3
DIAMETER OF BOREHOLE (In.)	4.5 ft
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.010" Slot openings
PERVIOUS SECTION (In.) I.D.: 1" O.D.:	2.4"
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	Silica Sand (20-40)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	8
DEPTH BOTTOM OF FILTER PACK (Ft.)	9
TYPE OF BACKFILL BELOW FILTER PACK	Silica Sand (20-40)
END OF BORING (Ft.)	9

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

2.59 − .38 = 2.1

4.5 ft − 2.59 = 2.41

OVERBURDEN MONITORING WELL CONSTRUCTION LOG **TETRA TECH NUS, INC.**

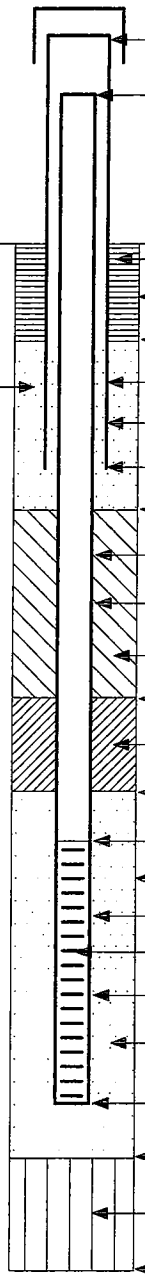
PROJECT NAME: NASB – Background Study
PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB- Brunswick, ME
WELL NO: NASB-BG-MW19
CLIENT: U.S. Navy
BORING NO: NASB-BG-SB19
CONTRACTOR: MAI
DRILLER: S. Brown
BORING LOCATION:
LOGGED BY: C. Fellows
DATE: 8/13/09
CHECKED BY:
DATE:

ELEVATION TOP OF PROTECTIVE CASING

ELEVATION TOP OF RISER PIPE

GROUND ELEVATION

SAND DRAIN LAYER



LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	3.6
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	3.5
TYPE OF SURFACE SEAL	Bentonite Chips (hed)
DIA. SURFACE SEAL BGS (In.)	6 in
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	5 in
I.D. OF PROTECTIVE CASING (In.)	4.3
TYPE OF PROTECTIVE CASING	Steel Guard Pipe
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	1.4
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	NO Drain layer (1 in)
RISER PIPE (In.) I.D.: 1"	O.D.: 1.5"
TYPE OF RISER PIPE	Schedule 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Chips (hed)
DEPTH TOP OF SEAL (Ft.)	~~0.5~~ 0.0
TYPE OF SEAL	~~Silica Sand (20-40)~~ Bentonite Chips (hed)
DEPTH BOTTOM OF SEAL (Ft.)	0.5
DEPTH TOP OF PERVIOUS SECTION (Ft.)	1.5
DIAMETER OF BOREHOLE (In.)	4.5
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.010" Slot openings
PERVIOUS SECTION (In.) I.D.: 1"	O.D.: 2.4"
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	Silica Sand (20-40)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	6.5
DEPTH BOTTOM OF FILTER PACK (Ft.)	8.0
TYPE OF BACKFILL BELOW FILTER PACK	Silica Sand (20-40)
END OF BORING (Ft.)	8.0

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

OVERBURDEN MONITORING WELL CONSTRUCTION LOG **TETRA TECH NUS, INC.**

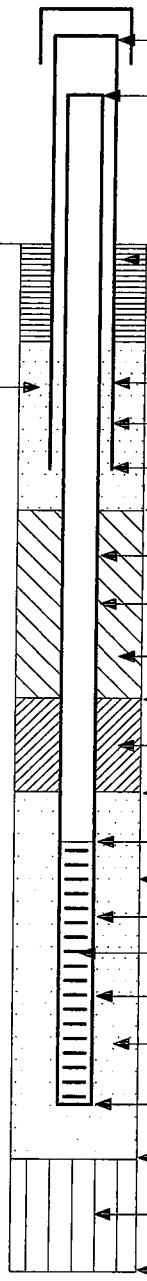
PROJECT NAME: NASB – Background Study
PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB – Brunswick, ME
WELL NO: NASB-BG--MW21
CLIENT: U.S. Navy
BORING NO: NASB-BG--SB21
CONTRACTOR: MAI
DRILLER: S. Brown
BORING LOCATION:
LOGGED BY: C. Fellows
DATE: 8/14/09
CHECKED BY:
DATE:

ELEVATION TOP OF PROTECTIVE CASING

ELEVATION TOP OF RISER PIPE

GROUND ELEVATION

SAND DRAIN LAYER



LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	3.95
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	3.93
TYPE OF SURFACE SEAL	Bentonite Chips (med)
DIA. SURFACE SEAL BGS (In.)	6
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	6
I.D. OF PROTECTIVE CASING (In.)	4.3
TYPE OF PROTECTIVE CASING	Steel Guard Pipe
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	1.05
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	No Drain Layer
RISER PIPE (In.) I.D.: 1 O.D.:	1.5
TYPE OF RISER PIPE	Schedule 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Chips (med)
DEPTH TOP OF SEAL (Ft.)	0.0
TYPE OF SEAL	Bentonite Chips (med)
DEPTH BOTTOM OF SEAL (Ft.)	0.5
DEPTH TOP OF PERVIOUS SECTION (Ft.)	1
DIAMETER OF BOREHOLE (In.)	4.5
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.010" slot openings
PERVIOUS SECTION (In.) I.D.: 1 O.D.:	2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	Silica Sand (20-40)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	6
DEPTH BOTTOM OF FILTER PACK (Ft.)	7
TYPE OF BACKFILL BELOW FILTER PACK	Silica Sand (20-40)
END OF BORING (Ft.)	7

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

OVERBURDEN MONITORING WELL CONSTRUCTION LOG **TETRA TECH NUS, INC.**

PROJECT NAME: NASB – Background Study
PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB – Brunswick, ME
WELL NO: NASB-BG-MW23
CLIENT: U.S. Navy
BORING NO: NASB-BG-SB23
CONTRACTOR: MAI
DRILLER: S. Brown
BORING LOCATION:
LOGGED BY: C. Fellows
DATE: 8/17/09
CHECKED BY:
DATE:

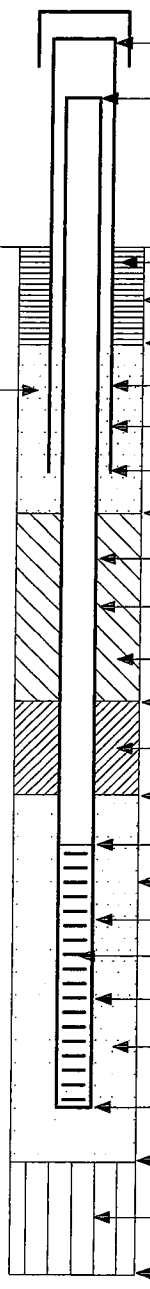
PAGE: 1 OF 1

ELEVATION TOP OF PROTECTIVE CASING

ELEVATION TOP OF RISER PIPE

GROUND ELEVATION

SAND DRAIN LAYER



LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	3.09
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	2.72
TYPE OF SURFACE SEAL	Bentonite Chips (med)
DIA. SURFACE SEAL BGS (In.)	6
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	6
I.D. OF PROTECTIVE CASING (In.)	4.3
TYPE OF PROTECTIVE CASING	Steel Guard Pipe
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	2.91
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	3
RISER PIPE (In.) I.D.: 1	O.D.: 1.5
TYPE OF RISER PIPE	Schedule 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Chips (med)
DEPTH TOP OF SEAL (Ft.)	3
TYPE OF SEAL	Bentonite Chips (med)
DEPTH BOTTOM OF SEAL (Ft.)	4
DEPTH TOP OF PERVIOUS SECTION (Ft.)	6
DIAMETER OF BOREHOLE (In.)	4.5
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.010" slot openings
PERVIOUS SECTION (In.) I.D.: 1	O.D.: 2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	Silica sand (20-40)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	16
DEPTH BOTTOM OF FILTER PACK (Ft.)	17
TYPE OF BACKFILL BELOW FILTER PACK	Silica Sand (20-40)
END OF BORING (Ft.)	17

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

OVERBURDEN MONITORING WELL CONSTRUCTION LOG **TETRA TECH NUS, INC.**

PROJECT NAME: NASB – Background Study
PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB- Brunswick, ME
WELL NO: NASB-BG-MW24
CLIENT: U.S. Navy
BORING NO: NASB-BG-SB24
CONTRACTOR: MAI
DRILLER: S. Brown
BORING LOCATION:
LOGGED BY: C. Fellows
DATE: 8/14/09
CHECKED BY:
DATE:

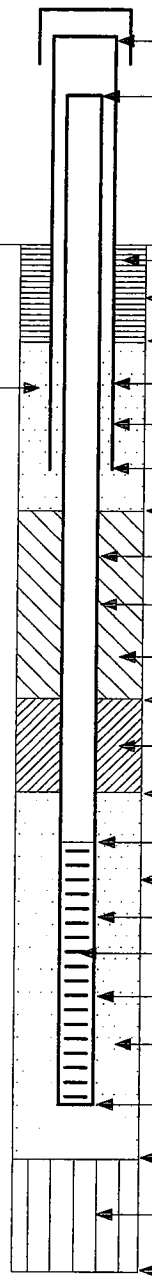
PAGE: 1 OF 1

ELEVATION TOP OF PROTECTIVE CASING

ELEVATION TOP OF RISER PIPE

GROUND ELEVATION

SAND DRAIN LAYER



LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	2.93
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	2.17
TYPE OF SURFACE SEAL	Bentonite Chips (hed
DIA. SURFACE SEAL BGS (In.)	6in
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	6in
I.D. OF PROTECTIVE CASING (In.)	4.3
TYPE OF PROTECTIVE CASING	Steel Guard Pipe
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	2.07
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	~~1.5~~ NO Drain Layer
RISER PIPE (In.) I.D.: 1 O.D.: 1.5	
TYPE OF RISER PIPE	Schedule 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Chips (hed)
DEPTH TOP OF SEAL (Ft.)	0.0
TYPE OF SEAL	Bentonite Chips (hed) ~~Silica Sand (20-40)~~
DEPTH BOTTOM OF SEAL (Ft.)	~~2~~ 1
DEPTH TOP OF PERVIOUS SECTION (Ft.)	3
DIAMETER OF BOREHOLE (In.)	4.5
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.010" Slot Openings
PERVIOUS SECTION (In.) I.D.: 1 O.D.: 2.4	
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	Silica Sand (20-40)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	13
DEPTH BOTTOM OF FILTER PACK (Ft.)	14
TYPE OF BACKFILL BELOW FILTER PACK	Silica Sand (20-40)
END OF BORING (Ft.)	14

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

OVERBURDEN MONITORING WELL CONSTRUCTION LOG **TETRA TECH NUS, INC.**

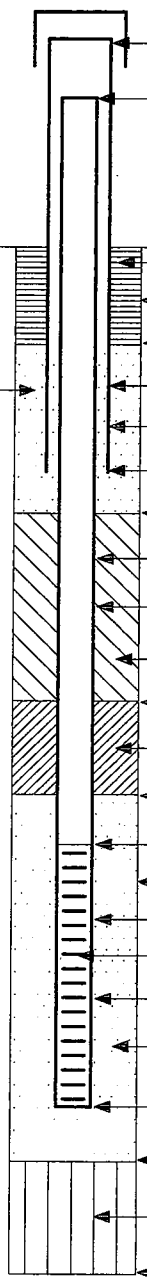
PROJECT NAME: NASB – Background Study
PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB- Brunswick, ME
WELL NO: NASB-BG-MW25
CLIENT: U.S. Navy
BORING NO: NASB-BG-SB25
CONTRACTOR: MAI
DRILLER: S. Brown
BORING LOCATION:
LOGGED BY: C. Fellows
DATE: 8/14/09
CHECKED BY:
DATE:
PAGE: 1 OF 1

ELEVATION TOP OF PROTECTIVE CASING

ELEVATION TOP OF RISER PIPE

GROUND ELEVATION

SAND DRAIN LAYER



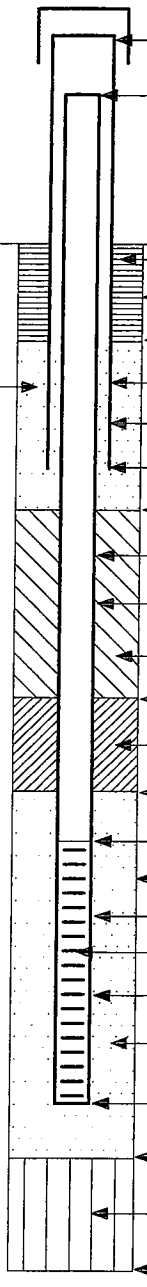
LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	3.2
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	2.72
TYPE OF SURFACE SEAL	Bentonite Chips (med)
DIA. SURFACE SEAL BGS (In.)	6in
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	6in
I.D. OF PROTECTIVE CASING (In.)	4.3
TYPE OF PROTECTIVE CASING	Steel Guard Pipe
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	1.8
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	2.0
RISER PIPE (In.) I.D.: 1" O.D.:	1.5"
TYPE OF RISER PIPE	Schedule 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Chips (med)
DEPTH TOP OF SEAL (Ft.)	2.0
TYPE OF SEAL	~~Silica Sand (20-40)~~ Bentonite Chips (med)
DEPTH BOTTOM OF SEAL (Ft.)	8.3
DEPTH TOP OF PERVIOUS SECTION (Ft.)	5
DIAMETER OF BOREHOLE (In.)	4.5
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.010" Slot openings
PERVIOUS SECTION (In.) I.D.: 1 O.D.:	2.4"
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	Silica Sand (20-40)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	15
DEPTH BOTTOM OF FILTER PACK (Ft.)	16
TYPE OF BACKFILL BELOW FILTER PACK	Silica Sand (20-40)
END OF BORING (Ft.)	16

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

OVERBURDEN MONITORING WELL CONSTRUCTION LOG — **TETRA TECH NUS, INC.**

PROJECT NAME: NASB – Background Study
PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB- Brunswick, ME
WELL NO: NASB-BG-MW26
CLIENT: U.S. Navy
BORING NO: NASB-BG-SB26
CONTRACTOR: MAI
DRILLER: S. Brown
BORING LOCATION:
LOGGED BY: C. Fellows
DATE: 8/19/06
CHECKED BY:
DATE:



ELEVATION TOP OF PROTECTIVE CASING	
ELEVATION TOP OF RISER PIPE	
GROUND ELEVATION	
LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	2.26
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	1.96
TYPE OF SURFACE SEAL	Bentonite Chips
DIA. SURFACE SEAL BGS (In.)	Cein
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	Cein
I.D. OF PROTECTIVE CASING (In.)	4.3
TYPE OF PROTECTIVE CASING	Steel Guard Pipe
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	2.74
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	3.50
RISER PIPE (In.) I.D.: 1	O.D.: 1.5
TYPE OF RISER PIPE	Schedule 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Chips (hand)
DEPTH TOP OF SEAL (Ft.)	~~13~~ 3.50
TYPE OF SEAL	~~Silica Sand (20-40)~~ Bentonite Chips (hand)
DEPTH BOTTOM OF SEAL (Ft.)	~~13~~ 11
DEPTH TOP OF PERVIOUS SECTION (Ft.)	13
DIAMETER OF BOREHOLE (In.)	4.5
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.010" slot openings
PERVIOUS SECTION (In.) I.D.: 1	O.D.: 2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	Silica Sand (20-40)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	23
DEPTH BOTTOM OF FILTER PACK (Ft.)	24
TYPE OF BACKFILL BELOW FILTER PACK	Silica Sand (20-40)
END OF BORING (Ft.)	24

* Well determined to be dry → Decommissioned and installed well screened at ____ ft bgs next to original Well location.

** NO Upper Sand saturated - all US. above Water Elevation
NO well installed.

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

OVERBURDEN MONITORING WELL CONSTRUCTION LOG **TETRA TECH NUS, INC.**

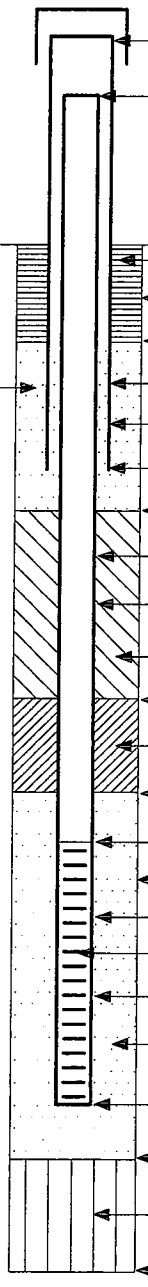
PROJECT NAME: NASB – Background Study
PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB- Brunswick, ME
WELL NO: NASB-BG-MW27
CLIENT: U.S. Navy
BORING NO: NASB-BG-SB20
CONTRACTOR: MAI
DRILLER: S. Brown
BORING LOCATION:
LOGGED BY: C. Fellows
DATE: 8/19/09
CHECKED BY:
DATE:

PAGE: 1 OF 1

ELEVATION TOP OF PROTECTIVE CASING 45.80

ELEVATION TOP OF RISER PIPE

GROUND ELEVATION



LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	2.67
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	2.29
TYPE OF SURFACE SEAL	Bentonite Chips (Med)
DIA. SURFACE SEAL BGS (In.)	6in
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	6in
I.D. OF PROTECTIVE CASING (In.)	4.3
TYPE OF PROTECTIVE CASING	Steel Guard Pipe
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	2.33
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	3.3
RISER PIPE (In.) I.D.: 1 O.D.:	1.5
TYPE OF RISER PIPE	Schedule 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Chips (Med)
DEPTH TOP OF SEAL (Ft.)	23
TYPE OF SEAL	Bentonite Chips (Med) ~~Silica Sand (20-40)~~
DEPTH BOTTOM OF SEAL (Ft.)	25
DEPTH TOP OF PERVIOUS SECTION (Ft.)	25
DIAMETER OF BOREHOLE (In.)	4.5
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.010" slot openings
PERVIOUS SECTION (In.) I.D.: 1 O.D.:	2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	Silica Sand (20-40)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	35
DEPTH BOTTOM OF FILTER PACK (Ft.)	36
TYPE OF BACKFILL BELOW FILTER PACK	Silica Sand (20-40)
END OF BORING (Ft.)	36

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

OVERBURDEN MONITORING WELL CONSTRUCTION LOG **TETRA TECH NUS, INC.**

PROJECT NAME: NASB – Background Study
PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB- Brunswick, ME
WELL NO: NASB-BG-MW28
CLIENT: U.S. Navy
BORING NO: NASB-BG-SB28
CONTRACTOR: MAI
DRILLER: S. Brown
BORING LOCATION:
LOGGED BY: C. Fellows
DATE: 8/19/09
CHECKED BY:
DATE:

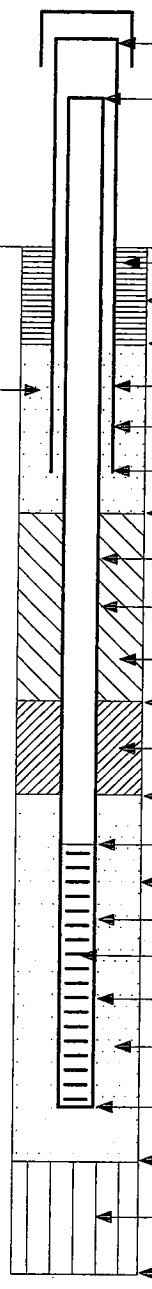
PAGE: 1 OF 1

ELEVATION TOP OF PROTECTIVE CASING

ELEVATION TOP OF RISER PIPE

GROUND ELEVATION

SAND DRAIN LAYER



LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	2.50
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	2.08
TYPE OF SURFACE SEAL	Bentonite Chips (Med)
DIA. SURFACE SEAL BGS (In.)	6in
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	6in
I.D. OF PROTECTIVE CASING (In.)	4.3
TYPE OF PROTECTIVE CASING	Steel Guard Pipe
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	2.5
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	3.5
RISER PIPE (In.) I.D.: 1	O.D.: 1.5
TYPE OF RISER PIPE	Schedule 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Chips (Med)
DEPTH TOP OF SEAL (Ft.)	3.5
TYPE OF SEAL	Bentonite Chips (Med) ~~Silica Sand (20-40)~~
DEPTH BOTTOM OF SEAL (Ft.)	23
DEPTH TOP OF PERVIOUS SECTION (Ft.)	25
DIAMETER OF BOREHOLE (In.)	4.5
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.010" Slot openings
PERVIOUS SECTION (In.) I.D.: 1	O.D.: 2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	Silica Sand (20-40)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	35
DEPTH BOTTOM OF FILTER PACK (Ft.)	36
TYPE OF BACKFILL BELOW FILTER PACK	Silica sand (20-40)
END OF BORING (Ft.)	36

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

OVERBURDEN MONITORING WELL CONSTRUCTION LOG **TETRA TECH NUS, INC.**

PROJECT NAME: NASB – Background Study
PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB- Brunswick, ME
WELL NO: NASB-BG-MW29
CLIENT: U.S. Navy
BORING NO: NASB-BG-SB29
CONTRACTOR: MAI
DRILLER: S. Brown
BORING LOCATION:
LOGGED BY: C. Fellows
DATE: 8/19/09
CHECKED BY:
DATE:

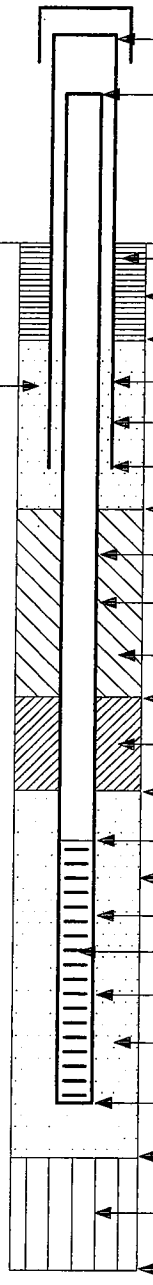
PAGE: 1 OF 1

ELEVATION TOP OF PROTECTIVE CASING

ELEVATION TOP OF RISER PIPE

GROUND ELEVATION

SAND DRAIN LAYER



LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	2.9
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	2.66
TYPE OF SURFACE SEAL	Bentonite Chips (med)
DIA. SURFACE SEAL BGS (In.)	6in
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	6in
I.D. OF PROTECTIVE CASING (In.)	4.3
TYPE OF PROTECTIVE CASING	Steel Guard Pipe
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	2.1
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	3.0
RISER PIPE (In.) I.D.: 1 O.D.:	1.5
TYPE OF RISER PIPE	Schedule 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Chips (med)
DEPTH TOP OF SEAL (Ft.)	20
TYPE OF SEAL	Bentonite Chips ~~Silica Sand (20-40)~~
DEPTH BOTTOM OF SEAL (Ft.)	20
DEPTH TOP OF PERVIOUS SECTION (Ft.)	22
DIAMETER OF BOREHOLE (In.)	4.5
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.010" slot openings
PERVIOUS SECTION (In.) I.D.: 1 O.D.:	2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	Silica Sand (20-40)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	32
DEPTH BOTTOM OF FILTER PACK (Ft.)	33
TYPE OF BACKFILL BELOW FILTER PACK	Silica Sand (20-40)
END OF BORING (Ft.)	33

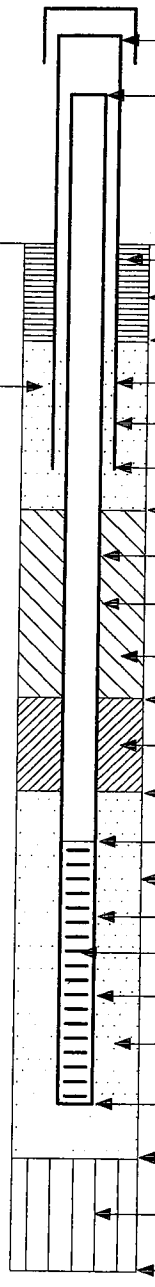
GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

OVERBURDEN MONITORING WELL CONSTRUCTION LOG — **TETRA TECH NUS, INC.**

PROJECT NAME: NASB – Background Study	PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB- Brunswick, ME	WELL NO: NASB-BG-MW30
CLIENT: U.S. Navy	BORING NO: NASB-BG-SB30
CONTRACTOR: MAI — DRILLER: S. Brown	BORING LOCATION:
LOGGED BY: C. Fellows / C. Race — DATE: 11/11/09	
CHECKED BY: — DATE:	

PAGE: 1 OF 1



ELEVATION TOP OF PROTECTIVE CASING	
ELEVATION TOP OF RISER PIPE	
GROUND ELEVATION	
LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	2.6
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	2.37
TYPE OF SURFACE SEAL	SAND
DIA. SURFACE SEAL BGS (In.)	3.25
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	3.0
I.D. OF PROTECTIVE CASING (In.)	4.25
TYPE OF PROTECTIVE CASING	steel
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	~~0.2~~
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	1.4
RISER PIPE (In.) I.D.: 1.0	O.D.: 1.25
TYPE OF RISER PIPE	Sch. 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	SAND
DEPTH TOP OF SEAL (Ft.)	3.0
TYPE OF SEAL	Bentonite Rock Chips
DEPTH BOTTOM OF SEAL (Ft.)	5.0
DEPTH TOP OF PERVIOUS SECTION (Ft.)	7.0
DIAMETER OF BOREHOLE (In.)	3.25
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.010" slot openings
PERVIOUS SECTION (In.) I.D.: 1.0	O.D.: 2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	20-40 Silica Sand
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	17.0
DEPTH BOTTOM OF FILTER PACK (Ft.)	17.0
TYPE OF BACKFILL BELOW FILTER PACK	Natural Collapse
END OF BORING (Ft.)	20.0

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

OVERBURDEN MONITORING WELL CONSTRUCTION LOG

TETRA TECH NUS, INC.

PROJECT NAME: NASB-BACKGROUND STUDY

PROJECT NO: 112G00958/0510

PROJECT LOCATION: NASB - BRUNSWICK, ME

WELL NO: NASB-BG-SB 02 MW31

CLIENT: U.S. NAVY

BORING NO: NASB-BG-SB31

CONTRACTOR: MAI

DRILLER: S. BROWN

BORING LOCATION: Bowdoin Pines

LOGGED BY: C. RACE

DATE: 11/11/09

CHECKED BY:

DATE:

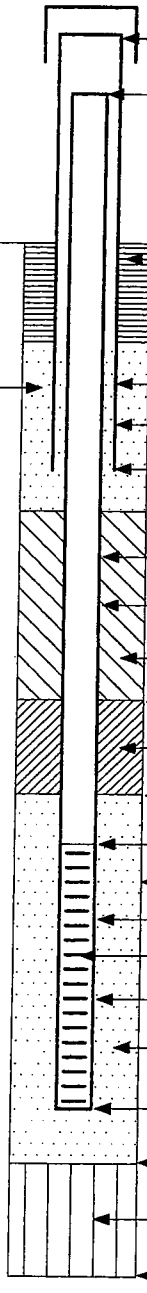
PAGE: 1 OF 1

ELEVATION TOP OF PROTECTIVE CASING

ELEVATION TOP OF RISER PIPE

GROUND ELEVATION

SAND DRAIN LAYER



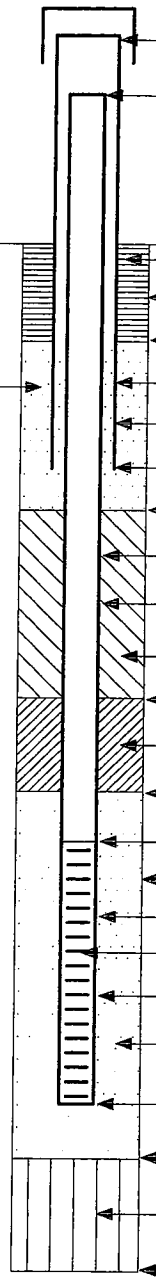
LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	2.5
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	2.28
TYPE OF SURFACE SEAL	SAND
DIA. SURFACE SEAL BGS (In.)	3.25
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	3.0
I.D. OF PROTECTIVE CASING (In.)	4.25
TYPE OF PROTECTIVE CASING	Steel
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	3.0
RISER PIPE (In.) I.D.: 1	O.D.: 1.25
TYPE OF RISER PIPE	Sch 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Chips (med)
DEPTH TOP OF SEAL (Ft.)	3.0
TYPE OF SEAL	Bentonite Rock Chips (med)
DEPTH BOTTOM OF SEAL (Ft.)	5.0
DEPTH TOP OF PERVIOUS SECTION (Ft.)	7.0
DIAMETER OF BOREHOLE (In.)	3.25
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.010" Slot openings
PERVIOUS SECTION (In.) I.D.: 1	O.D.: 2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	20-40 Silica SAND
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	17.0
DEPTH BOTTOM OF FILTER PACK (Ft.)	17.0
TYPE OF BACKFILL BELOW FILTER PACK	NATURAL COLLAPSE
END OF BORING (Ft.)	20.0

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

OVERBURDEN MONITORING WELL CONSTRUCTION LOG — **TETRA TECH NUS, INC.**

PROJECT NAME: NASB – Background Study	PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB- Brunswick, ME	WELL NO: NASB-BG-MW32
CLIENT: U.S. Navy	BORING NO: NASB-BG-~~MB32~~ SB32
CONTRACTOR: MAI / DRILLER: S. Brown	BORING LOCATION:
LOGGED BY: ~~C. Fellows~~ C. Race / DATE: 11/11/09	Bowdoin Pines
CHECKED BY: / DATE:	
	PAGE: 1 OF 1



ELEVATION TOP OF PROTECTIVE CASING	
ELEVATION TOP OF RISER PIPE	
GROUND ELEVATION	
LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	~~3.10~~ 2.6 cm
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	~~2.88~~ 2.2
TYPE OF SURFACE SEAL	SAND
DIA. SURFACE SEAL BGS (In.)	3.25
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	3.0
SAND DRAIN LAYER	
I.D. OF PROTECTIVE CASING (In.)	4.25
TYPE OF PROTECTIVE CASING	STEEL
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	2.5'
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	3.0
RISER PIPE (In.) I.D.: 1.0	O.D.: 1.25
TYPE OF RISER PIPE	Sch 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	~~Bentonite~~
DEPTH TOP OF SEAL (Ft.)	3.0
TYPE OF SEAL	Bentonite Chips (med)
DEPTH BOTTOM OF SEAL (Ft.)	5.0
DEPTH TOP OF PERVIOUS SECTION (Ft.)	7.0
DIAMETER OF BOREHOLE (In.)	3.25
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.010" slot openings
PERVIOUS SECTION (In.) I.D.: 1	O.D.: 2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	20-40 silica sand
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	17.0
DEPTH BOTTOM OF FILTER PACK (Ft.)	17.0
TYPE OF BACKFILL BELOW FILTER PACK	N/A
END OF BORING (Ft.)	25.0*

* NATURAL COLLAPSE

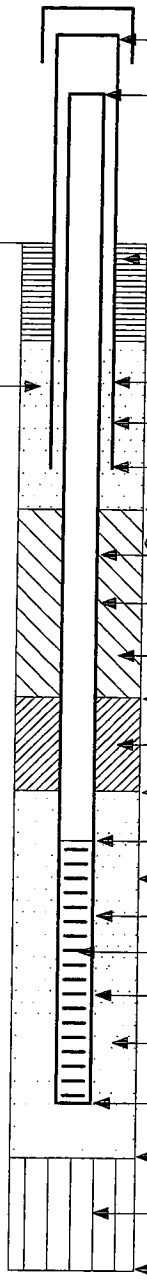
GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

OVERBURDEN MONITORING WELL CONSTRUCTION LOG — **TETRA TECH NUS, INC.**

PROJECT NAME: NASB – Background Study	PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB- Brunswick, ME	WELL NO: NASB-BG-MW36
CLIENT: U.S. Navy	BORING NO: EC05 / No Boring
CONTRACTOR: MAI — DRILLER: S. Brown	BORING LOCATION:
LOGGED BY: C. Fellows — DATE: 8/12/09	
CHECKED BY: — DATE:	

PAGE: 1 OF 1



ELEVATION TOP OF PROTECTIVE CASING	
ELEVATION TOP OF RISER PIPE	
GROUND ELEVATION	
LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	2.96'
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	2.64
TYPE OF SURFACE SEAL	Silica Sand (20-40)
DIA. SURFACE SEAL BGS (In.)	6in (Sand)
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	6in (Sand)
SAND DRAIN LAYER	
I.D. OF PROTECTIVE CASING (In.)	4.3in
TYPE OF PROTECTIVE CASING	Steel Guard Pipe
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	2.64 ft
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	3.5'
Depth top of Bentonite	3.5'
RISER PIPE (In.) I.D.: 1.0"	O.D.: 1.5"
TYPE OF RISER PIPE	Schedule 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Chips (med)
DEPTH TOP OF SEAL (Ft.)	~~52~~ 3.5'
TYPE OF SEAL	Bentonite Chips (med) ~~Silica Sand (20-40)~~
DEPTH BOTTOM OF SEAL (Ft.)	~~54~~ 52'
DEPTH TOP OF PERVIOUS SECTION (Ft.)	54'
DIAMETER OF BOREHOLE (In.)	4.5in
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.010" slot openings
PERVIOUS SECTION (In.) I.D.: 1in	O.D.: 2.4in
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	Silica Sand (20-40)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	64'
DEPTH BOTTOM OF FILTER PACK (Ft.)	64'
TYPE OF BACKFILL BELOW FILTER PACK	None
END OF BORING (Ft.)	64'

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

OVERBURDEN MONITORING WELL CONSTRUCTION LOG — **TETRA TECH NUS, INC.**

PROJECT NAME: NASB – Background Study
PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB- Brunswick, ME
WELL NO: NASB-BG-MW37
CLIENT: U.S. Navy
BORING NO: EC06 / NO Boring
CONTRACTOR: MAI
DRILLER: S. Brown
BORING LOCATION:
LOGGED BY: C. Fellows
DATE: 8/13/09
CHECKED BY:
DATE:

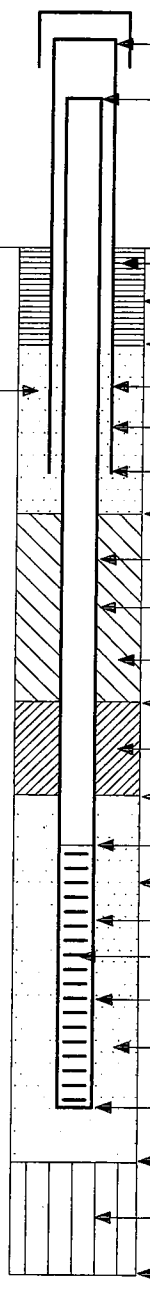
PAGE: 1 OF 1

ELEVATION TOP OF PROTECTIVE CASING

ELEVATION TOP OF RISER PIPE

GROUND ELEVATION

SAND DRAIN LAYER



LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	2.74
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	2.44
TYPE OF SURFACE SEAL	Silica Sand (20-40)
DIA. SURFACE SEAL BGS (In.)	6 in Sand
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	6 in Sand
I.D. OF PROTECTIVE CASING (In.)	4.3
TYPE OF PROTECTIVE CASING	Steel Guard Pipe
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	2.26
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	3.5
RISER PIPE (In.) I.D.: 1" O.D.: 1.5"	
TYPE OF RISER PIPE	Schedule 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Chips (hed)
DEPTH TOP OF SEAL (Ft.)	~~36.5~~ 3.5
TYPE OF SEAL	~~Silica Sand (20-40)~~ Bentonite Chips (hed)
DEPTH BOTTOM OF SEAL (Ft.)	~~38.5~~ 36.5
DEPTH TOP OF PERVIOUS SECTION (Ft.)	38.5
DIAMETER OF BOREHOLE (In.)	4.5 in
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.010" slot openings
PERVIOUS SECTION (In.) I.D.: 1 in O.D.: 2.4 in	
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	Silica Sand (20-40)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	48.5
DEPTH BOTTOM OF FILTER PACK (Ft.)	48.5
TYPE OF BACKFILL BELOW FILTER PACK	None
END OF BORING (Ft.)	48.5

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

45.06
-2.74
42.6

OVERBURDEN MONITORING WELL CONSTRUCTION LOG — **TETRA TECH NUS, INC.**

PROJECT NAME: NASB – Background Study
PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB- Brunswick, ME
WELL NO: NASB BG-MW38
CLIENT: U.S. Navy
BORING NO: EC07 / No Boring
CONTRACTOR: MAI
DRILLER: S. Brown
BORING LOCATION:
LOGGED BY: C. Fellows
DATE: 8/12/09
CHECKED BY:
DATE:

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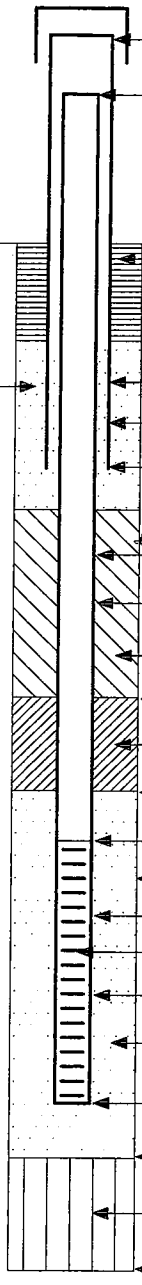
ELEVATION TOP OF PROTECTIVE CASING

ELEVATION TOP OF RISER PIPE

GROUND ELEVATION

SAND DRAIN LAYER



LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	2.5'
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	1.55'
TYPE OF SURFACE SEAL	Silica Sand (20-40)
DIA. SURFACE SEAL BGS (In.)	6in (Sand)
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	6in (Sand)
I.D. OF PROTECTIVE CASING (In.)	4.3in
TYPE OF PROTECTIVE CASING	Steel Guard Pipe
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	2.5'
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	3.5'
Depth top of Bentonite	3.5'
RISER PIPE (In.) I.D.: 1" O.D.:	1.5"
TYPE OF RISER PIPE	schedule 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Chips (med)
DEPTH TOP OF SEAL (Ft.)	3.5'
TYPE OF SEAL	~~Silica Sand (20-40)~~ Bentonite Chips (med)
DEPTH BOTTOM OF SEAL (Ft.)	~~33'~~ 31'
DEPTH TOP OF PERVIOUS SECTION (Ft.)	33'
DIAMETER OF BOREHOLE (In.)	4.5"
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.010" slot openings
PERVIOUS SECTION (In.) I.D.: 1" O.D.:	2.4"
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	Silica Sand (20-40)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	38'
DEPTH BOTTOM OF FILTER PACK (Ft.)	38'
TYPE OF BACKFILL BELOW FILTER PACK	None
END OF BORING (Ft.)	38'

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

OVERBURDEN MONITORING WELL CONSTRUCTION LOG **TETRA TECH NUS, INC.**

PROJECT NAME: NASB – Background Study
PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB- Brunswick, ME
WELL NO: NASB-BG-MW39
CLIENT: U.S. Navy
BORING NO: NASB-SB-SB39
CONTRACTOR: MAI
DRILLER: S. Brown
BORING LOCATION:
LOGGED BY: C. Fellows
DATE: 8/17/09
CHECKED BY:
DATE:

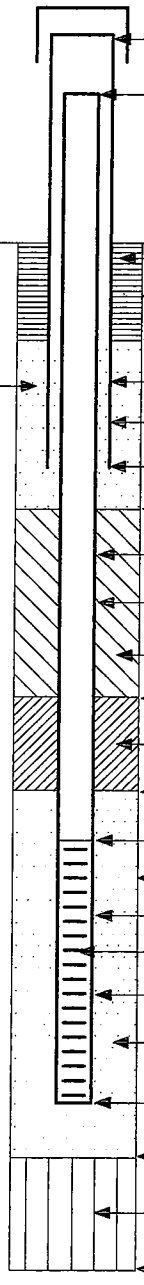
PAGE: 1 OF 1

ELEVATION TOP OF PROTECTIVE CASING

ELEVATION TOP OF RISER PIPE

GROUND ELEVATION

SAND DRAIN LAYER



LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	3.10
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	2.79
TYPE OF SURFACE SEAL	Bentonite Chips (hand)
DIA. SURFACE SEAL BGS (In.)	6 in
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	6 in
I.D. OF PROTECTIVE CASING (In.)	4.3
TYPE OF PROTECTIVE CASING	Steel Guard Pipe
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	1.9
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	3.0
RISER PIPE (In.) I.D.: 1 O.D.: 1.5	
TYPE OF RISER PIPE	Schedule 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Chips (hand)
DEPTH TOP OF SEAL (Ft.)	3.0
TYPE OF SEAL	Bentonite chips (hand) ~~Silica Sand (20-40)~~
DEPTH BOTTOM OF SEAL (Ft.)	10
DEPTH TOP OF PERVIOUS SECTION (Ft.)	12
DIAMETER OF BOREHOLE (In.)	4.5
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.010" Slot opening
PERVIOUS SECTION (In.) I.D.: 1 O.D.: 2.4	
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	Silica Sand (20-40)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	22
DEPTH BOTTOM OF FILTER PACK (Ft.)	23
TYPE OF BACKFILL BELOW FILTER PACK	Silica sand (20-40)
END OF BORING (Ft.)	23

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

OVERBURDEN MONITORING WELL CONSTRUCTION LOG **TETRA TECH NUS, INC.**

PROJECT NAME: NASB – Background Study
PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB- Brunswick, ME
WELL NO: NASB-BG-MW40
CLIENT: U.S. Navy
BORING NO: NASB-BG-SB40
CONTRACTOR: MAI
DRILLER: S. Brown
BORING LOCATION:
LOGGED BY: C. Fellows
DATE: 8/20/09
CHECKED BY:
DATE:

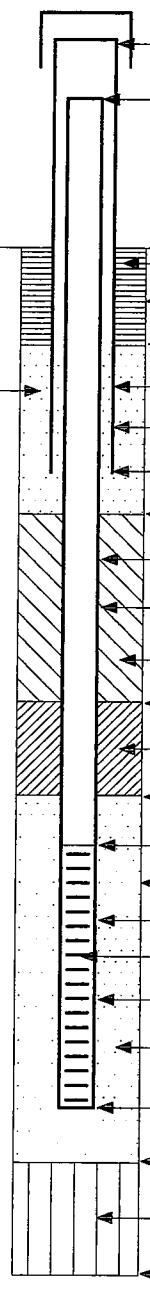
PAGE: 1 OF 1

ELEVATION TOP OF PROTECTIVE CASING

ELEVATION TOP OF RISER PIPE

GROUND ELEVATION

SAND DRAIN LAYER



LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	2.75
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	2.55
TYPE OF SURFACE SEAL	Bentonite Chips (med)
DIA. SURFACE SEAL BGS (In.)	6in
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	6in
I.D. OF PROTECTIVE CASING (In.)	4.3
TYPE OF PROTECTIVE CASING	Steel Guard Pipe
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	2.25
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	3.2
RISER PIPE (In.) I.D.: 1	O.D.: 1.5
TYPE OF RISER PIPE	Schedule 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Chips (med)
DEPTH TOP OF SEAL (Ft.)	~~18~~ 3.2'
TYPE OF SEAL	Bentonite Chips (med) ~~Silica Sand (70-40)~~
DEPTH BOTTOM OF SEAL (Ft.)	~~20~~ 18'
DEPTH TOP OF PERVIOUS SECTION (Ft.)	20
DIAMETER OF BOREHOLE (In.)	4.5
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.010" Slot openings
PERVIOUS SECTION (In.) I.D.: 1	O.D.: 2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	Silica Sand (70-40)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	30
DEPTH BOTTOM OF FILTER PACK (Ft.)	31
TYPE OF BACKFILL BELOW FILTER PACK	Silica Sand (70-40)
END OF BORING (Ft.)	31

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

* MW location added in the field in Area 4 due to no saturated upper sand zone at 9326 location.

OVERBURDEN MONITORING WELL CONSTRUCTION LOG **TETRA TECH NUS, INC.**

PROJECT NAME: NASB – Background Study
PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB- Brunswick, ME
WELL NO: NASB-BG-MW41
CLIENT: U.S. Navy
BORING NO: EC09 / No Boring
CONTRACTOR: MAI
DRILLER: S. Brown
BORING LOCATION:
LOGGED BY: C. Fellows
DATE: 8/27/09
CHECKED BY:
DATE:

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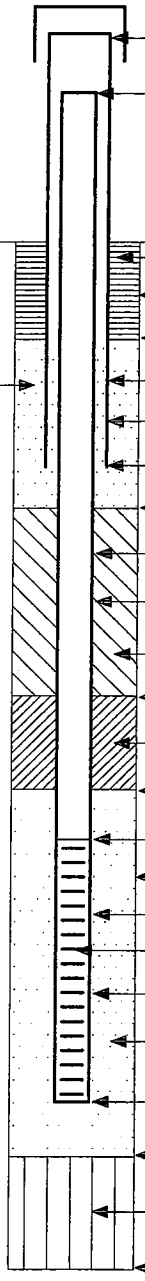
ELEVATION TOP OF PROTECTIVE CASING

ELEVATION TOP OF RISER PIPE

GROUND ELEVATION

SAND DRAIN LAYER



LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	3.0
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	2.75
TYPE OF SURFACE SEAL	Bentonite Chips (Med)
DIA. SURFACE SEAL BGS (In.)	Gain
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	Gain
I.D. OF PROTECTIVE CASING (In.)	4.3
TYPE OF PROTECTIVE CASING	Steel Guard Pipe
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	2.0
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	3.0
RISER PIPE (In.) I.D.: 1	O.D.: 1.5
TYPE OF RISER PIPE	Schedule 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Chips (Med)
DEPTH TOP OF SEAL (Ft.)	~~34~~ 3.0'
TYPE OF SEAL	Bentonite Chips (Med) ~~Silica Sand (20-40)~~
DEPTH BOTTOM OF SEAL (Ft.)	34
DEPTH TOP OF PERVIOUS SECTION (Ft.)	36
DIAMETER OF BOREHOLE (In.)	4.5
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.010" slot openings
PERVIOUS SECTION (In.) I.D.: 1	O.D.: 2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	Silica Sand (20-40)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	41
DEPTH BOTTOM OF FILTER PACK (Ft.)	41
TYPE OF BACKFILL BELOW FILTER PACK	No Sand
END OF BORING (Ft.)	41

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

OVERBURDEN MONITORING WELL CONSTRUCTION LOG **TETRA TECH NUS, INC.**

PROJECT NAME: NASB – Background Study
PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB- Brunswick, ME
WELL NO: NASB-BG-MW42
CLIENT: U.S. Navy
BORING NO: EC12 / NO Boring
CONTRACTOR: MAI
DRILLER: S. Brown
BORING LOCATION:
LOGGED BY: C. Fellows
DATE: 8/27/09
CHECKED BY:
DATE:

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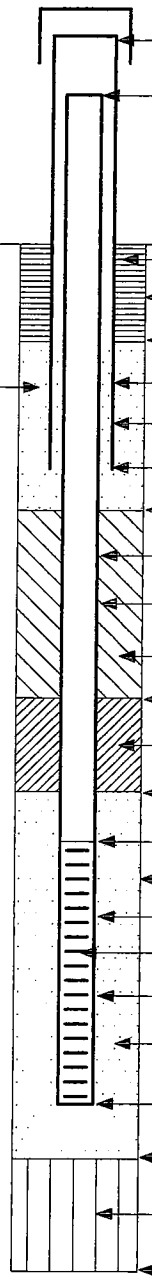
ELEVATION TOP OF PROTECTIVE CASING

ELEVATION TOP OF RISER PIPE

GROUND ELEVATION

SAND DRAIN LAYER



LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	3.25
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	2.97
TYPE OF SURFACE SEAL	Bentonite Chips (med)
DIA. SURFACE SEAL BGS (In.)	6 in
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	6 in
I.D. OF PROTECTIVE CASING (In.)	4.3
TYPE OF PROTECTIVE CASING	Steel Guard Pipe
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	1.75
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	2.75
RISER PIPE (In.) I.D.: 1	O.D.: 1.5
TYPE OF RISER PIPE	Schedule 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Chips (med)
DEPTH TOP OF SEAL (Ft.)	~~35~~ 2.75'
TYPE OF SEAL	~~Silica Sand (20-40)~~ Bentonite Chips (med)
DEPTH BOTTOM OF SEAL (Ft.)	33'
DEPTH TOP OF PERVIOUS SECTION (Ft.)	35
DIAMETER OF BOREHOLE (In.)	4.5
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.010" slot openings
PERVIOUS SECTION (In.) I.D.: 1	O.D.: 2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	Silica Sand (20-40)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	40
DEPTH BOTTOM OF FILTER PACK (Ft.)	40
TYPE OF BACKFILL BELOW FILTER PACK	No Sand
END OF BORING (Ft.)	40

GENERAL NOTE:

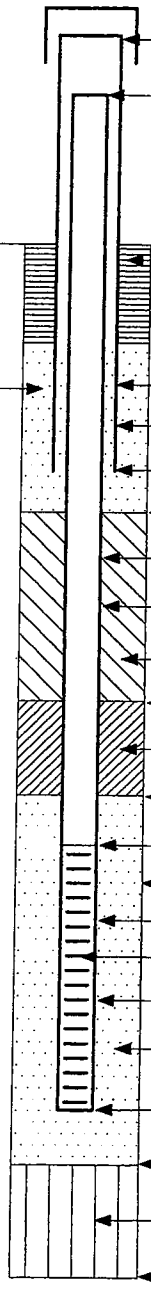
1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

OVERBURDEN MONITORING WELL CONSTRUCTION LOG — TETRA TECH NUS, INC.

PROJECT NAME: NASB Background Study
PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: Brunswick, ME
WELL NO: NASB-BG-MW43
CLIENT: U.S. Navy
BORING NO: NO Boring / MW EC
CONTRACTOR: Tetra Tech / MAI
DRILLER: MAI (S. Brown, D. Prescott)
BORING LOCATION:
LOGGED BY: G. Fellows
DATE: 11/12/09
CHECKED BY:
DATE:

PAGE: 1 OF 1

ELEVATION TOP OF PROTECTIVE CASING
ELEVATION TOP OF RISER PIPE
GROUND ELEVATION



SAND DRAIN LAYER

Water Level - Slightly artesian water level at top of PVC.

LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	2.35
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	2.25
TYPE OF SURFACE SEAL	Silica Sand
DIA. SURFACE SEAL BGS (In.)	3.25
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	3.0
I.D. OF PROTECTIVE CASING (In.)	4.25
TYPE OF PROTECTIVE CASING	Steel Guard Pipe
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	2.5
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	3.0
RISER PIPE (In.) I.D.: 1 O.D.:	1.25
TYPE OF RISER PIPE	Schedule 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Chips (med)
DEPTH TOP OF SEAL (Ft.)	3.0
TYPE OF SEAL	Bentonite Chips (med)
DEPTH BOTTOM OF SEAL (Ft.)	54
DEPTH TOP OF PERVIOUS SECTION (Ft.)	56
DIAMETER OF BOREHOLE (In.)	3.25
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.010" Slot openings
PERVIOUS SECTION (In.) I.D.: 1 O.D.:	2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	Silica Sand (20-40)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	61
DEPTH BOTTOM OF FILTER PACK (Ft.)	61
TYPE OF BACKFILL BELOW FILTER PACK	No Sand (Natural collapse)
END OF BORING (Ft.)	61

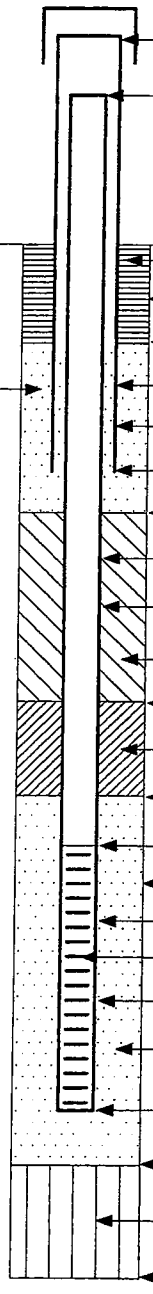
GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

OVERBURDEN MONITORING WELL CONSTRUCTION LOG — TETRA TECH NUS, INC.

PROJECT NAME: NASB Background Study
PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: Brunswick, ME
WELL NO: NASB-BG-MW44
CLIENT: U.S. Navy
BORING NO: 10 Boring / NOEC
CONTRACTOR: MAI
DRILLER: MAI (S. Brown, P. Prescott)
BORING LOCATION:
LOGGED BY: C. Fellows
DATE: 11/12/09
CHECKED BY:
DATE:

PAGE: 1 OF 1



ELEVATION TOP OF PROTECTIVE CASING	
LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	2.46
ELEVATION TOP OF RISER PIPE	
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	2.36
GROUND ELEVATION	
TYPE OF SURFACE SEAL	silica sand
DIA. SURFACE SEAL BGS (In.)	3.25
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	3'
I.D. OF PROTECTIVE CASING (In.)	4.25
TYPE OF PROTECTIVE CASING	Steel Guard Pipe
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	2.5
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	3
RISER PIPE (In.) I.D.: 1	O.D.: 1.25
TYPE OF RISER PIPE	Schedule 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Bentonite Chips (med)
DEPTH TOP OF SEAL (Ft.)	3
TYPE OF SEAL	Bentonite Chips (med)
DEPTH BOTTOM OF SEAL (Ft.)	68
DEPTH TOP OF PERVIOUS SECTION (Ft.)	70
DIAMETER OF BOREHOLE (In.)	3.25
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.010" slot openings
PERVIOUS SECTION (In.) I.D.: 1	O.D.: 2.4
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	silica sand (#0-40)
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	80
DEPTH BOTTOM OF FILTER PACK (Ft.)	80
TYPE OF BACKFILL BELOW FILTER PACK	no sand (natural collapse)
END OF BORING (Ft.)	80

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

BORING LOG FOR: NASB-BG-SB01
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-BG-SB01
START DATE: 8/20/09
COMPLETION: DATE: 8/20/09
MON. WELL NO.: NASB-BG-MW01
CHECKED BY:

DEPTH (FEET) 0	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
		2.8/5.0	NASB-BG-SB-SB01-0001 1130		loose	Dark Brown/Brown	0.0-0.5-organic-sand (f) some silt	PT/SM	Dry	PID=0.0
					loose	Brown	0.5-2.0-sand (f) trace silt			
							2.0-2.8-sand (f-m) trace coarse sand	SP		
		/	NASB-BG-SB-SB01-0010 1135							
5		2.8/5.0		Upper Sand	loose	Brown	0.0-1.5-sand (f-m) trace coarse sand	SP		PID=0.0
		/					1.5-2.8-sand (f)	~~SM~~ SP	Moist	
10		/								
		2.9/5.0			loose	Brown	0.0-2.9-sand (f-m)	SP	Wet @ 12 ft	
		/								
15		4.4/5.0			loose	Brown	0.0-4.4-sand f-m	SP		

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

Tetra Tech NUS, Inc.

BORING NO.: SB01

PAGE: 1 OF 2

TtNUS Form 0018

screen 12-22 ~~9-19~~ 7 liters

BORING LOG FOR: NASB-BG-SB-SB01
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-BG-SB-SB01
START DATE: 8/20/09
COMPLETION: DATE: 8/20/09
MON. WELL NO.: NASB-BG-MW01
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
				Upper sand						
20		4.4/5.0			loose	Brown	0.0-4.4 - sand (f-m) some coarse sand	SP		
25		5.0/5.0			loose	Brown	0.0-4.5 - coarse sand some sand (m)	SW		
					loose	Brown	4.5-5.0 - sand (f-m)	SP		
30										
				EOB @ 30'						

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual Tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB01

Tetra Tech NUS, Inc.

TtNUS Form 0018

BORING LOG FOR: MASB-BG-SB-SB02
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: MASB-BG-SB-SB02
START DATE: 8/20/09
COMPLETION: DATE: 8/20/09
MON. WELL NO.: MASB-BG-MW02
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
0										
		2.5/5.0	MASB-BG-SB-SB02-0001 1500		loose	Red-Brown/Brown	0.0-0.6-Organics-sand(f) w/silt 0.6-2.5-Sand (f-m)	~~PT~~ SP	Dry	PID=0.8 @ 0.8
		/	MASB-BG-SB-SB02-0110 1505 LabQC							
5		3.4/5.0		Upper Sand	loose	Brown	0.0-0.9-Sand (f)	~~SM~~ SP	Dry	
					Sl. Dense	Brown	0.9-1.5-Sand (f) w/ silt	SP		
		/			loose	Brown	1.5-3.4-Sand (f-m)	SP		
10		3.2/5.0			loose	Brown	0.0-2.0-Sand (f-m) trace coarse	SP		
		/			Sl. Dense	Brown	2.0-2.2-silt and sand (f)	SM	wet @ 12'	
					loose	Brown	2.2-3.2-Sand (f-m)	SP		
15		5.0/5.0		Transition Unit @ 18.2	loose	Brown	0.0-3.2-Sand (f-m)	SP		
					Soft	Brown	3.2-5.0-Silt some clay &	~~SM~~ ML		

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual Tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB02

Tetra Tech NUS, Inc.

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TtNUS Form 0018

12-17
SA Screen

BORING LOG FOR:	MASB-BG-SB-SB02	BORING NO.:	MASB-BG-SB-SB02
PROJECT NO.:	CTO 432 - 112G00958 / 0510	START DATE:	8/20/09
LOGGED BY:	C. Fellows	COMPLETION: DATE:	8/20/09
DRILLED BY (Company/Driller):	MAI/S.Brown/P.Prescott	MON. WELL NO.:	MASB-BG-MW02
GRD. SURFACE ELEVATION:		CHECKED BY:	
TRANSCRIBED BY:		ELEVATION FROM:	

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
				Transition Unit						
20										
		5.0 / 5.0			Soft	Brown	0.0-2.7 - Silt w/ clay trace sand (f)	SM		
					loose	Brown	2.7-5.0 - Sand (f-m)	SP		
25										
				EOB @ 25'						

TYPE OF DRILLING RIG:	Geoprobe
METHOD OF ADVANCING BORING:	DPT
METHOD OF SOIL SAMPLING:	Dual Tube
METHOD OF ROCK CORING:	NA
GROUNDWATER LEVELS:	
OTHER OBSERVATIONS:	

Tetra Tech NUS, Inc.

BORING NO.: SB02

TtNUS Form 0018

BORING LOG FOR: NASB-BG-SB-SB03
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-BG-SB-SB03
START DATE: 8/20/09
COMPLETION: DATE: 8/20/09
MON. WELL NO.: NASB-BG-MW03
CHECKED BY:

DEPTH (FEET) 0	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
		3.1/5.0	NASB-BG-SB-SB03-0001 1300		loose	Dark Brown/Brown	0.0-0.9 - organic - sand (f) some silt 0.9-3.1 - sand (f-m)	~~PT~~ SP	Dry	PID=0.0
		/	NASB-BG-SB-SB03-0110 1305							
5		3.3/5.0		Upper sand	loose	Brown	0.0-1.5 - sand (f-m) trace coarse	SP		PID=0.0
		/			loose	Brown	1.5-3.3 - sand (m) some coarse trace gravel	SP		
		/								
10		/			loose	Brown	0.0-4.0 - sand (m) ~~some~~ with coarse sand silt lense at 2.9	SP	Wet @ 10 ft	
		4.0/5.0								
		/								
15		4.2/5.0			loose	Brown	0.0-4.2 - sand (f-m)	SP		

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB03

Tetra Tech NUS, Inc.

PAGE: 1 OF 2

TtNUS Form 0018

8-18 ft

BORING LOG FOR: MASB-BG-SB-SB03
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: MASB-BG-SB03
START DATE: 8/20/09
COMPLETION: DATE: 8/20/09
MON. WELL NO.: MASB-BG-MW03
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA *METHOD* = [FID, (PPM)]
				Upper Sand						
20										
				EOB @ 20'						

TYPE OF DRILLING RIG:	Geoprobe
METHOD OF ADVANCING BORING:	DPT
METHOD OF SOIL SAMPLING:	Dual Tube
METHOD OF ROCK CORING:	NA
GROUNDWATER LEVELS:	
OTHER OBSERVATIONS:	

BORING NO.: SB03

Tetra Tech NUS, Inc.

TtNUS Form 0018

BORING LOG FOR: NASB-BG-SB-SB04
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-BG-SB-SB04
START DATE: 8/20/09
COMPLETION: DATE: 8/20/09
MON. WELL NO.: NASB-BG-MW04
CHECKED BY:

DEPTH (FEET) 0	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
		3.2 / 5.0	NASB-BG-SB-SB04-0001 1330		loose	Tan-Brown/ Brown	0.0-0.9 - organic - Sand (f) and silt 0.9-2.2 - Sand (f-m)	PT/SP	Dry	PID=0.0
					loose	Brown	2.2-3.2 - Sand (m) some fine sand trace coarse sand	SP		
		/	NASB-BG-SB-SB04-0110 1335							
5		3.6 / 5.0	NASB-BG-SB-DUP05-082009							PID= 0.0
					loose	Brown	0.0-3.6 - Sand (f-m) some coarse sand	SP		
		/		Upper Sand						
		/								
10										
		4.0 / 5.0			loose	Brown	0.0-4.0 - Sand (f-m)	SP	Wet @ 10ft	
		/								
15		4.8 / 5.0								
					loose	Brown	0.0-3.9 - Sand (f-m)	SP		

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual Tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB04

Tetra Tech NUS, Inc.

PAGE: 1 OF 2

TtNUS Form 0018

8-18 seen

BORING LOG FOR: MASB-BG-SB-SB04
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: MASB-BG-SB-SB04
START DATE: 8/20/09
COMPLETION: DATE: 8/20/09
MON. WELL NO.: MASB-BG-MW04
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
				Upper Sand	loose	Brown	3.9 - 4.3 - silty sand (f)	SM		
					loose	Brown	4.3 - 4.8 - Sand (fine)	SP		
20										
				EOB @ 20ft						

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual Tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB04

Tetra Tech NUS, Inc.

PAGE: 2 OF 2

TINUS Form 0018

8-18 ft screen

BORING LOG FOR: MASB-BG-SB-SB05
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: MASB-BG-SB05
START DATE: 8/20/09
COMPLETION: DATE: 8/20/09
MON. WELL NO.: NO WELL
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
0		3.9/5.0	MASB-BG-SB-SB05-0001 1430	Upper Sand	loose	Dark Brown/Brown	0.0-0.6 - organic sand (f) w/ silt 0.6-2.6 - sand (f-m) 2.6-3.9 - sand (f-m) some coarse sand	PT/SP SP	Dry	PID=0.0
		/	MASB-BG-SB-SB05-0110 1435							
5		3.0/5.0			loose	Brown	0.0-3.0 - Sand (f-m) trace coarse sand	SP	Dry	PID=0.0
		/								
10		/								
		3.5/5.0			loose	Brown	0.0-0.2 - sand (f-m) 0.2-0.5 - sand (f) w/ silt 0.5-1.7 - sand (f-m) 1.7-1.9 - sand (f) w/ silt 1.9-3.5 - sand (f-m) trace coarse sand	SP/SM SP/SM SP		
		/								
15		5.0/5.0			loose	Brown	0.0-5.0 - sand (m) and coarse sand		wet @ 15'	

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual Tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

Tetra Tech NUS, Inc.

BORING NO.: SB05

TtNUS Form 0018

BORING LOG FOR: NASB-BG-SB-SB05
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-BG-SB-SB05
START DATE: 8/20/09
COMPLETION: DATE: 8/20/09
MON. WELL NO.: ~~NASB-BG-MW~~ NO WELL
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
				Upper Sand						
20										
				EOB @ 20'						

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB05

Tetra Tech NUS, Inc.

TtNUS Form 0018

BORING LOG FOR: MASR-BG-SB-SB06
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: MASR-BG-SB-SB06
START DATE: 8/18/09
COMPLETION: DATE: 8/18/09
MON. WELL NO.: MASR-BG-MW16
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
0		4.4 / 5.0	MASR-BG-SB-SB06-001 1445	0.0	loose / Dense	Dark Brown / Brown	0.0-0.2 - Organics sand(f) and silt 0.2-3.8 - sandy (f) silt	OHC / SM	Dry	PID=0.0
							3.8-4.4 - silt some clay, trace sand(f)			
		/	MASR-BG-SB-SB06-~~004~~ 1450	0.0						
5		5.0 / 5.0		Transition Unit 5'	Dense	Brown	0.0-5.0 - silty Clay	CL	Wet at 5'	PID=0.0
		/								
10		/								
		5.0 / 5.0			Soft / Soft	Gray / Brown	0.0-3.5 - Clay 3.5-5.0 - sandy (f) silt	CL / SM		
		/								
15		5.0 / 5.0			Soft	Brown	0.0-3.0 - silty sand	SM		

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual Tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB06

Tetra Tech NUS, Inc.

PAGE: 1 OF 2

TtNUS Form 0018

Screen 13-18 ft
6 liners

BORING LOG FOR: NASB-BG-SB-SB06
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-BG-SB-SB06
START DATE: 8/18/09
COMPLETION: DATE: 8/18/09
MON. WELL NO.: NASB-BG-SB MW06
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
				Transition Unit						
18										
					Soft	Gray	3.0-5.0 - ~~Clay~~ Silty Clay w/ Sand (f)	CL		
20										
		5.0/5.0			Soft	Gray	0.0-5.0 - Clay some interbeds of Clay w/ sand (f)	CL		
25										
				EOB @ 25'						

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual Tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB06

Tetra Tech NUS, Inc.

TtNUS Form 0018

BORING LOG FOR: MASB-BG-SB-SD07
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: MASB-BG-SB-SD07
START DATE: 8/18/06
COMPLETION: DATE: 8/18/06
MON. WELL NO.: MASB-BG-MW07
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
0		3.4/5.0	MASB-BG-SB-SD07-0001 1320		loose/soft	Dark Brown/Brown	0.0-0.3- organic material sand (f) and silt 0.3-3.4- silty sand (f)	OH/SM	Dry	PID=0.0
		/	MASB-BG-SB-SD07-0100 1325	transition unit					Wet at 4 ft.	
5		4.8/5.0		9'	Soft	Brown	0.0-4.0- silty sand (f) some Clay	SM		PID=0.0
		/			Soft	Gray	4.0-4.8 - silty Clay	CL		
10		/		Clay @ 9'						
		5.0/5.0			Soft	Gray	0.0-5.0-Clay	CL		
		/								
15		5.0/5.0			Soft	Gray	0.0-5.0 -Clay	CL		

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual Tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SD07

Tetra Tech NUS, Inc.

PAGE: 1 OF 2

TtNUS Form 0018

4-9 screen
5 liners

BORING LOG FOR: NASB-BG-SB-SB07
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-BG-SB-SB07
START DATE: 8/18/09
COMPLETION: DATE: 8/18/09
MON. WELL NO.: NASB-BG-MW07
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
				Clay			Clay			
20										
				EOB @ 20'						

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual Tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB07

Tetra Tech NUS, Inc.

TtNUS Form 0018

BORING LOG FOR: MASB-BG-SB-SB08
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: MASB-BG-SB-SB08
START DATE: 8/18/09
COMPLETION: DATE: 8/18/09
MON. WELL NO.: MASB-BG-MW08
CHECKED BY:

DEPTH (FEET) 0	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
		4.6 / 5.0	MASB-BG-SB-SB08-0001 1225		loose	Dark Brown/	0.0-0.05 organic material	~~PT~~	Dry	PID=0.6
					Sl. Dense	Brown	0.05-1.0 - Silty Sand (f)	SM		
					Dense	Brown	1.0-2.0 - Silt some sand (f) trace clay	SM		
		/	MASB-BG-SB-SB08-0110 1230	Transition Unit	Sl Soft	Brown	2.0-4.6 - Silt some clay, trace sand (f)	SM	wet at 2.5 ft	
5		2.5 / 5.0								
					Sl. Soft	Brown	0.0-2.5 - Sandy (f) silt	SM		PID=0.0
		/								
		/								
10										
		5.0 / 5.0			Soft	Brown	0.0-1.2 - Sandy (f) silt some clay	SM		
				Clay @ 11.2'	Soft	Gray	1.2-5.0 - Clay	CL		
		/								
15		5.0 / 5.0								
					Soft	Gray	0.0-5.0 - Clay - Fragment of seashell found at 3.8	CL		

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB08

Tetra Tech NUS, Inc.

PAGE: 1 OF 12

TtNUS Form 0018

screen 5-10
silters

BORING LOG FOR: NASB-BG-SB-SB08
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-BG-SB-SB08
START DATE: 8/18/09
COMPLETION: DATE: 8/18/09
MON. WELL NO.: NASB-BG-MW08
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
				Clay			Clay			
10										
				EOB. @ 20'						

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual Tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB08

Tetra Tech NUS, Inc.

PAGE: 2 OF 2

TtNUS Form 0018

.26

BORING LOG FOR: MASB-BG-SB-SB09
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: MASB-BG-SB-SB09
START DATE: 8/17/09
COMPLETION: DATE: 8/17/09
MON. WELL NO.: MASB-BG-MW09
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
0		2.5 / 5.0	MASB-BG-SB-SB09-0001 1530		Sl. Dense	Brown	0.0-0.1 - organic silt and sand (f)	PT/SM	Dry	PID=0.0
			MASB-BG-SB-Dup02				0.1-1.0 - Silt some sand (f)			
					Dense	Brown	1.0-2.0 - Silt trace sand (f)		Moist	
							2.0-2.5 - Silt and sand (f)			
		/	MASB-BG-SB-SB09-0010 1535							
				Transition Unit						
5		4.0 / 5.0			Sl. Dense	Brown			Wet @ 5'	
							0.0-2.0 - Silt some sand (f) trace clay	SM		PID=0.0
		/			Sl. Dense	Brown	2.0-4.0 - silt w/ clay trace sand (f)	SM/ML		
10		/								
		5.0 / 5.0		Clay @ 10'	Soft	Brown	0.0-2.0 - Clay trace silt	CL		
					Soft	Gray	2.0-5.0 - Clay	CL		
		/								
15		5.0 / 5.0					0.0-5.0 - Clay	CL		

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual Tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB09

Tetra Tech NUS, Inc.

PAGE: 1 OF 2

TtNUS Form 0018

20ft DPT well screen 5-10ft. 5 liners.

BORING LOG FOR: NASB-BG-SB-SB09
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-BG-SB-SB09
START DATE: 8/17/09
COMPLETION: DATE: 8/17/09
MON. WELL NO.: NASB-BG-MW09
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA *METHOD* = [FID, (PPM)]
				Clay			Clay			
20										
				EOB @ 20'						

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB09

Tetra Tech NUS, Inc.

TtNUS Form 0018

BORING LOG FOR: NASB-BG-SB-SB10
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-BG-SB-SB10
START DATE: 8/17/09
COMPLETION: DATE: 8/17/09
MON. WELL NO.: NASB-BG-MW10
CHECKED BY:

DEPTH (FEET) 0	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
		3.7 / 5.0	NASB-BG-SB-SB10-0001 1230		loose	Brown	0.0-0.6 - Sand (f-m)	SP		
					Sl. Dense		0.6-1.6 - silt some sand (f) trace clay	SM		PID=0.0
					Dense	Brown	1.6-3.7 - silt trace clay	SM		
		/	NASB-BG-SB-SB10-0100 1235	Transition Unit						
5		5.0 / 5.0							wet at 5 ft.	
					Dense	Brown	0.0-2.0 - Silt trace clay	SML		PID=0.0
		/					2.0-5.0 - Interbedded sand (f) and silt and clayey silt trace sand (f)	SM		
		/								
10										
		5.0 / 5.0		Clay @ 10'	Soft	Brown	0.0-2.5 - Silty clay trace sand (f)	CL		
					Soft	Gray	2.5-5.0 - Clay	CL		
		/								
15		5.0 / 5.0								
					Soft	Gray	0.0-5.0 - Clay	CL		

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual Tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB10

Tetra Tech NUS, Inc.

TtNUS Form 0018

well screen 5-10 ft.

BORING LOG FOR: NASB-BG-SB-SB10
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-BG-SB-SB10
START DATE: 8/17/09
COMPLETION: DATE: 8/17/09
MON. WELL NO.: NASB-BG-MW10
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA *METHOD* = [FID, (PPM)]
				Clay				CL		
20										
				EOB @ 20'						

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB10

Tetra Tech NUS, Inc.

TtNUS Form 0018

BORING LOG FOR: MASB-BG-SB-SB11
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: MASB-BG-SB-SB11
START DATE: 8/17/09
COMPLETION: DATE: 8/17/09
MON. WELL NO.: MASB-BG-MW11
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
0		4.8 / 5.0	MASB-BG-SB-SB11-0001 1355		Loose/ Dense	Dark Brown/ Brown	0.0-0.3- organic material 0.3-3.3- Silt trace sand(f)	OH/ SM		PID=0.0
					Sl. Dense	Brown	3.3-4.8- Silt w/ sand (f)	SM		
		/	MASB-BG-SB-SB11-1400	Transition Unit						
5		5.0 / 5.0							Wet @ 5 ft	
					Soft	Brown	0.0-5.0- silt w/ clay some sand (f) some sand(f) silt interbed.	SM		PID=0.0
		/								
10		/								
		5.0 / 5.0		Clay @ 10'	Soft	Gray	0.0-5.0- Clay with 4 one inch layers of clay w/ sand (f)	CL		
		/								
15		5.0 / 5.0			Soft	Gray	0.0 5.0 - Clay	CL		

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual Tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB11

Tetra Tech NUS, Inc.

TtNUS Form 0018

Well Screen 5-10 ft
slivers -

BORING LOG FOR: MABR-BG-SB-SB11
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: MABR-BG--SB-SB11
START DATE: 8/17/09
COMPLETION: DATE: 8/17/09
MON. WELL NO.: MABR-BG-MW11
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
				Clay			Clay			
20										
				EOB @ 20'						

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB10

Tetra Tech NUS, Inc.

TtNUS Form 0018

BORING LOG FOR: NASB-BG-SB-SB12
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-BG-SB-SB12
START DATE: 8/18/09
COMPLETION: DATE: 8/18/09
MON. WELL NO.: NASB-BG-MW12
CHECKED BY:

DEPTH (FEET) 0	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
		4.2 / 5.0	NASB-BG-SB-SB12-0001 0900		loose/ Dense	Dk Brown/ Brown	0.0-0.2- organic material - silt and sand (f) 0.2-2.0- silt and sand (f)	~~PT~~/ SM	dry	PID = 0.0
					Dense	Brown	2.0-4.2- silt w/ clay and some sand (f)	SM		
		/	NASB-BG-SB-SB12-0110 0905							
									wet @ 3 ft	
5		4.6 / 5.0		Transition Unit						PID = 0.0
					Sl. dense	Brown	0.0-4.6- silty clay	ML		
		/								
		/								
10										
		5.0 / 5.0			Sl. Dense	Brown	0.0-3.7- silty clay	ML		
				Clay @ 13.7'	Soft	Gray	3.7-5.0 - Clay	CL		
		/								
15		5.0 / 5.0								
					Soft	Gray	0.0-5.0 - Clay	CL		

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB12

Tetra Tech NUS, Inc.

TINUS Form 0018

5-10 screen slivers

BORING LOG FOR: NASB-BG-SB-SB12
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-BG-SB-SB12
START DATE: 8/18/09
COMPLETION: DATE: 8/18/09
MON. WELL NO.: NASB-BG-MW12
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
				Clay	Soft	Grey	0.0-5.0 clay	CL		
20										
				EOB 20'						

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual Tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB12

Tetra Tech NUS, Inc.

TINUS Form 0018

BORING LOG FOR: MASB-BG-SB-SB13
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: MASB-BG-SB-SB13
START DATE: 8/18/09
COMPLETION: DATE: 8/18/09
MON. WELL NO.: MASB-BG-MW13
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
0		4.2 / 5.0	MASB-BG-SB-SB13-0001 1000		loose	Dark Brown/ Brown	0.0-0.2- organic material sand (f) and silt	OM	Dry	PID=0.0
			MASB-BG-Dup03-081809				0.2-2.0- silt and sand (f)			
							2.0-4.2- silt and sand (f) trace clay	SM		
		/	MASB-BG-SB-SB13-0110 1005							
									wet at 3ft	
5		4.8 / 5.0		transition unit						
					St. Dense	Brown	0.0-4.8- clayey silt trace sand (f)	SML		PID= 0.0
		/								
		/								
10										
		5.0 / 5.0			soft	Brown	0.0-5.0- silty clay	ML		
		/								
15		5.0 / 5.0		Clay @ 15'	soft	Gray	0.0-5.0- clay	CL		

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB13

Tetra Tech NUS, Inc.

PAGE: 1 OF 2

TtNUS Form 0018

5-10 screen
silicers

BORING LOG FOR: NASB-BG-SB-SB13
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-BG-SB-SB13
START DATE: 8/18/09
COMPLETION: DATE: 8/18/09
MON. WELL NO.: NASB-BG-MW13
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
				Clay			Clay			
20										
				EOB @ 20'						

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB13

Tetra Tech NUS, Inc.

TtNUS Form 0018

5 liners 20 ft

BORING LOG FOR: NASB-BG-SB-SB14
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-BG-SB-SB14
START DATE: 8/18/09
COMPLETION: DATE: 8/18/09
MON. WELL NO.: NA
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
0		5.0 / 5.0	NASB-BG-SB-SB14-0001 1100		loose / Sl. Dense	Dark Brown / Brown	0.0-0.2 organic material, silt and sand(f) / 0.2-1.0- silt and sand(f)	OH / SM	Dry	PID= 0.0
					Dense	Brown	1.0-5.0-silt some clay, trace sand(f)	SML	Moist	
		/	NASB-BG-SB-SB14-0110 1105							
5		5.0 / 5.0		transition unit	Dense	Brown	0.0-2.0-silt some clay, trace sand(f)	SML	Wet @ 5"	PID= 0.0
		/			Sl. Soft	Brown	2.0-5.0- silty clay	ML		
10		5.0 / 5.0								
		/			Soft	Brown	0.0-3.0- silty clay	ML		
				Clay @ 13'	Soft	Gray	3.0-5.0- clay	CL		
		/								
15		5.0 / 5.0			Soft	Gray	0.0-5.0-clay	CL		

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual Tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB14

Tetra Tech NUS, Inc.

PAGE: 1 OF 2

TtNUS Form 0018

Sliver's

BORING LOG FOR: NASB-BG-SB-SB14
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-BG-SB-SB14
START DATE: 8/18/09
COMPLETION: DATE: 8/18/09
MON. WELL NO.: NA
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
				Clay			Clay			
20										
				EOB @ 20'						

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB14

Tetra Tech NUS, Inc.

TtNUS Form 0018

BORING LOG FOR: NASB-BG-SB-SB15
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-BG-SB-SB15
START DATE: 8/25/09
COMPLETION: DATE: 8/25/09
MON. WELL NO.: NASB-BG-MW15
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
0		4.0 / 5.0	NASB-BG-SB-SB15-0001 1400	Transition Unit	Soft/ Dense	Dark Brown / Brown	0.0-0.1-Organic silt 0.1-1.5-Silt	PT SM	moist	PID=0.0
					Dense	Brown	1.5-4.0-Silt w/ Clay	SM2	Dry	
		/	NASB-BG-SB-SB15 0110 1405							
5		5.0 / 5.0			Dense	Brown	0.0-5.0-Silt w/ Clay	ML	moist	PID=0.0
		/								
10		5.0 / 5.0								
		/			Sl. Soft	Brown	0.0-5.0-Silty Clay	ML	Water @ 10 ft but hard to tell due to Dense material	
		/								
15		5.0 / 5.0			Soft	Brown	0.0-3.8-Silty Clay	ML		

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB15

Tetra Tech NUS, Inc.

TtNUS Form 0018

BORING LOG FOR: NASB-BG-SB-SB15
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-BG-SB-SB15
START DATE: 8/25/09
COMPLETION: DATE: 8/25/09
MON. WELL NO.: NASB-BG-MW15
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
		/		Clay @ 18.8'	Soft	Gray	3.8 - 5.0 - Clay trace silt	CL		
							↓			
20		/								
		5.0 / 5.0			Soft	Dark Gray	6.0-5.0 - Clay shell fragment @ 3.8'	CL		
		/								
25		4.5 / 5.0								
		/		Transition Unit	Soft	Gray	0.0-2.2 - Clay w/ silt and sand (f) sand layer at 1.4'-1.6	CL	very wet at 25-27	
					~~Loose Soft~~	Brown	2.2-2.7 - Sand (f-m)	SP		
					~~Soft Loose~~	Brown	2.7-3.2 - Clay w/ silt and sand (f)	CL		
		/			loose	Brown	3.2-4.5 - Sand (f-m)	SP		
30							↓			
		/		Refusal @ 30'	Potential till		*Try to get 30-35' but hit Refusal @ 30.2. Only 1 large piece of gravel comes up in liner. → Potential Till			

TYPE OF DRILLING RIG:	Geoprobe
METHOD OF ADVANCING BORING:	DPT
METHOD OF SOIL SAMPLING:	Dual Tube
METHOD OF ROCK CORING:	NA
GROUNDWATER LEVELS:	
OTHER OBSERVATIONS:	

BORING NO.: SB15

Tetra Tech NUS, Inc.

PAGE: 2 OF 2

TINUS Form 0018

24-29 screen

BORING LOG FOR: MASB-BG-SB-SB16
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: MASB-BG-SB-SB16
START DATE: 8/25/09
COMPLETION: DATE: 8/25/09
MON. WELL NO.: MASB-BG-MW16
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
0		4.0 / 5.0	MASB-BG-SB-SB16-0001 1045		Soft	Dark Brown / Brown	0.0-0.2 - Organic silt		moist	PID=0.0
					Dense	Gray/Brown	0.2-1.0 - silt some sand (f) 1.0-4.0 - Silt trace sand (f)	SM		
		/	MASB-BG-SB-SB16-0001 1050 MASB-BG-SB-DUPOG-0825009							
5		5.0 / 5.0		Transition Unit	Dense	Gray/ Brown	0.0-5.0 - Silt trace clay	CL		PID=0.0
		/								
10		/								
		5.0 / 5.0			Dense	Gray / Brown	0.0-5.0 - silt trace clay	ML	Wet @ 10 ft but hard to tell b/c of Dense material.	
		/								
15		5.0 / 5.0		Clay @ 15	Soft	Gray	0.0-5.0 - Clay	CL		

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual Tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB16

Tetra Tech NUS, Inc.

TtNUS Form 0018

BORING LOG FOR: MASB-BG-SB-SB16
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: MASB-BG-SB-SB16
START DATE: 8/25/09
COMPLETION: DATE: 8/25/09
MON. WELL NO.: MASB-BG-MW16
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
		/		Clay						
20		/								
		5.0/5.0			Soft	Dark Gray	0.0-5.0- Clay	CL		
25		4.5/5.0								
			27.4'		Soft	Dark Gray	0.0-2.9- Clay	CL		
		/			soft	Brown	2.9-3.0- Sand (f-m) and silt trace clay	SM		
				Transition Unit	soft	Gray/ Brown	3.0-3.3- Silt w/ clay trace sand (f) pieces of gravel @ 3.1	SM		
		/			loose	Brown	3.3-4.5- Sand (f-m)	SP		
30										
		1.0/2.0			Soft	Gray	0.0-1.0- Silt and sand (f) w/ gravel Potential Till	GM		
				Refusal @	32 ft					

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB16

Tetra Tech NUS, Inc.

PAGE: 2 OF 2

TINUS Form 0018

screen 25-30

BORING LOG FOR: MASB-BG-SB-SB17
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: MASB-BG-SB-SB17
START DATE: 8/25/09
COMPLETION: DATE: 8/25/09
MON. WELL NO.: MASB-BG-MW17
CHECKED BY:

DEPTH (FEET) 0	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
		4.2 / 5.0	MASB-BG-SB-SB17-0001 0815		Sl. soft / hard	Dark Brown / Brown	0.0-0.4 - organic silt some clay 0.4-4.2 - silt trace clay	OH / SM	Moist (from near high beetal)	PID=0.0
		/	MASB-BG-SB-SB17-0110 0820							
5		5.0 / 5.0	~~MASB-BG-SB-~~ CPS	Transition Unit	Dense	Brown	0.0-5.0 - silt w/ clay	SM/ML	Moist	PID= 0.0
		/								
10		/								
		~~5.0~~ 4.5 / 5.0			Sl. Soft / Soft	Gray / Brown	0.0-3.3 - Silty Clay 3.3-4.0 - Clay	CL	Wet @ 10 ft	
					Soft	Gray / Brown	4.0-~~5.0~~ 4.5 - Interbedded layers of silty sand and silty clay	SM / ML		
		/								
15		3.8 / 5.0			loose	Brown	0.0-2.4 - sand (f-m)	SP	Very water @ 15 ft where sand.	

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual Tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

Tetra Tech NUS, Inc.

BORING NO.: SB17

TINUS Form 0018

Screen 11.5 - 16.5

17.3 Refusal

BORING LOG FOR: MASB BG-SB-SB17
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: MASB-BG-SB-SB17
START DATE: 8/25/09
COMPLETION: DATE: 8/25/09
MON. WELL NO.: MASB-BGMW17
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
				↓	soft	Gray	2.4-3.3 - Silt and Sand (f-m)	SM		
					Sl. Dense	Gray	3.3-3.8 - Silt and Sand (fin) some Clay some gravel pieces (Potential till).	~~SM~~ GM		
				Refusal/EOB @ 17.3'						
20							Refusal @ 17.3 ft bgs			

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual Tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB17

Tetra Tech NUS, Inc.

TtNUS Form 0018

BORING LOG FOR: NASB-BG-SB-SB18
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-BG-SB-SB18
START DATE: 8/13/09
COMPLETION: DATE: 8/13/09
MON. WELL NO.: NASB-BG-MW18
CHECKED BY:

DEPTH (FEET) 0	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
1		5.0 / 5.0	NASB-BG-SB-SB18-0001 1330	Upper Sand	Soft	Dark Brown/ Brown	0.0-0.2 - organic fibrous material - sand (f) and silt ~~trace~~ some; 0.2-1.0 - Sand (f-m)	SM	Moist	PID = 0.0
					Soft	Brown	1.0-5.0 - sand (f-m)	SP	Wet at 2.5 ft	
5		5.0 / 5.0	1350 NASB-BG-SB-SB18-0107		Soft	Brown	0.0-1.5 - sand (f-m)	SP		PID = 0.0
			*Actual sample taken from 1-6.5 ft	Transition Clay @ 7.5 ft	Soft	Gray/ Brown	1.5-2.5 - sand (f) and silt trace clay	SM		
					Soft	Gray	2.5-5.0 - Clay trace silt	CL		
10		3.0 / 3.0			Soft	Gray	Clay	CL		
							Refusal Bedrock @ 13 ft			
				Bedrock @ 13'						
15										

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual Tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB18

Tetra Tech NUS, Inc.

PAGE: 1 OF 1

TtNUS Form 0018

Screen 3-8

BORING LOG FOR: NAS13-BG-SB-SB19
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NAS13-BG-SB-SB19
START DATE: 8/13/09
COMPLETION: DATE: 8/13/09
MON. WELL NO.: NAS13-BG-MW19
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
0		3.0 / 5.0	NAS13-BG-SB-SB19-0001 1520	Upper Sand	Loose	Dark Brown	0.0-0.2 - Organics fibrous material	OH/SM	Moist	PID= 0.0
					Loose	Brown	0.2-2.0 - Sand (f) and silt			
							2.0-3.0 - Sand (f-m)	SP		
		/	NAS13-BG-SB-SB19-0105 1530						Wet at 2.6 ft	
				5'						
5		5.0 / 5.0		Transition	Loose	Gray/Brown	0.0-1.5 - Sand (f) and silt	SM		
				Clay @ 6.5'	Soft	Gray	1.5-5.0 - Clay	CL		PID= 0.0
		/								
		/								
10					Soft	Gray	0.0-5.0 - Clay	CL		
		5.0 / 5.0								
		/								
15		/								
				EOB @ 15'						

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB19

Tetra Tech NUS, Inc.

PAGE: 1 OF 1

TtNUS Form 0018

1.5 - 6.5 screen - 1 ft sand / 1/2 ft bentonite on top of screen.

BORING LOG FOR: NASB-BG-SB-SB20
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-BG-SB-SB20
START DATE: ~~8/14/09~~ 8/14/09 (CB)
COMPLETION: DATE: ~~8/14/09~~
MON. WELL NO.: ~~NASB-BG-MW20~~ No well on
CHECKED BY: 8/14/09

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
0		4.5/5.0		Transition Unit	Loose/Dense	Dark Brown/Gray/Brown	0.0-0.3 - Organic material sand(f) and silt 0.3-4.5 - Silt w/ Sand (f)	~~OL~~ SM	Moist	PID=0.0
5		5.0/5.0			Dense/Soft	Gray	0.0-3.4 - Silt some sand(f) 3.4-5.0 - Clay	SM/CL	Wet at 3.4	PID=0.0
10		2.0/2.0		Clay @ 8.4'	Soft	Gray	0.0-2.0 - Clay	CL		
				Refusal @ 12			Refusal at 12 ft.			
15										

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual Tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB20

Tetra Tech NUS, Inc.

PAGE: 1 OF 1

TINUS Form 0018

* Supposed to be Upper Sand location but no upper sand. No soil sampling performed and no well installed. Move location approximately 250 ft west toward Picnic Pond to see if upper sand present.

BORING LOG FOR: MASB-BG-SB-SB21
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: MASB-BG-SB-SB21
START DATE: 8/14/09
COMPLETION: DATE: 8/14/09
MON. WELL NO.:
CHECKED BY:

DEPTH (FEET) 0	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
		2.5 / 5.0	MASB-BG-SB-SB21-GO01 0955	Upper Sand	loose	Dark Brown	0.0-0.4 - organics material	~~PT~~	moist	PID=0.0
					~~Orange/ Loose Brown~~	orange/ Brown	0.4-2.5 - sand (f-m)	SP		
		/	MASB-BG-SB-SB21 0105 1000							
									wet at 3.0	
5		5.0/5.0		Transition Unit	~~Brown Si. Dense~~	Brown	0.0-3.0 - sand (f) and silt	SM		PID=0.0
					~~Si. Dense~~	Gray	3.0-5.0 - silt some clay trace sand (f)	SM		
		/								
		/								
10				Clay @ 10'	soft	Gray	6.0-5.0 - Clay	CL		
		5.0/5.0								
		/								
15		/								
				EOB @ 15'						

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Disel tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB21

Tetra Tech NUS, Inc.

PAGE: 1 OF 1

TINUS Form 0018

*. well screen - 1-6 ft w/ 1/2' sand 1/2' bentonite to surface.

BORING LOG FOR: NAS13-BG-SB-SB22
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NAS13-BG-SB-SB22
START DATE: 8/14/09
COMPLETION: DATE: 8/14/09
MON. WELL NO.: NA
CHECKED BY:

DEPTH (FEET) 0	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
		3.2 / 5.0	NAS13-BG-SB-SB22-0001 1110	Upper Sand	loose	Dark Brown/ Brown	0.0-0.2-Organic material 0.2-3.2- Sand (f-m)	~~OM~~/ SP	moist	PID=0.0
					Sl. Dense	Brown	2.2-3.2 - Sand (f) and silt	SM		
		/	NAS13-BG-SB-SB22-0103 1120	Degrading Unit					wet at 2.5 ft	
5		~~4.0~~ 3.8 / 5.0								
					Sl. Dense	Brown	0.0-2.8 - Silt some Sand (f)	SM		PID=0.0
		/			Sl. Dense	Brown/ Orange	2.8-3.2- Sand (f) w/ silt	SM		
					Soft	Gray	3.2-3.8- Silt some clay	~~SM~~ ML		
10		5.0 / 5.0								
		/		Clay @ 10'	Soft	Gray	0.0-5.0- Clay	CL		
		/								
		/		EOB @ 15'						

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual Tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB22

Tetra Tech NUS, Inc.

PAGE: 1 OF 1

TtNUS Form 0018

BORING LOG FOR: NASB-BG-SB-SB23
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB BG-SB-SB23
START DATE: 8/17/09
COMPLETION: DATE: 8/17/09
MON. WELL NO.: NASB-BG-MW23
CHECKED BY:

DEPTH (FEET) 0	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
		3.6 / 5.0	NASB-BG-SB-SB23-0001 0845		loose / Sl. Dense	Dark Brown / Brown	0.0-0.2 - Organic silt and sand(f) 0.2-1.1 - Sand(f) w/ silt	OH/SM	Dry	PID=0.0
					Sl. Dense	Brown	1.1-3.6 - Silt some sand(f) trace clay	SM	Moist	
		/	NASB-BG-SB-SB23-0110 0850							
5		4.6 / 5.0		Transition Unit	Dense	Brown	0.0-1.0 - Silt some sand(f) trace clay 1.0-4.6 - Silt some clay	SM	Wet at 6 ft. but hard to tell due to dense silt.	PID=0.0
		/								
10		/								
		4.8 / 5.0			Soft	Brown	0.0-1.0 - Clay w/ silt	CL		
					Soft	Gray	1.0-3.0 - Clay	CL		
		/			loose	Brown	3.0-4.8 - Sand f-m)	SP		
15		5.0 / 5.0		Clay @ 15'	loose	Brown	0.0-1.0 - Sand f-m)	SP		
					Soft	Gray	1.0-5.0 - Clay	CL		

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB23

Tetra Tech NUS, Inc.

TINUS Form 0018

Well screen 6-16 ft

BORING LOG FOR: NASB-BG-SB-SB23-
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-BG-SB-SB23
START DATE: 8/17/09
COMPLETION: DATE: 8/17/09
MON. WELL NO.: NASB-BG-MW23
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA *METHOD* = [FID, (PPM)]
				Clay						
20										
				EOBG 20ft						

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB23

Tetra Tech NUS, Inc.

PAGE: 2 OF 2

TINUS Form 0018

BORING LOG FOR: MASB-BG-SB-SB24
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: MASB-BG-SB-SB24
START DATE: 8/14/09
COMPLETION: DATE: 8/14/09
MON. WELL NO.: MASB-BG-MW24
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
0		3.4 / 5.0	MASB-BG-SB-SB24-0001 1310 MASB-BG-SB-DUP01	Transition Unit	loose / sl. dense	Dark Brown / Brown	0.0-0.1 - Organic material 0.1-1.2 - Sand(f) w/ Silt	~~PT~~ / SM	Dry	PID=0.0
					Dense	Brown	1.2-3.4 - Silt and Sand(f)	SM		
		/	MASB-BG-SB-SB24-0110 1315							
5		5.0 / 5.0			Dense	Brown / ~~Gray~~	0.0-5.0 - Silt some Sand(f) trace Clay	SM	wet at 6.0 ft	PID=0.0
		/								
		/								
10		5.0 / 5.0		Clay @ 11'	Dense	Brown	0.0-4.0 - Clay w/silt	MCL		
					soft	Gray	4.0-5.0 - Clay	CL		
		/								
15		5.0 / 5.0			soft	Gray	0.0-5.0 - Clay	CL		

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB24

Tetra Tech NUS, Inc.

PAGE: 1 OF 2

TtNUS Form 0018

well screen 3-13 ft.

BORING LOG FOR: NASB-BG-SB-SB24
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-BG-SB-SB24
START DATE: 8/14/09
COMPLETION: DATE: 8/14/09
MON. WELL NO.: NASB-BG-MW24
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
				Clay	Soft	Gray	0.0-5.0 -Clay	CL		
				↓			↓			
20										
				EOB @ 20'						

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB24

Tetra Tech NUS, Inc.

TtNUS Form 0018

BORING LOG FOR: NASB-BG-SB-SB25
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-BG-SB-SB25
START DATE: 8/14/09
COMPLETION: DATE:
MON. WELL NO.:
CHECKED BY:

DEPTH (FEET) 0	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
		4.8 / 5.0	NASB-BG-SB-SB25-0001 1200	Transition Unit	loose / Sl. Dense	Dark Brown / Brown	0.0-0.2-organics material 2.0-4.8- silt some sand(f) trace clay	~~SP~~ / SM	Moist	PID=0.0
		/	NASB-BG-SB-SB25-0110 1205						wet at 3.0 ft	
5		4.7 / 5.0			Sl. Dense	Brown	0.0-Silt some sand (f) trace clay	SM		PID=0.0
		/								
10		4.5 / 5.0			Sl. Dense	Brown	0.0-1.8-silt some sand(f) some clay	SM		
		/			loose	Brown	1.8-3.0- sand(f-m) some silt	SM		
					Sl. Dense	Brown	3.0-4.5- silt w/ sand (f) trace clay	SM		
		/								
15		5.0 / 5.0			soft	Gray	0.0-0.4- silt w/ sand (f) ~~0.4-5.0- Clay trace silt~~	SM		

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dedtube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB25

Tetra Tech NUS, Inc.

TINUS Form 0018

well screen 5'-15'

BORING LOG FOR: MASB-BG-SB-SB25
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: MASB-BG-SB-SB25
START DATE: 8/14/04
COMPLETION: DATE: 8/14/04
MON. WELL NO.: MASB-BG-MW25
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
17		/		Peat/Muck	Soft	Gray	0.4-5.0-Clay trace silt	SM/CL		
		/		↓			↓			
20		/								
		5.0/5.0		Clay @ 20'	Soft	Gray	0.0-5.0-Clay	CL		
		/					↓			
25		/		EOB @ 25'						
		/								
		/								
		/								

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB25

Tetra Tech NUS, Inc.

TINUS Form 0018

BORING LOG FOR: NASB-BG-SB-SB26
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-BG-SB-SB26
START DATE: 8/19/08
COMPLETION: DATE: 8/19/08 (CF)
MON. WELL NO.: ~~NASB-BG-MW26~~ / Wall
CHECKED BY:

DEPTH (FEET) 0	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
		1.8 / 5.0	NASB-BG-SB-SB26-0001 0845 LabQC		loose	Dark Brown/ Brown	0.0-0.3- organic 0.3-1.8- Sand (f-m) some coarse sand	~~PM~~ SP	Dry	PID=0.0
		/	NASB-BG-SB-SB26-0110 0850							
5		2.5 / 5.0			loose	Brown	0.0-2.5- Sand (m) some coarse sand	SP	Moist	PID=0.0
		/		From COC Upper Sand						
10		/								
		2.5 / 5.0			loose	Brown	0.0-2.5 -Sand (f-m)	SP	Moist	
		/								
15		2.4 / 5.0			loose	Brown	0.0-2.0- Sand (f-m) ~~trace silt~~ (CF)	SP	~~Wet @ 15ft~~ (CF)	

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual Tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB26

Tetra Tech NUS, Inc.

PAGE: 1 OF 2

TtNUS Form 0018

BORING LOG FOR: NASB-BG-SB-SB20
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-BG-SB-SB20
START DATE: 8/19/09
COMPLETION: DATE: 8/19/09
MON. WELL NO.: ~~NASB-BG-MW20~~ No well
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
		/			loose	Brown	2.0-2.4 - Sand (f-m) trace silt, iron staining at 2.1	SP	wet from 17-17.4. in silty zone.	
		/								
20				Upper Sand						
		3.2/5.0			loose	Brown	0.0-3.2- Sand (f) trace silt	SM		
		/								
25										
		3.0/5.0			loose	Brown	0.0-3.0- Sand (f-m)	SP		
		/								
		/							wet at 29.5 ft	
30				CXS						
		4.2/5.0	Transition Unit	EOB @ 30'	loose	Brown	0.0-2.0- Sand (f) w/ silt	SM		

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual Tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB26

Tetra Tech NUS, Inc.

PAGE: 2 OF 2

TINUS Form 0018

screen 15-25 13-23 7.1.09

BORING LOG FOR: NASB-BG-SB-SB26
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-BG-SB-SB26
START DATE: 8/19/09
COMPLETION: DATE: 8/19/09
MON. WELL NO.: No Well
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
		/		Transition Unit	Soft	Gray	2.0-4.2 - Silty Clay	CL		
35		5.0/5.0			Soft	Gray/Brown	8.0-5.0 - Silt and Sand (f) some clay	SM		
		/								
40		/								
		/		EOB @ 40'						
		/								
		/								
		/								

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual Tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB26

Tetra Tech NUS, Inc.

TtNUS Form 0018

BORING LOG FOR: NASB-BG-SB-SB27
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-BG-SB-SB27
START DATE: 8/19/09
COMPLETION: DATE: 8/19/09
MON. WELL NO.: NASB-BG-MW27
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
		0.8 / 5.0	NASB-BG-SB-SB27-0004 1145		loose	Dark Brown/ Brown	0.0-0.3- organics 0.3-0.8- sand(m) and coarse sand	OM/SP	DRY	PID=0.0
		/	NASB-BG-SB-SB27-0010 1150							
5		3.5 / 5.0		Upper Sand	loose	Brown	0.0-3.5- sand (f-m) some coarse sand	SP		PID=0.0
		/								
10		/								
		3.8 / 5.0			loose	Brown	0.0-3.8 -sand (f-m)	SP		
		/								
15		3.5 / 5.0			loose	Brown	0.0-3.5-sand (f-m)	SP		

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual Tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB27

Tetra Tech NUS, Inc.

TtNUS Form 0018

BORING LOG FOR: MASB-BG-SB-SB27
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: MASB-BG-SB-SB27
START DATE: 8/19/09
COMPLETION: DATE: 8/19/09
MON. WELL NO.: MASB-BG-MW27
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = {FID, (PPM)}
		/								
		/								
20										
		3.0/5.0		Upper Sand	loose	Brown	0.0-3.0- Sand (f-m) - Soil is wet at 1.6 to 1.9 ↗ trace silt at 1.9-2.0	SP	Wet Soil from 21.6 to 21.9.	
		/							moist	
25		4.6/5.0			loose	Brown	0.0- 4.6- Sand (f-m) ~~trace~~	SP		
		/							Wet at 28ft	
30		/								
		5.0/5.0			loose	Brown	0.0-2.5-Sand (f-m)			
					loose	Dark Brown	2.5-5.0-Sand (f-m)			

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual Tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB27

Tetra Tech NUS, Inc.

TINUS Form 0018

screen 25-35 a liners

BORING LOG FOR: MMBB-BG-SB-SB27
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: MMBB-BG-SB-SB27
START DATE: 8/19/09
COMPLETION: DATE: 8/19/09
MON. WELL NO.: MMBB-BG-MW27
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
		/								
35		4.3/5.0		Upper sand	loose	Brown	0.0-4.3 sand from iron staining at 0.0-1.0	SP		
		/								
40		/		TD 30 40ft						
		/								
		/								
		/								
		/								

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual Tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB 27

Tetra Tech NUS, Inc.

TtNUS Form 0018

BORING LOG FOR: MA83-BG-SB-SB28
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: MA83-BG-SB-SB28
START DATE: 8/19/09
COMPLETION: DATE: 8/19/09
MON. WELL NO.: MA83-BG-MW28
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
0		1.5 / 5.0	MA83-BG-SB-SB28-0001 1000		loose	Dark Brown/ Brown	0.0-0.3 - organic sand (f) and silt 0.3-1.5 - Sand (f-m) some coarse	~~OH~~ SP	Dry	PID=0.0
			MA83-BG-SB-Dup04-081909							
		/	MA83-BG-SB-SB28-0110 1005							
5		3.0 / 5.0		Upper sand	loose	Brown	0.0-1.5 - Sand (f-m) some coarse 1.5-3.0 - Sand (f-m)	SP		
		/								
		/								
10		3.0 / 5.0			loose	Brown	0.0-3.0 - Sand (f-m)	SP		
		/								
15		3.0 / 5.0			loose	Brown	0.0-3.0 - Sand (f-m)	SP	Moist	

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual Tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB28

Tetra Tech NUS, Inc.

TtNUS Form 0018

BORING LOG FOR: NASB-BG-SB-SB28
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-BG-SB-SB28
START DATE: 8/19/09
COMPLETION: DATE: 8/19/09
MON. WELL NO.: NASB-BG-MW28
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
20										
		3.3/5.0		upper sand	loose	Brown	0.0-3.3 - Sand (fm)	SP	Moist	
25		4.0/5.0			loose	Brown	0.0-4.0 - Sand (fm)	SP		
									Wet @ 28 ft	
30										
		4.5/5.0			loose	Brown	0.0-4.5 Sand (fm)			

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual Tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB28

Tetra Tech NUS, Inc.

TtNUS Form 0018

25-35 Sand

BORING LOG FOR: NASB-BG-SB-SB28
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-BG-SB-SB28
START DATE: 8/19/09
COMPLETION: DATE: 8/19/09
MON. WELL NO.: NASB-BG-MW28
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
		/		Upper Sand						
35		5.0/5.0			loose	Brown	0.0 - 5.0 - Sand (f-m)	SP		
		/								
		/								
40		/								
		/		EOB @ 40'						
		/								
		/								
		/								

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual Tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB28

Tetra Tech NUS, Inc.

TtNUS Form 0018

BORING LOG FOR: MBSB-BG-SB-SB29
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: MBSB-BG-SB-SB29
START DATE: 8/10/09
COMPLETION: DATE: 8/19/09
MON. WELL NO.: MBSB-BG-MW29
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
0		2.8/5.0	MBSB-BG-SB-SB29-0001 1345		loose	Dk Brown/ Brown	0.0-0.5 - organic silt and sand (f) 0.5-2.8 - Sand (f-m)	PT/ SP	Dry	PID=0.0
		/	MBSB-BG-SB-SB29-0002 1350							
5		3.0/5.0		Upper Sand	loose	Brown	0.0-3.0 - Sand (f-m) some coarse sand	SP		PID=0.0
		/								
10		/								
		3.0/5.0			loose	Brown	0.0-2.4 - Sand (f-m)	SP		
					Sl. Denser	Brown	2.4-2.6 - Sand (f) w/ silt - wet from 2.4 to 2.6.	SM		
		/					2.6-3.0 - Sand (f-m)			
15		2.3/5.0			loose	Brown	0.0-2.3 - Sand (f-m) some iron staining at 2.0.	SP		

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual Tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB29

Tetra Tech NUS, Inc.

PAGE: 1 OF 3

TtNUS Form 0018

BORING LOG FOR: NASB-BG-SB-SB20
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-BG-SB-SB20
START DATE: 8/19/09
COMPLETION: DATE: 8/19/09
MON. WELL NO.: NASB-BG-MW26
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
		/								
		/								
20										
		2.5/5.0		Upper Sand	loose	Brown	0.0-2.5 - Sand (f-m) some iron staining from 2.0 to 2.2	SP		
		/								
25		3.1/5.0			loose	Brown	0.0-3.1 - Sand (f-m), trace silt at 0.8 to 1.0	SP	wet @ 25'	
		/								
30		/								
		5.0/5.0			loose	Brown	0.0-5.0 - Sand (f-m)	SP		

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual Tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB20

Tetra Tech NUS, Inc.

TINUS Form 0018

Scan 28-32
8/19/09

BORING LOG FOR: NASB-BG-SB-SB29
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-BG-SB-SB29
START DATE: 8/19/09
COMPLETION: DATE: 8/19/09
MON. WELL NO.: NASB-BG-MW29
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
				upper Sand						
35				EOB @ 35'						

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual Tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB29

Tetra Tech NUS, Inc.

TtNUS Form 0018

BORING LOG FOR: NASB- BG- SB30
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: ~~G. Fellows~~ C. Race
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB- BG- SB30
START DATE: 11/11/09
COMPLETION: DATE: 11/11/09
MON. WELL NO.: NASB- BG- MW30
CHECKED BY:

DEPTH (FEET) 0	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
1		2.9/5.0	14:00 NASB-BG-SB30-0001			DK BROWN	0-0.45 SOIL ORGANIC MATTER			PID = 0.0
2						Reddish BROWN	0.45-1.0 F-M-C SAND w/ Tr. F. GVL	SW	MOIST	
3		/	14:05 NASB-BG-SB30-0107 *			TAN	1.0-2.3 " "	SW		
4						BROWN	2.3-2.45 F-M SAND	SP	MOIST	
5		/	*NOTE: ACTUAL SAMPLE FROM 1.0 TO 6.9 Ft bgs	UPPER		TAN	2.45-2.9 " "	SP		
6				SAND		BROWN	0-1.2 M-C SAND w/ Tr GVL	SW	MOIST	
7		3.6/5.0				OLIVE GREEN	1.2-1.8 F. SAND	SP	WET at 7.0	
8						"	1.8-1.9 F-M SAND	SP		
9		/				"	1.9-2.1 F. SAND / SILT	SM		
10						"	2.1-2.45 SILT	ML		
11		4.6/5.0					3.45-3.6 F. SAND	SP		
12							0-4.6 F. SAND	SP		
13		/								
14										
15		/								

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: 5' ACETATE LINER - DUAL TUBE
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS: 6.3 Ft BGS AFTER WELL INSTALLED.
OTHER OBSERVATIONS:

Tetra Tech NUS, Inc.

BORING NO.: NASB-BG-SB30

TtNUS Form 0018

BORING LOG FOR: NASB-BG-SB30
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: ~~C. Fellows~~ C. Rack
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-BG-SB30
START DATE: 11/11/09
COMPLETION: DATE: 11/11/09
MON. WELL NO.: NASB-BG-SB30
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
15		4.8/5.6		UPPER SAND		OLIVE GREEN	0-3.2 F. SAND	SP		
16							3.2-3.7 SILTY F. SAND	SM		
17		/					3.7-3.85 SILT	ML		
18							3.85-4.8 F. SAND	SP		
19		/		TRANSITION						
20										
		/		EOB						
		/								
		/								
		/								
		/								

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: 5' Acetate liners - Dual Tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

Tetra Tech NUS, Inc.

BORING NO. NASB-BG-SB30

TtNUS Form 0018

BORING LOG FOR: NASB-BG-SB31
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: ~~C. Fellows~~ C. Race
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-BG-SB31
START DATE: 11/11/09
COMPLETION: DATE: 11/11/09
MON. WELL NO.: NASB-BG-MW31
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
0										
1		3.0/5.0	12:30 NASB-BG-SB31-0001	UPPER SAND		DK BROWN	0-0.4' SOIL ORGANIC MATTER		MOIST	PID = 0.0
2						"	0.4-1.0 SILTY SAND	SM		
3		/	12:35 NASB-BG-SB31-0110			TAN	1.0-2.0 F-M-C SAND	SW		
4						GRAY	2.0-2.1 " " AND F. GVL	SW		
5		/	NASB-BG-SB-DUP07-111109			"	2.1-3.0 F-M-C SAND	SW	MOIST	
6						REDDISH ORANGE	2.2-2.2 M. SAND	SP		
7		2.9/5.0				GREENISH GRAY	2.2-2.9 F. SAND	SP		
8										
9		/								
10										
11		4.8/5.0				OLIVE GREEN	0-0.4' SILTY F. SAND	SM	WET	
12						"	0.4-0.65 SILT	ML		
13		/				"	0.65-0.95 F. SAND	~~SP~~ SP2		
14						REDDISH MOTTLED	0.95-3.7 F. SAND	~~SP~~		
15		/				OLIVE GRN	3.7-3.8 SILT	ML		
						"	3.8-4.8 F. SAND	SP		

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: 5' Acetate liner Dual Tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS: 9.3 ft bgs measured after well installed
OTHER OBSERVATIONS:

Tetra Tech NUS, Inc.

BORING NO.: NASB-BG-SB31

TtNUS Form 0018

BORING LOG FOR: NASB-BG-SB31
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: ~~C. Fellows~~ C. Race
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-BG-SB31
START DATE: 11/11/09
COMPLETION: DATE: 11/11/09
MON. WELL NO.: NASB-BG-MW31
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA *METHOD* = [FID, (PPM)]
16		4.7		1		OLIVE GREEN	FINE SAND	SP	WET	
17		/5.0		URBSE SAND						
18		/								
19										
20		/								
				EOB						
		/								
		/								
		/								
		/								
		/								

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: 5' long acetate liners / Dual Tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

Tetra Tech NUS, Inc.

BORING NO.: NASB-BG-SB31

TtNUS Form 0018

BORING LOG FOR: NASB-BG-SB32
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: ~~C. Fellows~~ C. Race
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-BG-SB32
START DATE: 11/11/09
COMPLETION: DATE: 11/11/09
MON. WELL NO.: NASB-BG-MW32
CHECKED BY:

DEPTH (FEET) 0	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = PID [FID, (PPM)]
1		2.75/5.0	10:45 NASB-BG-SB32-0001	UPPER SAND		DK BROWN	0-0.5' organic matter		MOIST	0.0/0.0
2						ORANGE BROWN	0.5-1.2 OR - orange brown - silty fine sand	SW		
3							1.2-2.75 - " " - F-M-C SAND	SW	UPPER SAND	
4										
5		2.9/5.0	10:55 NASB-BG-SB32-0110			TAN	0-2.9' OR ~~F-M SAND, Trace Fine Gravel~~ F-M-C SAND, Trace F. Gravel	SW	MOIST	0.0/0.0
6										
7										
8										
9										
10										
11		4.5/5.0				Olive Green	0-1.5 FINE SAND	SP	WET	
12							1.5-1.7 SILT			
13							1.7-4.5 FINE SAND	SP		
14										
15										

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual Tube - 5' acetate liner
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS: 13.0' BTOC (PVC) = 10.8' bgs AFTER WELL INSTALLED
OTHER OBSERVATIONS: Used 6 sleeves total

Tetra Tech NUS, Inc.

BORING NO.: SB32

PAGE: 1 OF 2

NASB-BG-SB32

TtNUS Form 0018

BORING LOG FOR: NASB-BG-SB32
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-BG-SB32
START DATE: 11/11/09
COMPLETION: DATE: 11/11/09 CM
MON. WELL NO.: NASB-BG-SB3MW32
CHECKED BY:

DEPTH (FEET) 1	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
15		4.8/5.0		UPPER SAND		OLIVE GREEN	FINE SAND ~~(4.8-5~~ CM (0-4.8')	SP	WET	
16										
17		/								
18										
19		4.7/5.0								
20						OLIVE GREEN	0-0.7 FINE SAND		WET	
21		/					0.7-2.7 SILT/CLAY		TRANSITION AT ~20.7'	
22							2.7-3.6 SILTY FINE SAND			
23		/		TRANSITION			3.6-4.7 FINE SAND			
24										
25		/								
		/								
		/								

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: 5' long acetate liner Dual Tube 5 sleeves 0-25' plus 1 sleeve extra for 0-1'
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

Tetra Tech NUS, Inc.

BORING NO.: NASB-BG-SB32

TtNUS Form 0018

BORING LOG FOR: MASB-BG-SB-SB39
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: MASB-BG-SB-SB39
START DATE: 8/17/09
COMPLETION: DATE: 8/17/09
MON. WELL NO.: MASB-BG-MW39
CHECKED BY:

DEPTH (FEET) 0	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
		2.4 / 5.0	MASB-BG-SB-SB39-0001 1030 Lab QC		loose	Dark Brown	0.0-0.4 - organic sand (f) and silt	OH/SM	Dry	PID=0.0
					loose	Brown	0.4-2.4 - Sand (f-m)	SP		
		/	MASB-BG-SB-SB39-0010 1035							
5		3.0 / 5.0		Upper Sand	loose	Brown	0.0-3.0 - Sand (f-m)	SP		
		/								
		/								
10		2.5 / 5.0			loose	Brown	0.0-2.5 - Sand (f-m), some iron staining at 2.0-2.5	SP		
		/							Moist at 14'	
15		5.0 / 5.0			loose	Brown	0.0-5.0 - Sand (f-m)	SP	Wet @ 15'	

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual Tube (Macro core 0-1 for Lab QC sample)
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB3a

Tetra Tech NUS, Inc.

TINUS Form 0018

BORING LOG FOR: NASB-BG-SB-SB39
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-BG-SB-SB39
START DATE: 8/17/04
COMPLETION: DATE: 8/17/04
MON. WELL NO.: NASB-BG-MW39
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
		/		Upper Sand						
20		/								
		5.0 / 5.0			loose	Brown	0.0-2.0 - Sand (fine)	SP		
				Transition Unit	loose	Brown	2.0-5.0 - interbedded layers of sand (fine) and silty sand	SP/SM		
25		/		EOB @ 25'						
		/								
		/								
		/								

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual Tube (Macro Core 0-1 for Lab QC)
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

BORING NO.: SB39

Tetra Tech NUS, Inc.

TINUS Form 0018

BORING LOG FOR: NASB-BG-SB-SB40
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-BG-SB-SB40
START DATE: 8/20/09
COMPLETION: DATE: 8/20/09
MON. WELL NO.: NASB-BG-MW20
CHECKED BY:

DEPTH (FEET) 0	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
		2.0/5.0			loose	Dark Brown/Brown	0.0-0.4 - Organic silt and sand (f) 0.4-2.0 - sand (f-m) trace coarse sand	~~PT~~/SP	Dry	PID=0.0
		/								
5		2.9/5.0		Upper Sand	loose	Brown	0.0-1.9 - Sand (f-m) some coarse sand	SP	Dry	PID=0.0
		/					1.9-2.9 - Sand (f-m)	SP		
10		/								
		1.9/5.0			loose	Brown	0.0-1.9 - sand f-m), iron staining at 1.6.	SP	Dry	
		/								
15		3.0/5.0			loose	Brown	0.0-3.0 - sand (f-m)	SP	Dry	

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING:
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS: * Additional location added to Area 7 b/c no saturated upper sand found at SB26/MW26 location. No soil samples collected. *

BORING NO.: SB40

Tetra Tech NUS, Inc.

PAGE: 1 OF 3

TtNUS Form 0018

BORING LOG FOR: MASB-BG-SB-SB40
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: MASB-BG-SB-SB40
START DATE: 8/20/09
COMPLETION: DATE: 8/20/09
MON. WELL NO.: MASD-BG-MW40
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
		/								
		/								
20										
		4.0/5.0		Upper Sand	loose	Brown	0.0-4.0-sand (f-m)	SP	Moist	
		/							Wet @ 23	
25		4.6/5.0			loose	Brown	0.0-4.6-sand (f-m) some iron staining at 4.0	SP		
		/								
30		/								
		5.0/5.0			loose	Brown/ orange Brown	0.0-5.0-sand (f-m)			

TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS: See page 1

BORING NO.: SB40

Tetra Tech NUS, Inc.

TtNUS Form 0018

BORING LOG FOR: NASB-BG-SB-SB40
PROJECT NO.: CTO 432 - 112G00958 / 0510
LOGGED BY: C. Fellows
DRILLED BY (Company/Driller): MAI/S.Brown/P.Prescott
GRD. SURFACE ELEVATION:

TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: NASB-BG-SB-SB40
START DATE: 8/20/09
COMPLETION: DATE: 8/20/09
MON. WELL NO.: NASB-BG-MW40
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID, (PPM)]
				Upper Sand						
35				EOB @ 35'						

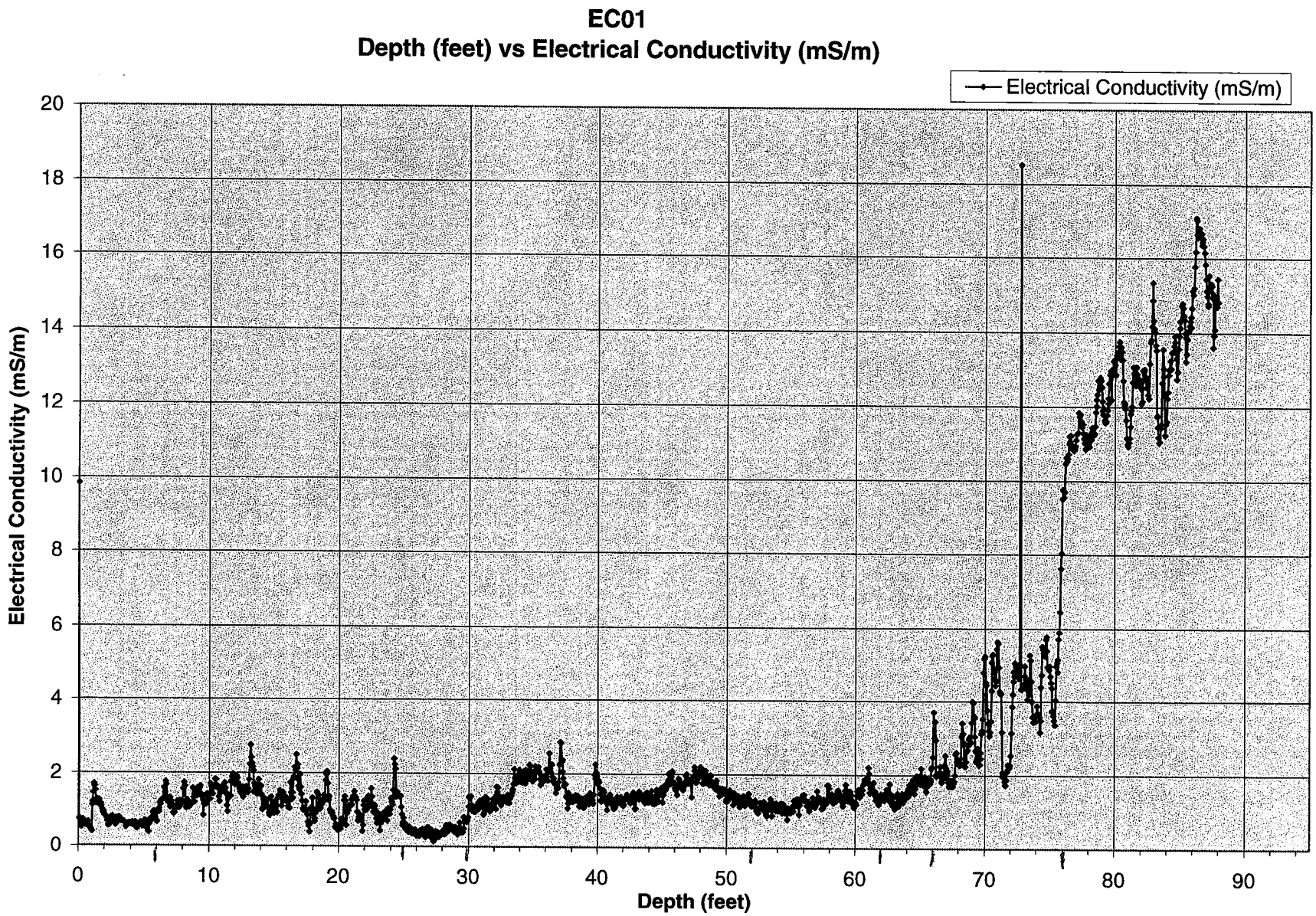
TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual-Tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS: See pg. 1

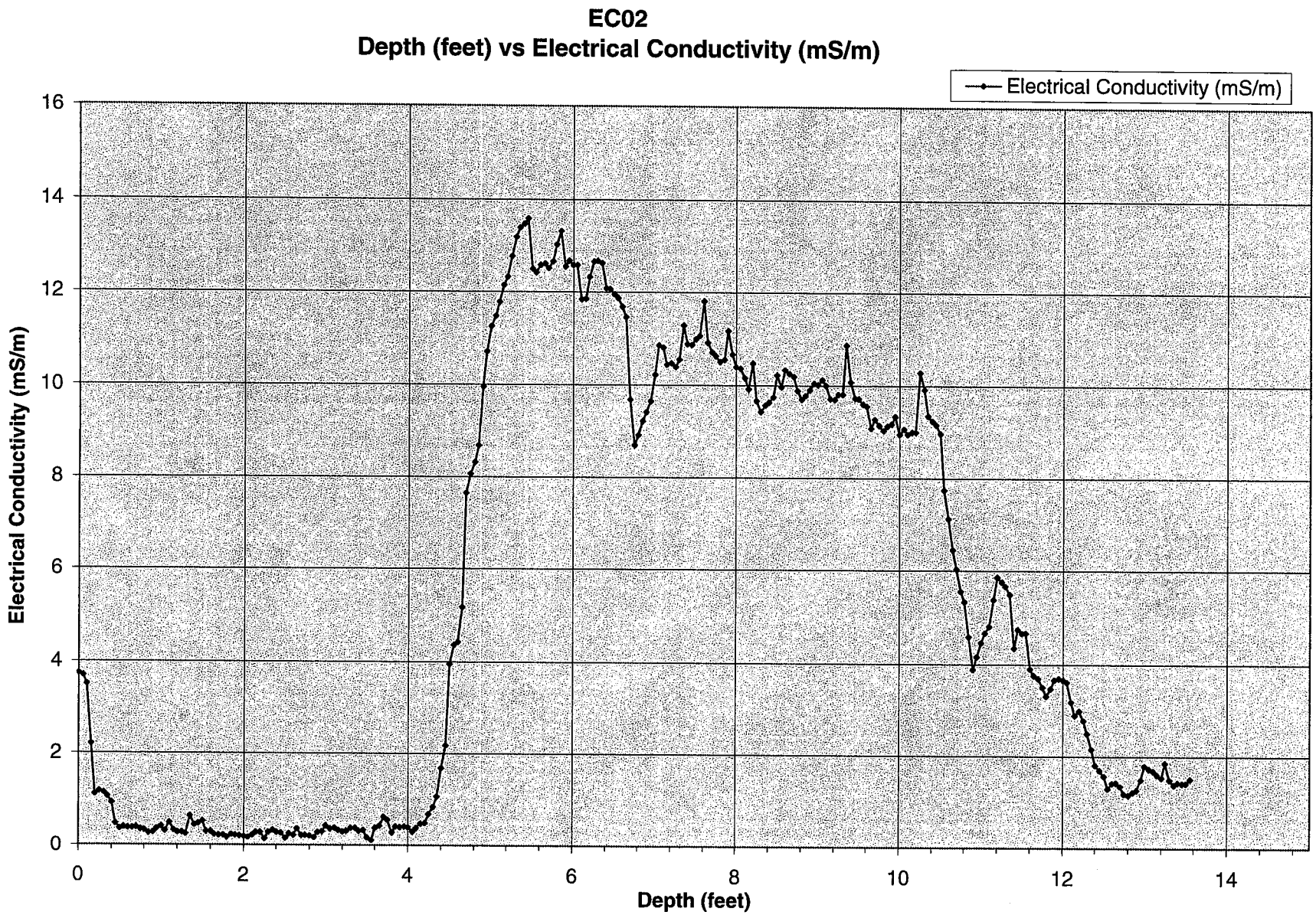
screen 20-30

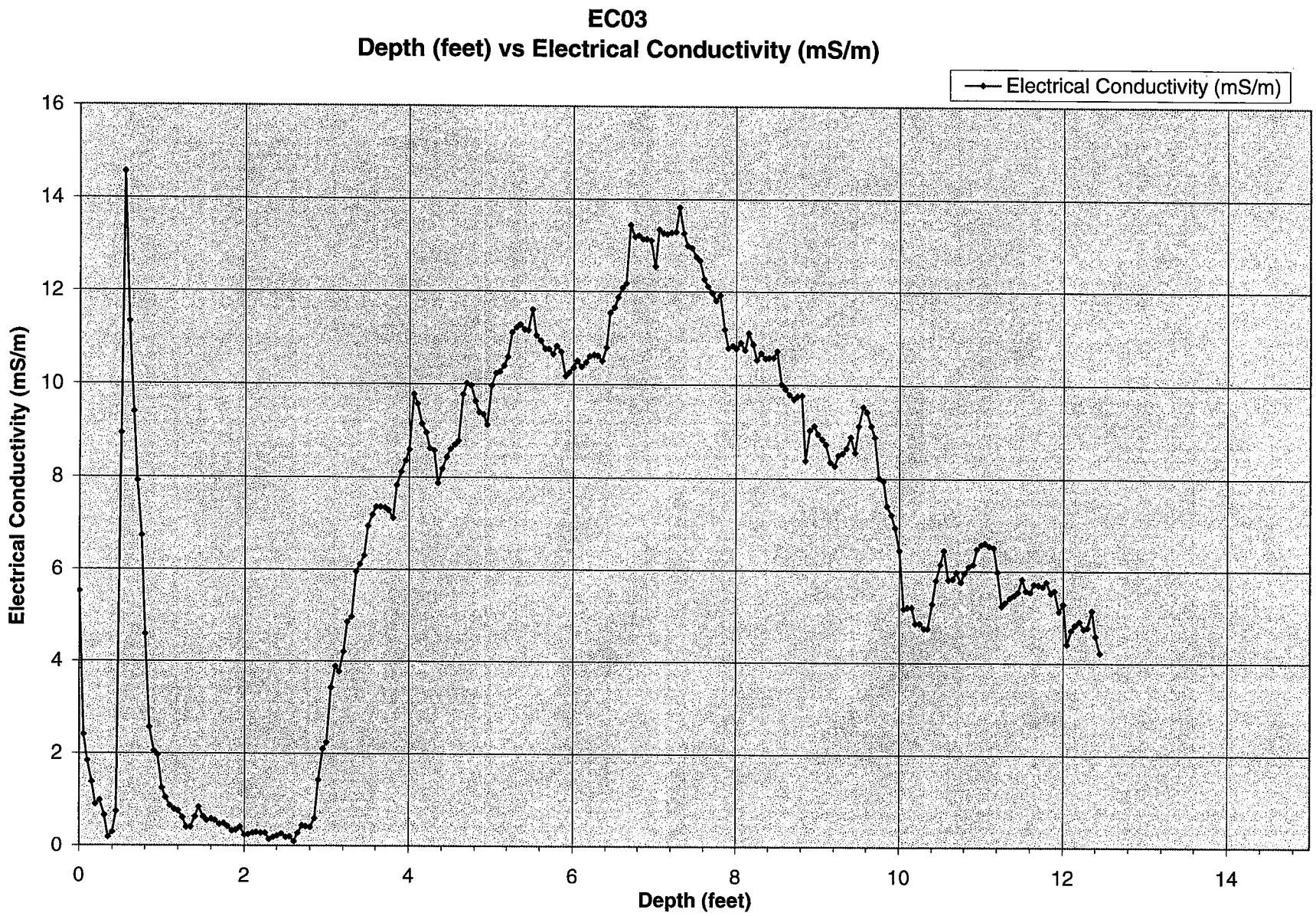
BORING NO.: SB40

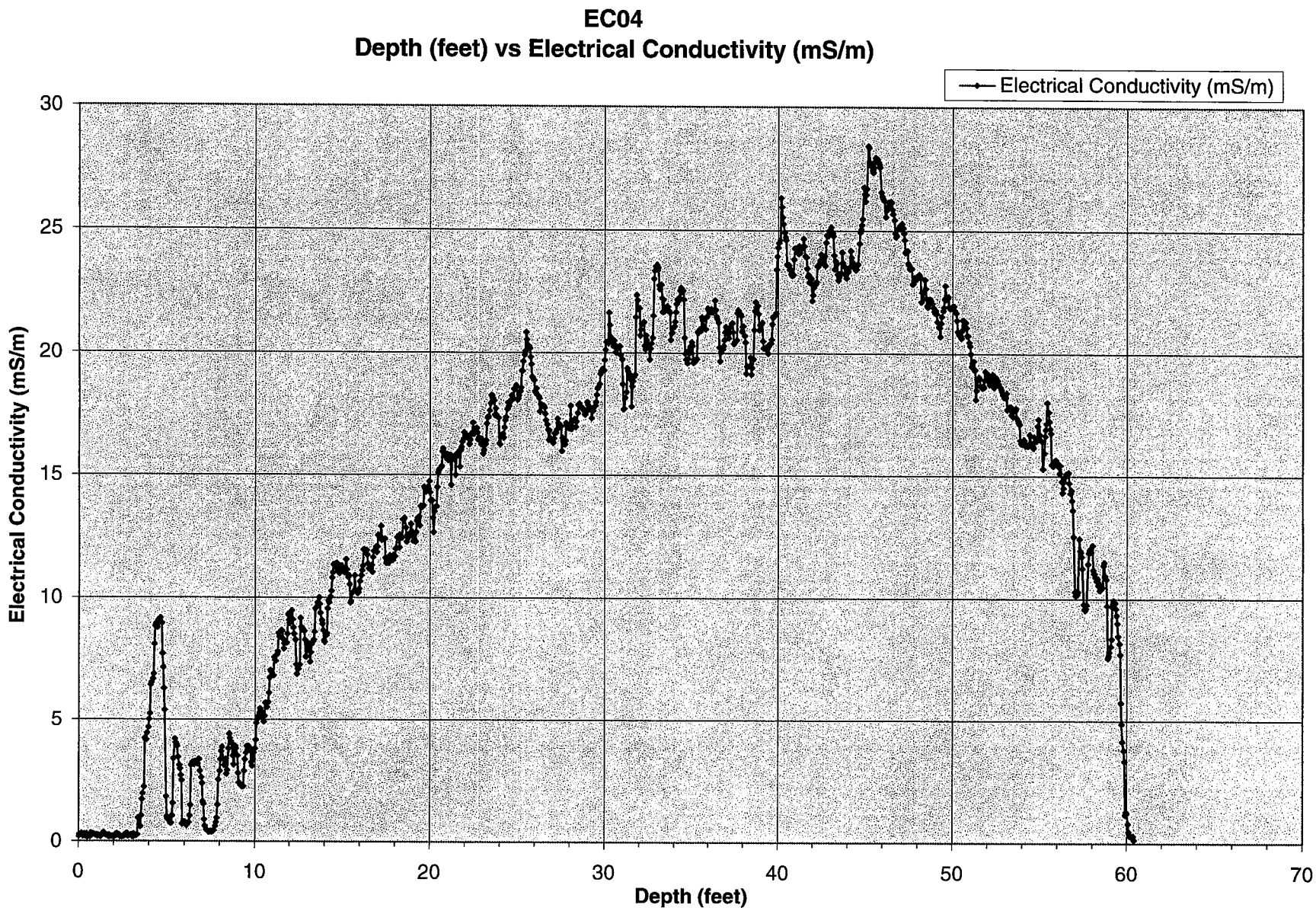
Tetra Tech NUS, Inc.

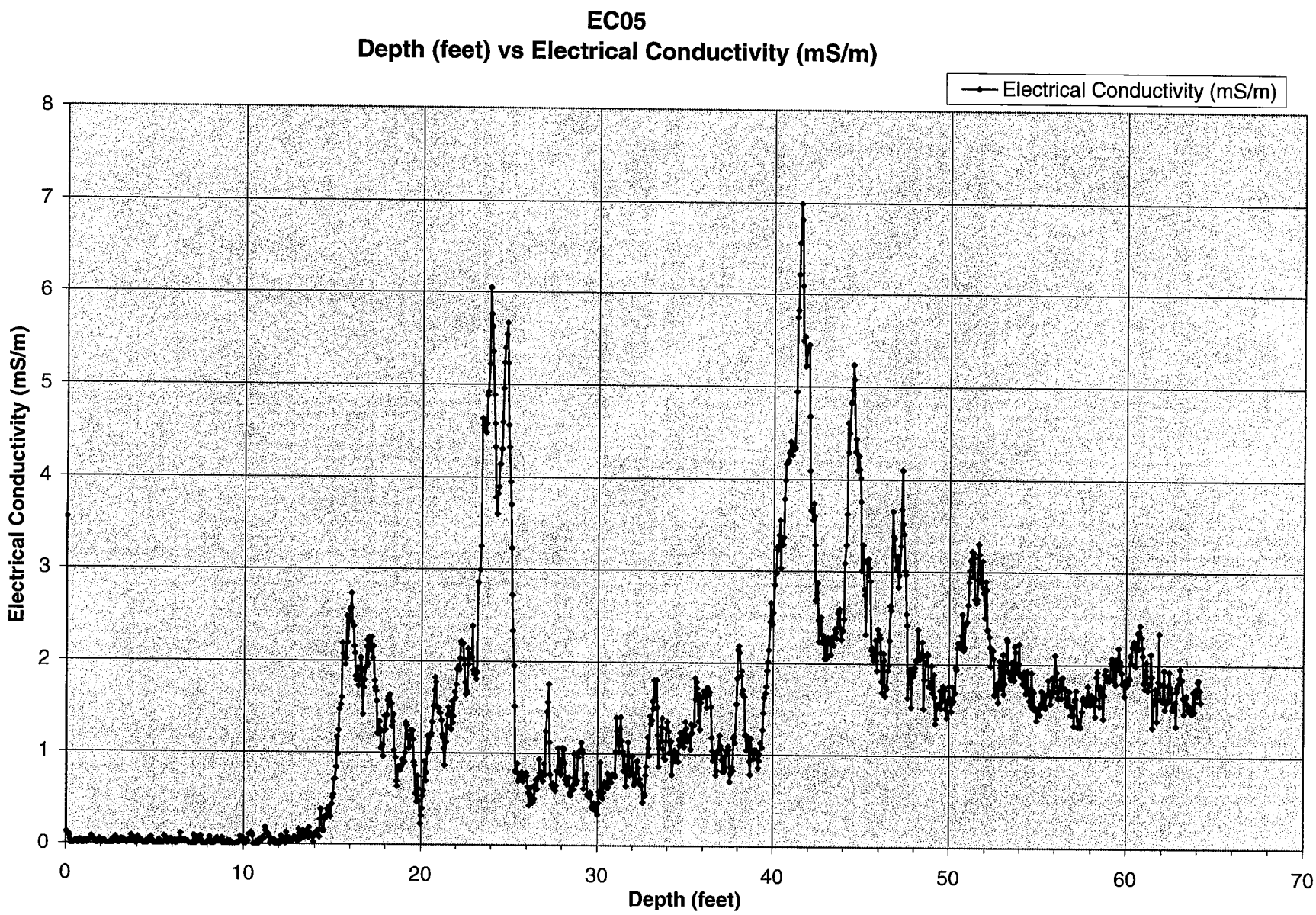
TtNUS Form 0018

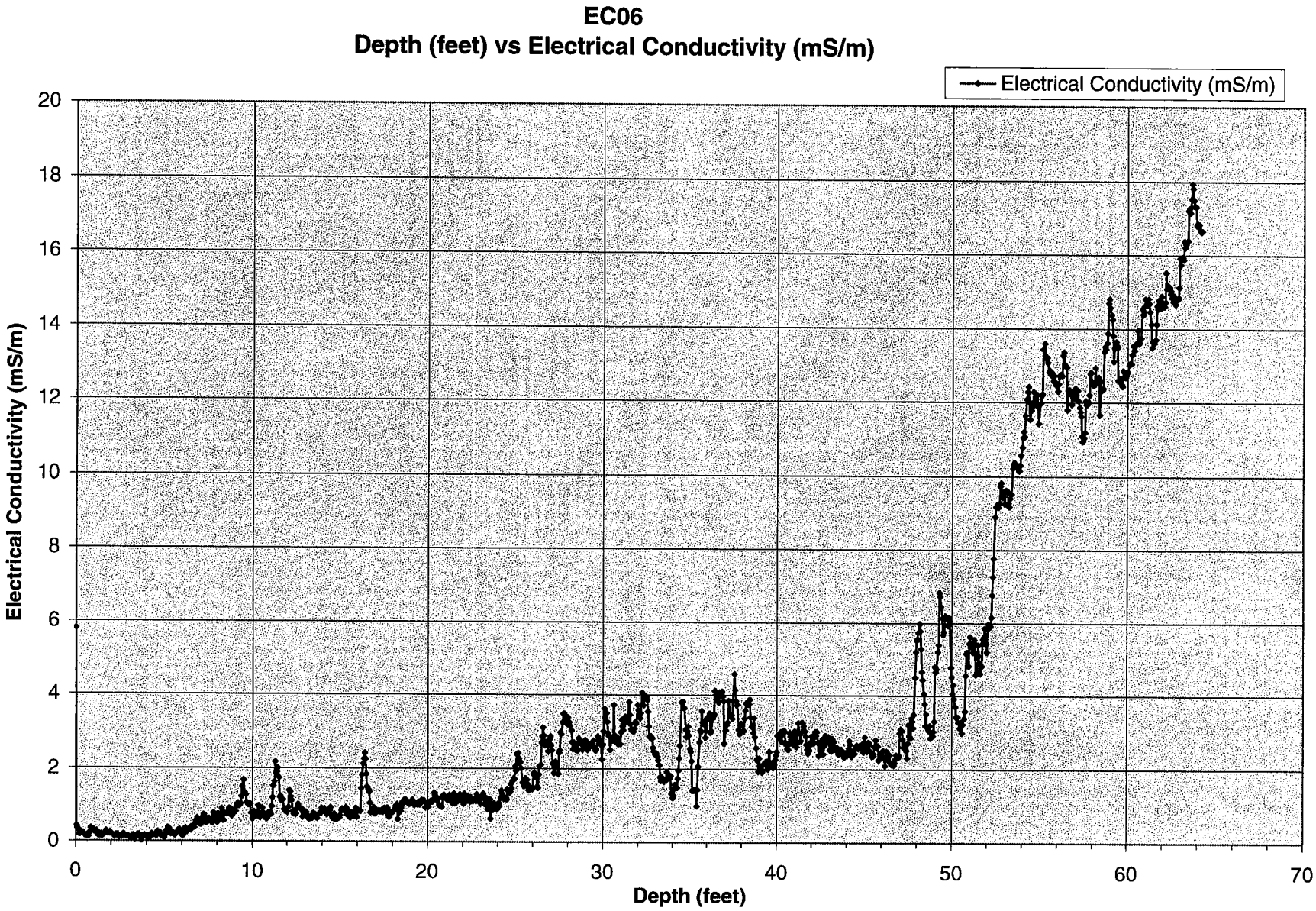

EC01
Depth (feet) vs Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
0
2
4
6
8
10
12
14
16
18
20
0
10
20
30
40
50
60
70
80
90
Depth (feet)

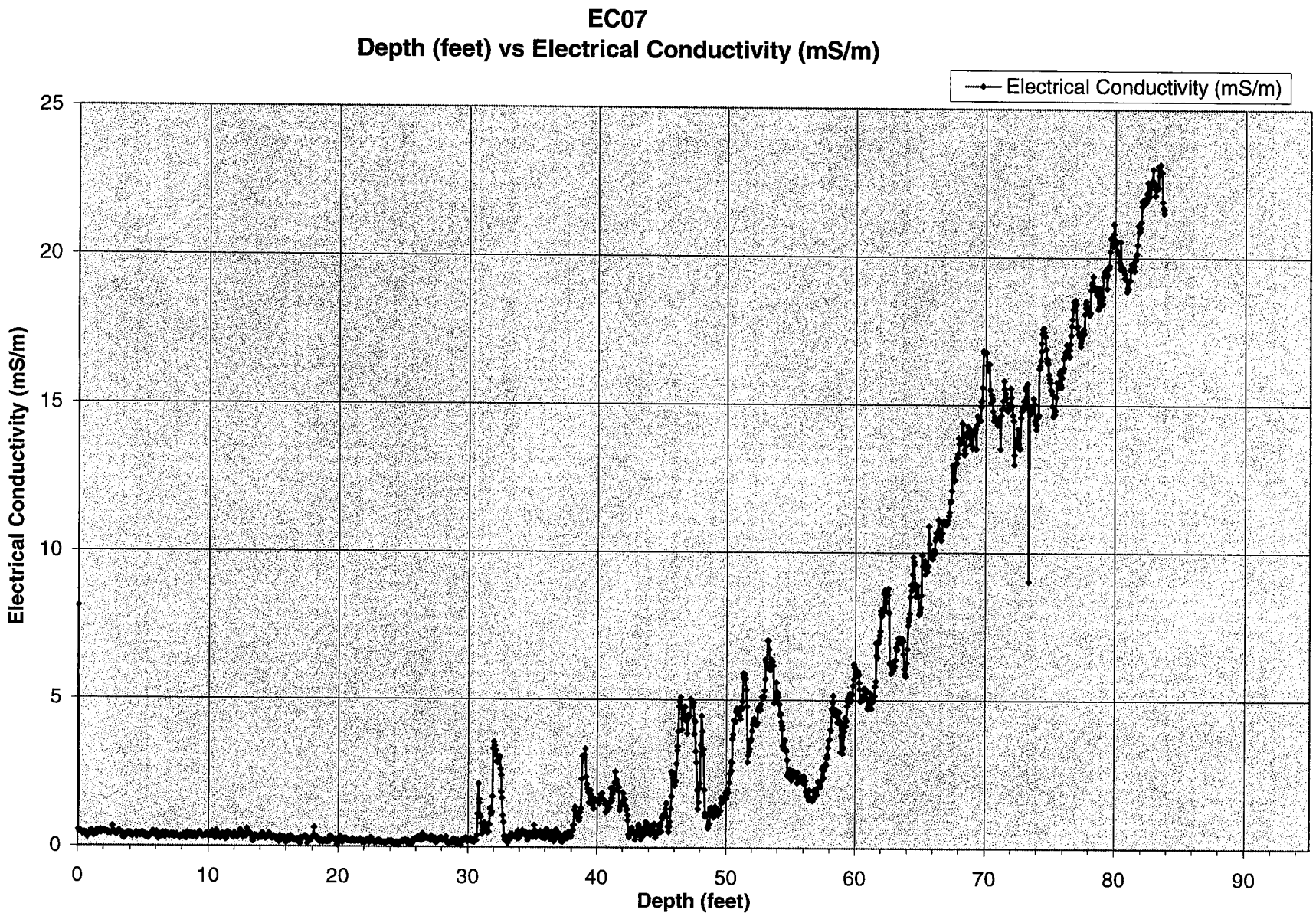

EC02
Depth (feet) vs Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
Depth (feet)
0
2
4
6
8
10
12
14
16
0
2
4
6
8
10
12
14

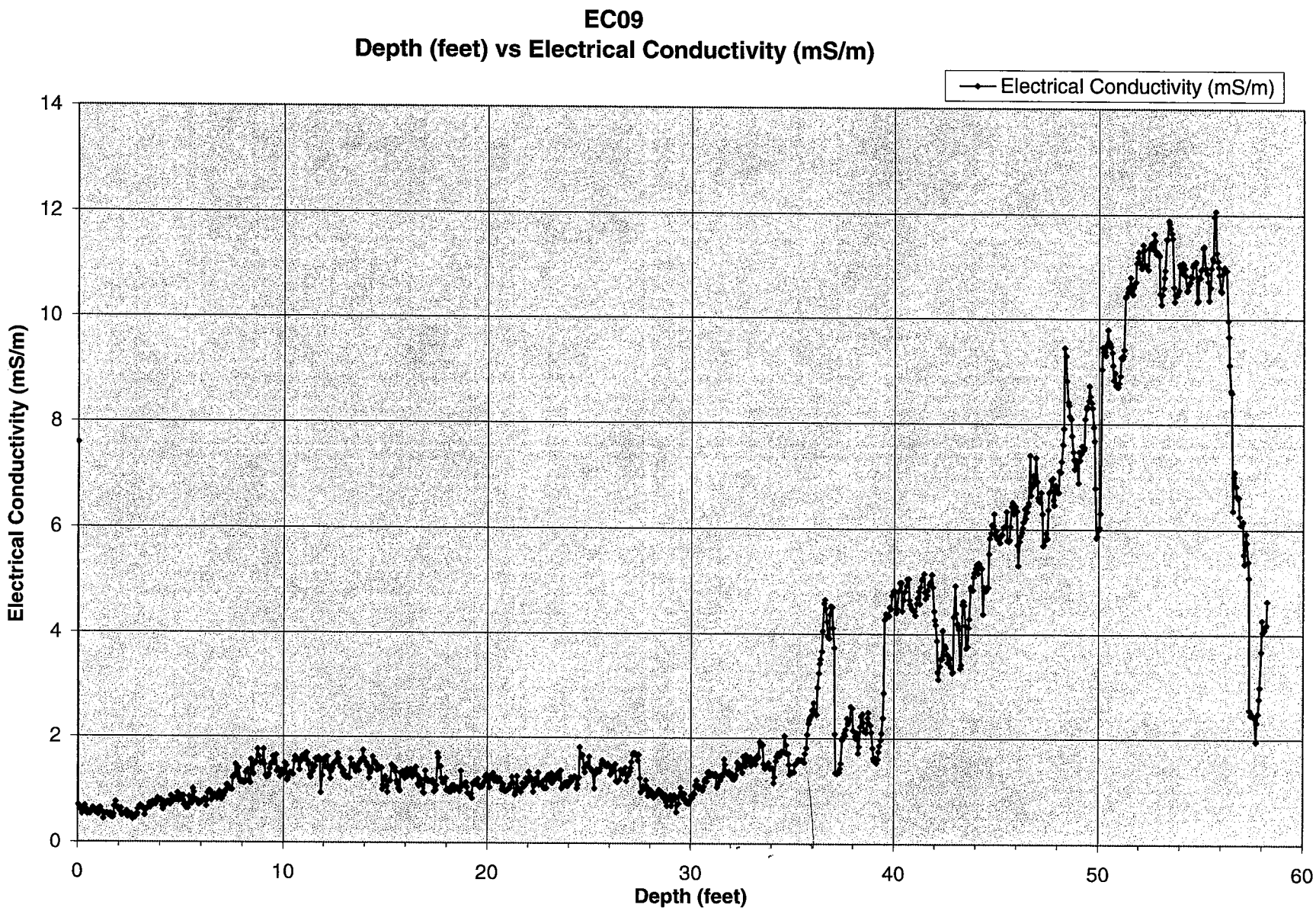

EC03
Depth (feet) vs Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
Depth (feet)
0
2
4
6
8
10
12
14
16
0
2
4
6
8
10
12
14

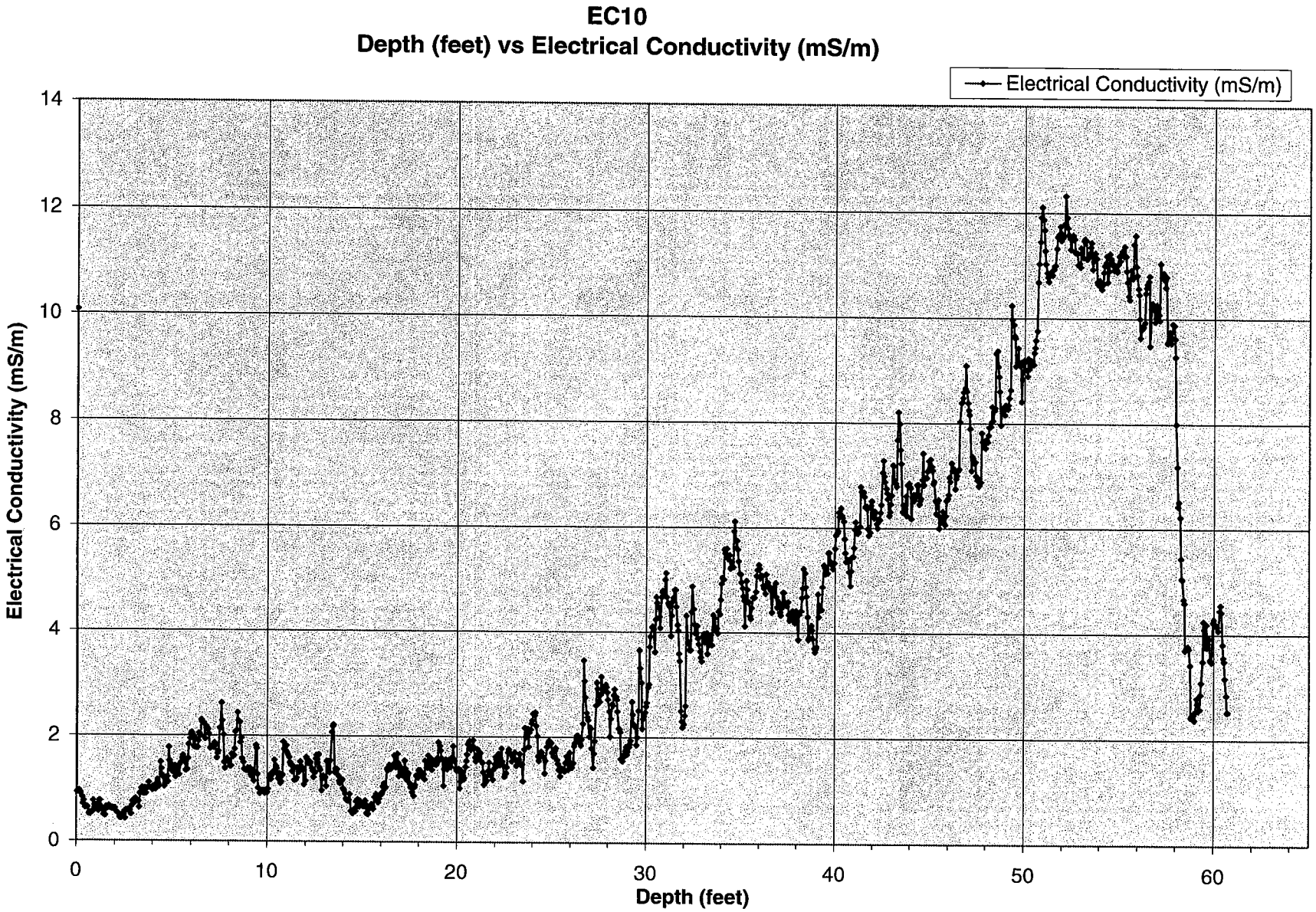

EC04
Depth (feet) vs Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
Depth (feet)
0
5
10
15
20
25
30
0
10
20
30
40
50
60
70

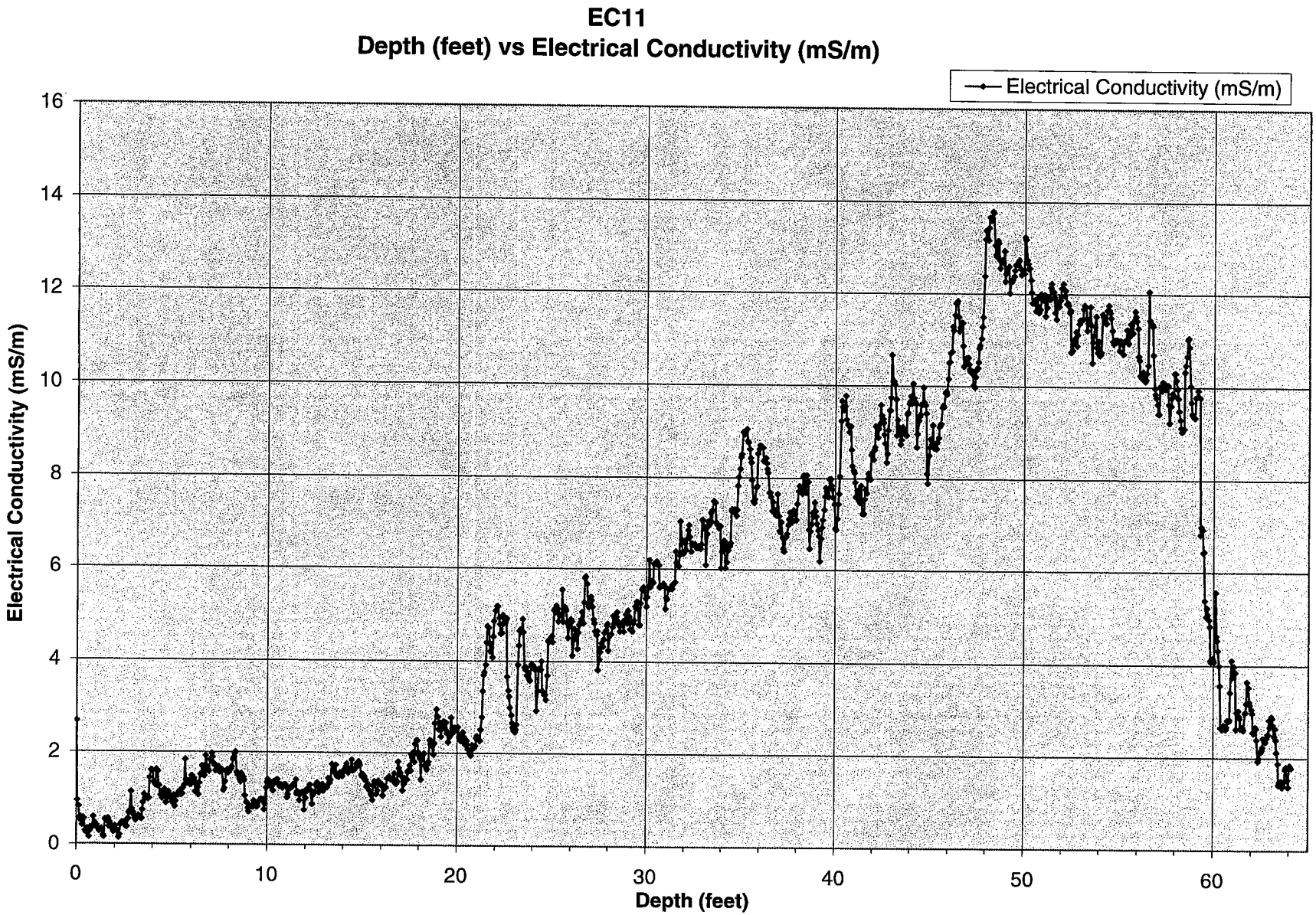

EC05
Depth (feet) vs Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
0
1
2
3
4
5
6
7
8
0
10
20
30
40
50
60
70
Depth (feet)

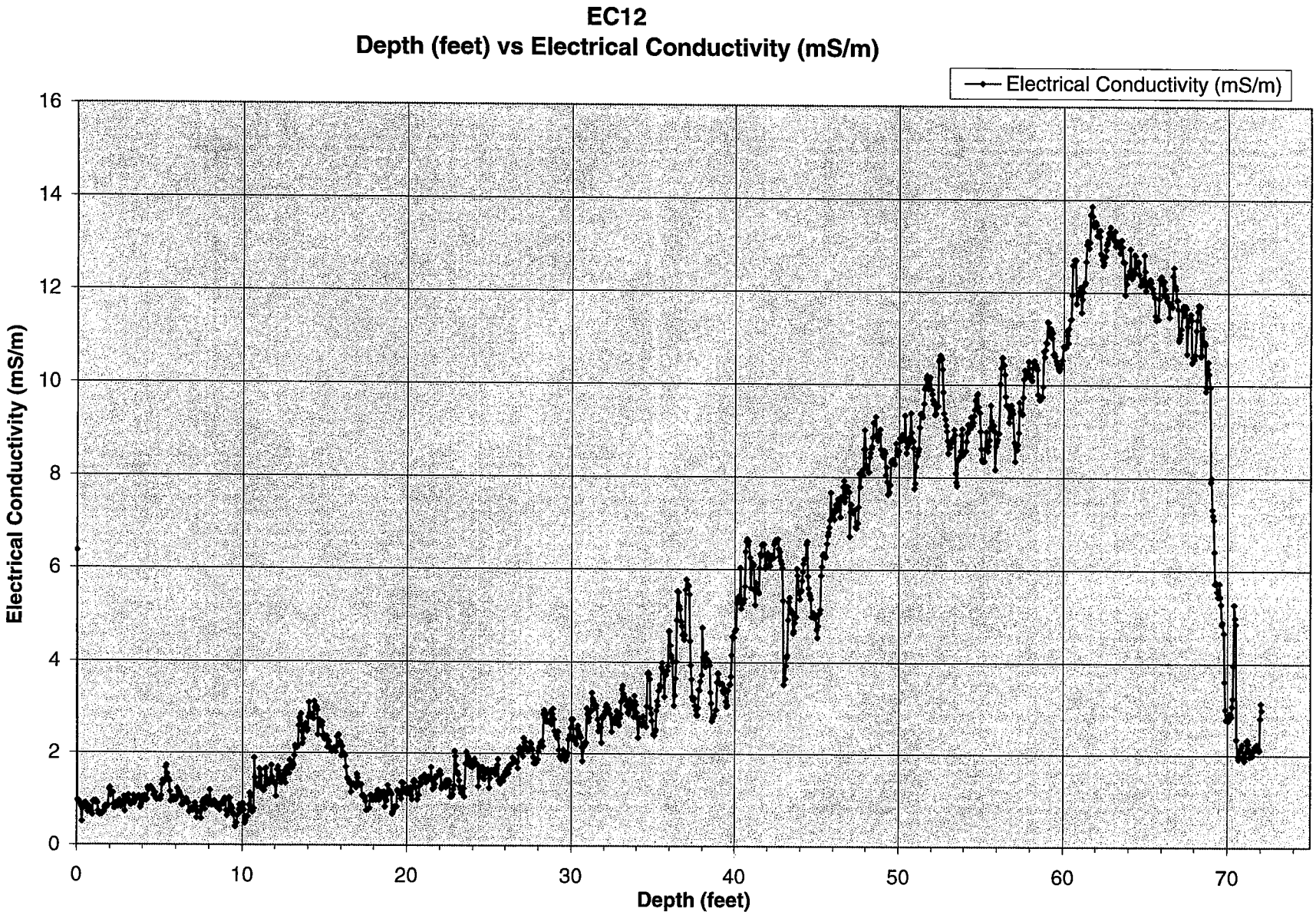

EC06
Depth (feet) vs Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
Depth (feet)
0
2
4
6
8
10
12
14
16
18
20
0
10
20
30
40
50
60
70


EC07
Depth (feet) vs Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
Depth (feet)
0
5
10
15
20
25
0
10
20
30
40
50
60
70
80
90


EC09
Depth (feet) vs Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
Depth (feet)
0
2
4
6
8
10
12
14
0
10
20
30
40
50
60


EC10
Depth (feet) vs Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
0
2
4
6
8
10
12
14
0
10
20
30
40
50
60
Depth (feet)


EC11
Depth (feet) vs Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
0
2
4
6
8
10
12
14
16
0
10
20
30
40
50
60
Depth (feet)


EC12
Depth (feet) vs Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
Depth (feet)
0
2
4
6
8
10
12
14
16
0
10
20
30
40
50
60
70

Tetra Tech NUS, Inc.

SURFACE WATER SAMPLE LOG SHEET

Page___ of ___

Project Site Name: NAOB Background Study
Project No.: 112G60958

[] Stream
[] Spring
[X] Pond
[] Lake
[] Other:
[] QA Sample Type:

Sample ID No.: N4OB-BG-SW01-090802
Sample Location: SW01
Sampled By: CFS MH
C.O.C. No.:

Type of Sample:
[] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 9/8/09	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other
Time: 1135								
Depth: 1	Clear Colorless	6.51	154	11.83	1.01	12.31	0.10	
Method: Direct Dip								

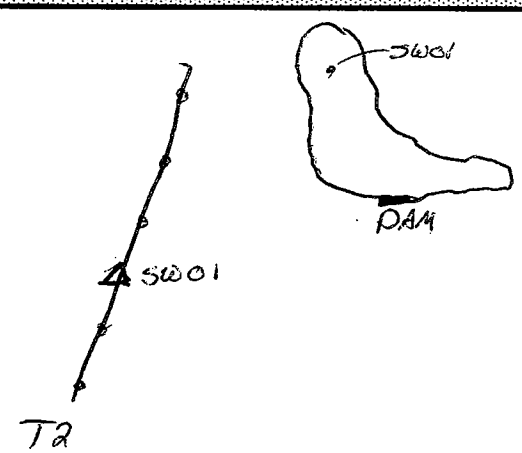
SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
PAH	4°C	2 1L Ambers	Yes
Metals (total)	HNO_3	1 500mL Poly	Yes
Metals (dissolved)	HNO_3	1 500mL Poly	Yes

OBSERVATIONS / NOTES:

- dissolved metals collected in unpreserved poly then filtered into preserved poly at field trailer
- Direct Dip method used because location was shallow and there were thick weeds that would have made the hemmerer ineffective

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	N/A

Signature(s):

Tetra Tech NUS, Inc.

SURFACE WATER SAMPLE LOG SHEET

Page___ of ___

Project Site Name: NASB Background Study
Project No.: 112000958

[] Stream
[] Spring
[X] Pond
[] Lake
[] Other:
[] QA Sample Type:

Sample ID No.: NASB-BG-SW02-090809
Sample Location: SW02
Sampled By: CFS MH
C.O.C. No.:

Type of Sample:
[] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other
Date: 9/8/09								
Time: 1125								
Depth: 1		6.88	178	12.78	7.37	13.01	0.11	
Method: Direct Dip								

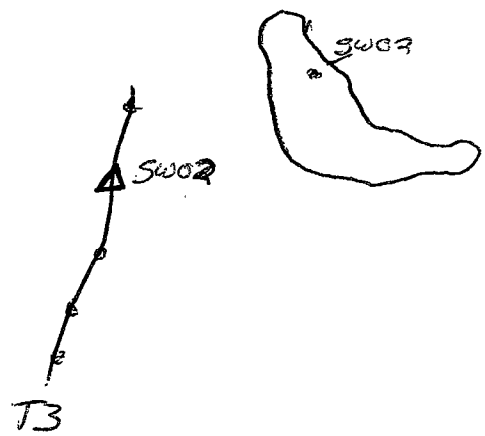
SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
DAH	4°C	2 1L ~~Poly~~ Amber	Yes
Metals total	HNO3	1 500ml Poly	Yes
Metals dissolved	HNO3	1 500ml Poly	Yes

OBSERVATIONS / NOTES:

- dissolved metals collected in unpreserved poly then filtered into preserved poly at the field trailer
- direct dip method used for collection because location was too shallow for the Gemmerer

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	N/A

Signature(s):

Tetra Tech NUS, Inc.

SURFACE WATER SAMPLE LOG SHEET

Page___ of ___

Project Site Name: NASB Background Study
Project No.: 112G00958

[] Stream
[] Spring
[X] Pond
[] Lake
[] Other:
[] QA Sample Type:

Sample ID No.: NASB-BG-SW03-080809
Sample Location: SW03
Sampled By: CFS MLH
C.O.C. No.:

Type of Sample:
[] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other
Date: 9/8/09 Time: 1110 Depth: 2' Method: Kemmerer	Clear Colorless	7.22	172	10.43	4.52	5.80	0.08	

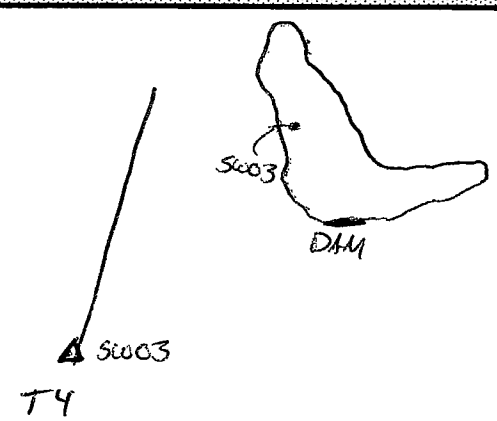
SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
PAH	4°C	2 1L Ambers	Yes
Metals (total)	HNO_3	1 500ml Poly	Yes
Metals (dissolved)	HNO_3	1 500ml Poly	Yes

OBSERVATIONS / NOTES:

- dissolved metals collected in unpreserved poly then filtered into preserved poly at site trailer

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	N/A

Signature(s):

Tetra Tech NUS, Inc.

SURFACE WATER SAMPLE LOG SHEET

Page___ of ___

Project Site Name: NASB Background Study
Project No.: 112G00958

[] Stream
[] Spring
[X] Pond
[] Lake
[] Other:
[] QA Sample Type:

Sample ID No.: NASB-BG-SW04-080909
Sample Location: SW04
Sampled By:
C.O.C. No.:

Type of Sample:
[] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other
Date: 9/8/09 Time: 1025 Depth: 2.0' Method: Kemmerer	clear colorless	7.73	220	12.24	3.48	11.65	0.14	

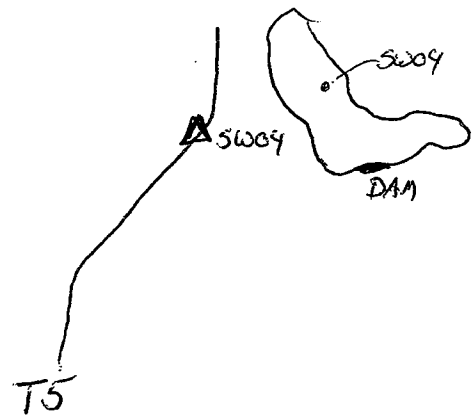
SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
PAH	4°C	6 X 1L Amber } Triple	Yes
Metals (dissolved)	HNO_3	3 X 500 ml Poly } Volume	Yes
Metals (total)	HNO_3	3 500 ml Poly } for LABOR	Yes

OBSERVATIONS / NOTES:

- dissolved metals collected in unpreserved bottles and then filtered into preserved bottles at trailer

MAP:



Circle if Applicable:

MS/MSD

Duplicate ID No.: NA

Signature(s):

Tetra Tech NUS, Inc.

SURFACE WATER SAMPLE LOG SHEET

Page___ of ___

Project Site Name: NASB Background Study
Project No.: 112G00958

[] Stream
[] Spring
[X] Pond
[] Lake
[] Other:
[] QA Sample Type:

Sample ID No.: NASB-BG-SW05-090809
Sample Location: SW05
Sampled By: CFS MH
C.O.C. No.:

Type of Sample:
[] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other
Date: 9/8/09 Time: 1010 Depth: 2.5 Method: Kemmerer	Clear Colorless	6.46	188	11.36	5.96	6.97	0.12	

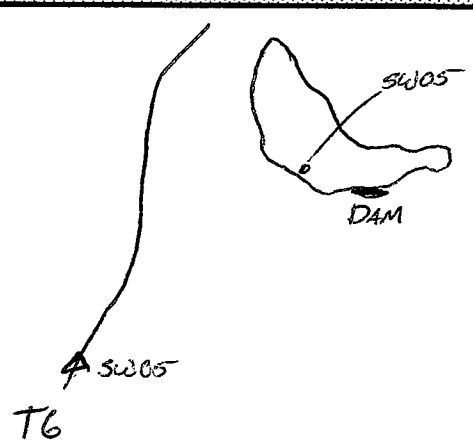
SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
PAH	4°C	2 1L Ambers	Yes
Metals (dissolved)	HNO_3	1 500 mL Poly	Yes
Metals (total)	HNO_3	1 500 mL Poly	Yes

OBSERVATIONS / NOTES:

-dissolved metals collected with an unpreserved poly and filtered at the trailer into a preserved 500 ml Poly

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
NA	N/A

Signature(s):

Tetra Tech NUS, Inc.

SURFACE WATER SAMPLE LOG SHEET

Page___ of ___

Project Site Name: NASB Background Study
Project No.: 112G00858

[] Stream
[] Spring
[X] Pond
[] Lake
[] Other:
[] QA Sample Type:

Sample ID No.: NASB-BG-SW06-090509
Sample Location: SW06
Sampled By: CFS MH
C.O.C. No.:

Type of Sample:
[] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other
Date: 9/8/09								
Time: 0955								
Depth: 3'	Clear Color-less	6.62	187	11.22	3.40	7.93	0.12	
Method: Kemmerer								

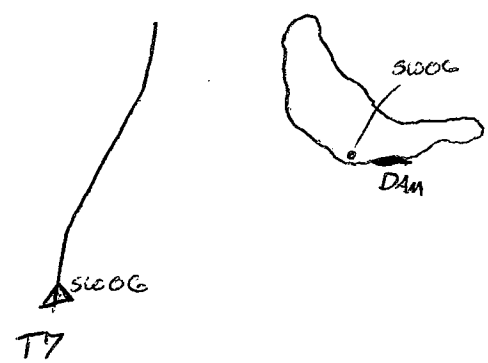
SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
PAH	4°C	2 1L Ambers	Yes
Metals (total)	HNO_3	1 500 mL poly	Yes
Metals (dissolved)	HNO_3	1 500 mL poly	Yes
		-Some bottles collected for	
		Duplicate	

OBSERVATIONS / NOTES:

-dissolved metals collected in unpreserved poly and then filtered at office trailer into preserved poly

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	NASB-BG-SW-DUP02

Signature(s):

Tetra Tech NUS, Inc.

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: NASB Background Study
Project No.: N2G00958

[] Stream
[] Spring
[✓] Pond
[] Lake
[] Other:
[] QA Sample Type:

Sample ID No.: NASB-BG-SW07-090809
Sample Location: SW07
Sampled By: CFG MH
C.O.C. No.:

Type of Sample:
[] Low Concentration
[] High Concentration

SAMPLING DATA:

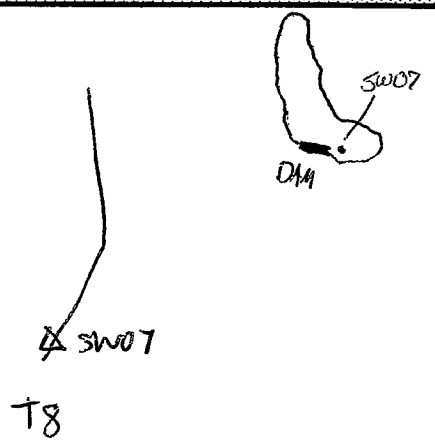
	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other
Date: 9/8/09								
Time: 0940								
Depth: 2.1	clear colorless	6.95	186	11.51	3.46	8.85	0.12	
Method: Kemmerer								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
PAH	4°C	2 x liter Amber	✓
Metals - total	HNO_3	1 x 500 ml poly	✓
Metals - Dissolved	HNO_3	1 x 500 ml poly	✓

OBSERVATIONS / NOTES:

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
NA	NA

Signature(s):

Tetra Tech NUS, Inc.

SURFACE WATER SAMPLE LOG SHEET

Project Site Name:
Project No.:

[] Stream
[] Spring
[X] Pond
[] Lake
[] Other:
[] QA Sample Type:

Sample ID No.: NBB-DG-SW08-090809
Sample Location: SW08
Sampled By: CFS MH
C.O.C. No.:

Type of Sample:
[] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other
Date: 9/8/09 Time: 0920 Depth: 2.0 Method: Kemmerer Grab	Clear Colorless	7.24	2.1	10.90	3.46	7.34	0.13	

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals - total	4°C HNO_3	1 x 500 ml poly w/ HNO_3	Y
Metals - Dissolved	4°C HNO_3	1 x 500 ml poly w/ HNO_3	Y
PAH	4°C	2 x 1 Liter Amber	Y

OBSERVATIONS / NOTES:

- No Sheens

MAP:

Circle if Applicable:

MS/MSD —
Duplicate ID No.: —

Signature(s): C. Fellin

Tetra Tech NUS, Inc.

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: NASB Background Study
Project No.: 112G00988

[✓] Stream
[] Spring
[] Pond
[] Lake
[] Other:
[] QA Sample Type:

Sample ID No.: NASB-BG-SW09-090309
Sample Location: SW09
Sampled By: CFS MIT
C.O.C. No.:

Type of Sample:
[] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other
Date: 9/3/09								
Time: 1305								
Depth: 0.8'	colorless	6.95	196	16.17	5.10	10.87	0.11	
Method: Direct Dip								

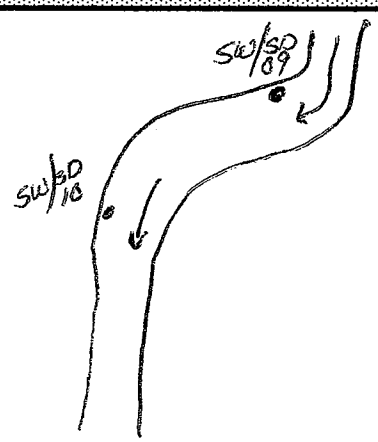
SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals total	HNO_3	1 500 ml Poly	Yes
Metals dissolved	HNO_3	1 500 ml Poly	Yes
PAH	4°C	2 1L Ambers	Yes

OBSERVATIONS / NOTES:

Depth of stream at center 0.95'
Stake 1' away from stream edge
Stream width 7'

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	N/A

Signature(s):

Tetra Tech NUS, Inc.

SURFACE WATER SAMPLE LOG SHEET

Project Site Name:
Project No.:

[X] Stream
[] Spring
[] Pond
[] Lake
[] Other:
[] QA Sample Type:

Sample ID No.: MSB-BG-SW10-090309
Sample Location: SW10
Sampled By: CFS MH
C.O.C. No.:

Type of Sample:
[] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other
Date: 9/3/09								
Time: 1235								
Depth: 1.55								
Method: Grab	Clear	6.08	194	15.67	2.88	10.89	—	

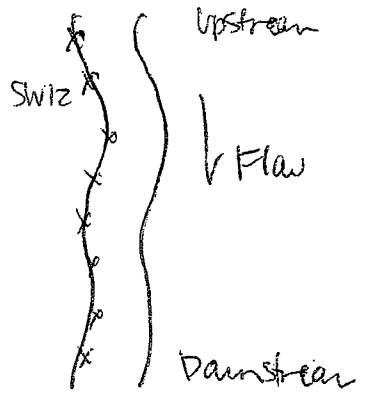
SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
DRH	4°C	2 x 1 liter amber	Y
Metals - Dissolved	HNO_3	1 x 500 ml poly	Y
Metals - totals	HNO_3	1 x 500 ml poly	Y

OBSERVATIONS / NOTES:

- Sample location depth = 1.55
- Stream width = 8'
- Stake is 15' away from stream edge
- Stream center depth = 1.6'
- No Streams
- Slow water flow

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s): C. Fuller

Tetra Tech NUS, Inc.

SURFACE WATER SAMPLE LOG SHEET

Page___ of ___

Project Site Name: ~~NASB BG~~ NASB Background Study
Project No.: 112 G00858

[✓] Stream
[] Spring
[] Pond
[] Lake
[] Other:
[] QA Sample Type:

Sample ID No.: NASB-BG-SW11-090309
Sample Location: SW11
Sampled By: CFS MH
C.O.C. No.:

Type of Sample:
[] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other
Date: 9/3/09 Time: 1215 Depth: 0.5' Method: Direct Dip	Colorless	7.01	192	15.30	4.68	10.88	0.11	

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals total	HNO_3	1 500mL Poly	Yes
Metals dissolved	HNO_3	1 500 mL Poly	Yes
PAH	4°C	2 1L Ambers	Yes

OBSERVATIONS / NOTES:

- Stream Width 9'
- Deepest part of stream 2'

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	N/A

Signature(s): Michael Hoff

Tetra Tech NUS, Inc.

SURFACE WATER SAMPLE LOG SHEET

Project Site Name:
Project No.:

[X] Stream
[] Spring
[] Pond
[] Lake
[] Other:
[] QA Sample Type:

Sample ID No.: MASB-DG-SW12-090309
Sample Location: SW12
Sampled By: CFS mH
C.O.C. No.:

Type of Sample:
[] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other
Date: 9/3/09 Time: 1150 Depth: 0.95' Method: Grab	Clear	6.97	191	14.98	6.60	10.86	—	

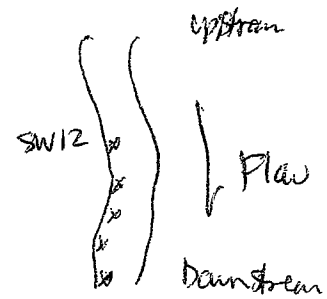
SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
DAH	4°C	2 x 1 liter amber	Y
Metals - Dissolved	HNO3	1 x 500 ml poly	Y
Metals - Totals	HNO3	1 x 500 ml poly	Y

OBSERVATIONS / NOTES:

- Sample location depth = 1' and 2' away from stream edge.
- Stream width 10'
- slow stream flow
- no seeps
- Depth at center of stream = 2.0'

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s): C. Fahn

Tetra Tech NUS, Inc.

SURFACE WATER SAMPLE LOG SHEET

Page___ of ___

Project Site Name: NASB Background Study
Project No.: 112G00958

Sample ID No.: NASB-BG-SW13-090309
Sample Location: SW13
Sampled By: CFS MH
C.O.C. No.:

[x] Stream
[] Spring
[] Pond
[] Lake
[] Other:
[] QA Sample Type:

Type of Sample:
[] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other
Date: 9/3/09								
Time: 1100								
Depth: 1.0'	colorless	6.85	188	14.45	3.10	2.85	0.11	
Method: Direct Dip								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals total	HNO_3	1 500 mL Poly	Y
Metals dissolved	HNO_3	1 500 mL Poly	Y
PAH	4°C	2 1L Ambers	Y

OBSERVATIONS / NOTES:

- Stream Width 9'
- Stake 1' away from stream edge - lower flow in this area so more organics

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	NA

Signature(s):

Tetra Tech NUS, Inc.

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: _____
Project No.: _____

[X] Stream
[] Spring
[] Pond
[] Lake
[] Other: _____
[] QA Sample Type: _____

Sample ID No.: NASB-BG-SW14-090309
Sample Location: SW14
Sampled By: CFS MH
C.O.C. No.: _____

Type of Sample:
[] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other
Date: 9/3/09 Time: 1030 Depth: 0.75' Method: Grab	Clear	6.86	186	14.20	2.12	16.84	—	

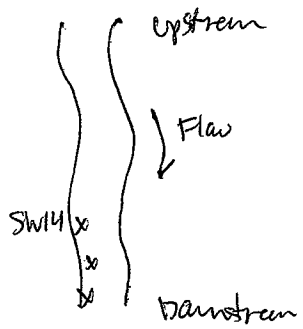
SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
PAH	4°C	2x 1 Liter Amber	Y
Metals - Dissolved	HNO3	1 x 500 ml poly	Y
Metals - Totals	HNO3	1 x 500 ml poly	Y

OBSERVATIONS / NOTES:

- Sample location 0.8' Depth of water.
- Stream 9' across.
- Stake is 2' from edge of stream
- Stream flow not as fast
- Stake location on inside corner of meander so more fines settling in area
- No Streams.

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s): C. Fall

Tetra Tech NUS, Inc.

SURFACE WATER SAMPLE LOG SHEET

Page___ of ___

Project Site Name: NASB Background Study
Project No.: 112G00988

Sample ID No.: NASB-BG-SW15-090309
Sample Location: SW15
Sampled By: CFS MH
C.O.C. No.:

[✓] Stream
[] Spring
[] Pond
[] Lake
[] Other:
[] QA Sample Type:

Type of Sample:
[] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other
Date: 9/3/09								
Time: 0955								
Depth: 0.77	colorless	6.93	183	13.77	1.33	10.77	0.11	
Method:								

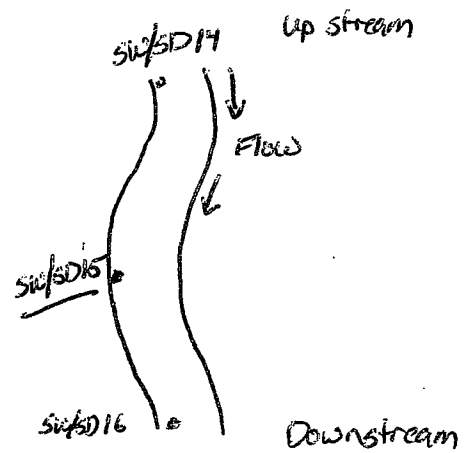
SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals Dissolved	HNO3	1 500 mL Poly	Y
Metals & Total	HNO3	1 500 mL Poly	Y
PAH	4°C	2 1L Amber	Y

OBSERVATIONS / NOTES:

Stream Width 10'
- Sample Collected 0.5' from Stake

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
	NASB-BG-SW-DUP01

Signature(s):

Tetra Tech NUS, Inc.

SURFACE WATER SAMPLE LOG SHEET

Project Site Name:
Project No.:

[X] Stream
[] Spring
[] Pond
[] Lake
[] Other:
[] QA Sample Type:

Sample ID No.: NAST3-BG-SW16-090309
Sample Location: SW16
Sampled By: CFS MH
C.O.C. No.:

Type of Sample:
[] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other
Date: 9/3/09								
Time: 0920								
Depth: 0.9'	Clear	6.99	183	13.43	5.32	10.50	/	
Method: Grab								

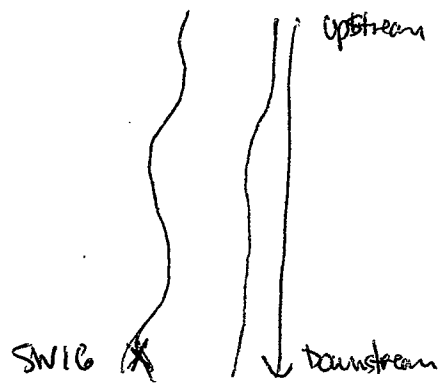
SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
PAH	4°C	2 x 1 liter Amber	Yes
Metals - Dissolved	HNO3	1 x 1 500 ml poly	Yes
Metals - totals	HNO3	1 x 1 500 ml poly	Yes

OBSERVATIONS / NOTES:

- Flowing water
- no seeps
- Depth of center of stream = 0.95'
- Width of stream at location = 9'
- Sample collected 2' from stake toward center of stream.

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s): C. Fuller

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name:
Project No.:

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: NABB-BG-SD01-0006
Sample Location: SD01
Sampled By: CFS MH
C.O.C. No.:

Type of Sample:
[] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 9/8/09 Time: 1510 Method: Ponar Dredge Monitor Reading (ppm): 0.0	00'-06"	Brown	Silt trace sand (f) organics, saturated.

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Grain Size	1x 1 liter Poly	Y	
PAH	1x 8oz jar	Y	
Pest / Herbicides	1x 8oz jar	Y	
TOC / Metals	1x 4oz jar	Y	

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s): C. Fuller

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name:
Project No.:

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: NAS13-BG-SD02-0000
Sample Location: SD02
Sampled By: CFS MLH
C.O.C. No.:

Type of Sample:
[] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 9/8/09 Time: 1500 Method: Pond Dredge Monitor Reading (ppm): 0.0	00'-06"	Brown.	Silt trace Sand(f) organics. Saturated

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Grain Size	1x 1 liter Poly	Y	
PAH	1x 8oz jar	Y	
Pest / Herbicides	1x 8oz jar	Y	
TCL Metals	1x 4oz jar	Y	

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s): C. Fell

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name:
Project No.:

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: 1A33-BG-SD03-0006
Sample Location: SD03
Sampled By: MJ + CFS
C.O.C. No.:

Type of Sample:
[] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 9/8/09 Time: 1450 Method: Ponar, Dredge Monitor Reading (ppm): 0.0	00"-06"	Brown	silt trace sand(f) organics saturated

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Grain Size	1x liter Poly	Y	
PAH	1x 8oz jar	Y	
Pest / Herbicides	1x 8oz jar	Y	
TOC / Metals	1x 4oz jar	Y	

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s): C. Fellin

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name:
Project No.:

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: NBB3-BG-SD04-0006
Sample Location: SD04
Sampled By: CGS MH
C.O.C. No.:

Type of Sample:
[] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 9/8/09 Time: 1430 Method: Paror Dredge Monitor Reading (ppm): 0.0	00"-06"	Brown	Silt trace sand (f) organics saturated.

COMPOSITE SAMPLE DATA:

	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:				
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Grain Size	1 x liter Poly	Y	
PAH	3 x 8oz jar	Y	
Pest / Herbicides	3 x 8oz jar	Y	
TCL Metals	2 x 4oz jar	Y	
		Y	

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
YES.	—

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name:
Project No.:

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: MASB-BG-SD05-0006
Sample Location: SD05
Sampled By: CFB MH
C.O.C. No.:

Type of Sample:
[] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 9/8/04 Time: 1410 Method: Power Dredge Monitor Reading (ppm): 0.0	00"-06"	Brown.	Silt and Sand (f) organics Saturated.

COMPOSITE SAMPLE DATA:

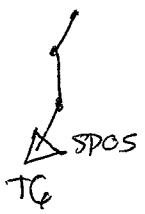
	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:				
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Grain Size	1x 1 liter Poly	Y	
PAH	1x 8oz jar	Y	
Pest / Herbicides	1x 8oz jar	Y	
TOC / Metals	1x 4oz jar	Y	

OBSERVATIONS / NOTES:

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	MASB-BG-SD-DUP02-090809

Signature(s): C. Fellows

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name:
Project No.:

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: NPBB-BG-SD06-0006
Sample Location: SD06
Sampled By: CFS MH
C.O.C. No.:

Type of Sample:
[] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 9/8/06 Time: 1355 Method: Power Dredge Monitor Reading (ppm): 0.0	00"-06"	Brown	silt trace Sand (f) some organics saturated

COMPOSITE SAMPLE DATA:

	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:				
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Grain Size	1 x 1 liter Poly	Y	
PAH	1 x 8 oz jar	Y	
Pest / Herbicides	1 x 8 oz jar	Y	
TOC / Metals	1 x 4 oz jar	Y	

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name:
Project No.:

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: MA13-BG-SD07-0006
Sample Location: SD07
Sampled By: CFS MH
C.O.C. No.:

Type of Sample:
[] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 9/8/09 Time: 1345 Method: Ponar Dredge-Grab Monitor Reading (ppm): 0.0	00"-06"	Brown	Silt some sand (f) organics (pine needles, small sticks) saturated.

COMPOSITE SAMPLE DATA:

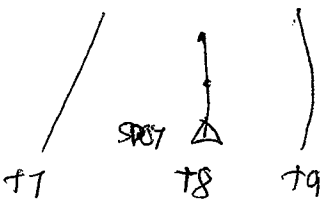
Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Grain Size	1 x 1 liter poly	Y	
PAH	1 x 8oz jar	Y	
Pest / Herbicides	1 x 8oz jar	Y	
Metals / TOC	1 x 4oz jar	Y	

OBSERVATIONS / NOTES:

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s): C. Feller

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name:
Project No.:

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: MBB-BG-SD08-0006
Sample Location: SD08
Sampled By: CFB MH
C.O.C. No.:

Type of Sample:
[] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 9/8/09 Time: 1330 Method: Power Dredge - Grab Monitor Reading (ppm): 0.0	00"-06"	Brown	sand(f) and silt, lots of organics saturated.

COMPOSITE SAMPLE DATA:

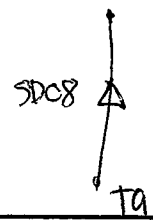
Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Grain Size	1 x liter Poly	Y	
PAH	1 x 8oz jar	Y	
Pest / Herbicides	1 x 8oz jar	Y	
Metals / TOC	1 x 2oz jar	Y	

OBSERVATIONS / NOTES:

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s): C. Fellman

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: NASB Background Study
Project No.: 112G00958

[] Surface Soil
[] Subsurface Soil
[✓] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: NASB-BG-SD09-0006
Sample Location: SD09
Sampled By: CFG MH
C.O.C. No.:

Type of Sample:
[] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 9/8/09 Time: 1310 Method: Grab / Hand Auger Monitor Reading (ppm): 0.0	0-6	Brown/Grey	Fine to medium grained sand with few organics

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals TOC	4oz	Yes	
PAH	8oz	Yes	
Pest Herb	8oz	Yes	
Grain Size	1L Poly	Yes	

OBSERVATIONS / NOTES:

MAP:

See NASB-BG-SW09-090309 Log Sheet

Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	N/A

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name:
Project No.:

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: MSB-BG-SD10-0000
Sample Location: SD10
Sampled By: CFS mit
C.O.C. No.:

Type of Sample:
[] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 9/3/09 Time: 1240 Method: Grab / Hand Auger Monitor Reading (ppm): 0.0	00" - 06"	Brown	Sand (f-m) some coarse sand some silt some gravel, saturated.

COMPOSITE SAMPLE DATA:

	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:				
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Grain Size	1 x 1 liter poly	Y	
PAH	1 x 1 8oz jar	Y	
Pest / Herbicides	1 x 1 8oz jar	Y	
TOC / Metals	1 x 1 4 oz jar	Y	

OBSERVATIONS / NOTES:

See SW10 log sheet

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s): C. Fellows

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: NASB Background Study
Project No.: 112G00958

[] Surface Soil
[] Subsurface Soil
[✓] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: NASB-BG-SD11-0006
Sample Location: SD11
Sampled By: CFS MH
C.O.C. No.:

Type of Sample:
[] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 9/3/09 Time: 1220 Method: Grab/Hand Auger Monitor Reading (ppm):	0-6"	Brown/Grey	Fine to medium grained sand with few organics

COMPOSITE SAMPLE DATA:

	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:				
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals TOC	4 oz	Yes	
PAH	8 oz	Yes	
Herb Pest	8 oz	Yes	
Grain Size	1L Poly	Yes	

OBSERVATIONS / NOTES:

MAP:
- See NASB-BG-SWH-090309 Log Sheet

Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	N/A

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name:
Project No.:

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: MAB-BG-SD12-0006
Sample Location: SD12
Sampled By: CFS MH
C.O.C. No.:

Type of Sample:
[] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 9/3/09 Time: 1200 Method: Grab / Hand Auger Monitor Reading (ppm): 0.0	00"-06"	Brown	Sand (f-m) some silt some organics

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

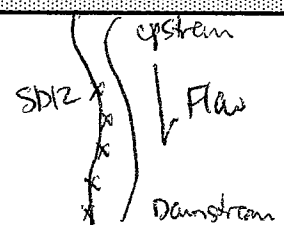
SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Grain Size	1 x 1 liter poly	Y	
PAH	1 x 8oz jar	Y	
Pest / Herbicides	1 x 8oz jar	Y	
Metals / TOC	1 x 4oz jar	Y	

OBSERVATIONS / NOTES:

See SW12 notes / log sheet

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s): C. Fall

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: NASB Background Study
Project No.: 112G00958

[] Surface Soil
[] Subsurface Soil
[✓] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: NASB-BG-SD13-0006
Sample Location: SD13
Sampled By: CFS MH
C.O.C. No.:

Type of Sample:
[] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 9/3/09 Time: 1105 Method: Grab/ Hand Auger Monitor Reading (ppm): 0.0	0-6	Brown	Fine to medium grained sand with little organics

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
PAH	1 8oz	Y	
Herb Pest	1 8oz	Y	
Metals TOC	1 4oz	Y	
Grain Size	1 1L Poly	Y	

OBSERVATIONS / NOTES:

MAP:

See NASB-BG-SW13-090309 Log Sheet

Circle if Applicable:

MS/MSD: N/A

Duplicate ID No.: N/A

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: _____
Project No.: _____

[] Surface Soil
[] Subsurface Soil
[] Sediment
[] Other: _____
[] QA Sample Type: _____

Sample ID No.: NASB-BG-SD14-0006
Sample Location: SD16
Sampled By: CFS, MH
C.O.C. No.: _____

Type of Sample:
[] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 8/3/04 Time: 1040 Method: Grab / Hand Auger Monitor Reading (ppm): 0.0	00"-06"	Brown	Sand (f-m) trace silt some organics saturated

COMPOSITE SAMPLE DATA:

	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:				
Method:				
Monitor Readings (Range in ppm):				

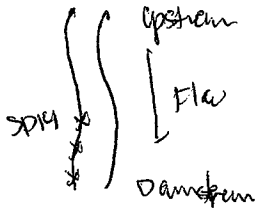
SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Grain size	1 x 1 liter poly	Y	
PAH	1 x 8oz jar	Y	
Pest / Herbicides	1 x 8oz jar	Y	
Metals / TOC	1 x 4oz jar	Y	

OBSERVATIONS / NOTES:

-See SW14 log sheet.

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s): CFSmith

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: NASB Background Study
Project No.: 112G00958

[] Surface Soil
[] Subsurface Soil
[✓] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: NASB-BG-SD15-000G
Sample Location: SD15
Sampled By: CFG MH
C.O.C. No.:

Type of Sample:
[] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 9/3/09 Time: 1005 Method: Grab / Hand Auger Monitor Reading (ppm): 0.0	0-6	Brown/Grey	Brown/Grey, Fine to medium grained sand with very little organics, Saturated

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals TOC	4oz	Y	
PAH	8oz	Y	
Grain Size	~~8oz~~ 1L Poly	Y	
Herb/Pest	8oz	Y	

OBSERVATIONS / NOTES:

MAP:

See NASB-BG-SD15-090309 Log sheet

Circle if Applicable:

MS/MSD	Duplicate ID No.:
	NASB-BG-SD-DUP01

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: _____
Project No.: _____

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other: _____
[] QA Sample Type: _____

Sample ID No.: MASB-BG-SD16-0006
Sample Location: SD16
Sampled By: CFS MH
C.O.C. No.: _____

Type of Sample:
[] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 9/3/09 Time: 0930 Method: Hand Auger Monitor Reading (ppm): PID	00"-06"	Brown	Sand (f-m) w/ some silt and organics. Saturated.

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

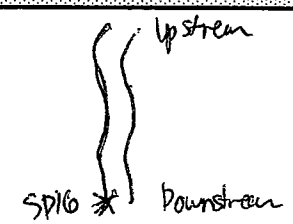
SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Grain Size	1 x 1 liter ~~Amber~~ Poly	Yes	
PAH	1 x 8oz jar	Yes	
Pesticides / Herbicides	1 x 8oz jar	Yes	
Metals / TOC	1 x 4oz jar	Yes	

OBSERVATIONS / NOTES:

- Sample collected 2' from stake toward center of stream.
- 0.95' of surface water above sediment.

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s): C. Fabian

Tetra Tech NUS, Inc.

QA SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project Number: 112G00958 / CTO 432
Sample Location:
QA Sample Type:

Sample ID Number: NASB-BG-GW-RB01-091609
Sampled By: Fellows/Horton/
C.O.C. Number:

[ ] Trip Blank
[ ] Source Water Blank (Field Blank)
[X] Rinsate Blank
[ ] Other Blank

SAMPLING DATA:

Date: 9/16/09
Time: 1400
Method: Direct Pour

WATER SOURCE:

[] Laboratory Prepared
[X] Purchased
[] Other
[] Tap
[] Fire Hydrant

PURCHASED WATER INFORMATION (If Applicable as Source or Rinsate Water):

Product Name: Reagent Grade Water (DIUF)
Supplier: MERL Diagnostics
Manufacturer:
Order Number:
Lot Number: 0907058
Expiration Date: 09-2009

RINSATE INFORMATION (If Applicable):

Media Type: GW
Equipment Used: Tubing - Poly and teflon
Equipment Type:
[X] Dedicated
[] Reusable
[X] Disposable

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals-total	HNO_3	1x 500ml poly	YES / NO
Metals - Dissolved	HNO_3	1x 500ml poly	YES / NO
Chloride / Bromide	4°C	1x 125ml poly	Yes / NO

OBSERVATIONS / NOTES:

Signature(s):

Tetra Tech NUS, Inc.

QA SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project Number: 112G00958 / CTO 432
Sample Location:
QA Sample Type:

Sample ID Number: NASB-BG-GW-FB01-091609
Sampled By: Fellows/Horton/
C.O.C. Number:

[ ] Trip Blank
[X] Source Water Blank (Field Blank)
[ ] Rinsate Blank
[ ] Other Blank

SAMPLING DATA:

Date: 9/16/09
Time: 1415
Method: Direct Pour

WATER SOURCE:

[] Laboratory Prepared
[X] Purchased
[] Other
[] Tap
[] Fire Hydrant

PURCHASED WATER INFORMATION (If Applicable as Source or Rinsate Water):

Product Name: Reagent Grade Water (DI/F)
Supplier: NERL Diagnostics
Manufacturer:
Order Number:
Lot Number: 0907058
Expiration Date: 09-2009

RINSATE INFORMATION (If Applicable):

Media Type: NA
Equipment Used:
Equipment Type:
[] Dedicated
[] Reusable
[X] Disposable

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals- Total	HNO_3	1 x 500 ml poly	YES / NO
Chloride / Bromide	4°C	1 x 125 ml poly	YES / NO

OBSERVATIONS / NOTES:

Signature(s):

Tetra Tech NUS, Inc.

QA SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project Number: 112G00958 / CTO 432
Sample Location:
QA Sample Type:

Sample ID Number: NASBBG-GW-RB02-092309
Sampled By: Fellows/Horton/
C.O.C. Number:

[ ] Trip Blank
[ ] Source Water Blank (Field Blank)
[X] Rinsate Blank
[ ] Other Blank

SAMPLING DATA:

Date: 9/23/09
Time: 0745
Method: Direct Pour

WATER SOURCE:

[] Laboratory Prepared
[X] Purchased
[] Other
[] Tap
[] Fire Hydrant

PURCHASED WATER INFORMATION (If Applicable as Source or Rinsate Water):

Product Name: Reagent Grade Water (DIUF)
Supplier: VWR Diagnostics
Manufacturer:
Order Number:
Lot Number: 0907058
Expiration Date: 09-2009

RINSATE INFORMATION (If Applicable):

Media Type: GW
Equipment Used: Microbladder Pump
Equipment Type:
[] Dedicated
[X] Reusable
[X] Disposable

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals- Total	HNO_3	1x 500ml poly	YES / NO
Metals- Dissolved	HNO_3	1x 500ml poly	YES / NO
Chloride / Bromide	4°C	1x 125ml poly	YES / NO

OBSERVATIONS / NOTES:

Signature(s):

C. Fell

Tetra Tech NUS, Inc.

QA SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project Number: 112G00958 / CTO 432
Sample Location:
QA Sample Type:

Sample ID Number: NASB-BG-SD-FB01-090909
Sampled By: Fellows/Horton/
C.O.C. Number:

[ ] Trip Blank
[X] Source Water Blank (Field Blank)
[ ] Rinsate Blank
[ ] Other Blank

SAMPLING DATA:

Date: 9/9/09
Time: 0900
Method: Direct Pour

WATER SOURCE:

[] Laboratory Prepared
[X] Purchased
[] Other
[] Tap
[] Fire Hydrant

PURCHASED WATER INFORMATION (If Applicable as Source or Rinsate Water):

Product Name: Reagent Grade Water (DIUF)
Supplier: MERL Diagnostics
Manufacturer:
Order Number:
Lot Number: 093258
Expiration Date: 09-2009

RINSATE INFORMATION (If Applicable):

Media Type: NA
Equipment Used:
Equipment Type:
[] Dedicated
[] Reusable
[X] Disposable

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
PAH	4°C	2 x 1 liter Amber	YES / NO
Pest / Herbicides	4°C	2 x 1 liter Amber	YES / NO
TAL Metals	HNO_3	1 x 500ml poly	YES / NO

OBSERVATIONS / NOTES:

Signature(s): C. Fellows

Tetra Tech NUS, Inc.

QA SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project Number: 112G00958 / CTO 432
Sample Location:
QA Sample Type:

Sample ID Number: NBB3-BG-SD-RB01-090909
Sampled By: Fellows/Horton/
C.O.C. Number:

[ ] Trip Blank
[ ] Source Water Blank (Field Blank)
[X] Rinsate Blank
[ ] Other Blank

SAMPLING DATA:

Date: 9/9/09
Time: 0915
Method: Direct Pour

WATER SOURCE:

[] Laboratory Prepared
[X] Purchased
[] Other
[] Tap
[] Fire Hydrant

PURCHASED WATER INFORMATION (If Applicable as Source or Rinsate Water):

Product Name: Reagent Grade Water (DI/VE)
Supplier: NERL Diagnostics
Manufacturer:
Order Number:
Lot Number: 0913258
Expiration Date: 09-2009

RINSATE INFORMATION (If Applicable):

Media Type: Sediment
Equipment Used: Aluminum Sampling Pan
Equipment Type:
[] Dedicated
[] Reusable
[X] Disposable

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
PAH	4°C	2 x liter Amber	YES / NO
Pest / Herbicides	4°C	2 x liter Amber	YES / NO
TAL Metals	HNO_3	1 x 500 ml poly	YES / NO

OBSERVATIONS / NOTES:

Signature(s):

C. Fahey

Tetra Tech NUS, Inc.

QA SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project Number: 112G00958 / CTO 432
Sample Location:
QA Sample Type:

Sample ID Number: NASB-BG-SW-RB01-090907
Sampled By: Fellows/Horton/
C.O.C. Number:

[ ] Trip Blank
[ ] Source Water Blank (Field Blank)
[X] Rinsate Blank
[ ] Other Blank

SAMPLING DATA:

Date: 9/9/09
Time: 0830
Method: Direct Pour

WATER SOURCE:

[] Laboratory Prepared
[X] Purchased
[] Other
[] Tap
[] Fire Hydrant

PURCHASED WATER INFORMATION (If Applicable as Source or Rinsate Water):

Product Name: Reagent Grade Water (DIUF)
Supplier: NERL Diagnostics
Manufacturer:
Order Number:
Lot Number: ~~0907058~~ 0913258
Expiration Date: 09-2009

RINSATE INFORMATION (If Applicable):

Media Type: Surface Water
Equipment Used: Kemmerer SW Sampler
Equipment Type:
[] Dedicated
[X] Reusable
[] Disposable

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
DRH	4°C	2 x liter Amber	YES / NO
Metals - Totals	HNO_3	1 x 500 ml Poly	YES / NO
Metals - Dissolved	HNO_3	1 x 500 ml Poly	YES / NO

OBSERVATIONS / NOTES:

Signature(s):

C. Fellows

Tetra Tech NUS, Inc.

QA SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project Number: 112G00958 / CTO 432
Sample Location:
QA Sample Type:

Sample ID Number: NASB-BG-SW-FB01-090909
Sampled By: Fellows / Horton /
C.O.C. Number:

[ ] Trip Blank
[X] Source Water Blank (Field Blank)
[ ] Rinsate Blank
[ ] Other Blank

SAMPLING DATA:

Date: 9/9/09
Time: 0800
Method: Direct Pour

WATER SOURCE:

[] Laboratory Prepared
[X] Purchased
[] Other
[] Tap
[] Fire Hydrant

PURCHASED WATER INFORMATION (If Applicable as Source or Rinsate Water):

Product Name: Reagent Grade Water (DIUF)
Supplier: NERL Diagnostics
Manufacturer:
Order Number:
Lot Number: 8907058
Expiration Date: 09-2009

RINSATE INFORMATION (If Applicable):

Media Type: N/A
Equipment Used:
Equipment Type:
[] Dedicated
[] Reusable
[] Disposable

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
PAH	4°C	2x 1 liter Amber	YES / NO
Metals - total	4°C HNO_3	1x 500 ml Poly	YES / NO

OBSERVATIONS / NOTES:

Signature(s):

Tetra Tech NUS, Inc.

QA SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project Number: 112G00958 / CTO 432
Sample Location:
QA Sample Type:

Sample ID Number: NASB-BG-SB-RB04-082509
Sampled By: Fellows/Horton/
C.O.C. Number:

[ ] Trip Blank
[ ] Source Water Blank (Field Blank)
[X] Rinsate Blank
[ ] Other Blank

SAMPLING DATA:

Date: 8/25/09
Time: 1600
Method: Direct Pour

WATER SOURCE:

[] Laboratory Prepared
[X] Purchased
[] Other
[] Tap
[] Fire Hydrant

PURCHASED WATER INFORMATION (If Applicable as Source or Rinsate Water):

Product Name: Reagent Grade Water (DIUF)
Supplier: NERL Diagnostics
Manufacturer:
Order Number:
Lot Number: 0907058
Expiration Date: 09-2009

RINSATE INFORMATION (If Applicable):

Media Type: Groundwater
Equipment Used: Aluminum Sampling Pan
Equipment Type:
[] Dedicated
[] Reusable
[X] Disposable

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
PAHs	4°C	2 X 1 Liter Amber	YES / NO
Metals	HNO_3 4°C	2 x 1 Second poly	YES / NO

OBSERVATIONS / NOTES:

Signature(s):

Tetra Tech NUS, Inc.

QA SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project Number: 112G00958 / CTO 432
Sample Location:
QA Sample Type:

Sample ID Number: NASB-BG-SB-RB03-082109
Sampled By: Fellows/Horton/
C.O.C. Number:

[ ] Trip Blank
[ ] Source Water Blank (Field Blank)
[X] Rinsate Blank
[ ] Other Blank

SAMPLING DATA:

Date: 8/21/09
Time: 1320
Method: Direct Pour

WATER SOURCE:

[] Laboratory Prepared
[X] Purchased
[] Other
[] Tap
[] Fire Hydrant

PURCHASED WATER INFORMATION (If Applicable as Source or Rinsate Water):

Product Name: Reagent Grade Water (DIUF)
Supplier:
Manufacturer:
Order Number:
Lot Number: 0907058
Expiration Date: 09-2009

RINSATE INFORMATION (If Applicable):

Media Type: Groundwater
Equipment Used: Alternative Sampling Pump
Equipment Type:
[] Dedicated
[] Reusable
[X] Disposable

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
PAHs	4°C	2x 1 liter Amber	YES / NO
Metals	HNO3 4°C	2x 500ml poly	YES / NO

OBSERVATIONS / NOTES:

Signature(s):

Tetra Tech NUS, Inc.

QA SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project Number: 112G00958 / CTO 432
Sample Location:
QA Sample Type:

Sample ID Number: MASB-BG-SB-RB02-081909
Sampled By: Fellows/Horton/
C.O.C. Number:

[ ] Trip Blank
[ ] Source Water Blank (Field Blank)
[X] Rinsate Blank
[ ] Other Blank

SAMPLING DATA:

Date: 8/19/09
Time: 1515
Method: Direct Pour

WATER SOURCE:

[] Laboratory Prepared
[X] Purchased
[] Other
[] Tap
[] Fire Hydrant

PURCHASED WATER INFORMATION (If Applicable as Source or Rinsate Water):

Product Name: Reagent Grade Water (DIUF)
Supplier: NERL Diagnostics
Manufacturer:
Order Number:
Lot Number: 0907058
Expiration Date: 09-2009

RINSATE INFORMATION (If Applicable):

Media Type: Groundwater
Equipment Used: Aluminum Sampling Pan
Equipment Type:
[] Dedicated
[] Reusable
[X] Disposable

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
PAH	4°C	2 x 1 liter Amber	YES / NO
Pesticides	4°C	2 x 1 liter Amber	YES / NO
Herbicides	4°C	2 x 1 liter Amber	YES / NO
Metals	HNO_3, 4°C	2 x 1 500 ml poly	YES / NO

OBSERVATIONS / NOTES:

Signature(s):

Tetra Tech NUS, Inc.

QA SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project Number: 112G00958 / CTO 432
Sample Location:
QA Sample Type:

Sample ID Number: NASB-BG-SB-RB01-081709
Sampled By: Fellows/Horton/
C.O.C. Number:

[ ] Trip Blank
[ ] Source Water Blank (Field Blank)
[X] Rinsate Blank
[ ] Other Blank

SAMPLING DATA:

Date: 8/17/09
Time: 1730
Method: Direct Pour

WATER SOURCE:

[] Laboratory Prepared
[X] Purchased
[] Other
[] Tap
[] Fire Hydrant

PURCHASED WATER INFORMATION (If Applicable as Source or Rinsate Water):

Product Name: Reagent Grade Water (DIUF)
Supplier: NERL Diagnostics
Manufacturer:
Order Number:
Lot Number: 0907058
Expiration Date: 09-2009

RINSATE INFORMATION (If Applicable):

Media Type: Groundwater
Equipment Used: Aluminum Sampling Pan
Equipment Type:
[] Dedicated
[] Reusable
[X] Disposable

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
PAHs	4°C	2 x 1 liter Amber	YES / NO
Pesticides	4°C	2 x 1 liter Amber	YES / NO
Herbicides	4°C	2 x 1 liter Amber	YES / NO
Metals	HNO_3, 4°C	2 x 1 ~~liter Amber~~ 500mL Poly	YES / NO

OBSERVATIONS / NOTES:

Signature(s):

Tetra Tech NUS, Inc.

QA SAMPLE LOG SHEET

Project Site Name: Background Study - NASB Brunswick, ME
Project Number: 112G00958 / CTO 432
Sample Location:
QA Sample Type:

Sample ID Number: NASB-BG-SB-FB01-082109
Sampled By: Fellows / Horton /
C.O.C. Number:

[ ] Trip Blank
[X] Source Water Blank (Field Blank)
[ ] Rinsate Blank
[ ] Other Blank

SAMPLING DATA:

Date: 8/21/09
Time: 0730
Method: Direct Pour

WATER SOURCE:

[] Laboratory Prepared
[X] Purchased
[] Other
[] Tap
[] Fire Hydrant

PURCHASED WATER INFORMATION (If Applicable as Source or Rinsate Water):

Product Name: Reagent Grade Water (DIUF)
Supplier: NERL Diagnostics
Manufacturer:
Order Number:
Lot Number: 0907058
Expiration Date: 09-2009

RINSATE INFORMATION (If Applicable):

Media Type: N/A
Equipment Used: N/A
Equipment Type:
[] Dedicated
[] Reusable
[] Disposable

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
DRHs	4°C	2 X 1 liter Amber	YES / NO
Pesticides	4°C	2 X 1 liter Amber	YES / NO
Herbicides	4°C	2 X 1 liter Amber	YES / NO
Metals	HNO3, 4°C	2 X 1 500ml Poly	YES / NO

OBSERVATIONS / NOTES:

Signature(s):

TETRA TECH NUS, INC.

YSI MULTIPARAMETER WATER QUALITY METER CALIBRATION LOG

Site Name: NASB-Background Study
Serial No: 01K0050AB
Job No: 112G00958 / CTO 432
Model No: 650 MDS

Decal Letter: B

Instrument is calibrated in accordance with manufactures instructions

Date		Conductivity 1000 µS/cm	Conductivity DI check	pH 4.0	pH 7.0	pH 10.0	Dissolved Oxygen 100% % sat.	Dissolved Oxygen 100% ppm	Dissolved Oxygen 100% Air Temp	ORP mV	ORP @ Temp	Solution Temp °C	Barometric Pressure, mm of Hg	Signature
												10.85		
11/30/09	am	1000	1	4.00	7.00	10.00	100.3	9.93	15.88	237.5	13.88	~~15.98~~	751.6	BG
	pm	987	2	4.06	7.10	10.08	99.5	10.43	13.28	239.1	14.02	14.97	751.2	BG
12/1/09	am	1000	2	4.00	7.00	9.99	100.4	11.51	9.33	250.5	8.43	8.76	762.4	BG
	pm	975	1	4.01	7.01	9.86	101.7	11.85	8.68	246.0	10.80	11.51	757.5	BG
	am													
	pm													
	am													
	pm													
	am													
	pm													
	am													
	pm													
	am													
	pm													
	am													
	pm													
	am													
	pm													

Calibration STD's

Lot Number:	7342	7345	7352	7244	NA	09K100426	NA	NA
Expires:	8/5/10	8/6/10	8/7/10	6/22/10		10/2011		

TETRA TECH NUS, INC.

YSI MULTIPARAMETER WATER QUALITY METER CALIBRATION LOG

Site Name: NASB-Background Study
Serial No: 03D0903 AF
Job No: 112G00958 / CTO 432
Model No: 650 MDS

Decal Letter: A

Instrument is calibrated in accordance with manufactures instructions

Date		Conductivity 1000 µS/cm	Conductivity DI check	pH 4.0	pH 7.0	pH 10.0	Dissolved Oxygen 100% % sat.	Dissolved Oxygen 100% ppm	Dissolved Oxygen 100% Air Temp	ORP mV	ORP @ Temp	Solution Temp °C	Barometric Pressure, mm of Hg	Signature
11/30/09	am	1000	2	4.00	7.00	9.99	98.9	9.84	15.64	~~244.0~~ 237.5	12.90	10.80	751.6	BG
	pm	977	3	4.00	7.08	10.06	99.2	10.52	12.75	245.9	13.47	14.86	751.2	BG
12/1/09	am	1000	1	3.99	7.00	10.00	99.5	11.41	9.33	250.5	7.96	8.68	756.3	BG
	pm	980	2	3.97	6.98	9.93	103.2	11.75	9.63	245.5	8.81	11.43	757.5	BG
	am													
	pm													
	am													
	pm													
	am													
	pm													
	am													
	pm													
	am													
	pm													
	am													
	pm													
	am													
	pm													

Calibration STD's

Lot Number:	7342	7345	7352	7244	NA	09K100426	NA	NA
Expires:	8/5/10	8/6/10	8/7/10	6/22/10		10/2011		

TETRA TECH NUS, INC.

YSI 6820 MULTIPARAMETER METER

Serial No.: 02B0049AB Model No.: 6920 Decal No.: A

Site Name: NASB - Background Study Job No.: 112G00958 / 0510

Instrument is calibrated in accordance with Manufacturer's Instructions

DATE: 8/24/09	Pre Calibration Readings	~~Post Calibration Readings~~ Precheck	PM Check	Calibration STDs (lot #'s)	Signature	Remarks
Cond. mS/cm	1001	983			AM [illegible] PM [illegible]	
pH=4.0	3.99	4.01				
pH=7.0	7.00	6.97				
pH=10.0	10.03	10.03				
D.O. mg/l	9.020 105.2%	8.41				762.4 mmHg
REDOX mV	231.0	224.9				
~~Turbidity 0 NTUs~~						
~~Turbidity 100 NTUs~~						
Temp °C	23.63	26.75				
~~Salinity 0/00~~						

PM Barometer = 762.5

DATE: 8/25/09	Pre	Post Cal				
Cond. mS/cm	849	1001	1103		AM [illegible] PM [illegible]	
pH=4.0	4.03	4.00	4.05			
pH=7.0	7.03	7.00	6.98			
pH=10.0	10.05	10.01	9.94			
D.O. mg/l	9.49	8.95	8.46			
REDOX mV	232.2	237.5	231.7			
~~Turbidity 0 NTUs~~						
~~Turbidity 100 NTUs~~						
Temp °C	20.48	25.30				
Salinity 0/00						

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Bar 764.2 mmHg 763.8

DO should be 8.95

TETRA TECH NUS, INC.

YSI 6820 MULTIPARAMETER METER

Serial No.: _____ Model No.: _____ Decal No.: A

Site Name: NASB - Background Study Job No.: 112G00958 / 0510

Instrument is calibrated in accordance with Manufacturer's Instructions

DATE: 8/26/09	Pre Calibration Readings	Post Calibration Readings	PM Check	Calibration STDs (lot #'s)	Signature	Remarks
Cond. ~~µ~~S/cm	1000	~~1370~~ 60	1370			AM BP - 755.8 PM 000
pH=4.0	4.14		4.02			
pH=7.0	7.01		6.96			
pH=10.0	10.07		9.89			
D.O. mg/l	12.05 @ 12.8°C		9.83	113.9%		
REDOX mV	249.9 @ 13.7°C		226.5			
Turbidity 0 NTUs						
Turbidity 100 NTUs						
Temp °C	12.62		21.44			
Salinity 0/00						

Baro 757.5

DATE: 8/27/09	8/27/09		987		AM: Gary Blevins
Cond. mS/cm	1114	1000	~~9.996~~ 000		PM: Gary Blevins
pH=4.0	4.11	4.00	4.03		
pH=7.0	7.02	7.00	7.00		
pH=10.0	9.96	10.00	10.00		
D.O. mg/l	11.79	@ 17.43°C ~~10.1~~ 9.6	7.81 @ 24.98°C		
REDOX mV	241.4	237.6	228.3		
~~Turbidity 0 NTUs~~					
~~Turbidity 100 NTUs~~					
Temp °C	16.99	~~28.09~~ 00	28.09		
Salinity 0/00					

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baro 761.9 763.9

@ 17.43°C air temp

TETRA TECH NUS, INC.

YSI 6820 MULTIPARAMETER METER

Serial No.: _____ Model No.: YSI 6920 Decal No.: A

Site Name: NASB - Background Study Job No.: 112G00958 / 0510

Instrument is calibrated in accordance with Manufacturer's Instructions

DATE: 8/28/09	Pre Calibration Readings	Post Calibration Readings	PM Check	Calibration STDs (lot #'s)	Signature	Remarks
Cond. mS/cm		1016	1009			AM BP - 765.6 ~~AM~~
pH=4.0		4.00	4.04		PM. GOD	~~PM GJG~~
pH=7.0		6.99	7.05			PM Baro 766.3
pH=10.0		9.97	9.98			
D.O. mg/l		8.76 @ 15.5°C 87.9%	7.65@	8.79°C 81.7%		
REDOX mV			242.8			
~~Turbidity~~ 0 NTUs						
~~Turbidity~~ 100 NTUs						
Temp °C		15.5 5				
Salinity 0/00						

DATE:						
Cond. mS/cm						
pH=4.0						
pH=7.0						
pH=10.0						
D.O. mg/l						
REDOX mV						
Turbidity 0 NTUs						
Turbidity 100 NTUs						
Temp °C						
Salinity 0/00						

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TETRA TECH NUS, INC.

YSI 6820 MULTIPARAMETER METER

Serial No.: B106660B Model No.: 6920 Decal No.: C

Site Name: NASB - Background Study Job No.: 112G00958 / 0510

Instrument is calibrated in accordance with Manufacturer's Instructions

DATE: 8/24/09	Pre Calibration Readings	Post Calibration Readings	PM Check	Calibration STDs (lot #'s)	Signature	Remarks
Cond. mS/cm	1000	987			AM PM	
pH=4.0	4.00	4.00				
pH=7.0	7.00	7.02				
pH=10.0	9.98	9.83				
D.O. mg/l	8.17 94.5%	7.81 @ 95.4%				760.4 mm Hg
REDOX mV	231.1	224				
~~Turbidity~~ 0 NTUs						
~~Turbidity~~ 100 NTUs						
Temp °C	23.61	27.15				
~~Salinity~~ 0/00						

DATE: 8/25/09						
Cond. mS/cm					AM PM	
pH=4.0		1000	1020			
pH=7.0		4.00	3.92			
pH=10.0		6.99	6.98			
D.O. mg/l	~~9.87@ 107.1%~~	9.06@ 100.3% ~~8.25 @ 91.7%~~ 9.25 99.7	9.78 8.44@ 22.51		DO% 97.9	762.5 mm Hg
REDOX mV		~~232.6~~ 237.5	230.7			
~~Turbidity 0 NTUs~~						
~~Turbidity~~ 100 NTUs						
Temp °C		21.23	22.51			
~~Salinity 0/00~~						

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TETRA TECH NUS, INC.

YSI 6820 MULTIPARAMETER METER

Serial No.: _____ Model No.: _____ Decal No.: C

Site Name: NASB - Background Study Job No.: 112G00958 / 0510

Instrument is calibrated in accordance with Manufacturer's Instructions

DATE: 8/26/09	Pre Calibration Readings	Post Calibration Readings	PM Check	Calibration STDs (lot #'s)	Signature	Remarks
Cond. mS/cm	1024		993		AM PM	AM BP 751.0 PM BP 756.1
pH=4.0	3.93		3.94			
pH=7.0	6.92		6.85			
pH=10.0	9.79		9.92			
D.O. mg/l	11.47 @ 12.9°C		8.53	108.5% 107.5%		
REDOX mV	250.7 @ 14°C		224.9			
~~Turbidity 0 NTUs~~						
~~Turbidity 100 NTUs~~						
Temp °C	12.60		26.90			
~~Salinity 0/00~~						

DATE: 8/27/09		AM	PM			AM PM	AM BP 758.4 mmHg
Cond. mS/cm		1000	957	1002			PM BP 762.2 mmHg
pH=4.0		4.00	4.03	3.99			
pH=7.0		7.00	6.92	7.19			
pH=10.0		10.00	9.87	10.23			
D.O. mg/l		9.67 @ 16.91		6.83 @ 82.1%	99.8%		
REDOX mV		238.0	227.4 @ 28°C	224.6 @ 24.44°C			
Turbidity 0 NTUs							
Turbidity 100 NTUs							
Temp °C		17.01	22.90				
Salinity 0/00							

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TETRA TECH NUS, INC.

YSI 6820 MULTIPARAMETER METER

Serial No.: _____ Model No.: YSI 6920 Decal No.: C

Site Name: NASB - Background Study Job No.: 112G00958 / 0510

Instrument is calibrated in accordance with Manufacturer's Instructions

DATE: 8/28/09	Pre Calibration Readings	Post Calibration Readings	PM Check	Calibration STDs (lot #'s)	Signature	Remarks
Cond. mS/cm		993	~~1024~~ 981			
pH=4.0		4.09	3.99		PM: GTB	Baro = 763.9
pH=7.0		7.28	7.06			
pH=10.0		10.02	10.01			
D.O. mg/l	6.69	6.69 @ 15.8°C 67.9%	5.15 @	18.81 °C = 54.9%		
REDOX mV			236.5			
Turbidity 0 NTUs						
Turbidity 100 NTUs						
Temp °C	15.52	15.52	19.25			
Salinity 0/00						

DATE:						
Cond. mS/cm						
pH=4.0						
pH=7.0						
pH=10.0						
D.O. mg/l						
REDOX mV						
Turbidity 0 NTUs						
Turbidity 100 NTUs						
Temp °C						
Salinity 0/00						

TtNUS Form 0024

TETRA TECH NUS, INC.

YSI 6820 MULTIPARAMETER METER

Serial No.: 98F0769AB

Model No.: 650MDS

Decal No.: D

Site Name: NASB - Background Study

Job No.: 112G00958 / 0510

Instrument is calibrated in accordance with Manufacturer's Instructions

DATE: 8/24/09	Pre Calibration Readings	Post Calibration Readings	PM Check	Calibration STDs (lot #'s)	Signature	Remarks
Cond. mS/cm		1000	991		AM G. Cheunon PM [illegible]	
pH=4.0	4.10	4.00	4.03			
pH=7.0	6.99	6.99	6.95			
pH=10.0	10.06	10.01	10.01			
D.O. mg/l	~~6.11~~ 6.11	7.95	7.36 @ 89.5%			
REDOX mV		~~100~~ 231	224.4			
~~Turbidity 0 NTUs~~						
~~Turbidity 100 NTUs~~						
Temp °C		24.02	25.91			
Salinity 0/00						

Barometer 760.1 mm Hg DO should be 8.4 mg/L at 24°C

DATE: 8/25/09						
Cond. mS/cm		1000	10.01		AM [illegible] PM [illegible]	
pH=4.0		4.00	4.10			
pH=7.0		7.00	7.12			
pH=10.0		10.01	10.01			
D.O. mg/l	~~9.87 @ 107.5%~~	~~9.87 @ 107%~~ 9.14 @ 99.3%		14.10 mg/L @ 165.9%		762.9 mm Hg
REDOX mV		237.5	230.8			
~~Turbidity 0~~ NTUs						
~~Turbidity 100~~ NTUs						
Temp °C		20.05	24.48			
~~Salinity 0~~/00						

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TETRA TECH NUS, INC.

YSI 6820 MULTIPARAMETER METER

Serial No.: 98F0769AB Model No.: 650 MDS Decal No.: D

Site Name: NASB - Background Study Job No.: 112G00958 / 0510

Instrument is calibrated in accordance with Manufacturer's Instructions

DATE: 8/27/09	Pre Calibration Readings	Post Calibration Readings	PM Check	Calibration STDs (lot #'s)	Signature	Remarks
Cond. mS/cm		1000	957		AM P. PM P.	760.3 mmHg AM
pH=4.0		4.00	4.03			761.8 mmHg PM
pH=7.0		7.00	6.92			
pH=10.0		10.00	9.87			
D.O. mg/l		9.89 @ 16.06°C	8.07 @ 97.4%	100.5%		
REDOX mV		238.0	227.4 @ 23°C			
~~Turbidity 0 NTUs~~						
~~Turbidity 100 NTUs~~						
Temp °C		16.99 °C	22.90°C			
Salinity 0/00						

DATE: 8/28/09						
Cond. mS/cm		1016	1000			AM: GOB
pH=4.0		4.00	4.01			PM = PS
pH=7.0		6.95	6.98			
pH=10.0		9.97	9.95			PM BP = 765.2 mmHg
D.O. mg/l		11.47 @ 15.°C 113.9%	7.39 @ 78.9%			
REDOX mV						
Turbidity 0 NTUs						
Turbidity 100 NTUs						
Temp °C		14.95	17.31			
Salinity 0/00						

TtNUS Form 0024

TETRA TECH NUS, INC.

YSI 6820 MULTIPARAMETER METER

Serial No.: 48F0769 AB Model No.: 6820 Decal No.: D

Site Name: NASB - Background Study Job No.: 112G00958 / 0510

Instrument is calibrated in accordance with Manufacturer's Instructions

DATE: 8/3/09	Pre Calibration Readings	Post Calibration Readings	PM Check	Calibration STDs (lot #'s)	Signature	Remarks
Cond. mS/cm 1000		1000	975	66661 10-30-2009	AM: CB	
Cond Check 0		2	3		DM:	AM BP= 760.9
pH=4.0		4.00	4.05	7074 / 4/24/10		AM-Sat%= 100.0
pH=7.0		7.00	7.11	66658 / 10/30/09		
pH=10.0		9.98	10.01	66662 / 10/31/2009		PM BP = 761.5
D.O. mg/l		8.72@22.16	8.12@23.00			PM Sat% = 94.9%
~~REDOX mV~~						
~~Turbidity 0 NTUs~~						
~~Turbidity 100 NTUs~~						
Temp °C		22.62°C	22.77			
~~Salinity 0/00~~						

DATE: 9/2/09						AM BP - 766.4
Cond. mS/cm		1000 / 5	1038			AM % Sat - 100%
pH=4.0		4.00	4.03			
pH=7.0		7.00	7.05			
pH=10.0		9.97	9.81			
D.O. mg/l		10.52 @ 13.6°C	10.67@15.3°C			
REDOX mV						
Turbidity 0 NTUs						
Turbidity 100 NTUs						
Temp °C		13.63	16.04			
Salinity 0/00						

TtNUS Form 0024

TETRA TECH NUS, INC.

YSI 6820 MULTIPARAMETER METER

Serial No.: 48F0769 Model No.: 6820 Decal No.: D

Site Name: NASB - Background Study Job No.: 112G00958 / 0510

Instrument is calibrated in accordance with Manufacturer's Instructions

DATE: 9/3/09	Pre Calibration Readings	Post Calibration Readings	PM Check	Calibration STDs (lot #'s)	Signature	Remarks
Cond. mS/cm Check		~~1000~~ 1025 / 3	1026 / 8		AM - MH	AMBP - 763.3 mmHg
pH=4.0		4.00	3.99		PM - MH	
pH=7.0		7.00	7.00			
pH=10.0		9.97	9.79			
D.O. mg/l		10.67 @ 15.3°C 106.5%				
REDOX mV		242.6 @ 16°C	225.2 @ 25.5°C			
Turbidity 0 NTUs						
Turbidity 100 NTUs						
Temp °C		16.04	25.56			
Salinity 0/00						

DATE: 9/4/09						
Cond. mS/cm / Check		1000 / 2	980 / 11			AM: BP = 760.4 mmHg
pH=4.0		4.00	3.99			PM: BP = 760.9 mmHg
pH=7.0		7.00	7.10			
pH=10.0		9.95	9.93			AM Sat % = 100
D.O. mg/l		9.78 @ 16.47°C				PM Sat % =
~~REDOX mV~~						
~~Turbidity 0 NTUs~~						
~~Turbidity 100 NTUs~~						
Temp °C		16.50°C	19.92			
~~Salinity 0/00~~						

TtNUS Form 0024

TETRA TECH NUS, INC.

YSI 6820 MULTIPARAMETER METER

Serial No.: 48F0769 Model No.: 6820 Decal No.: D

Site Name: NASB - Background Study Job No.: 112G00958 / 0510

Instrument is calibrated in accordance with Manufacturer's Instructions

DATE: 9/8/04	Pre Calibration Readings	Post Calibration Readings	PM Check	Calibration STDs (lot #'s)	Signature	Remarks
Cond. mS/cm /Check		1000 / 2	979/5		AM: CFS	AM BP: 761.7
pH=4.0		4.00	3.98		PM:	PM BP: 761.1
pH=7.0		7.00	7.04			
pH=10.0		9.93	9.78			AM Sat: 100.3
D.O. mg/l		10.11 @ 14.97	9.61 @ 25°C			PM Sat: 117.3
~~REDOX mV~~						
~~Turbidity 0 NTUs~~						
~~Turbidity 100 NTUs~~						
Temp °C		14.34 °C	24.72			
~~Salinity 0/00~~						

DATE:						
Cond. mS/cm						
pH=4.0						
pH=7.0						
pH=10.0						
D.O. mg/l						
REDOX mV						
Turbidity 0 NTUs						
Turbidity 100 NTUs						
Temp °C						
Salinity 0/00						

TtNUS Form 0024

TETRA TECH NUS, INC.

YSI MULTIPARAMETER WATER QU[illegible]TY METER CALIBRATION LOG

Site Name: Background Shedy
Serial No: 99K1014 600XLM-M 02C0985A # (650MDS)
Job No:
Model No:

Decal Letter: A

Instrument is calibrated in accordance with manufactures instructions

Date		Conductivity 1000 µS/cm	Conductivity DI check	pH 4.0	pH 7.0	pH 10.0	Dissolved Oxygen 100% % sat.	Dissolved Oxygen 100% ~~ppm~~ mg/L	Dissolved Oxygen 100% Air Temp	ORP mV	ORP @ Temp	Solution Temp °C	Barometric Pressure, mm of Hg	Signature
9/14	am	1000	4	4.02	7.0	10	99.4	9.54	17.35	243.1	16.29	16.41	750 mm Hg	[illegible]
	pm	1026	3	4.09	6.95	9.91	8.75	100.4	22.16	233.3	21.09	22.94	29.72 in Hg	[illegible]
9/15	am	1000	3	3.98	7.0	10.0	99.0	9.71	16.29	243.0	15.35	15.81	752.3 mm Hg	[illegible]
	pm	990	3	3.99	6.89	9.88	98.1	8.31	23.67	232.7	20.52	23.57	29.95 in Hg	[illegible]
9/16	am	1000	3	3.99	7.00	10.00	100.7	10.01	15.69	245.0	14.04	15.22	764.9 mm Hg	[illegible]
	pm	995	3	4.00	6.91	9.94	138.5	13.11	15.87	237.3	17.21	19.07	768.0	[illegible]
9/17	am	1000	5	4.01	7.00	10.00	100.8	10.14	15.24	245	13.40	11.41	764.7	[illegible]
	pm	989	4	4.09	6.91	9.82	118.3	10.68	20.41	233.8	19.13	19.63	764.5	[illegible]
9/18	am	1000	3	3.99	7.00	10.02	99.8	10.81	11.58	244.9	12.10	11.65	753.5	[illegible]
	pm	993	4	3.99	6.94	9.92	101.6	9.40	19.11	234.1	17.83	17.21	755.5	[illegible]
9/21	am	1000	3	4.00	7.00	9.99	100.6	10.54	13.28	244.3	15.22	11.58	764.5	CFS
	pm	998	3	4.01	6.96	9.90	108.7	9.57	21.61	227.1	21.49	24.35	768.2	PS
9/22	am	~~999~~ 1004	5	3.99	6.98	10.01	100.5	10.40	13.78	245.0	15.60	13.86	764.0	PS
	pm	991	3	4.01	6.99	9.89	99.9	9.05	20.23	232.1	19.47	21.34	764.1	PS
9/23	am	1001	5	4.00	7.00	10.00	100.2	9.76	16.66	245.0	16.68	16.67	760.3	CFS
	pm	956	4	4.01	6.92	9.83	83.7	6.96	24.70	227.1	22.33	25.24	761.6	CFS * Changed DO Membrane
9/24	am	1000	1	3.99	7.00	10.00	99.7	9.10	19.80	237.5	19.32	20.65	758.4	CFS
	pm	1018	4	3.98	6.95	9.89	118.8	10.29	22.52	238.7	19.91	21.44	761.0	PS
	am													
	pm													

Calibration STD's

Lot Number:	* See cal. Sheet for YSI Letter B. *			NA		NA	NA
Expires:							

9/16 - changed DO ~~probe~~ membrane after cal ck - found bubbles under membrane
9/17 - changed DO membrane after ck - found bubbles under membrane

TETRA TECH NUS, INC.

YSI MULTIPARAMETER WATER QU. TY METER CALIBRATION LOG

Site Name:
Serial No: 99K0055AD / 04C1549 AC
Job No:
Model No: 600XL / ~~600XL~~ 650 MDS

Decal Letter: B

Instrument is calibrated in accordance with manufactures instructions

Date		Conductivity 1000 µS/cm	Conductivity DI check	pH 4.0	pH 7.0	pH 10.0	Dissolved Oxygen 100% % sat.	Dissolved Oxygen 100% ~~ppm~~ mg/L	Dissolved Oxygen 100% Air Temp	ORP mV	ORP @ Temp	Solution Temp °C	Barometric Pressure, mm of Hg	Signature
9/14	am	999	3	~~4.02~~ 4.03	~~7.0~~ 6.97	9.99	99.6	9.54	17.45	243	16.40	16.31	756.9	[illegible]
	pm	1001	4	3.99	6.92	10.01	99.2	8.71	21.84	242.0	23.47	21.89	755.9	P. [illegible]
9/15	am	1004	3	4.02	7.00	10.0	99.3	9.76	16.22	243	15.05	15.62	755.0	[illegible]
	pm	~~1007~~	3	3.92	6.87	9.91	101.5	8.71	23.05	220.9	22.39	23.90	759.2	P. [illegible]
9/16	am	992	5	4.00	6.98	10.00	101.8	10.15	15.55	244.2	15.18	15.20	767.7	P. [illegible]
	pm	~~996~~ 961	4	4.03	6.91	9.95	101.5	9.24	19.97	234.3	17.60	18.97	769.9	P. [illegible]
9/17	am	1000	4	4.00	7.00	10.08	~~100.8~~	~~10.19~~ 10.13	15.32	246.7	14.71	11.90	769.6	P. [illegible]
	pm	1008	3	4.01	6.94	9.84	94.0	8.50	20.28	235.5	18.98	19.65	765.0	[illegible]
9/18	am	1000	3	4.00	7.00	10.00	99.8	10.91	11.38	244.7	12.35	11.91	758.1	P. [illegible]
	pm	998	3	3.92	6.85	9.84	104.8	9.60	19.61	236.7	17.06	16.62	755.7	[illegible]
9/21	am	~~1000~~	2	4.00	7.00	9.99	101.2	10.00	13.02	247.0	13.91	13.25	768.9	CFS
	pm	~~984~~ 972	2	4.01	6.95	9.89	127.8	11.17	21.99	231.6	22.78	23.79	767.4	PS
9/22	am	999	1	3.99	7.08	10.00	101.0	10.46	13.80	245.0	15.97	14.16	767.4	PS
	pm	978	3	4.03	7.14	10.16	81.1	7.39	19.86	237.2	19.6	21.49	765.1	PS
9/23	am	1000	2	4.00	7.00	10.00	100.4	9.80	16.53	244	16.68	16.67	763.1	CFS
	pm	1061	4	4.08	7.06	9.95	103.9	8.74	24.03	231.7	22.01	24.78	759.4	CFS
9/24	am	1000		4.00	7.01	10.00	100.2	9.13	19.41	237.5	19.34	20.13		CFS
	pm	1010	5	4.05	7.03	9.97	111.9	9.73	22.33	232.4	20.47	21.57	760.5	PS
	am													
	pm													

Calibration STD's

Lot Number:	7266	7255	7229	7244	NA	07M100477	NA	NA
Expires:	7/1/10	6/25/10	6/15/10	6/22/10		01/2010		

TETRA TECH NUS, INC.

YSI MULTIPARAMETER WATER QU. TY METER CALIBRATION LOG

Site Name: NAS Brunswick
Serial No: 08B101377 / 01D1391AJ
Job No:
Model No: 600XL / 650MDS

Decal Letter: C

Instrument is calibrated in accordance with manufactures instructions

Date		Conductivity 1000 µS/cm	Conductivity DI check	pH 4.0	pH 7.0 (9/14/09 pm: 6.97 → 7.00)	pH 10.0	Dissolved Oxygen 100% % sat.	Dissolved Oxygen 100% ppm (mg/L)	Dissolved Oxygen 100% Air Temp	ORP mV	ORP @ Temp	Solution Temp °C	Barometric Pressure, mm of Hg	Signature
9/14/09	am	1000	4	4.04	7.00	10.00	99.9	9.24	19.13°C	242.0	16.35	16.69	759	[illegible]
	pm	1008	4	3.87	6.87	9.94	95.5	8.29	22.41	236.8	~~24.57~~ 21.70	24.57	759.1	[illegible]
9/15/09	am	1000	2	4.04	7.00	10.00	99.6	9.73	16.47	243.5	16.43	16.84	757.0	[illegible]
	pm	1010	3	3.92	6.94	9.90	101.8	8.93	21.83	229.5	19.69	23.53	762.3	[illegible]
9/16/09	am	1000	4	4.00	7.00	10.01	104.9	10.42	15.74	243.8	15.01	15.33	769.4	[illegible]
	pm	~~1046~~ 1022	5	4.05	6.98	10.07	100.5	9.17	19.78	243.2	16.40	18.11	772.4	[illegible]
9/17/09	am	1000	1	4.00	7.00	10.00	101.4	11.23	11.09	244.2	15.48	12.39	770.8	CFS
	pm	992	3	3.92	6.92	9.98	83.2	7.54	20.18	~~233.0~~ 227.1	18.13	19.73	~~764.5~~ 767.5	[illegible]
9/18/09	am	1000	2	4.02	7.00	10.00	99.9	10.93	11.38	244.0	12.55	11.77	759.3	[illegible]
	pm	984	5	4.01	6.85	9.82	84.6	7.42	21.78	254.1	18.45	18.60	758.2	[illegible]
9/21	am	1000	2	4.01	7.00	10.00	101.3	10.68	13.02	246.8	15.06	14.01	770.2	CFS
	pm	1018	5	3.89	6.95	10.03	DO membrane torn-			230.3	21.42	23.70	771.1	PS
9/22	am	1000	3	4.02	7.00	9.98	101.4	10.51	13.78	246.1	15.75	14.14	769.2	PS
	pm	1005	2	4.10	7.12	10.08	113.9	10.24	20.58	247.7	19.70	21.53	767.7	PS
9/23	am	1000	5	4.04	7.00	10.00	101.8	9.93	16.58	246.5	16.82	16.76	764.9	PS
	pm	964	4	4.01	7.04	10.03	96.8	8.27	23.58	237.9	22.53	24.51	761.7	CFS
9/24	am	1000	2	4.00	7.00	9.98	99.9	9.13	19.73	237.6	19.47	20.05		CFS
	pm	984	4	3.93	6.85	9.79	114.9	9.64	22.42	265.2	19.61	21.44	764.3	PS
	am													
	pm													

Calibration STD's

Lot Number:	* see cal sheet for		YSI	Letter B*	NA	NA	NA
Expires:							

TETRA TECH NUS, INC.

YSI MULTIPARAMETER WATER QUALITY METER CALIBRATION LOG

Site Name: NASB- Background Study
Serial No: 08K100597
Job No: 112G00958
Model No: 556 MPS

Decal Letter: A

Instrument is calibrated in accordance with manufactures instructions

Date		Conductivity 1000 µS/cm	Conductivity DI check	pH 4.0	pH 7.0	pH 10.0	Dissolved Oxygen 100% % sat.	Dissolved Oxygen 100% ppm	Dissolved Oxygen 100% Air Temp	ORP mV	ORP @ Temp	Solution Temp ° C	Barometric Pressure, mm of Hg	Signature
11/12/09	am	1002	2	4.0	7.19	10.14	98.7	11.57	8.39	269.2	9.14	6.44	771.1	BG
	pm	1008	12	4.4	7.34	10.19	100.1	10.96	11.29	265.8	10.49	10.60	769.3	
	am													
	pm													
	am													
	pm													
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Calibration STD's

Lot Number:	7266	7255	7229	7244	NA	09K100426	NA	NA
Expires:	7/1/10	6/25/10	6/15/10	6/22/10		10/2011		

TETRA TECH NUS, INC.

YSI MULTIPARAMETER WATER QUALITY METER CALIBRATION LOG

Site Name: NASB Background Study
Serial No: 09F101281
Job No: 112G00958
Model No: 556 MPS

Decal Letter: B

Instrument is calibrated in accordance with manufactures instructions

Date		Conductivity 1000 µS/cm	Conductivity DI check	pH 4.0	pH 7.0	pH 10.0	Dissolved Oxygen 100% % sat.	Dissolved Oxygen 100% ppm	Dissolved Oxygen 100% Air Temp	ORP mV	ORP @ Temp	Solution Temp °C	Barometric Pressure, mm of Hg	Signature
11/12/09	am	1005	5	3.97	7.09	10.06	94.1	11.08	8.19	266.3	7.6	6.2	770.8	RME
	pm	1001	11	4.00	7.14	10.11	99.0	10.79	11.54	260.8	11.26	10.3	768.8	RME
	am													
	pm													
	am													
	pm													
	am													
	pm													
	am													
	pm													
	am													
	pm													
	am													
	pm													
	am													
	pm													
	am													
	pm													

Calibration STD's

Lot Number:					NA		NA	NA
Expires:								

TETRA TECH NUS, INC.

YSI MULTIPARAMETER WATER QUALITY METER CALIBRATION LOG

Site Name: NASB-Background Study
Serial No: 09F101281
Job No: 112G00958 / CTO 432
Model No: 556 MPS
Instrument is calibrated in accordance with manufactures instructions

Decal Letter: NA

Date		Conductivity 1000 µS/cm	Conductivity DI check	pH 4.0	pH 7.0	pH 10.0	Dissolved Oxygen 100% % sat.	Dissolved Oxygen 100% ppm	Dissolved Oxygen 100% Air Temp	ORP mV	ORP @ Temp	Solution Temp °C	Barometric Pressure, mm of Hg	Signature
11/16/09	am	1000	2	4.00	7.00	10.00	99.8	9.39	18.24	250.5	11.03	10.80	757.9	CFS
	pm	1005	3	4.12	7.23	10.10	95.3	9.90	13.61	241.4	14.70	15.62	757.8	BG
	am													
	pm													
	am													
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Calibration STD's

Lot Number:	7080	7255	7229	7244	NA	07M10047	NA	NA
Expires:	04-27-2010	6-25-2010	6-15-2010	06-22-2010		01/2010		

107-5081-3000

TETRA TECH NUS, INC.

FIELD INSTRUMENT CALIBRATION LOG

SITE NAME: NASB-Background Study, Brunswick, ME

INSTRUMENT NAME LaMotte Turbidimeter MODEL No.: ~~A~~ Lamotte 2020

SERIAL No.: 3106-1402A DECAL No.: A TT NUS CHARGE No. 112G00958 / CTO 432

DATE	INITIAL READING (AM)		PROCEDURE		FINAL READING (PM Cal Check)		SIGNATURE	COMMENTS
	0 NTU (check)	10 NTU (span)	Per Manufacturer's Instruction		0 NTU (check)	10 NTU (span)		
11/30/09	0.00	/ 10.01			0.82	/ 10.51	AM: BG PM: CFS	Weather: Rain 40's
12/1/09	0.00	/ 10.64*			0.00	/ 9.18	AM: CFS PM: CFS	*Instrument will not cal. to 10 NTU, closest 10.64.
		/				/	AM: PM:	May be due to rain previous day.
		/				/	AM: PM:	
		/				/	AM: PM:	
		/				/	AM: PM:	
		/				/	AM: PM:	
		/				/	AM: PM:	
		/				/	AM: PM:	
		/				/	AM: PM:	
		/				/	AM: PM:	
		/				/	AM: PM:	

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TETRA TECH NUS, INC.

FIELD INSTRUMENT CALIBRATION LOG

SITE NAME: Background Study, NASB Brunswick, ME

INSTRUMENT NAME LaMotte Turbidimeter MODEL No.: Lamotte 2020

SERIAL No.: — DECAL No.: B TETRA TECH NUS CHARGE No. 112G00958 / CTO 435

DATE	INITIAL READING (AM)		PROCEDURE	FINAL READING (PM Cal Check)		SIGNATURE	COMMENTS
	0 NTU	10 NTU (span)	Per Manufacturer's Instruction	0 NTU	10 NTU (span)		
11/30/09	0.01	/ 10.07		0.00	10.05	AM: BG PM: CFJ	Weather - Rain. Cld's
12/1/09	0.00	/ 9.98		0.00	9.86	AM: CFJ PM: CFJ	
		/				AM: PM:	
		/				AM: PM:	
		/				AM: PM:	
		/				AM: PM:	
		/				AM: PM:	
		/				AM: PM:	
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		/				AM: PM:	
		/				AM: PM:	
		/				AM: PM:	

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TETRA TECH NUS, INC.

FIELD INSTRUMENT CALIBRATION LOG

SITE NAME: Background Study, NASB Brunswick, ME

INSTRUMENT NAME LaMotte Turbidimeter MODEL No.: LaMotte 2020e

SERIAL No.: ME 11434 DECAL No.: A TETRA TECH NUS CHARGE No. 112G00958 / CTO 435

DATE	INITIAL READING (AM)		PROCEDURE	FINAL READING (PM Cal Check)		SIGNATURE	COMMENTS
	0 NTU	10 NTU (span)	Per Manufacturer's Instruction	0 NTU	10 NTU (span)		
8/24/09	0.0	/ 9.98		0.35	/ 11.8	AM: CFS PM: CFS	
8/25/09	0.00	/ 9.95		0.00	9.58	AM: GRO PM: MJH	
8/26/09	0.00	/ 10.01		-0.31	10.61	AM: CFS PM:	
8/27/09	0.00	/ 9.98		-0.10	10.19	AM: MH PM: MH	
8/28/09	~~0.00~~ 0.00	/ 9.91		0.00	10.05	AM: GRO PM: MH	
8/31/09	0.00	/ 10.01		-1.60	9.53	AM: MH PM: MH	
9/2/09	0.00	/ 9.97		0.03	10.28	AM: CFS PM:	
9/3/09	0.03	/ 9.91		0.11	9.64	AM: CFS PM: CFS	
9/4/09	0.12	/ 10.00		1.67	13.8	AM: MH PM: CFS	
9/8/09	-0.03	/ 10.33		0.67	9.76	AM: MH PM: CFS	
		/				AM: PM:	
		/				AM: PM:	
		/				AM: PM:	

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TETRA TECH NUS, INC.

FIELD INSTRUMENT CALIBRATION LOG

SITE NAME: Background Study, NASB Brunswick, ME

INSTRUMENT NAME LaMotte Turbidimeter MODEL No.: 2020 e

SERIAL No.: ME 11540 DECAL No.: B TETRA TECH NUS CHARGE No. 112G00958 / CTO 435

DATE	INITIAL READING (AM)		PROCEDURE	FINAL READING (PM Cal Check)		SIGNATURE	COMMENTS
	0 NTU	10 NTU (span)	Per Manufacturer's Instruction	0 NTU	10 NTU (span)		
8/24/09	0.0	/ 9.99		-0.66	10.27	AM: CFS PM: CFS	
8/25/09	-0.09	/ 11.00		0.70	11.5	AM: GTO PM: MTH	
8/26/09	0.00	/ 9.98		-1.22	9.95	AM: CFS PM:	
8/27/09	0.00	/ 9.98		0.16	9.70	AM: M. Horton PM:	
8/28/09	-0.07	/ 9.20		-0.89	10.00	AM: GTO PM: MH	
		/				AM: PM:	
		/				AM: PM:	
		/				AM: PM:	
		/				AM: PM:	
		/				AM: PM:	
		/				AM: PM:	
		/				AM: PM:	
		/				AM: PM:	

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TETRA TECH NUS, INC.

FIELD INSTRUMENT CALIBRATION LOG

SITE NAME: Background Study, NASB Brunswick, ME

INSTRUMENT NAME LaMotte Turbidimeter MODEL No.: 2020e

SERIAL No.: ME11560 DECAL No.: C TETRA TECH NUS CHARGE No. 112G00958 / CTO 435

DATE	INITIAL READING (AM)		PROCEDURE	FINAL READING (PM Cal Check)		SIGNATURE	COMMENTS
	0 NTU	10 NTU (span)	Per Manufacturer's Instruction	0 NTU	10 NTU (span)		
8/24/09	0.0	9.99		-0.36	9.31	AM: CFS PM: CFS	
8/25/09	0.00	9.96		-0.29	9.77	AM: [illegible] PM: MJH	
8/26/09	0.00	9.97		Did Not Use		AM: CFS PM:	
8/27/09	-0.05	9.87		-1.14	9.88	AM: M. Horton PM:	
8/28/09	0.16	9.81		-1.56	7.93	AM: GJG PM: MH	
	/					AM: PM:	
	/					AM: PM:	
	/					AM: PM:	
	/					AM: PM:	
	/					AM: PM:	
	/					AM: PM:	
	/					AM: PM:	
	/					AM: PM:	

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TETRA TECH NUS, INC.

FIELD INSTRUMENT CALIBRATION LOG

SITE NAME: Background Study, NASB Brunswick, ME

INSTRUMENT NAME LaMotte Turbidimeter MODEL No.: 2020e

SERIAL No.: ME 26858 DECAL No.: D TETRA TECH NUS CHARGE No. 112G00958 / CTO 435

DATE	INITIAL READING (AM)		PROCEDURE	FINAL READING (PM Cal Check)		SIGNATURE	COMMENTS
	0 NTU	10 NTU (span)	Per Manufacturer's Instruction	0 NTU	10 NTU (span)		
8/25/09	0.00	10.22		0.06	10.37	AM: ~~CES~~ GMo PM:	
8/26/09	0.00	9.99		Did Not use		AM: CGP PM:	
8/27/09	0.00	9.87		Did Not use		AM: M. Horton PM:	
	/					AM: PM:	
	/					AM: PM:	
	/					AM: PM:	
	/					AM: PM:	
	/					AM: PM:	
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TETRA TECH NUS, INC.

FIELD INSTRUMENT CALIBRATION LOG

SITE NAME: Background Study, NASB Brunswick, ME

INSTRUMENT NAME LaMotte Turbidimeter MODEL No.: 2020

SERIAL No.: 1139 - 1699 DECAL No.: A TETRA TECH NUS CHARGE No. 112G00958 / CTO 435

DATE	INITIAL READING (AM)		PROCEDURE	FINAL READING (PM Cal Check)		SIGNATURE	COMMENTS
	0 NTU	10 NTU (span)	Per Manufacturer's Instruction	0 NTU	10 NTU (span)		
9/14/09	0.00	10.00	↓	0.0	9.61	AM: Jack Carl PM: Jack Carl	
9/15/09	0.00	9.99	↓	0.00	9.85	AM: Jack Carl PM: Jack Carl	
9/16/09	0.00	10.01	↓	0.00	10.41	AM: Jack Carl PM: Jack Carl	
9/17/09	0.02	10.02	↓	0.00	9.96	AM: Jack Carl PM: Jack Carl	
9/18/09	0.00	10.00	↓	0.00	10.13	AM: Jack Carl PM: CPS	
9/21/09	0.00	10.00	↓	0.00	9.91	AM: Jack Carl PM: CPS	
9/22/09	0.00	10.02	↓	0.00	9.65	AM: Jack Carl PM: P. A.	
9/23/09	0.00	10.01	↓	0.47	11.1	AM: Jack Carl PM: Jack Carl	
9/24/09	0.00	10.05	↓	0.00	9.97	AM: Jack Carl PM: Jack Carl	
	/					AM: PM:	
	/					AM: PM:	
	/					AM: PM:	
	/					AM: PM:	

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TETRA TECH NUS, INC.

FIELD INSTRUMENT CALIBRATION LOG

SITE NAME: Background Study, NASB Brunswick, ME

INSTRUMENT NAME LaMotte Turbidimeter MODEL No.: 2020

SERIAL No.: 1758-1800 DECAL No.: B TETRA TECH NUS CHARGE No. 112G00958 / CTO 435

DATE	INITIAL READING (AM)		PROCEDURE	FINAL READING (PM Cal Check)		SIGNATURE	COMMENTS
	0 NTU	10 NTU (span)	Per Manufacturer's Instruction	0 NTU	10 NTU (span)		
9/14/09	0.05	9.9	↓	0	8.9	AM: [illegible] PM: [illegible]	
9/15/09	0.00	10	↓	0.00	10	AM: [illegible] PM: [illegible]	
9/16/09	0.00	10	↓	0.00	9.9	AM: [illegible] PM: [illegible]	
9/17/09	0.00	10.0	↓	0.00	10	AM: [illegible] PM: [illegible]	
9/18/09	0.00	10	↓	0.00	9.6	AM: [illegible] PM: CB	
9/21/09	0.00	10.0	↓	0.00	11	AM: [illegible] PM: CB	
9/22/09	0.00	10	↓	0.00	13	AM: [illegible] PM: [illegible]	
9/23/09	0.00	10	↓	0.00	10	AM: [illegible] PM: [illegible]	
9/24/09	0.00	10	↓	0.00	12	AM: [illegible] PM: CB	
	/					AM: PM:	
	/					AM: PM:	
	/					AM: PM:	
	/					AM: PM:	

Mod.TtNUS Form 0007

TETRA TECH NUS, INC.

FIELD INSTRUMENT CALIBRATION LOG

SITE NAME: Background Study, NASB Brunswick, ME

INSTRUMENT NAME LaMotte Turbidimeter MODEL No.: 2020

SERIAL No.: 1765-1800 DECAL No.: C TETRA TECH NUS CHARGE No. 112G00958 / CTO 435

DATE	INITIAL READING (AM)		PROCEDURE	FINAL READING (PM Cal Check)		SIGNATURE	COMMENTS
	0 NTU	10 NTU (span)	Per Manufacturer's Instruction	0 NTU	10 NTU (span)		
9/14/09	0.00	10.0	↓	0	10	AM: [illegible] PM: [illegible]	
9/15/09	0.00	10	↓	0.00	10	AM: [illegible] PM: [illegible]	
9/16/09	0.00	10.0	↓	0.00	9.9	AM: [illegible] PM: [illegible]	
9/17/09	0.00	10	↓	0.00	9.5	AM: [illegible] PM: [illegible]	
9/18/09	0.00	10	↓	0.0	9.0	AM: [illegible] PM:	
9/21/09	0.00	10	↓	0.0	9.4	AM: [illegible] PM: [illegible]	
9/22/09	0.00	10	↓	0	11	AM: [illegible] PM: [illegible]	
9/23/09	0.00	10.0	↓	0.00	11	AM: [illegible] PM: [illegible]	
9/24/09	0.00	10.0	↓	0.00	11	AM: [illegible] PM: [illegible]	
	/					AM: PM:	
	/					AM: PM:	
	/					AM: PM:	
	/					AM: PM:	

Mod.TtNUS Form 0007

TETRA TECH NUS, INC.

FIELD INSTRUMENT CALIBRATION LOG

SITE NAME: Background Study, NASB Brunswick, ME

INSTRUMENT NAME LaMotte Turbidimeter MODEL No.: 2020

SERIAL No.: 3332-2402 DECAL No.: A TETRA TECH NUS CHARGE No. 112G00958 / CTO 435

DATE	INITIAL READING (AM)		PROCEDURE	FINAL READING (PM Cal Check)		SIGNATURE	COMMENTS
	0 NTU	10 NTU (span)	Per Manufacturer's Instruction	0 NTU	10 NTU (span)		
11/12/09	0.00	/ 10.38		0.0	9.97	AM: RMC PM: RMC	
~~11/16/09~~	~~0.00~~	~~/ 10.17~~				~~AM: BG~~ PM:	OFS
		/				AM: PM:	
		/				AM: PM:	
		/				AM: PM:	
		/				AM: PM:	
		/				AM: PM:	
		/				AM: PM:	
		/				AM: PM:	
		/				AM: PM:	
		/				AM: PM:	
		/				AM: PM:	
		/				AM: PM:	

Mod.TtNUS Form 0007

TETRA TECH NUS, INC.

FIELD INSTRUMENT CALIBRATION LOG

SITE NAME: Background Study, NASB Brunswick, ME

INSTRUMENT NAME LaMotte Turbidimeter MODEL No.: 2020

SERIAL No.: 1139-1699 DECAL No.: B TETRA TECH NUS CHARGE No. 112G00958 / CTO 435

DATE	INITIAL READING (AM)		PROCEDURE	FINAL READING (PM Cal Check)		SIGNATURE	COMMENTS
	0 NTU	10 NTU (span)	Per Manufacturer's Instruction	0 NTU	10 NTU (span)		
11/17/09	0.00	10.27		0.00	10.14	AM: RMC PM:	
	/					AM: PM:	
	/					AM: PM:	
	/					AM: PM:	
	/					AM: PM:	
	/					AM: PM:	
	/					AM: PM:	
	/					AM: PM:	
	/					AM: PM:	
	/					AM: PM:	
	/					AM: PM:	
	/					AM: PM:	
	/					AM: PM:	

Mod.TtNUS Form 0007

TETRA TECH NUS, INC.

FIELD INSTRUMENT CALIBRATION LOG

SITE NAME: NASB-Background Study, Brunswick, ME

INSTRUMENT NAME LaMotte Turbidimeter MODEL No.: 2020

SERIAL No.: 3106-1402A DECAL No.: NA TT NUS CHARGE No. 112G00958 / CTO 432

DATE	INITIAL READING (AM)		PROCEDURE		FINAL READING (PM Cal Check)		SIGNATURE	COMMENTS
	0 NTU (check)	10 NTU (span)	Per Manufacturer's Instruction		0 NTU (check)	10 NTU (span)		
11/16/09	0	10.17			0.46	11.1	AM: BG PM: CFS	
	/				/		AM: PM:	
	/				/		AM: PM:	
	/				/		AM: PM:	
	/				/		AM: PM:	
	/				/		AM: PM:	
	/				/		AM: PM:	
	/				/		AM: PM:	
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	/				/		AM: PM:	
	/				/		AM: PM:	
	/				/		AM: PM:	

Mod.TtNUS Form 0007

TETRA TECH NUS, INC.

PHOTOIONIZATION DETECTOR FIELD CALIBRATION LOG

Serial No.: 005159 Model No.: MiniRae 2000 Decal No.: A

Site Name/Location: NASB-Background Study Tetra Tech NUS Charge No.: 112G00958 / CTO 432

CALIBRATION DATE	STANDARD GAS-ISOBUTYLENE	CALIBRATION READING Isobutylene Equiv. (ppm)	CALIBRATION CHECK Isobutylene Equiv. (ppm)	SIGNATURE	COMMENTS

11/30/09	Lot # LTL039-MD-CM
	Conc. = 100 ppm
		0.0 / 100	0.8 / 94.0	AM. BG
				PM: CFS
					Weather - 40's Rain

12/1/09	Lot # ↓ Conc. = ↓ ppm	0.0 / 101	0.0 / 94.0	AM: CFS PM: CFS	
	Lot # _____ Conc. = _____ ppm				
	Lot # _____ Conc. = _____ ppm				
	Lot # _____ Conc. = _____ ppm				
	Lot # _____ Conc. = _____ ppm				
	Lot # _____ Conc. = _____ ppm				
	Lot # _____ Conc. = _____ ppm				
	Lot # _____ Conc. = _____ ppm				

TtNUS Form 0006

TETRA TECH NUS, INC.

PHOTOIONIZATION DETECTOR FIELD CALIBRATION LOG

Serial No.: U02904X Model No.: Mini RAE 2000 Decal No.: A

Site Name/Location: NAS13-Background Study Tetra Tech NUS Charge No.: 1126-00958 / CTO 432

CALIBRATION DATE	STANDARD GAS-ISOBUTYLENE	CALIBRATION READING Isobutylene Equiv. (ppm)	CALIBRATION CHECK Isobutylene Equiv. (ppm)	SIGNATURE	COMMENTS
8/13/09	Lot # 031009 Conc. = 100 ppm	0.0 / 100	0.8 / 104	AM - CFS PM - CFS	
8/14/09	Lot # 031009 Conc. = 100 ppm	0.0 / 100	0.2 / 95	AM - CFS PM - CFS	
8/17/09	Lot # 031009 Conc. = 100 ppm	0.0 / 100	0.1 / 99.5	AM - MH PM - CFS	
8/18/09	Lot # 031009 Conc. = 100 ppm	0.0 / 101	0.3 / 103	AM - CFS PM - MH	
8/19/09	Lot # 031009 Conc. = 100 ppm	0.0 / 110	0.0 / 102	AM - MH PM - MH	
8/20/09	Lot # 031009 Conc. = 100 ppm	0.0 / 106	0.2 / 106	AM - CFS PM - MH	
8/24/09	Lot # 031009 Conc. = 100 ppm	0.0 / 103	0.3 / 95	AM - CFS PM - CFS	
8/25/09	Lot # 031009 Conc. = 100 ppm	0.0 / 105	0.0 / 107	AM - CFS PM - MH	
8/26/09	Lot # 031009 Conc. = 100 ppm	0.0 / 106	0.0 / 92	AM - GJG PM: CFS	

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TETRA TECH NUS, INC.

PHOTOIONIZATION DETECTOR FIELD CALIBRATION LOG

Serial No.: U029O4X
Model No.: Mini RAE 2000
Decal No.: A
Site Name/Location: MASB-Background Study
Tetra Tech NUS Charge No.: 1126-00958/CTO432

CALIBRATION DATE	STANDARD GAS-ISOBUTYLENE	CALIBRATION READING Isobutylene Equiv. (ppm)	CALIBRATION CHECK Isobutylene Equiv. (ppm)	SIGNATURE	COMMENTS
8/27/09	Lot # 031009 Conc. = 100 ppm	0.0 / 107	0.0 / 98	AM - CFS PM - MH	
	Lot # Conc. = ppm			AM - PM -	Beeping Pump problem?
	Lot # Conc. = ppm				
	Lot # Conc. = ppm				
	Lot # Conc. = ppm				
	Lot # Conc. = ppm				
	Lot # Conc. = ppm				
	Lot # Conc. = ppm				
	Lot # Conc. = ppm				
	Lot # Conc. = ppm				

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TETRA TECH NUS, INC.

PHOTOIONIZATION DETECTOR FIELD CALIBRATION LOG

Serial No.: 110-001749 Model No.: Mini RAE 2000 Decal No.: B

Site Name/Location: MASB-Background Study Tetra Tech NUS Charge No.: 1126-001958/CTO 432

CALIBRATION DATE	STANDARD GAS-ISOBUTYLENE	CALIBRATION READING Isobutylene Equiv. (ppm)	CALIBRATION CHECK Isobutylene Equiv. (ppm)	SIGNATURE	COMMENTS
8/24/09	Lot # 031009 Conc. = 100 ppm	0.0 / 98	1.5 / 100	AM: CFS PM: CFS	
8/25/09	Lot # 031009 Conc. = 100 ppm	0.0 / 108	0.4 / 106	AM: CFS PM: MH	
8/26/09	Lot # 031009 Conc. = 100 ppm	0.0 / 102	0.0 / 93	AM: GOB PM: CFS	
8/27/09	Lot # 031009 Conc. = 100 ppm	0.0 / 101	0.0 88.2	AM - CFS PM - MH	
8/28/09	Lot # 031009 Conc. = 102 ppm	0.0 / 103	0.0 104	AM - GOB PM - MH	
8/31/09	Lot # 031009 Conc. = 100 ppm	0.1 / 103	0.1 104	AM - MH PM - MH	
9/2/09	Lot # 031009 Conc. = 100 ppm	0.0 / 104	0.9 107	AM - CFS PM -	
9/3/09	Lot # 031009 Conc. = 100 ppm	0.0 / 102	0.0 85.3	MH MH	
9/4/09	Lot # 031009 Conc. = 100 ppm	0.0 / 105	0.0 100	MH CFS	

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TETRA TECH NUS, INC.

PHOTOIONIZATION DETECTOR FIELD CALIBRATION LOG

Serial No.: 110-011749 Model No.: Mini RAE Decal No.: 13

Site Name/Location: MASB Background Study Tetra Tech NUS Charge No.: 112G00458/CTO 432

CALIBRATION DATE	STANDARD GAS-ISOBUTYLENE	CALIBRATION READING Isobutylene Equiv. (ppm)	CALIBRATION CHECK Isobutylene Equiv. (ppm)	SIGNATURE	COMMENTS
9/8/09	Lot # 09-3732 Conc. = 100 ppm	0.0 104	0.0 / 90	AM - MH PM - CFS	
	Lot # Conc. = ppm				
	Lot # Conc. = ppm				
	Lot # Conc. = ppm				
	Lot # Conc. = ppm				
	Lot # Conc. = ppm				
	Lot # Conc. = ppm				
	Lot # Conc. = ppm				
	Lot # Conc. = ppm				

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TETRA TECH NUS, INC.

PHOTOIONIZATION DETECTOR FIELD CALIBRATION LOG

Serial No.: 110-012077 Model No.: Mini Rae 2000 Decal No.: A

Site Name/Location: NAS Brunswick Tetra Tech NUS Charge No.: 112G00958

CALIBRATION DATE	STANDARD GAS-ISOBUTYLENE	CALIBRATION READING Isobutylene Equiv. (ppm)	CALIBRATION CHECK Isobutylene Equiv. (ppm)	SIGNATURE	COMMENTS
9/14/09	Lot # 010269 Conc. = 100 ppm	0.0/102	0.2 ~~0.00~~ 97.6	AM Jeff Cal PM [illegible]	
9/15/09	Lot # 010269 Conc. = 100 ppm	0.0/102	0.0/95.0	AM Jeff Cal PM Jeff Cal	
9/16/09	Lot # ~~010269~~ 09-3732 JD 9/17/09 Conc. = 100 ppm	0.0/102	0.0/102	AM Jeff Cal PM Jeff Cal	
9/17/09	Lot # ~~09-3732~~ 010129 ~~010269~~ JD 9/17/09 Conc. = 100 ppm	0.0/~~99.1~~ 101 JD 9/17/09	0.0/93.0	AM Jeff Cal PM [illegible]	
9/18/09	Lot # 010129 Conc. = 100 ppm	0.0/102	0.0/99.5	AM Jeff Cal PM CFS	
9/21/09	Lot # 010129 Conc. = 100 ppm	0.0/100	0.0/93.6	AM Jeff Cal PM CFS	
9/22/09	Lot # 010129 Conc. = 100 ppm	0.0/104	0.0/99.8	AM Jeff Cal PM [illegible]	
9/23/09	Lot # 010129 Conc. = 100 ppm	0.0/101	0.0/97.6	AM Jeff Cal PM Jeff Cal	
9/24/09	Lot # 010129 Conc. = 100 ppm	~~0.0/102~~	/ *	AM Jeff Cal PM	*cal. solution very low,

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JD 9/24/09
PID A not used

TETRA TECH NUS, INC.

PHOTOIONIZATION DETECTOR FIELD CALIBRATION LOG

Serial No.: 110- 007897 Model No.: Mini Rae 2000 Decal No.: B

Site Name/Location: NAS Brunswick Tetra Tech NUS Charge No.: 112G00958

CALIBRATION DATE	STANDARD GAS-ISOBUTYLENE	CALIBRATION READING Isobutylene Equiv. (ppm)	CALIBRATION CHECK Isobutylene Equiv. (ppm)	SIGNATURE	COMMENTS
9/14/09	Lot # 010269 Conc. = 100 ppm	0.0 / 101	104	AM Jack Cal PM P.	
9/15/09	Lot # 010269 Conc. = 100 ppm	0.0 / 101	0.0 / 110	AM Jack Cal PM Jack Cal	
9/16/09	Lot # ~~010269~~ 09-~~0372~~ 3732 JD 5/17/09 Conc. = 100 ppm	0.0 / 100	0.1 / 102	AM Jack Cal PM Jack Cal	
9/17/09	Lot # 010129 Conc. = 100 ppm	0.0 / 100	0.0 / 112	AM Jack Cal PM P.	
9/18/09	Lot # 010129 Conc. = 100 ppm	0.0 / 100	0.0 / 99.5	AM Jack Cal PM CFS	
9/21/09	Lot # 010129 Conc. = 100 ppm	0.0 / 100	0.0 / 103	AM Jack Cal PM CFS	
9/22/09	Lot # 010129 Conc. = 100 ppm	0.0 / 101	0.0 / 110	AM Jack Cal PM P.	
9/23/09	Lot # 010129 Conc. = 100 ppm	0.0 / 101	0.0 / 118	AM Jack Cal PM Jack Cal	
9/24/09	Lot # 010129 Conc. = 100 ppm	0.0 / 109	0.1 / *	AM Jack Cal PM CFS	* Cal. solution very low.

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TETRA TECH NUS, INC.

PHOTOIONIZATION DETECTOR FIELD CALIBRATION LOG

Serial No.: 110-003456 Model No.: Mini Rae 2000 Decal No.: C

Site Name/Location: NAS Brunswick Tetra Tech NUS Charge No.: 112G00958

CALIBRATION DATE	STANDARD GAS-ISOBUTYLENE	CALIBRATION READING Isobutylene Equiv. (ppm)	CALIBRATION CHECK Isobutylene Equiv. (ppm)	SIGNATURE	COMMENTS
9/14/09	Lot # 010269 Conc. = 100 ppm	0.0 / 101	100	AM [illegible] PM [illegible]	
9/15/09	Lot # 010269 Conc. = 100 ppm	0.0 / 101	0.1 / 95.4	AM [illegible] PM [illegible]	
9/16/09	Lot # 010269 Conc. = 100 ppm	0.0 / 100	0.1 / 95.0	AM [illegible] PM [illegible]	
9/17/09	Lot # 010129 Conc. = 100 ppm	0.0 / 100	0.0 / 97.2	AM [illegible] PM [illegible]	
9/18/09	Lot # 010129 Conc. = 100 ppm	0.0 / 101	0.0 / ~~99.0~~ 95.3	AM [illegible] PM CFS	
9/21/09	Lot # 010129 Conc. = 100 ppm	0.0 / 101	0.1 / 97.9	AM [illegible] PM CFS	
9/22/09	Lot # 010129 Conc. = 100 ppm	0.0 / 101	0.1 / 95.0	AM [illegible] PM [illegible]	
9/23/09	Lot # 010129 Conc. = 100 ppm	0.0 / 104	0.0 / 103	AM [illegible] PM [illegible]	
9/24/09	Lot # 010129 Conc. = 100 ppm	0.0 / ~~could not read~~ 103	0.0 / *	AM [illegible] PM CF	* Cal. solution very low.

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JD 9/24/09

TETRA TECH NUS, INC.

PHOTOIONIZATION DETECTOR FIELD CALIBRATION LOG

Serial No.: 110-611329 Model No.: MiniRAE Decal No.: A

Site Name/Location: Background Study Tetra Tech NUS Charge No.: 112600958

CALIBRATION DATE	STANDARD GAS-ISOBUTYLENE	CALIBRATION READING Isobutylene Equiv. (ppm)	CALIBRATION CHECK Isobutylene Equiv. (ppm)	SIGNATURE	COMMENTS
11/11/09	Lot # 010659 Conc. = 9/8/2010 ppm	0.0	100	AM: CFS PM: CFS	
11/12/09	Lot # 010659 Conc. = 9/8/2010 ppm	0.0	100	AM: CFS PM: CFS	
11/16/09	Lot # 010659 Conc. = 100 ppm	0.0	100	AM: BG	CFS
	Lot # _____ Conc. = _____ ppm				
	Lot # _____ Conc. = _____ ppm				
	Lot # _____ Conc. = _____ ppm				
	Lot # _____ Conc. = _____ ppm				
	Lot # _____ Conc. = _____ ppm				
	Lot # _____ Conc. = _____ ppm				

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TETRA TECH NUS, INC.

PHOTOIONIZATION DETECTOR FIELD CALIBRATION LOG

Serial No.: 110-900066 Model No.: MiniRAE Decal No.: NA

Site Name/Location: NASB-Background Study Tetra Tech NUS Charge No.: 112G00958 / CTO 432

CALIBRATION DATE	STANDARD GAS-ISOBUTYLENE	CALIBRATION READING Isobutylene Equiv. (ppm)	CALIBRATION CHECK Isobutylene Equiv. (ppm)	SIGNATURE	COMMENTS
11/16/09	Lot # 010659 Conc. = 9/8/10 ppm	0.00/100	1.1/100	AM:TBG PM: CFS	
	Lot # _____ Conc. = _____ ppm				
	Lot # _____ Conc. = _____ ppm				
	Lot # _____ Conc. = _____ ppm				
	Lot # _____ Conc. = _____ ppm				
	Lot # _____ Conc. = _____ ppm				
	Lot # _____ Conc. = _____ ppm				
	Lot # _____ Conc. = _____ ppm				
	Lot # _____ Conc. = _____ ppm				

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TETRA TECH NUS, INC.

PHOTOIONIZATION DETECTOR FIELD CALIBRATION LOG

Serial No.: 005159 Model No.: MiniRae 2000 Decal No.: A

Site Name/Location: NASB-Background Study Tetra Tech NUS Charge No.: 112G00958 / CTO 432

CALIBRATION DATE	STANDARD GAS-ISOBUTYLENE	CALIBRATION READING Isobutylene Equiv. (ppm)	CALIBRATION CHECK Isobutylene Equiv. (ppm)	SIGNATURE	COMMENTS

11/30/09	Lot # LTL039-MD-CM
	Conc. = 100 ppm
		0.0 / 100	0.8 / 94.0	AM. BG
				PM: CFS
					Weather - 40's Rain

12/1/09	Lot # ↓ Conc. = ↓ ppm	0.0 / 101	0.0 / 94.0	AM: CFS PM: CFS	
	Lot # _____ Conc. = _____ ppm				
	Lot # _____ Conc. = _____ ppm				
	Lot # _____ Conc. = _____ ppm				
	Lot # _____ Conc. = _____ ppm				
	Lot # _____ Conc. = _____ ppm				
	Lot # _____ Conc. = _____ ppm				
	Lot # _____ Conc. = _____ ppm				

TtNUS Form 0006

DAILY PAY SHEET
DRILLING TECHNICAL SPECIFICATION
EASTERN PLUME- EXTRACTION WELLS AND PUMPING TEST
AND BACKGROUND INVESTIGATION
NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE
PAGE 1 OF 2

ITEM	DESCRIPTION	SUB-CONTRRACT QUANTITY	SUB-CON-TRACT UNIT	QUANTITIES EXPENDED ON DATE BELOW
1.	Mobilization/Demobilization (below)			
1a.	DPT ATV Drill Rig	1	Lump Sum	
1b.	Drive and Wash ATV Rig	1	Lump Sum	
2.	Site Access/Vegetation Clearing	50	Hour	
3.	Electrical Conductivity Profiling	630	Foot	~~352~~ 364
4.	DPT Soil Sampling	1,250	Foot	
5.	Acetate Liners	335	Each	
6.	Pre-pack Monitoring Well Screen Instillation	340	Foot	
7.	Monitoring Well Riser Installation and Backfill	510	Foot	
8.	Protective Casing and Concrete Pad (DPT Overburden Wells)	34	Each	
9.	Boring Abandonment (DPT)	68	Foot	
10.	Well Decommissioning (DPT)	1,080	Foot	
11.	IDW Movement and Liquid Transfer	39	Hour	
12.	Extraction Well Drilling, Soil Sampling and Well Construction	40	Hour	
13.	Materials (below)			
13a.	Extraction Well Screen	4	Each	
13b.	Extraction Well Sump and Riser	100	Foot	
13c.	Extraction Well Filtration Sand	16	Bag	
13d.	Granular Bentonite	120	Pounds	
13e.	Bentonite Powder	16	Pounds	
13f.	Cement	16	Bag	
13g.	Drums	6	Each	

CFS

DAILY PAY SHEET
DRILLING TECHNICAL SPECIFICATION
EASTERN PLUME- EXTRACTION WELLS AND PUMPING TEST
AND BACKGROUND INVESTIGATION
NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE
PAGE 1 OF 2

ITEM	DESCRIPTION	SUB-CONTRRACT QUANTITY	SUB-CON-TRACT UNIT	QUANTITIES EXPENDED ON DATE BELOW
1.	Mobilization/Demobilization (below)			
1a.	DPT ATV Drill Rig	1	Lump Sum	
1b.	Drive and Wash ATV Rig	1	Lump Sum	
2.	Site Access/Vegetation Clearing	50	Hour	
3.	Electrical Conductivity Profiling	630	Foot	
4.	DPT Soil Sampling	1,250	Foot	130
5.	Acetate Liners	335	Each	35
6.	Pre-pack Monitoring Well Screen Instillation	340	Foot	45
7.	Monitoring Well Riser Installation and Backfill	510	Foot	85
8.	Protective Casing and Concrete Pad (DPT Overburden Wells)	34	Each	5
9.	Boring Abandonment (DPT)	68	Foot	
10.	Well Decommissioning (DPT)	1,080	Foot	
11.	IDW Movement and Liquid Transfer	39	Hour	
12.	Extraction Well Drilling, Soil Sampling and Well Construction	40	Hour	
13.	Materials (below)			
13a.	Extraction Well Screen	4	Each	
13b.	Extraction Well Sump and Riser	100	Foot	
13c.	Extraction Well Filtration Sand	16	Bag	
13d.	Granular Bentonite	120	Pounds	
13e.	Bentonite Powder	16	Pounds	
13f.	Cement	16	Bag	
13g.	Drums	6	Each	

DAILY PAY SHEET
DRILLING TECHNICAL SPECIFICATION
EASTERN PLUME- EXTRACTION WELLS AND PUMPING TEST
AND BACKGROUND INVESTIGATION
NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE
PAGE 1 OF 2

ITEM	DESCRIPTION	SUB-CONTRRACT QUANTITY	SUB-CON-TRACT UNIT	QUANTITIES EXPENDED ON DATE BELOW
1.	Mobilization/Demobilization (below)			
1a.	DPT ATV Drill Rig	1	Lump Sum	
1b.	Drive and Wash ATV Rig	1	Lump Sum	
2.	Site Access/Vegetation Clearing	50	Hour	
3.	Electrical Conductivity Profiling	630	Foot	256
4.	DPT Soil Sampling	1,250	Foot	
5.	Acetate Liners	335	Each	
6.	Pre-pack Monitoring Well Screen Instillation	340	Foot	
7.	Monitoring Well Riser Installation and Backfill	510	Foot	
8.	Protective Casing and Concrete Pad (DPT Overburden Wells)	34	Each	
9.	Boring Abandonment (DPT)	68	Foot	
10.	Well Decommissioning (DPT)	1,080	Foot	
11.	IDW Movement and Liquid Transfer	39	Hour	
12.	Extraction Well Drilling, Soil Sampling and Well Construction	40	Hour	
13.	Materials (below)			
13a.	Extraction Well Screen	4	Each	
13b.	Extraction Well Sump and Riser	100	Foot	
13c.	Extraction Well Filtration Sand	16	Bag	
13d.	Granular Bentonite	120	Pounds	
13e.	Bentonite Powder	16	Pounds	
13f.	Cement	16	Bag	
13g.	Drums	6	Each	

64, 61
59, 72
133
+123
256

DAILY PAY SHEET
DRILLING TECHNICAL SPECIFICATION
EASTERN PLUME- EXTRACTION WELLS AND PUMPING TEST
AND BACKGROUND INVESTIGATION
NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE
PAGE 1 OF 2

ITEM	DESCRIPTION	SUB-CONTRRACT QUANTITY	SUB-CON-TRACT UNIT	QUANTITIES EXPENDED ON DATE BELOW
1.	Mobilization/Demobilization (below)			
1a.	DPT ATV Drill Rig	1	Lump Sum	
1b.	Drive and Wash ATV Rig	1	Lump Sum	
2.	Site Access/Vegetation Clearing	50	Hour	1
3.	Electrical Conductivity Profiling	630	Foot	
4.	DPT Soil Sampling	1,250	Foot	82
5.	Acetate Liners	335	Each	21
6.	Pre-pack Monitoring Well Screen Instillation	340	Foot	15
7.	Monitoring Well Riser Installation and Backfill	510	Foot	67
8.	Protective Casing and Concrete Pad (DPT Overburden Wells)	34	Each	3
9.	Boring Abandonment (DPT)	68	Foot	
10.	Well Decommissioning (DPT)	1,080	Foot	
11.	IDW Movement and Liquid Transfer	39	Hour	
12.	Extraction Well Drilling, Soil Sampling and Well Construction	40	Hour	
13.	Materials (below)			
13a.	Extraction Well Screen	4	Each	
13b.	Extraction Well Sump and Riser	100	Foot	
13c.	Extraction Well Filtration Sand	16	Bag	
13d.	Granular Bentonite	120	Pounds	
13e.	Bentonite Powder	16	Pounds	
13f.	Cement	16	Bag	
13g.	Drums	6	Each	

DAILY PAY SHEET
DRILLING TECHNICAL SPECIFICATION
EASTERN PLUME- EXTRACTION WELLS AND PUMPING TEST
AND BACKGROUND INVESTIGATION
NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE
PAGE 1 OF 2

ITEM	DESCRIPTION	SUB-CONTRRACT QUANTITY	SUB-CON-TRACT UNIT	QUANTITIES EXPENDED ON DATE BELOW
1.	Mobilization/Demobilization (below)			MW-EP-355
1a.	DPT ATV Drill Rig	1	Lump Sum	
1b.	Drive and Wash ATV Rig	1	Lump Sum	
2.	Site Access/Vegetation Clearing	50	Hour	3
3.	Electrical Conductivity Profiling	630	Foot	100
4.	DPT Soil Sampling	1,250	Foot	
5.	Acetate Liners	335	Each	
6.	Pre-pack Monitoring Well Screen Instillation	340	Foot	10
7.	Monitoring Well Riser Installation and Backfill	510	Foot	46
8.	Protective Casing and Concrete Pad (DPT Overburden Wells)	34	Each	1
9.	Boring Abandonment (DPT)	68	Foot	
10.	Well Decommissioning (DPT)	1,080	Foot	
11.	IDW Movement and Liquid Transfer	39	Hour	
12.	Extraction Well Drilling, Soil Sampling and Well Construction	40	Hour	
13.	Materials (below)			
13a.	Extraction Well Screen	4	Each	
13b.	Extraction Well Sump and Riser	100	Foot	
13c.	Extraction Well Filtration Sand	16	Bag	
13d.	Granular Bentonite	120	Pounds	
13e.	Bentonite Powder	16	Pounds	
13f.	Cement	16	Bag	
13g.	Drums	6	Each	

DAILY PAY SHEET
DRILLING TECHNICAL SPECIFICATION
EASTERN PLUME- EXTRACTION WELLS AND PUMPING TEST
AND BACKGROUND INVESTIGATION
NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE
PAGE 1 OF 2

ITEM	DESCRIPTION	SUB-CONTRRACT QUANTITY	SUB-CON-TRACT UNIT	QUANTITIES EXPENDED ON DATE BELOW
1.	Mobilization/Demobilization (below)			MW41 + MW42
1a.	DPT ATV Drill Rig	1	Lump Sum	
1b.	Drive and Wash ATV Rig	1	Lump Sum	
2.	Site Access/Vegetation Clearing	50	Hour	
3.	Electrical Conductivity Profiling	630	Foot	
4.	DPT Soil Sampling	1,250	Foot	
5.	Acetate Liners	335	Each	
6.	Pre-pack Monitoring Well Screen Instillation	340	Foot	10
7.	Monitoring Well Riser Installation and Backfill	510	Foot	71
8.	Protective Casing and Concrete Pad (DPT Overburden Wells)	34	Each	2
9.	Boring Abandonment (DPT)	68	Foot	
10.	Well Decommissioning (DPT)	1,080	Foot	
11.	IDW Movement and Liquid Transfer	39	Hour	
12.	Extraction Well Drilling, Soil Sampling and Well Construction	40	Hour	
13.	Materials (below)			
13a.	Extraction Well Screen	4	Each	
13b.	Extraction Well Sump and Riser	100	Foot	
13c.	Extraction Well Filtration Sand	16	Bag	
13d.	Granular Bentonite	120	Pounds	
13e.	Bentonite Powder	16	Pounds	
13f.	Cement	16	Bag	
13g.	Drums	6	Each	

DAILY PAY SHEET
DRILLING TECHNICAL SPECIFICATION
EASTERN PLUME- EXTRACTION WELLS AND PUMPING TEST
AND BACKGROUND INVESTIGATION
NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE
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ITEM	DESCRIPTION	SUB-CONTRRACT QUANTITY	SUB-CON-TRACT UNIT	QUANTITIES EXPENDED ON DATE BELOW
1.	Mobilization/Demobilization (below)			
1a.	DPT ATV Drill Rig	1	Lump Sum	
1b.	Drive and Wash ATV Rig	1	Lump Sum	
2.	Site Access/Vegetation Clearing	50	Hour	
3.	Electrical Conductivity Profiling	630	Foot	
4.	DPT Soil Sampling	1,250	Foot	105
5.	Acetate Liners	335	Each	20
6.	Pre-pack Monitoring Well Screen Instillation	340	Foot	15
7.	Monitoring Well Riser Installation and Backfill	510	Foot	80
8.	Protective Casing and Concrete Pad (DPT Overburden Wells)	34	Each	3
9.	Boring Abandonment (DPT)	68	Foot	40
10.	Well Decommissioning (DPT)	1,080	Foot	
11.	IDW Movement and Liquid Transfer	39	Hour	
12.	Extraction Well Drilling, Soil Sampling and Well Construction	40	Hour	
13.	Materials (below)			
13a.	Extraction Well Screen	4	Each	
13b.	Extraction Well Sump and Riser	100	Foot	
13c.	Extraction Well Filtration Sand	16	Bag	
13d.	Granular Bentonite	120	Pounds	
13e.	Bentonite Powder	16	Pounds	
13f.	Cement	16	Bag	
13g.	Drums	6	Each	

DAILY PAY SHEET
DRILLING TECHNICAL SPECIFICATION
EASTERN PLUME- EXTRACTION WELLS AND PUMPING TEST
AND BACKGROUND INVESTIGATION
NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE
PAGE 1 OF 2

ITEM	DESCRIPTION	SUB-CONTRRACT QUANTITY	SUB-CON-TRACT UNIT	QUANTITIES EXPENDED ON DATE BELOW
1.	Mobilization/Demobilization (below)			
1a.	DPT ATV Drill Rig	1	Lump Sum	
1b.	Drive and Wash ATV Rig	1	Lump Sum	
2.	Site Access/Vegetation Clearing	50	Hour	
3.	Electrical Conductivity Profiling	630	Foot	
4.	DPT Soil Sampling	1,250	Foot	185
5.	Acetate Liners	335	Each	33
6.	Pre-pack Monitoring Well Screen Instillation	340	Foot	40
7.	Monitoring Well Riser Installation and Backfill	510	Foot	145
8.	Protective Casing and Concrete Pad (DPT Overburden Wells)	34	Each	3
9.	Boring Abandonment (DPT)	68	Foot	
10.	Well Decommissioning (DPT)	1,080	Foot	30
11.	IDW Movement and Liquid Transfer	39	Hour	
12.	Extraction Well Drilling, Soil Sampling and Well Construction	40	Hour	
13.	Materials (below)			
13a.	Extraction Well Screen	4	Each	
13b.	Extraction Well Sump and Riser	100	Foot	
13c.	Extraction Well Filtration Sand	16	Bag	
13d.	Granular Bentonite	120	Pounds	
13e.	Bentonite Powder	16	Pounds	
13f.	Cement	16	Bag	
13g.	Drums	6	Each	

DAILY PAY SHEET
DRILLING TECHNICAL SPECIFICATION
EASTERN PLUME- EXTRACTION WELLS AND PUMPING TEST
AND BACKGROUND INVESTIGATION
NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE
PAGE 1 OF 2

ITEM	DESCRIPTION	SUB-CONTRRACT QUANTITY	SUB-CON-TRACT UNIT	QUANTITIES EXPENDED ON DATE BELOW
1.	Mobilization/Demobilization (below)			
1a.	DPT ATV Drill Rig	1	Lump Sum	
1b.	Drive and Wash ATV Rig	1	Lump Sum	
2.	Site Access/Vegetation Clearing	50	Hour	2
3.	Electrical Conductivity Profiling	630	Foot	
4.	DPT Soil Sampling	1,250	Foot	125
5.	Acetate Liners	335	Each	31
6.	Pre-pack Monitoring Well Screen Instillation	340	Foot	30
7.	Monitoring Well Riser Installation and Backfill	510	Foot	95
8.	Protective Casing and Concrete Pad (DPT Overburden Wells)	34	Each	5
9.	Boring Abandonment (DPT)	68	Foot	
10.	Well Decommissioning (DPT)	1,080	Foot	
11.	IDW Movement and Liquid Transfer	39	Hour	
12.	Extraction Well Drilling, Soil Sampling and Well Construction	40	Hour	
13.	Materials (below)			
13a.	Extraction Well Screen	4	Each	
13b.	Extraction Well Sump and Riser	100	Foot	
13c.	Extraction Well Filtration Sand	16	Bag	
13d.	Granular Bentonite	120	Pounds	
13e.	Bentonite Powder	16	Pounds	
13f.	Cement	16	Bag	
13g.	Drums	6	Each	

DAILY PAY SHEET
DRILLING TECHNICAL SPECIFICATION
EASTERN PLUME- EXTRACTION WELLS AND PUMPING TEST
AND BACKGROUND INVESTIGATION
NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE

ITEM	DESCRIPTION	SUB-CONTRRACT QUANTITY	SUB-CON-TRACT UNIT	QUANTITIES EXPENDED ON DATE BELOW
1.	Mobilization/Demobilization (below)			
1a.	DPT ATV Drill Rig	1	Lump Sum	
1b.	Drive and Wash ATV Rig	1	Lump Sum	
2.	Site Access/Vegetation Clearing	50	Hour	1/2
3.	Electrical Conductivity Profiling	630	Foot	
4.	DPT Soil Sampling	1,250	Foot	105
5.	Acetate Liners	335	Each	26
6.	Pre-pack Monitoring Well Screen Instillation	340	Foot	35
7.	Monitoring Well Riser Installation and Backfill	510	Foot	~~20~~ 70
8.	Protective Casing and Concrete Pad (DPT Overburden Wells)	34	Each	5
9.	Boring Abandonment (DPT)	68	Foot	
10.	Well Decommissioning (DPT)	1,080	Foot	
11.	IDW Movement and Liquid Transfer	39	Hour	
12.	Extraction Well Drilling, Soil Sampling and Well Construction	40	Hour	
13.	Materials (below)			
13a.	Extraction Well Screen	4	Each	
13b.	Extraction Well Sump and Riser	100	Foot	
13c.	Extraction Well Filtration Sand	16	Bag	
13d.	Granular Bentonite	120	Pounds	
13e.	Bentonite Powder	16	Pounds	
13f.	Cement	16	Bag	
13g.	Drums	6	Each	

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DAILY PAY SHEET
DRILLING TECHNICAL SPECIFICATION
EASTERN PLUME- EXTRACTION WELLS AND PUMPING TEST
AND BACKGROUND INVESTIGATION
NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE
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ITEM	DESCRIPTION	SUB-CONTRRACT QUANTITY	SUB-CON-TRACT UNIT	QUANTITIES EXPENDED ON DATE BELOW
1.	Mobilization/Demobilization (below)			
1a.	DPT ATV Drill Rig	1	Lump Sum	1
1b.	Drive and Wash ATV Rig	1	Lump Sum	
2.	Site Access/Vegetation Clearing	50	Hour	1
3.	Electrical Conductivity Profiling	630	Foot	~~20.4~~ 60.4
4.	DPT Soil Sampling	1,250	Foot	
5.	Acetate Liners	335	Each	
6.	Pre-pack Monitoring Well Screen Instillation	340	Foot	
7.	Monitoring Well Riser Installation and Backfill	510	Foot	
8.	Protective Casing and Concrete Pad (DPT Overburden Wells)	34	Each	
9.	Boring Abandonment (DPT)	68	Foot	
10.	Well Decommissioning (DPT)	1,080	Foot	
11.	IDW Movement and Liquid Transfer	39	Hour	
12.	Extraction Well Drilling, Soil Sampling and Well Construction	40	Hour	
13.	Materials (below)			
13a.	Extraction Well Screen	4	Each	
13b.	Extraction Well Sump and Riser	100	Foot	
13c.	Extraction Well Filtration Sand	16	Bag	
13d.	Granular Bentonite	120	Pounds	
13e.	Bentonite Powder	16	Pounds	
13f.	Cement	16	Bag	
13g.	Drums	6	Each	

DAILY PAY SHEET
DRILLING TECHNICAL SPECIFICATION
EASTERN PLUME- EXTRACTION WELLS AND PUMPING TEST
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ITEM	DESCRIPTION	SUB-CONTRRACT QUANTITY	SUB-CON-TRACT UNIT	QUANTITIES EXPENDED ON DATE BELOW
1.	Mobilization/Demobilization (below)			
1a.	DPT ATV Drill Rig	1	Lump Sum	
1b.	Drive and Wash ATV Rig	1	Lump Sum	
2.	Site Access/Vegetation Clearing	50	Hour	
3.	Electrical Conductivity Profiling	630	Foot	
4.	DPT Soil Sampling	1,250	Foot	
5.	Acetate Liners	335	Each	
6.	Pre-pack Monitoring Well Screen Instillation	340	Foot	25
7.	Monitoring Well Riser Installation and Backfill	510	Foot	131
8.	Protective Casing and Concrete Pad (DPT Overburden Wells)	34	Each	3
9.	Boring Abandonment (DPT)	68	Foot	
10.	Well Decommissioning (DPT)	1,080	Foot	
11.	IDW Movement and Liquid Transfer	39	Hour	
12.	Extraction Well Drilling, Soil Sampling and Well Construction	40	Hour	
13.	Materials (below)			
13a.	Extraction Well Screen	4	Each	
13b.	Extraction Well Sump and Riser	100	Foot	
13c.	Extraction Well Filtration Sand	16	Bag	
13d.	Granular Bentonite	120	Pounds	
13e.	Bentonite Powder	16	Pounds	
13f.	Cement	16	Bag	
13g.	Drums	6	Each	

DAILY PAY SHEET
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EASTERN PLUME- EXTRACTION WELLS AND PUMPING TEST
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ITEM	DESCRIPTION	SUB-CONTRRACT QUANTITY	SUB-CON-TRACT UNIT	QUANTITIES EXPENDED ON DATE BELOW
1.	Mobilization/Demobilization (below)			
1a.	DPT ATV Drill Rig	1	Lump Sum	
1b.	Drive and Wash ATV Rig	1	Lump Sum	
2.	Site Access/Vegetation Clearing	50	Hour	1
3.	Electrical Conductivity Profiling	630	Foot	
4.	DPT Soil Sampling	1,250	Foot	30
5.	Acetate Liners	335	Each	8
6.	Pre-pack Monitoring Well Screen Instillation	340	Foot	25
7.	Monitoring Well Riser Installation and Backfill	510	Foot	175
8.	Protective Casing and Concrete Pad (DPT Overburden Wells)	34	Each	3
9.	Boring Abandonment (DPT)	68	Foot	
10.	Well Decommissioning (DPT)	1,080	Foot	
11.	IDW Movement and Liquid Transfer	39	Hour	
12.	Extraction Well Drilling, Soil Sampling and Well Construction	40	Hour	
13.	Materials (below)			
13a.	Extraction Well Screen	4	Each	
13b.	Extraction Well Sump and Riser	100	Foot	
13c.	Extraction Well Filtration Sand	16	Bag	
13d.	Granular Bentonite	120	Pounds	
13e.	Bentonite Powder	16	Pounds	
13f.	Cement	16	Bag	
13g.	Drums	6	Each	

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ITEM	DESCRIPTION	SUB-CONTRRACT QUANTITY	SUB-CON-TRACT UNIT	QUANTITIES EXPENDED ON DATE BELOW
1.	Mobilization/Demobilization (below)			
1a.	DPT ATV Drill Rig	1	Lump Sum	
1b.	Drive and Wash ATV Rig	1	Lump Sum	
2.	Site Access/Vegetation Clearing	50	Hour	
3.	Electrical Conductivity Profiling	630	Foot	
4.	DPT Soil Sampling	1,250	Foot	
5.	Acetate Liners	335	Each	
6.	Pre-pack Monitoring Well Screen Instillation	340	Foot	15
7.	Monitoring Well Riser Installation and Backfill	510	Foot	132 59 + 73
8.	Protective Casing and Concrete Pad (DPT Overburden Wells)	34	Each	2
9.	Boring Abandonment (DPT)	68	Foot	
10.	Well Decommissioning (DPT)	1,080	Foot	
11.	IDW Movement and Liquid Transfer	39	Hour	
12.	Extraction Well Drilling, Soil Sampling and Well Construction	40	Hour	
13.	Materials (below)			
13a.	Extraction Well Screen	4	Each	
13b.	Extraction Well Sump and Riser	100	Foot	
13c.	Extraction Well Filtration Sand	16	Bag	
13d.	Granular Bentonite	120	Pounds	
13e.	Bentonite Powder	16	Pounds	
13f.	Cement	16	Bag	
13g.	Drums	6	Each	

DAILY PAY SHEET
DRILLING TECHNICAL SPECIFICATION
EASTERN PLUME- EXTRACTION WELLS AND PUMPING TEST
AND BACKGROUND INVESTIGATION
NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE
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ITEM	DESCRIPTION	SUB-CONTRRACT QUANTITY	SUB-CON-TRACT UNIT	QUANTITIES EXPENDED ON DATE BELOW
1.	Mobilization/Demobilization (below)			
1a.	DPT ATV Drill Rig	1	Lump Sum	✓
1b.	Drive and Wash ATV Rig	1	Lump Sum	
2.	Site Access/Vegetation Clearing	50	Hour	2
3.	Electrical Conductivity Profiling	630	Foot	
4.	DPT Soil Sampling	1,250	Foot	65
5.	Acetate Liners	335	Each	16
6.	Pre-pack Monitoring Well Screen Instillation	340	Foot	30
7.	Monitoring Well Riser Installation and Backfill	510	Foot	30
8.	Protective Casing and Concrete Pad (DPT Overburden Wells)	34	Each	3
9.	Boring Abandonment (DPT)	68	Foot	14
10.	Well Decommissioning (DPT)	1,080	Foot	
11.	IDW Movement and Liquid Transfer	39	Hour	
12.	Extraction Well Drilling, Soil Sampling and Well Construction	40	Hour	
13.	Materials (below)			
13a.	Extraction Well Screen	4	Each	
13b.	Extraction Well Sump and Riser	100	Foot	
13c.	Extraction Well Filtration Sand	16	Bag	
13d.	Granular Bentonite	120	Pounds	
13e.	Bentonite Powder	16	Pounds	
13f.	Cement	16	Bag	
13g.	Drums	6	Each	

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Background Study - NASB - Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW339-120909
Sample Location: MW339
Sampled By: C. Pellaws
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 12/1/2009								
Time: 1050								
Method: Low Flow	Clear/colorless	7.33	1116	0.67	7.97	-96.3	2.21	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date: 12/1/2009								
Method: Low Flow Bladder								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD): 74.8								
Static Water Level (WL): 1.34								
Well or Sat. Scrn. Vol. (gal):								
Start Purge (hrs): 1005								
End Purge (hrs): 1050								
Total Purge Time (min): 45min								
Total Vol. Purged (gal/L): 1.75g								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals - Total	HNO_3	1 x 500ml poly	Yes / No
Metals - Dissolved	HNO_3	1 x 500ml poly	Yes / No
Chloride / Bromide	4°C	1 x 125ml poly	Yes / No
			Yes / No
			Yes / No
			Yes / No
			Yes / No
			Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

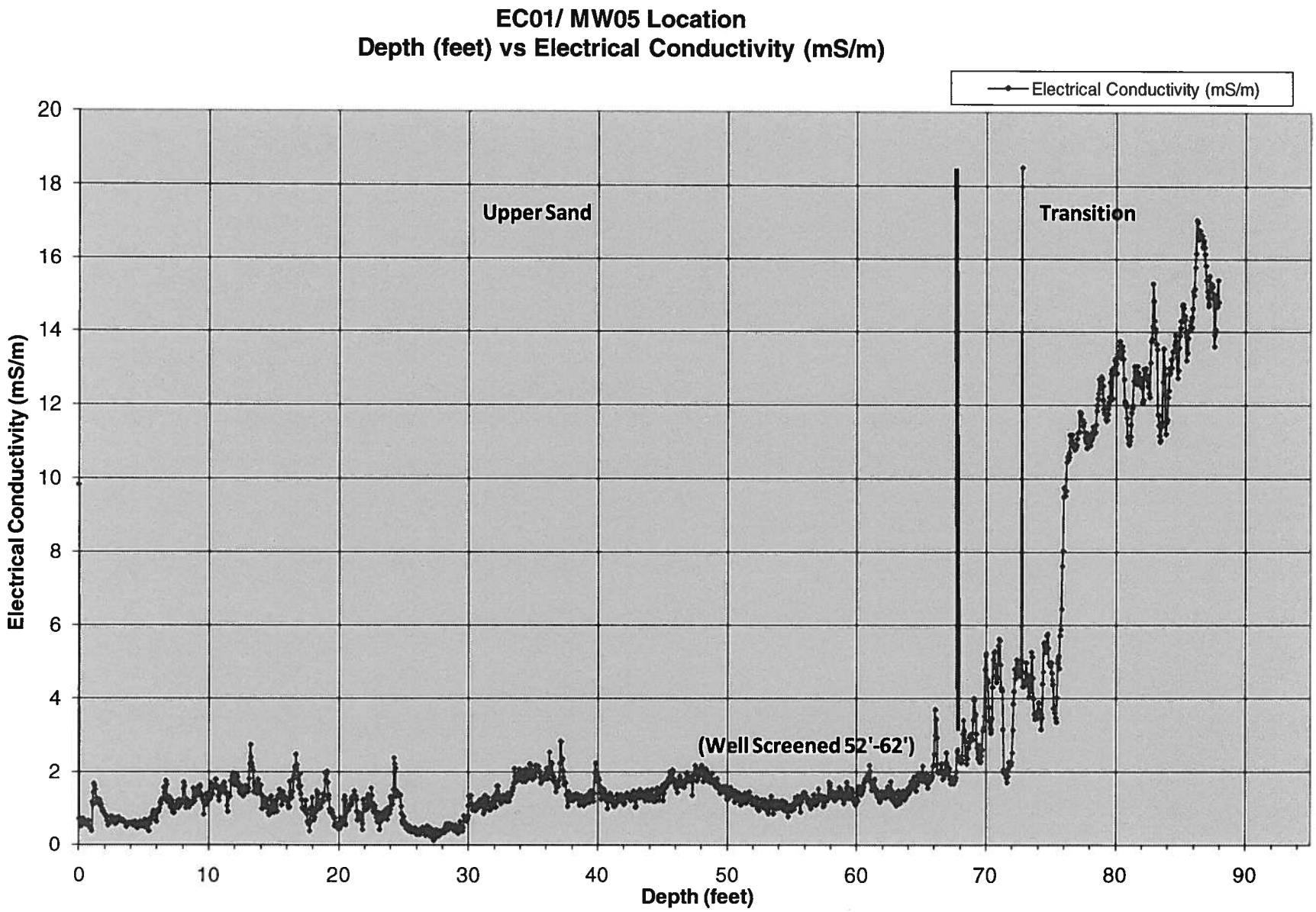
Olfactory evidence of contamination - yes or no If yes, describe:

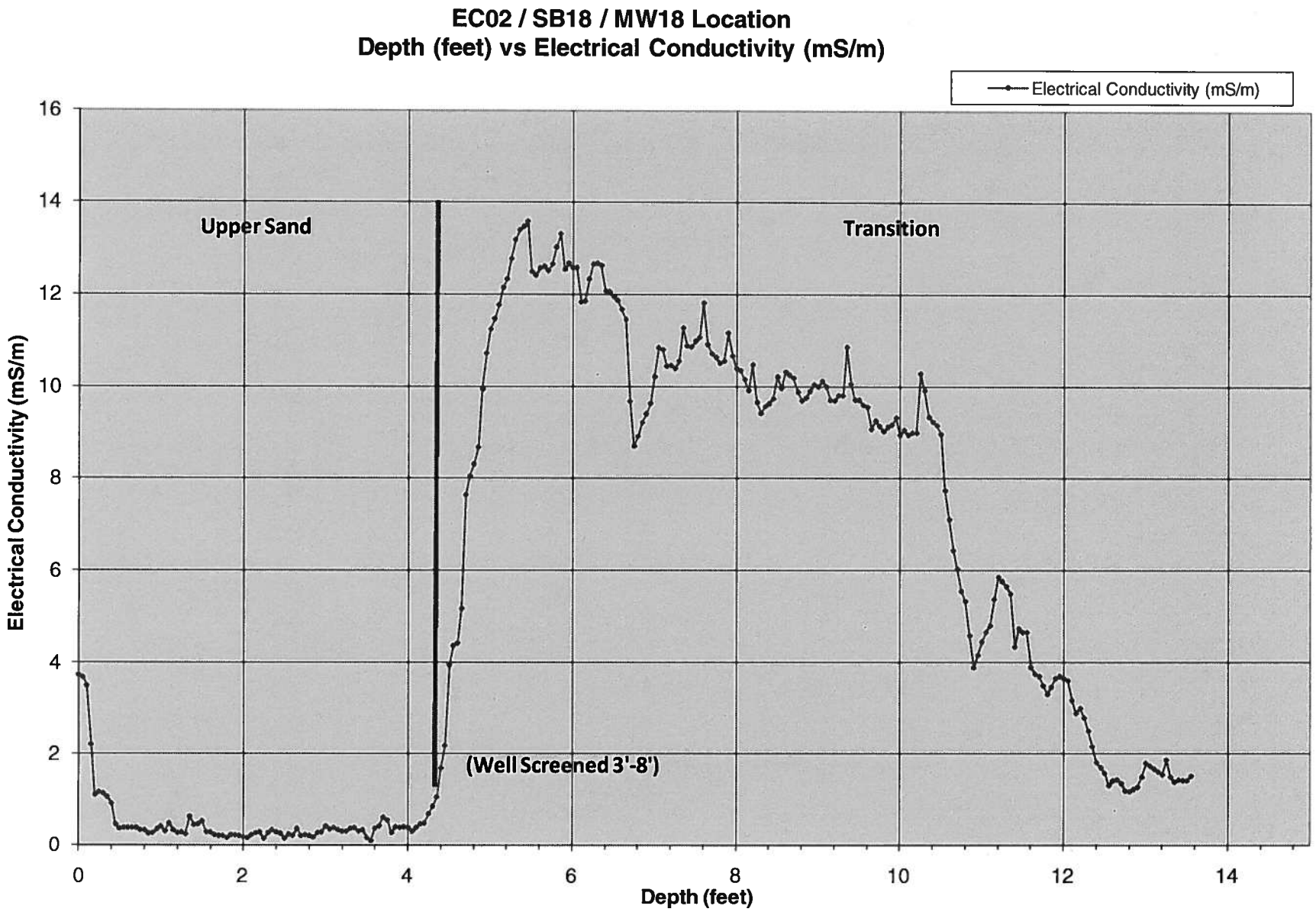
Circle if Applicable:

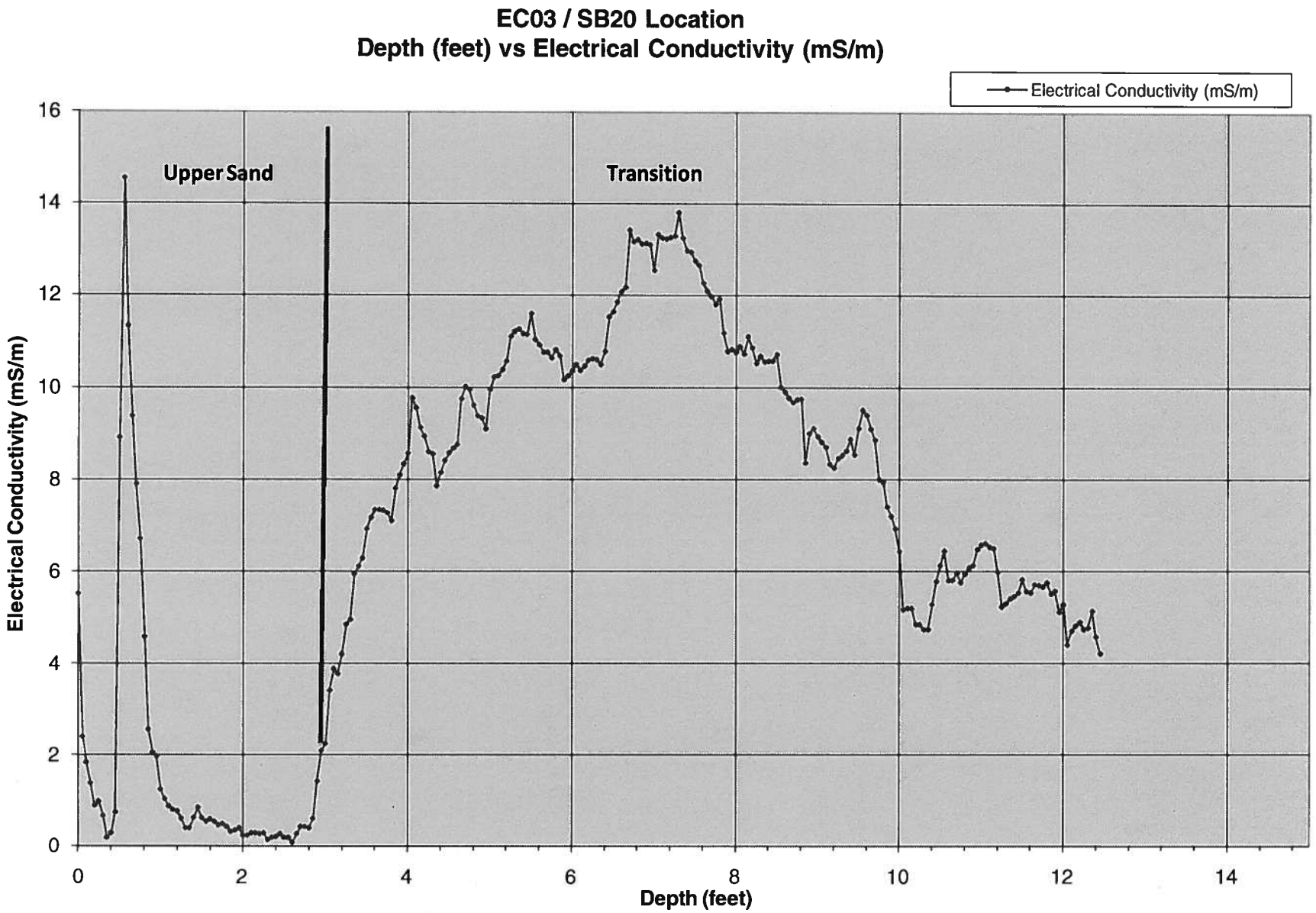
MS/MSD	Duplicate ID No.:
—	—

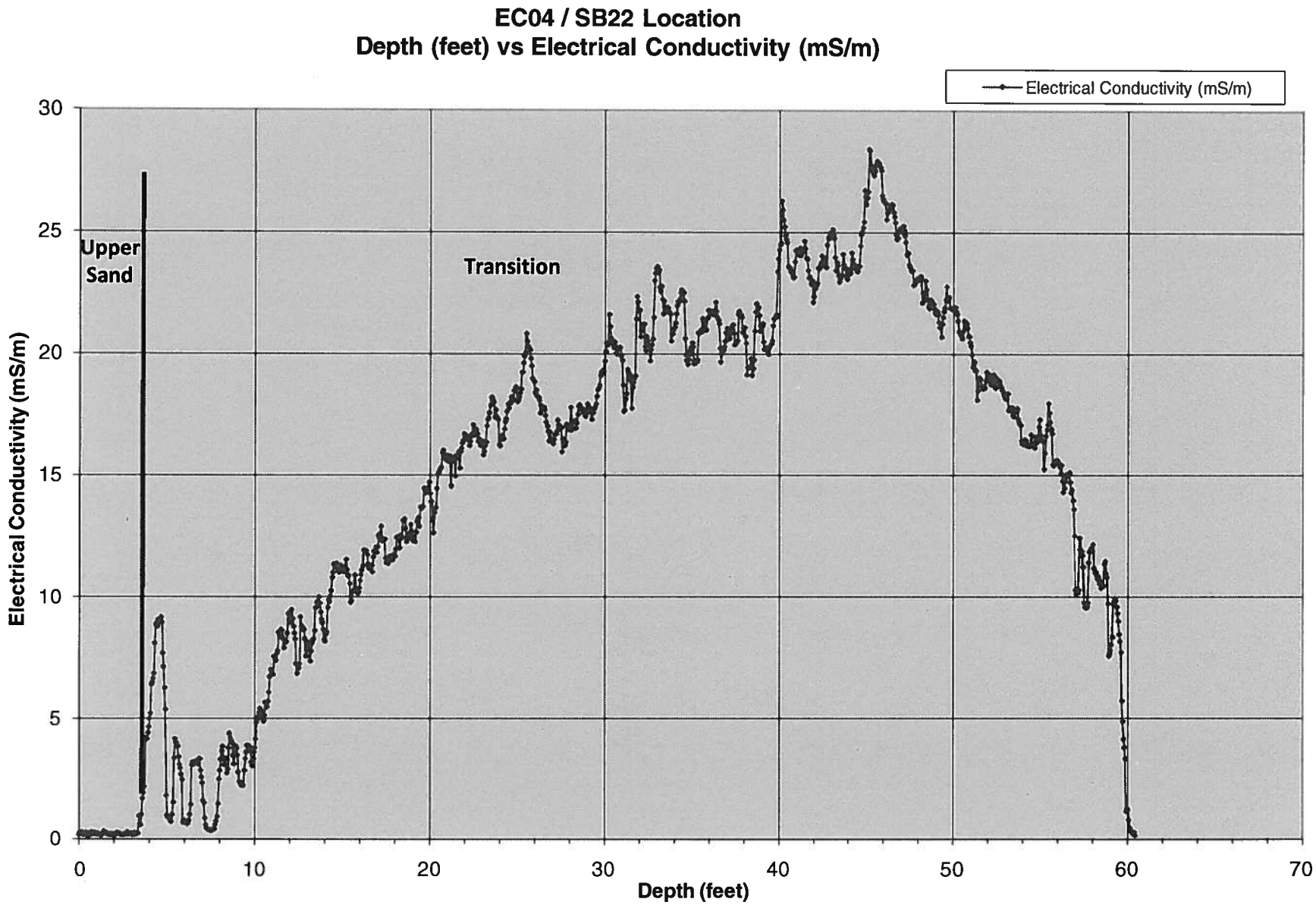
Signature(s):

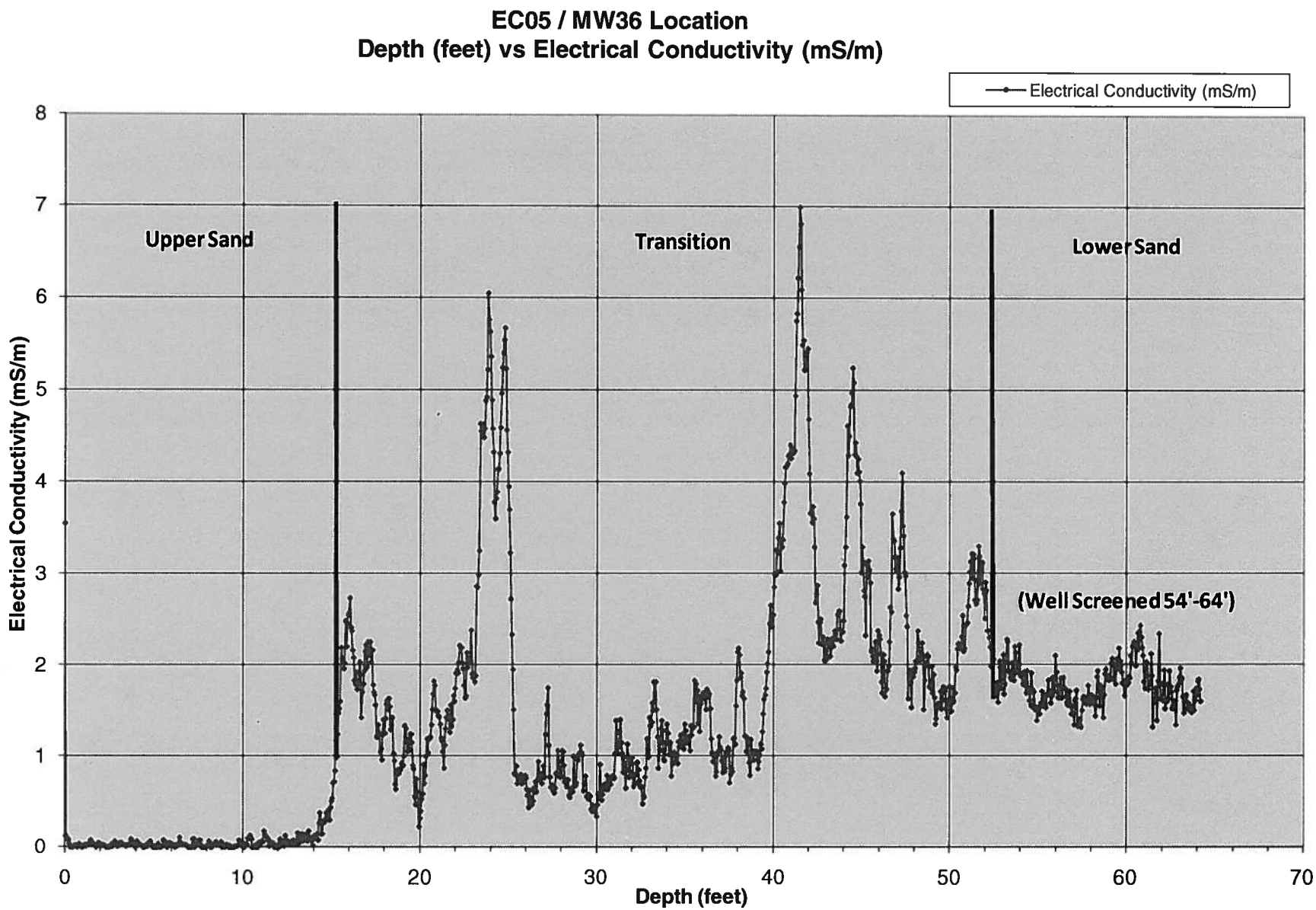
C.2 ROUND 2 SAMPLING FORMS

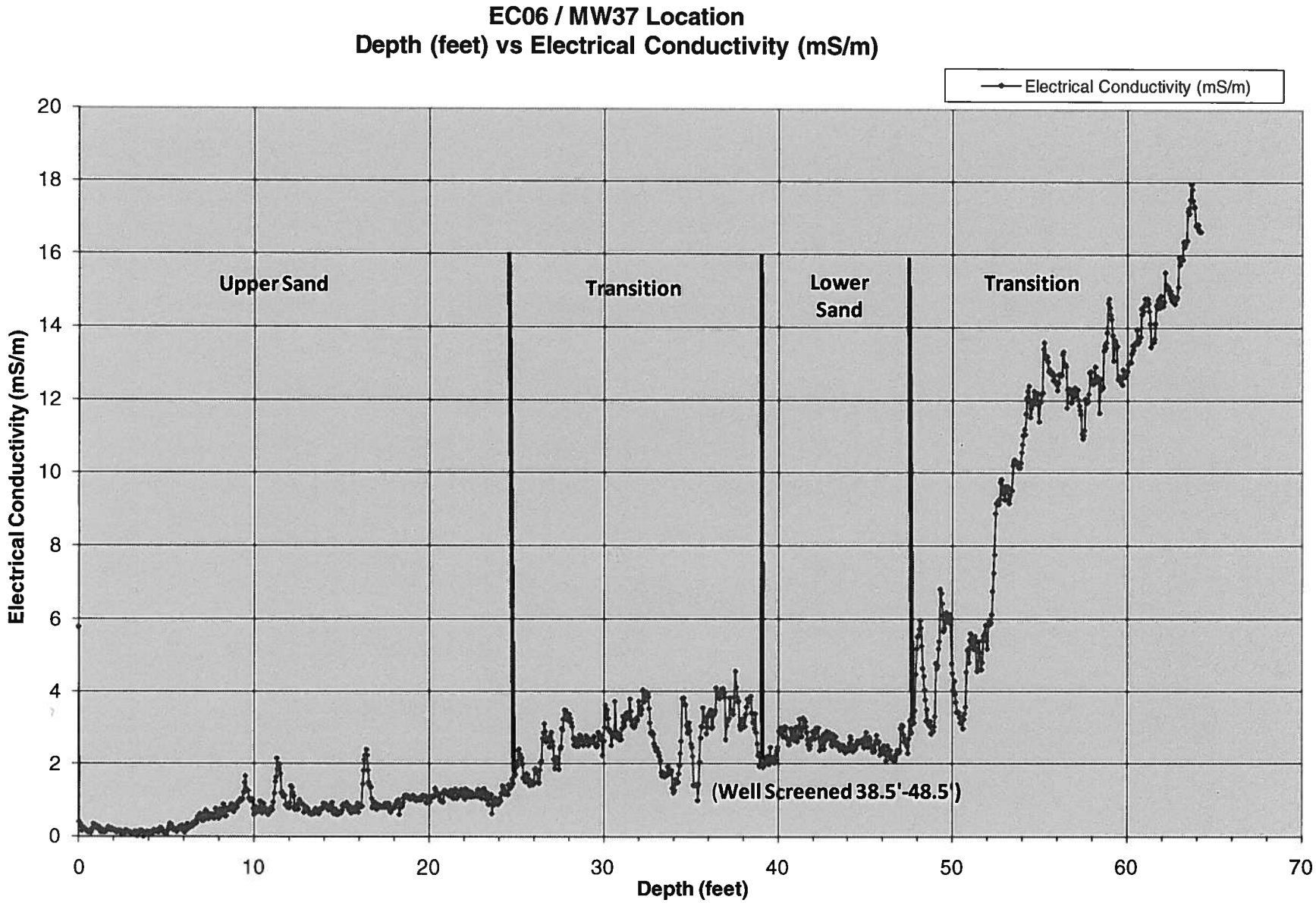

EC01/ MW05 Location
Depth (feet) vs Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
Upper Sand
Transition
(Well Screened 52'-62')
Electrical Conductivity (mS/m)
Depth (feet)
0
2
4
6
8
10
12
14
16
18
20
0
10
20
30
40
50
60
70
80
90

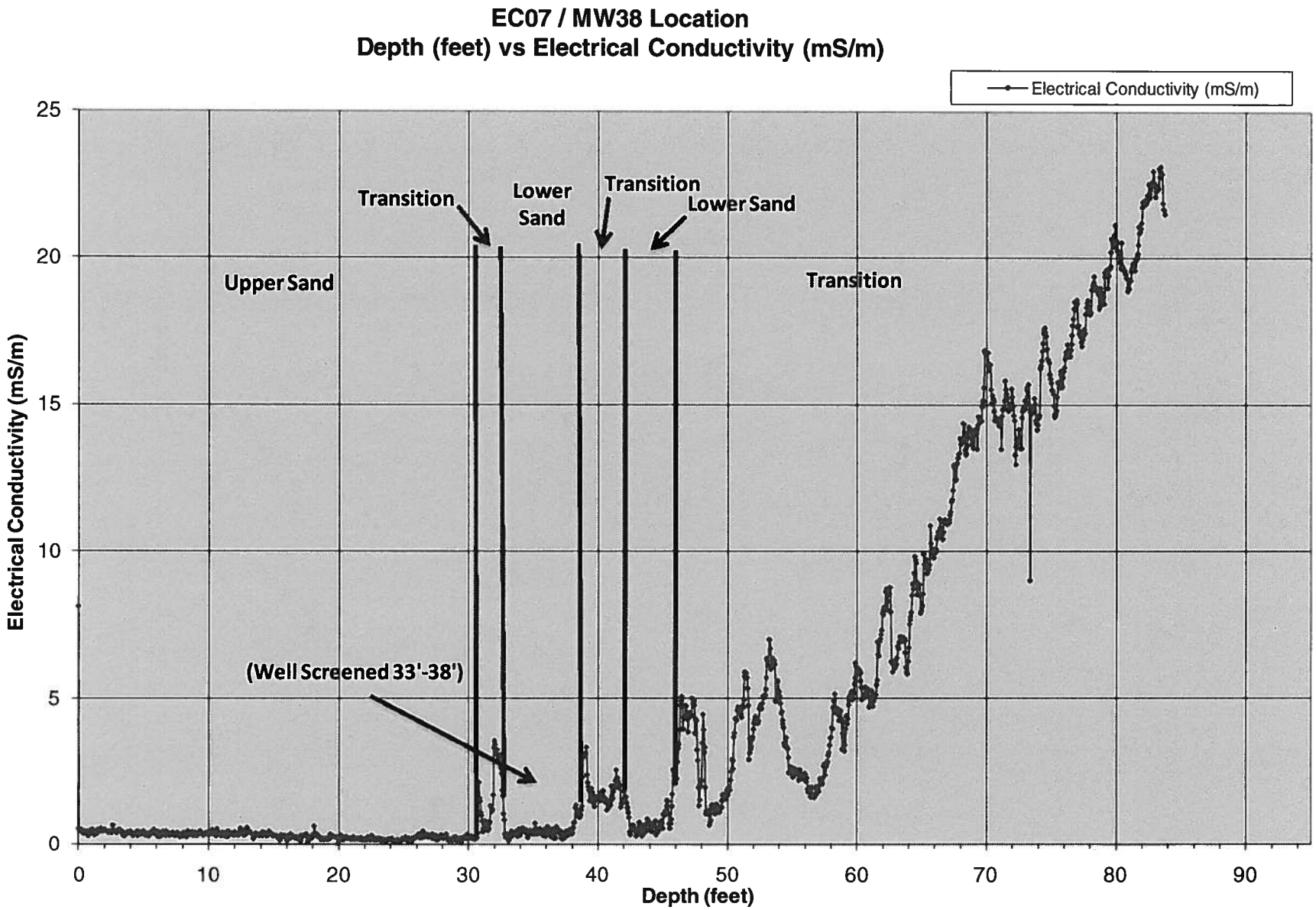

EC02 / SB18 / MW18 Location
Depth (feet) vs Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
Upper Sand
Transition
(Well Screened 3'-8')
Electrical Conductivity (mS/m)
Depth (feet)
0
2
4
6
8
10
12
14
16

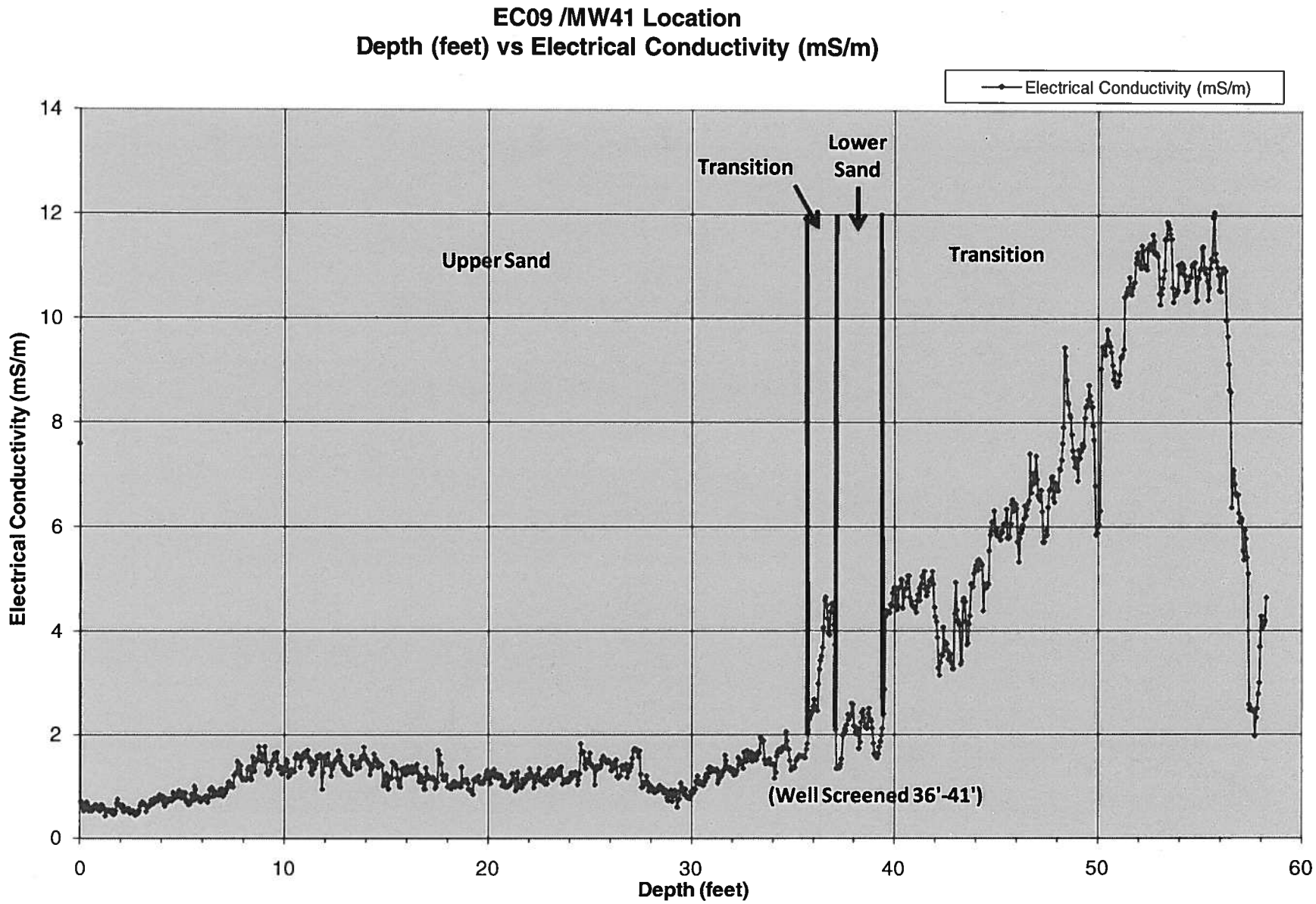

EC03 / SB20 Location
Depth (feet) vs Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
Upper Sand
Transition
Electrical Conductivity (mS/m)
Depth (feet)
0
2
4
6
8
10
12
14
16

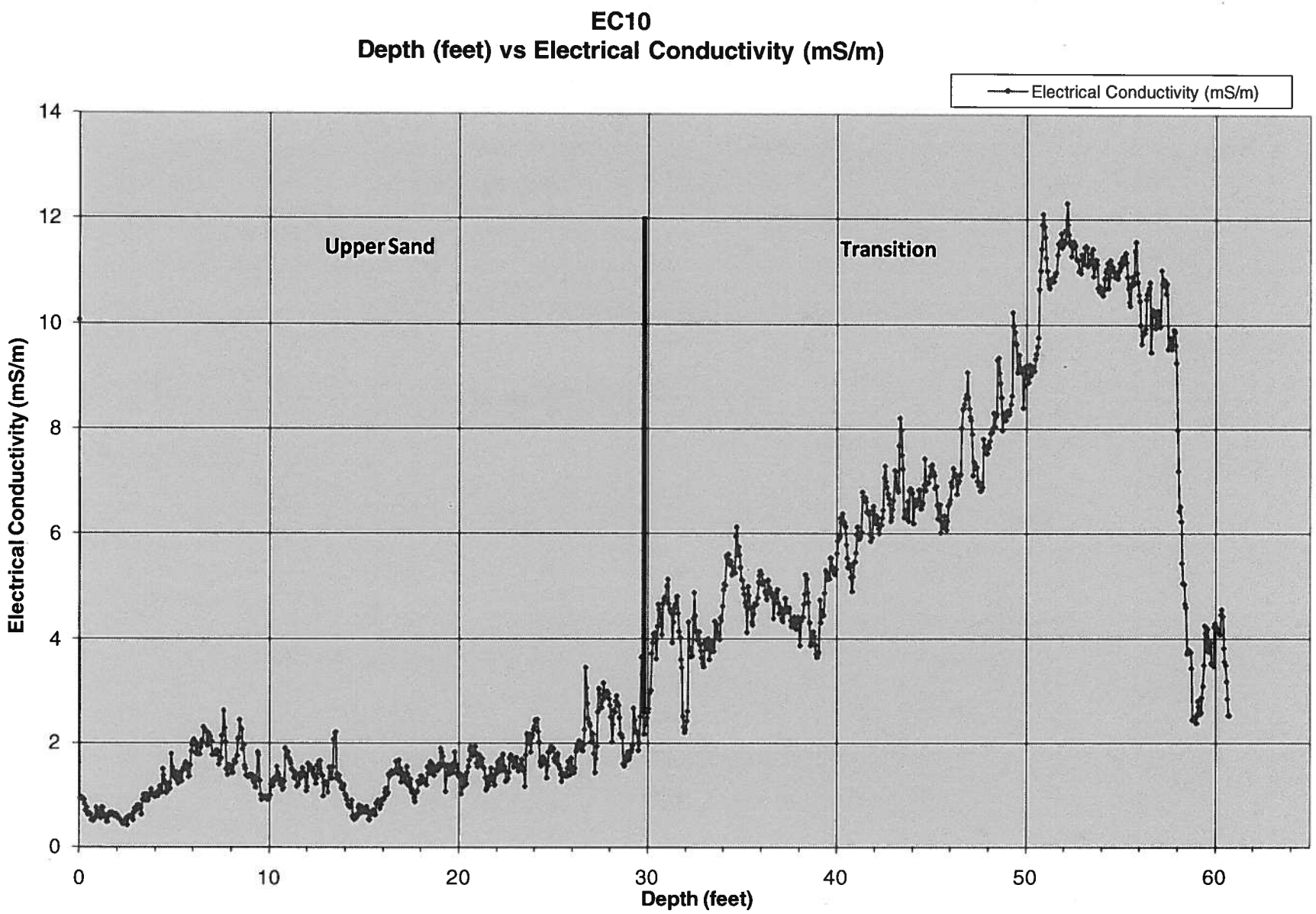

EC04 / SB22 Location
Depth (feet) vs Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
Upper Sand
Transition
Electrical Conductivity (mS/m)
Depth (feet)
0
5
10
15
20
25
30
0
10
20
30
40
50
60
70

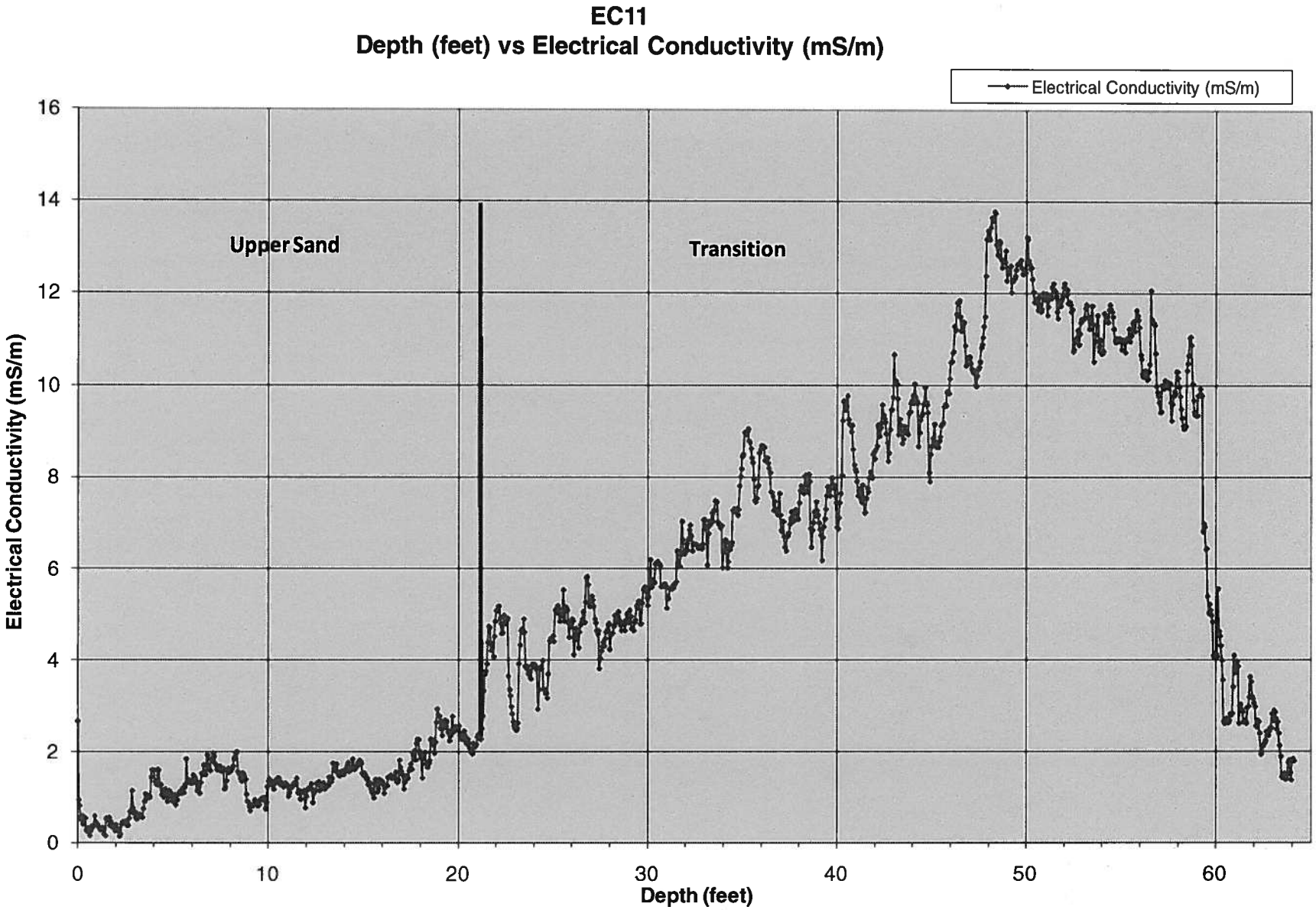

EC05 / MW36 Location
Depth (feet) vs Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
Upper Sand
Transition
Lower Sand
(Well Screened 54'-64')
Electrical Conductivity (mS/m)
Depth (feet)
0
1
2
3
4
5
6
7
8
0
10
20
30
40
50
60
70

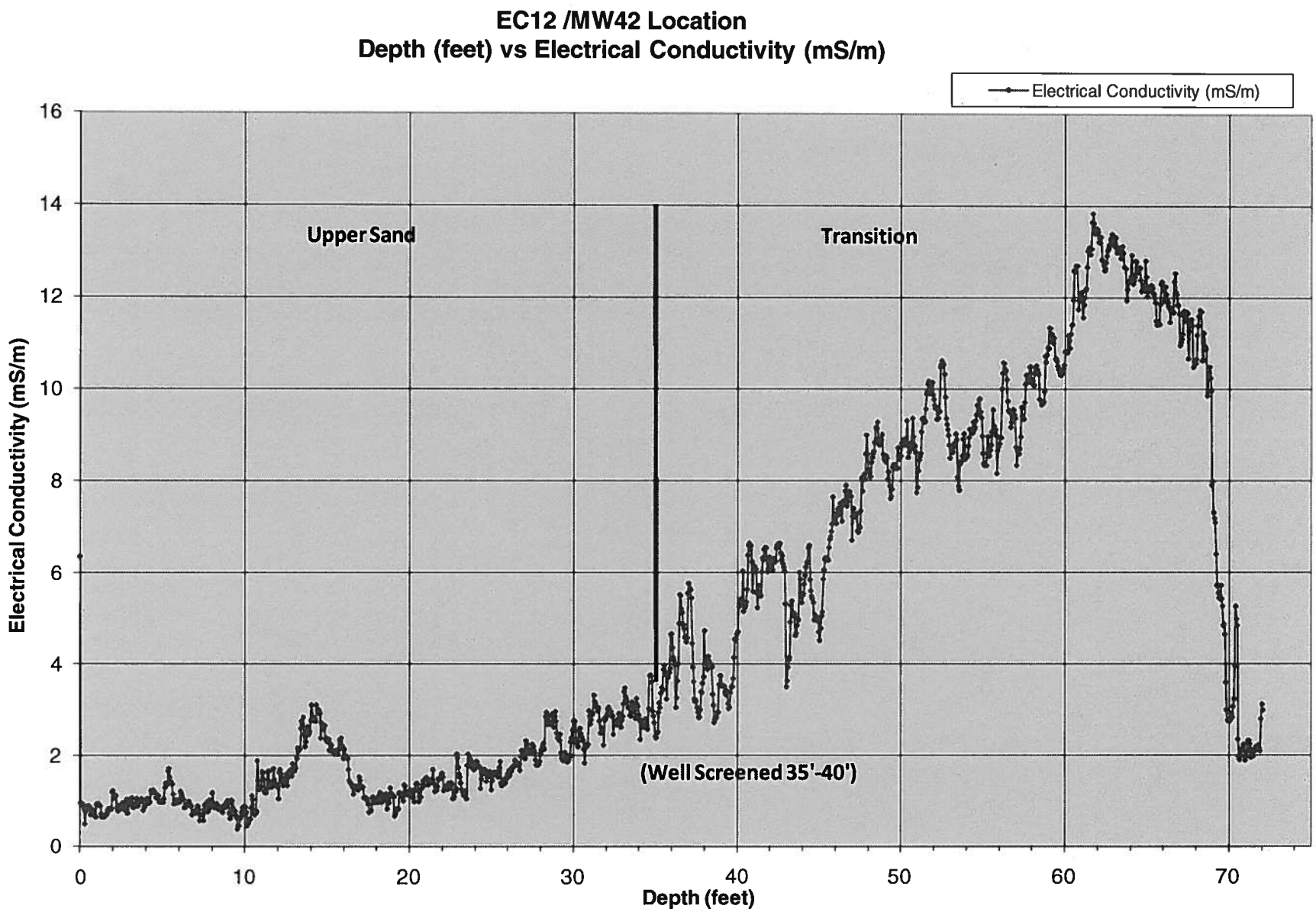

EC06 / MW37 Location
Depth (feet) vs Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
Upper Sand
Transition
Lower Sand
Transition
(Well Screened 38.5'-48.5')
Electrical Conductivity (mS/m)
Depth (feet)
0
2
4
6
8
10
12
14
16
18
20
0
10
20
30
40
50
60
70


EC07 / MW38 Location
Depth (feet) vs Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
Transition
Lower Sand
Transition
Lower Sand
Upper Sand
Transition
(Well Screened 33'-38')
Electrical Conductivity (mS/m)
Depth (feet)
0
5
10
15
20
25
0
10
20
30
40
50
60
70
80
90


EC09 /MW41 Location
Depth (feet) vs Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
Transition
Lower Sand
Upper Sand
Transition
(Well Screened 36'-41')
Electrical Conductivity (mS/m)
Depth (feet)
0
2
4
6
8
10
12
14
0
10
20
30
40
50
60


EC10
Depth (feet) vs Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
Upper Sand
Transition
Electrical Conductivity (mS/m)
Depth (feet)
0
2
4
6
8
10
12
14
0
10
20
30
40
50
60


EC11
Depth (feet) vs Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
Upper Sand
Transition
Electrical Conductivity (mS/m)
Depth (feet)
0
2
4
6
8
10
12
14
16
0
10
20
30
40
50
60


EC12 /MW42 Location
Depth (feet) vs Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
Upper Sand
Transition
(Well Screened 35'-40')
Electrical Conductivity (mS/m)
Depth (feet)
0
2
4
6
8
10
12
14
16
0
10
20
30
40
50
60
70

TETRA TECH NUS, INC.

YSI MULTIPARAMETER WATER QUALITY METER CALIBRATION LOG

Site Name: NASB-Background Study / CTO 432
Serial No: 09F101283
Job No: 11200958 / 0000.0520
Model No: YSI 556 MPS
Instrument is calibrated in accordance with manufactures instructions

Decal Letter: A

Date		Conductivity 1000 µS/cm	Conductivity DI check	pH 4.0	pH 7.0	pH 10.0	Dissolved Oxygen 100% % sat.	Dissolved Oxygen 100% ppm	Dissolved Oxygen 100% Air Temp	ORP mV	ORP @ Temp	Solution Temp ° C	Barometric Pressure, mm of Hg	Signature
4/6/10	am	1000	2	3.98	7.00	10.01	99.6	10.15	14.53	243.6	13.03	14.20	757.5	BG
	pm	977	3	3.81	7.01	10.10	99.6	10.22	14.17	230.1	13.87	14.35	756.9	BG
4/8/10	am	1000	2	4.00	7.00	9.99	99.4	10.00	15.16	243.3	13.88	15.00	755.8	BG
	pm	975	3	3.93	7.01	9.90	83.7	8.06	17.18	238.0	15.0	15.80	756.7	CFS
	am													
	pm													
	am													
	pm													
	am													
	pm													
	am													
	pm													
	am													
	pm													
	am													
	pm													
	am													
	pm													
	am													
	pm													

Calibration STD's

Lot Number:	7636	7345	7587	7352	NA	7206	NA	NA
Expires:	1/13/2011	8/6/10	12/23/10	8/7/10		6/10/10		

TETRA TECH NUS, INC.

FIELD INSTRUMENT CALIBRATION LOG

SITE NAME: NASB-Background Study, Brunswick, ME / CTO 432

INSTRUMENT NAME LaMotte Turbidimeter MODEL No.: 2020

SERIAL No.: 3113-1402 DECAL No.: N/A TT NUS CHARGE No. 112G00958 / 0000.0520

DATE	INITIAL READING (AM)		PROCEDURE		FINAL READING (PM Cal Check)		SIGNATURE	COMMENTS
	0 NTU (check)	10 NTU (span)	Per Manufacturer's Instruction		0 NTU (check)	10 NTU (span)		
4/6/10	0.0	9.9			0.00	9.9	AM: CFS PM: CFS	
4/8/10	0.0	10.0			0.00	10.12	AM: CFS PM: CFS	
	/				/		AM: PM:	
	/				/		AM: PM:	
	/				/		AM: PM:	
	/				/		AM: PM:	
	/				/		AM: PM:	
	/				/		AM: PM:	
	/				/		AM: PM:	
	/				/		AM: PM:	
	/				/		AM: PM:	
	/				/		AM: PM:	

Mod.TtNUS Form 0007

TETRA TECH NUS, INC.

PHOTOIONIZATION DETECTOR FIELD CALIBRATION LOG

Serial No.: 07-01494 Model No.: Ion Photochecke Plus Decal No.: A

Site Name/Location: NASB-Background Study / Brunswick, Maine Tetra Tech NUS Charge No.: 112G00958 / CTO 432

CALIBRATION DATE	STANDARD GAS-ISOBUTYLENE	(AM) CALIBRATION READING Isobutylene Equiv. (ppm)	(PM) CALIBRATION CHECK Isobutylene Equiv. (ppm)	SIGNATURE	COMMENTS

4/6/10	Lot # LTB270-MM-CM
	Conc. = 100 ppm
		PID not working, call US Environmental	NOT USED	AM: CFS
				PM: CFS
					* Ask for new PID.
					- Clean lamp

4/8/10	Lot # 031009 Conc. = 100 ppm	~~PX~~ /	NOT USED	AM: CFS PM: CFS	* PID won't calibrate but when checked w/ iso reads 100.
	Lot # ____ Conc. = ____ ppm	/		AM: PM:	
	Lot # ____ Conc. = ____ ppm	/		AM: PM:	
	Lot # ____ Conc. = ____ ppm	/		AM: PM:	
	Lot # ____ Conc. = ____ ppm	/		AM: PM:	
	Lot # ____ Conc. = ____ ppm	/		AM: PM:	
	Lot # ____ Conc. = ____ ppm	/		AM: PM:	
	Lot # ____ Conc. = ____ ppm	/		AM: PM:	

TtNUS Form 0006

TETRA TECH NUS, INC.

PHOTOIONIZATION DETECTOR FIELD CALIBRATION LOG

Serial No.: 110-012180 Model No.: Mini RAE Decal No.: C

Site Name/Location: NASB-Background Study / Brunswick, Maine Tetra Tech NUS Charge No.: 112G00958 / CTO 432

CALIBRATION DATE	STANDARD GAS-ISOBUTYLENE	(AM) CALIBRATION READING Isobutylene Equiv. (ppm)	(PM) CALIBRATION CHECK Isobutylene Equiv. (ppm)	SIGNATURE	COMMENTS
4/12/10	Lot # 031009 Conc. = 100 ppm	0.0 / 102	0.0 / 103	AM: CFS PM: CFS	
4/13/10	Lot # 031009 Conc. = 100 ppm	0.0 / 100	0.0 / 101	AM: CFS PM: TR	
4/14/10	Lot # 031009 Conc. = 100 ppm	0.0 / 98	0.0 / 98.3	AM: CFS PM: CFS	
4/15/10	Lot # 031009 Conc. = 100 ppm	0.0 / 100	0.0 / 100	AM: CFS PM: CFS	
4/16/10	Lot # 031009 Conc. = 100 ppm	0.0 / 97.3	0.0 / 100	AM: CFS PM: BG	
4/19/10	Lot # 031009 Conc. = 100 ppm	0.0 / 101	0.0 / 95.4	AM: CFS PM: CFS	
4/20/10	Lot # 031009 Conc. = 100 ppm	0.0 / 106	0.4 / 99	AM: CFS PM: CFS	
4/21/10	Lot # 031009 Conc. = 100 ppm	0.0 / 99.7	0.0 / 94.7	AM: CFS PM: CFS	
	Lot # ____ Conc. = ____ ppm	/		AM: PM:	

TtNUS Form 0006

TETRA TECH NUS, INC.

PHOTOIONIZATION DETECTOR FIELD CALIBRATION LOG

Serial No.: 110-014325 Model No.: MiniRAE Decal No.: B

Site Name/Location: NASB-Background Study / Brunswick, Maine Tetra Tech NUS Charge No.: 112G00958 / CTO 432

CALIBRATION DATE	STANDARD GAS-ISOBUTYLENE	(AM) CALIBRATION READING Isobutylene Equiv. (ppm)	(PM) CALIBRATION CHECK Isobutylene Equiv. (ppm)	SIGNATURE	COMMENTS
4/12/10	Lot # 031009 Conc. = 100 ppm	0.0 / 98	0.0 / 80	AM: CFS PM: CFS	
4/13/10	Lot # 031009 Conc. = 100 ppm	0.0 / 98	0.0 / 95	AM: CFS PM: TR	
4/14/10	Lot # 031009 Conc. = 100 ppm	0.0 / 99	0.0 / 103	AM: CFS PM: CFS	
4/15/10	Lot # 031009 Conc. = 100 ppm	0.0 / 99	0.0 / 100	AM: CFS PM: CFS	
4/16/10	Lot # 031009 Conc. = 100 ppm	0.0 / 101	0.0 / 100	AM: CFS PM: CFS	
4/19/10	Lot # 031009 Conc. = 100 ppm	0.0 / 101	0.0 / 90.3	AM: CFS PM: BG	
4/20/10	Lot # 031009 Conc. = 100 ppm	0.0 / 100	0.2 / 110	AM: CFS PM: CFS	
	Lot # Conc. = ppm	/		AM: PM:	
	Lot # Conc. = ppm	/		AM: PM:	

TtNUS Form 0006

TETRA TECH NUS, INC.

PHOTOIONIZATION DETECTOR FIELD CALIBRATION LOG

Serial No.: 110-004562 Model No.: Mini RAE Decal No.: A

Site Name/Location: NASB-Background Study / Brunswick, Maine Tetra Tech NUS Charge No.: 112G00958 / CTO 432

CALIBRATION DATE	STANDARD GAS-ISOBUTYLENE	(AM) CALIBRATION READING Isobutylene Equiv. (ppm)	(PM) CALIBRATION CHECK Isobutylene Equiv. (ppm)	SIGNATURE	COMMENTS
4/12/10	Lot # 031009 Conc. = 100 ppm	0.0 / 100	0.0 / 95.3	AM: CFS PM: CFS	
4/13/10	Lot # 031009 Conc. = 100 ppm	0.0 / 102	0.0 / 105	AM: CFS PM: TR	
4/14/10	Lot # 031009 Conc. = 100 ppm	0.0 / 102	0.0 / 100	AM: CFS PM: CFS	
4/15/10	Lot # 031009 Conc. = 100 ppm	0.0 / 102	* Check Pump Signal Re-Calibrate and Tested.	AM: CFS PM: CFS	
4/16/10	Lot # 031009 Conc. = 100 ppm	Pump not working.	Did not use.	AM: CFS PM: CFS	
4/19/10	Lot # 031009 Conc. = 100 ppm	Pump not working	Did not use.	AM: CFS PM: CFS	
	Lot # Conc. = ppm	/		AM: PM:	
	Lot # Conc. = ppm	/		AM: PM:	
	Lot # Conc. = ppm	/		AM: PM:	

TtNUS Form 0006

TETRA TECH NUS, INC.

FIELD INSTRUMENT CALIBRATION LOG

SITE NAME: NASB-Background Study, Brunswick, ME / CTO 432

INSTRUMENT NAME LaMotte Turbidimeter MODEL No.: 2020

SERIAL No.: 3106-1402A DECAL No.: C TT NUS CHARGE No. 112G00958 / 0000.0520

DATE	INITIAL READING (AM)		PROCEDURE		FINAL READING (PM Cal Check)		SIGNATURE	COMMENTS
	0 NTU (check)	10 NTU (span)	Per Manufacturer's Instruction		0 NTU (check)	10 NTU (span)		
4/12/10	0.00	10			0.00	9.50	AM: CFS PM: CFS	
4/13/10	0.00	10.02			0.00	10	AM: CFS PM: TR	
4/14/10	0.00	10.0			0.00	9.50	AM: CFS PM: CFS	
4/15/10	0.00	10			0.00	10	AM: CFS PM: TR	
4/19/10	0.0	10.0			0.70	11	AM: CFS PM: CFS	
4/20/10	0.0	10			0.0	9.9	AM: CFS PM: CFS	
4/21/10	0.0	10			0.00	11	AM: CFS PM: CFS	
	/				/		AM: PM:	
	/				/		AM: PM:	
	/				/		AM: PM:	
	/				/		AM: PM:	
	/				/		AM: PM:	

Mod.TtNUS Form 0007

TETRA TECH NUS, INC.

FIELD INSTRUMENT CALIBRATION LOG

SITE NAME: NASB-Background Study, Brunswick, ME / CTO 432

INSTRUMENT NAME LaMotte Turbidimeter MODEL No.: 2020

SERIAL No.: 3254-1902 DECAL No.: A TT NUS CHARGE No. 112G00958 / 0000.0520

DATE	INITIAL READING (AM)		PROCEDURE		FINAL READING (PM Cal Check)		SIGNATURE	COMMENTS
	0 NTU (check)	10 NTU (span)	Per Manufacturer's Instruction		0 NTU (check)	10 NTU (span)		
4/12/10	0.00	10			0.00	10	AM: CFS PM: CFS	
4/13/10	0.00	10			0.10	10	AM: CFS PM: TK	
4/14/10	0.00	10			0.00	9.0	AM: CFS PM: CFS	
4/15/10	0.0	10			0.00	14	AM: CFS PM: CFS	
4/16/10	0.0	10			0.00	10	AM: CFS PM: CFS	
4/19/10	0.0	10			0.00	9.9	AM: CFS PM: BG	
4/20/10	0.0	10			0.00	10	AM: CFS PM: CFS	
	/				/		AM: PM:	
	/				/		AM: PM:	
	/				/		AM: PM:	
	/				/		AM: PM:	
	/				/		AM: PM:	

Mod.TtNUS Form 0007

TETRA TECH NUS, INC.

FIELD INSTRUMENT CALIBRATION LOG

SITE NAME: NASB-Background Study, Brunswick, ME / CTO 432

INSTRUMENT NAME LaMotte Turbidimeter MODEL No.: 2020

SERIAL No.: 1758-1800 DECAL No.: B TT NUS CHARGE No. 112G00958 / 0000.0520

DATE	INITIAL READING (AM)		PROCEDURE		FINAL READING (PM Cal Check)		SIGNATURE	COMMENTS
	0 NTU (check)	10 NTU (span)	Per Manufacturer's Instruction		0 NTU (check)	10 NTU (span)		
4/12/10	0.00	9.99			0.00	9.97	AM: CFS PM: CFS	
4/13/10	0.00	10.06			0.00	9.50	AM: CFS PM: TK	
4/14/10	0.00	9.97			0.00	10.70	AM: CFS PM: CFS	
4/15/10	0.0	9.93			0.00	9.66	AM: CFS PM: CFS	
4/16/10	0.0	9.94			0.00	10.41	AM: CFS PM:	
4/19/10	0.0	10.02			0.00	9.72	AM: CFS PM: BG	
4/20/10	0.0	9.90			0.0	9.22	AM: CFS PM: CFS	
	/				/		AM: PM:	
	/				/		AM: PM:	
	/				/		AM: PM:	
	/				/		AM: PM:	
	/				/		AM: PM:	

Mod.TtNUS Form 0007

TETRA TECH NUS, INC.

YSI MULTIPARAMETER WATER QU[illegible]Y METER CALIBRATION LOG

Site Name: NASB-Background Study / CTO 432
Serial No: 08K100857
Job No: 11200958 / 0000.0520
Model No: YSI 556 MPS
Instrument is calibrated in accordance with manufactures instructions

Decal Letter: A

Date		Conductivity 1000 µS/cm	Conductivity DI check	pH 4.0	pH 7.0	pH 10.0	Dissolved Oxygen 100% % sat.	Dissolved Oxygen 100% ppm	Dissolved Oxygen 100% Air Temp	ORP mV	ORP @ Temp	Solution Temp °C	Barometric Pressure, mm of Hg	Signature
4/12/10	am	1000	3	4.00	7.00	9.94	100.8	10.72	12.61	240.5	11.64	10.38	765.9	TR
	pm	~~[illegible]~~ 1005	3	4.33	7.35	10.37	93.5	9.21	16.09	250.1	16.48	14.57	766.2	TR
4/13/10	am	1000	3	4.00	6.99	9.99	101.6	12.15	7.74	249.2	7.48	6.46	771.9	TR
	pm	971	4	4.35	7.43	10.47	97.1	9.58	16.09	248.5	14.24	16.19	771.1	BG
4/14/10	am	1000	4	4.00	7.00	10.00	101.6	11.64	9.41	249.7	6.49	9.22	771.7	BG
	pm	1017	2	4.30	7.19	10.30	99.0	9.53	17.16	233.5	17.66	16.11	765.5	TR
4/15/10	am	1000	4	4.00	7.00	10.00	100.2	10.51	13.60	250.0	11.88	10.77	765.1	BG
	pm	973	7	4.13	7.14	10.09	104.2	10.09	16.85	246.6	16.42	16.97	765.8	TR
4/16/10	am	1000	1	4.00	7.00	10.00	100.4	9.95	15.43	243.7	14.91	14.85	764.4	TR
	pm	978	2	3.99	7.05	10.03	98.2	9.83	15.29	250.8	14.95	14.48	762.7	TR
4/19/10	am	1000	1	4.00	7.00	9.99	98.8	10.69	11.84	250.1	11.05	9.82	754.4	TR
	pm	1012	5	4.09	7.11	10.06	95.5	9.20	17.11	245.2	16.78	16.19	755.3	TR
4/20/10	am	1000	1	4.00	7.00	10.00	100.4	10.20	14.66	243.5	13.47	13.53	756.3	TR
	pm	1005	4	4.13	7.06	10.02	99.5	8.89	20.84	234.4	20.69	20.83	754.0	TR
	am													
	pm													
	am													
	pm													
	am													
	pm													

Calibration STD's

Lot Number:								
Expires:					NA		NA	NA

TETRA TECH NUS, INC.

YSI MULTIPARAMETER WATER QUALITY METER CALIBRATION LOG

Site Name: NASB-Background Study
Serial No: 06K1082 Am
Job No: 112G00958 / CTO 432
Model No: 556 MPS
Instrument is calibrated in accordance with manufactures instructions

Decal Letter: B

Date		Conductivity 1000 µS/cm	Conductivity DI check	pH 4.0	pH 7.0	pH 10.0	Dissolved Oxygen 100% % sat.	Dissolved Oxygen 100% ppm	Dissolved Oxygen 100% Air Temp	ORP mV	ORP @ Temp	Solution Temp °C	Barometric Pressure, mm of Hg	Signature
4/12/10	am	1000	3	4.00	7.00	9.98	100.9	10.44	13.86	249.7	11.10	10.18	766.4	BG
	pm	975	4	4.02	7.08	9.96	100.9	9.83	16.62	246.5	16.56	14.27	766.6	TR
4/13/10	am	1000	4	4.00	7.00	10.00	102.8	11.69	9.35	249.7	8.48	6.37	772.5	BG
	pm	969	3	4.23	7.12	9.93	98.5	9.78	15.77	248.4	14.00	16.22	771.5	BG
4/14/10	am	1000	4	4.00	7.00	9.99	101.6	11.31	10.60	250.4	6.84	9.22	~~771~~ 771.5	BG
	pm	991	2	4.27	7.19	10.07	93.5	8.84	18.06	232.8	17.60	17.48	765.9	TR
4/15/10	am	1000	4	4.00	7.00	10.00	101.0	10.50	13.70	249.6	11.96	10.76	765.7	BG
	pm	989	5	4.25	7.25	10.11	92.7	8.90	17.39	247.0	15.75	17.08	766.6	BG
4/16/10	am	1000	3	4.00	7.00	10.00	100.6	9.90	16.16	239	14.86	14.80	764.9	BG
	pm	996	5	3.96	7.06	9.94	101.4	10.01	15.97	243.9 252.3	14.70	15.72	763.1	TR
4/19/10	am	1000	4	4.00	7.00	10.00	99.3	10.37	13.42	250.2	11.70	9.69	752.3	BG
	pm	995	5	4.28	7.16	10.07	95.0	9.09	17.37	246.6	16.83	16.45	755.8	TR
4/20/10	am	1000	4	4.00	7.00	9.97	99.4	9.78	16.21	244.0	13.79	13.30	756.8	BG
	pm	1003	6	4.08	7.11	10.09	93.1	8.27	21.23	230.3	20.15	20.91	753.5	TR
	am													
	pm													
	am													
	pm													
	am													
	pm													

Calibration STD's

Lot Number:	7636	7345	7352	7244	NA	7206	NA	NA
Expires:	01/13/11	8/6/10	8/7/10	6/22/10		6/10/10		

TETRA TECH NUS, INC.

YSI MULTIPARAMETER WATER QU[illegible]Y METER CALIBRATION LOG

Site Name: NASB-Background Study / CTO 432
Serial No: 06C2658 AJ
Job No: 11200958 / 0000.0520
Model No: 556 MPS
Instrument is calibrated in accordance with manufactures instructions

Decal Letter: C

Date		Conductivity 1000 µS/cm	Conductivity DI check	pH 4.0	pH 7.0	pH 10.0	Dissolved Oxygen 100% % sat.	Dissolved Oxygen 100% ppm	Dissolved Oxygen 100% Air Temp	ORP mV	ORP @ Temp	Solution Temp °C	Barometric Pressure, mm of Hg	Signature
4/12/10	am	1000	4	4.00	7.00	9.96	99.2	10.48	14.06	249.8	10.93	10.27	765.8	BG
	pm	997	6	4.08	6.98	10.12	107.3	10.53	16.23	248.4	17.25	16.52	765.4	TR
4/13/10	am	1000	4	4.00	7.00	9.97	101.3	11.58	9.49	251.6	9.14	6.35	768.7	BG
	pm	970	4	4.04	6.98	9.95	93.8	9.91	12.80	233.4	13.46	16.21	769.8	BG
4/14/10	am	1000	2	4.00	7.00	10.0	101.1	12.34	6.77	250.8	7.18	6.41	768.5	TR
	pm	1000	3	4.08	7.01	10.07	90.7	8.76	17.07	243.8	16.09	17.52	765.5	TR
4/15/10	am	1000	3	4.00	7.00	10.03	98.3	10.51	12.44	250.5	10.72	10.18	764.2	TR
	pm	1006	5	4.06	7.09	10.20	94.9	9.10	17.19	238.8	15.97	17.08	764.0	BG
4/16/10	am	1000	3	4.00	7.00	10.00	100.1	9.86	16.29	244.1	15.09	14.81	763.7	BG
	pm	975	3	4.04	6.97	10.07	94.9	9.45	15.52	241.4	14.36	14.98	759.5	TR
4/19/10	am	1000	4	4.00	7.00	10.00	99.1	10.32	13.54	249.8	11.45	9.70	754.9	BG
	pm	999	4	4.00	6.95	9.95	99.4	9.38	18.16	251.3	16.048	16.03	754.7	CFS
4/20/10	am	1000	4	4.00	7.00	9.97	99.5	9.81	16.09	244.4	13.85	13.19	755.4	BG
	pm	1001	5	3.94	6.91	9.95	98.8	8.79	21.12	238.0	20.92	20.97	753.9	TR
4/21/10	am	1000	3	4.00	7.00	10.00	99.2	9.69	16.55	246.0	16.23	14.12	754.4	TR
	pm	1010	4	3.95	7.05	9.93	97.0	8.57	21.47	225.1	19.60	19.88	758.0	CFS
	am													
	pm													
	am													
	pm													

Calibration STD's

Lot Number:	7636	7345	7352	7244	NA	7206	NA	NA
Expires:	01/13/10	8/6/10	8/7/10	6/22/10		6/10/10		

ON 4/21 7080
4/27/10

Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: Tetra Tech NUS
Contact: Jeff Grant / Chuck Rice
Phone #: (978) 474-8437
Fax #: (978) 474-8[illegible]
Address: 55 Jonspin Rd.
City: Wilmington
State: MA
Zip Code: 01887
Purchase Order #:
Proj. Name / No.: MASB Background Study CTO 432
Katahdin Quote #:
Bill (if different than above):
Address:
Sampler (Print / Sign): Chelsea Pellant / [illegible]
Copies To:

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WORK ORDER #:
KATAHDIN PROJECT NUMBER:
REMARKS:

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT
AIRBILL NO:
TEMP °C: ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	PAH 1 x 1 liter amber (Filt. ☐Y ☒N)	Total Metals (HNO3) 1 x 250mL poly (Filt. ☒Y ☐N)	Dissolved Metals (HNO3) 1 x 250mL poly (Filt. ☒Y ☐N)	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
	MASB-BG-SW01-040610	4/6/10 / 1130	SW	3	2	1	—								
	MASB-BG-SW01-040610-F	/ 1130		1	—	—	1								
	MASB-BG-SW02-040610	/ 1140		3	2	1	—								
	[illegible]SB-BG-SW02-040610-F	/ 1140		1	—	—	1								
	MASB-BG-SW03-040610	/ 1200		3	2	1	—								
	MASB-BG-SW03-040610-F	/ 1200		1	—	—	1								
D1	MASB-BG-SW04-040610	/ 1220		3	2	1	—								
D1	MASB-BG-SW04-040610-F	/ 1220		1	—	—	1								
	MASB-BG-SW05-040610	/ 1300		3	2	1	—								
	MASB-BG-SW05-040610-F	/ 1300		1	—	—	1								
	MASB-BG-SW06-040610	/ 1310		3	2	1	—								
	MASB-BG-SW06-040610-F	/ 1310		1	—	—	1								
	MASB-BG-SW-DUP01-040610	/ —		3	2	1	—								
	MASB-BG-SW-DUP01-040610-F	/ —		1	—	—	1								
	MASB-BG-SW07-040610	/ 1330		3	2	1	—								
	MASB-BG-SW07-040610-F	/ 1330		1	—	—	1								

COMMENTS

MASB-BG-SW-DUP01-040610 @ SW04

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Chelsea Pellant	4/7/10 1538	[illegible]			
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Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

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Client: Tetra Tech NUS
Contact: Jeff Orient/Chuck Rice
Phone #: (978) 474-8437
Fax #: (978) 474-8401
Address: 55 Jonspin Rd.
City: Wilmington
State: MA
Zip Code: 01887
Purchase Order #:
Proj. Name / No.: MASB Background Study CTO 432
Katahdin Quote #:
Bill (if different than above):
Address:
Sampler (Print / Sign): Chelsea Fellows/[illegible]
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ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	PAH 1 x 1 liter Amber	Total Metals - H NO3 1 x 250mL poly	Dissolved Metals H NO3 1 x 250mL poly	Grain Size 1 x 1 liter poly	PAH 1 x 8oz	Pesticides/Herbicides 1 x 8oz	TOC/Metals 1 x 8oz	Extra Volume 1 x 4oz	Pest/Herbicides 1 x 1/2 gallon
	MASB-BG-SW08-040610	4/6/10 /1350	SW	3	2	1	1						
	MASB-BG-SW08-040610-F	4/6/10 /1350	SW	1			1						
	MASB-BG-SD08-0006	4/7/10 /0930	SD	4				1	1	1	1		
	MASB-BG-SD07-0006	/0940	SD	4				1	1	1	1		
	MASB-BG-SD06-0006	/0950	SD	4				1	1	1	1		
	MASB-BG-SD05-0006	/0958	SD	4				1	1	1	1		
	MASB-BG-SD04-0006	/1010	SD	4				1	1	1	1		
D1	MASB-BG-SD03-0006	/1018	SD	5				1	1	1	1	1	
	MASB-BG-SD02-0006	/1035	SD	4				1	1	1	1		
	MASB-BG-SD01-0006	/1058	SD	4				1	1	1	1		
	MASB-BG-SD-DUP01-040710	/—	SD	4				1	1	1	1		
	MASB-BG-SW-FB01-040710	/1320	QC	3	2	1							
	MASB-BG-SD-FB01-040710	/1325	QC	5	2	1							2
	MASB-BG-SW-RB01-040710	/1330	QC	3	2	1							
	MASB-BG-SW-RB01-040710-F	/1330	QC	1			1						
	MASB-BG-SD-RB01-040710	/1335	QC	5	2	1							2

COMMENTS:
MASB-BG-SD-DUP01-040710 @ SD03

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[illegible]	4/7/10 1530	[illegible]			
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600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: TetraTech NUS
Contact: Jeff Grant/Chuck Rice
Phone #: (978) 474-3437
Fax #: (978) 474-8432
Address: 55 Jonspin Rd.
City: Wilmington
State: MA
Zip Code: 01887
Purchase Order #:
Proj. Name / No.: MASB Background Study CTO 432
Katahdin Quote #:
Bill (if different than above):
Address:
Sampler (Print / Sign): Chelsea Fellows / Chuck Fuller
Copies To:

LAB USE ONLY WORK ORDER #:
KATAHDIN PROJECT NUMBER
REMARKS:
SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT
AIRBILL NO:
TEMP°C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	PAH 1 x 1 liter amber (Filt. ☐Y ☒N)	Total Metals µMg 1 x 250mL poly (Filt. ☒Y ☒N)	Dissolved Metals µMg 1 x 250mL poly (Filt. ☒Y ☐N)	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
	MASB-BG-SW16-040810	4/8/10 / 0915	SW	3	2	1									
	MASB-BG-SW16-040810-F	/ 0915		1	—	—	1								
	MASB-BG-SW15-040810	/ 0925		3	2	1									
	MASB-BG-SW15-040810-F	/ 0925		1	—	—	1								
	MASB-BG-SW14-040810	/ 0930		3	2	1									
	MASB-BG-SW14-040810-F	/ 0930		1	—	—	1								
	MASB-BG-SW13-040810	/ 0940		3	2	1	—								
	MASB-BG-SW13-040810-F	/ 0940		1	—	—	1								
	MASB-BG-SW12-040810	/ 0955		8	6	2									
	MASB-BG-SW12-040810-F	/ 0955		2	—	—	2								
	MASB-BG-SW11-040810	/ 1025		3	2	1									
	MASB-BG-SW11-040810-F	/ 1025		1	—	—	1								
	MASB-BG-SW10-040810	/ 1035		3	2	1									
	MASB-BG-SW10-040810-F	/ 1035		1	—	—	1								
	MASB-BG-SW-DUP02-040810	/ —		3	2	1									
	MASB-BG-SW-DUP02-040810-F	/ —		1	—	—	1								

COMMENTS: Lab QC @ MASB-BG-SW12-040810
MASB-BG-SW-DUP02-040810 @ SW09

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[signature]	4/9/10 1440	[signature]			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

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Fax: (207) 775-4029

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Client: Tetra Tech NUS
Contact: Jeff Ornt / Chuck Daly
Phone #: (978) 474-8437
Fax #: (978) 474-8437
Address: 55 Jonspin Rd.
City: Wilmington
State: MA
Zip Code: 01887
Purchase Order #:
Proj. Name / No.: MBB-Background Study 070432
Katahdin Quote #:
Bill (if different than above):
Address:
Sampler (Print / Sign): Chelsea Fellows / Phil Gallo
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KATAHDIN PROJECT NUMBER
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AIRBILL NO:
TEMP °C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	PAH 1 x liter amber (Filt. ☐Y ☒N)	Total Phenols (H2SO4) 1 x 250 mL poly (Filt. ☐Y ☒N)	Dissolved Metals (HNO3) 1 x 250 mL poly (Filt. ☐Y ☐N)	PAH 1 x 8 oz (Filt. ☐Y ☒N)	Pest / Herbicides 1 x 8 oz (Filt. ☐Y ☒N)	TOC / Metals 1 x 8 oz (Filt. ☐Y ☒N)	Grain Size 1 x liter poly (Filt. ☐Y ☒N)	Extra Volume 1 x liter poly (Filt. ☐Y ☒N)	TOC / Metals 1 x 4 oz (Filt. ☐Y ☒N)	Filt. ☐Y ☐
D2	MBB-BG-SW09-040810	4/8/10 / 1045	SW	3	2	1								
D2	MBB-BG-SW09-040810-F	4/8/10 / 1045	SW	1			1							
	MBB-BG-SD16-0006	/ 0920	SD	5				1	1		1		2	
	MBB-BG-SD15-0006	/ 0930		5				1	1		1		2	
	MBB-BG-SD14-0006	/ 0945		5				1	1	1	1	1		
	MBB-BG-SD13-0006	/ 0950		4				1	1	1	1			
	MBB-BG-SD12-0006	/ 1070		4				1	1	1	1			
	MBB-BG-SD11-0006	/ 1030		4				1	1	1	1			
	MBB-BG-SD10-0006	/ 1050		4				1	1	1	1			
D2	MBB-BG-SD09-0006	/ 1100		4				1	1	1	1			
	MBB-BG-SD-DUP02-040810	/		4				1	1	1	1			
		/												
		/												
		/												
		/												
		/												

JPS 4/8/10

COMMENTS: Lab QAC collected MBB-BG-SD14-0006 (collected 1 x liter poly for extra volume)
MBB-BG-SD-DUP02-040810 collected at SD09

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[illegible]	4/9/10 1440	[illegible]			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

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Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: [redacted]TetraTech NUS
Contact: Jeff Grant/Chuck Race
Phone #: (978) 474-8437
Fax #: (978) 474-844[illegible]
Address: 55 Jonspin Rd.
City: Wilmington
State: MA
Zip Code: 01887
Purchase Order #:
Proj. Name / No.: MASS Background Study CO-432
Katahdin Quote #:
Bill (if different than above):
Address:
Sampler (Print / Sign): Chris Fellows / [illegible]
Copies To:

LAB USE ONLY WORK ORDER #:
KATAHDIN PROJECT NUMBER
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AIRBILL NO:
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ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	Total Metals 1 x 250mL poly/HNO3	Dissolved Metals 1 x 250mL poly/HNO3	Filt. ☐Y ☒N	Filt. ☒Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
	MASS-BG-GW-MW30-0410	4/12/10 / 1400	GW	1	1	—										
	MASS-BG-GW-MW30-0410-F	/ 1400	GW	1	—	1										
	MASS-BG-GW-MW32-0410	/ 1425	GW	1	1	—										
	[redacted]-BG-GW-MW32-0410-F	/ 1425	GW	1	—	1										
D1	MASS-BG-GW-MW31-0410	/ 1522	GW	1	1	—										
D1	MASS-BG-GW-MW31-0410-F	/ 1522	GW	1	—	1										
	MASS-BG-GW-DUP01-041210	/ —	GW	1	1	—										
	MASS-BG-GW-DUP01-041210-F	/ —	GW	1	—	1										
	MASS-BG-GW-MW29-0410	/ 1645	GW	1	1	—										
	MASS-BG-GW-MW29-0410-F	/ 1645	GW	1	—	1										
	MASS-BG-GW-MW40-0410	4/13/10 / 0915	GW	1	1	—										
	MASS-BG-GW-MW40-0410-F	/ 0915	GW	1	—	1										
	MASS-BG-GW-MW28-0410	/ 1015	GW	3	3	—										
	MASS-BG-GW-MW28-0410-F	/ 1015	GW	3	—	3										
	MASS-BG-GW-MW27-0410	/ 1205	GW	1	1	—										
	MASS-BG-GW-MW27-0410-F	/ 1205	GW	1	—	1										

COMMENTS MASS-BG-GW-MW28-0410 → Lab QC

[redacted]MASS-BG-GW-DUP01-041210 collected at MW31.

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Fax #: (978) 474-8416
Address: 55 Joseph Rd
City: Wilmington
State: MA
Zip Code: 01887
Purchase Order #:
Proj. Name / No.: MDSB-Background Study CTO-432
Katahdin Quote #:
Bill (if different than above):
Address:
Sampler (Print / Sign): Chelsea Fellows / [signature]
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ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	Total Metals 1x 250ml poly w/ HNO3	Dissolved Metals 1x 250ml poly w/ HNO3	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
	MDSB-BG-GW-MW04-0410	4/13/10 / 1405	GW	1	1	—										
	MDSB-BG-GW-MW04-0410F	/ 1405	GW	1	—	1										
	MDSB-BG-GW-MW02-0410	/ 1440	GW	1	1	—										
	MDSB-BG-GW-MW02-0410F	↓ / 1440	GW	1	—	1										

4/13/10

COMMENTS

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[signature]	4-13-10 1540	[signature]			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

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Page 1 of 2

Client: Tetra Tech NUS
Contact: Jeff Oliart / Chuck Raie
Phone #: (978) 474-8437
Fax #: (978) 474-8426
Address: 55 Jonspin Rd
City: Wilmington
State: MA
Zip Code: 01887
Purchase Order #:
Proj. Name / No.: MASS Brownfield Sdy - CTO 432
Katahdin Quote #:
Bill (if different than above):
Address:
Sampler (Print / Sign): Chelsea Filias / Chelsea Filias
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ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	Total Metals 1x250ml poly w/ HNO3	Dissolved Metals 1x250ml poly w/ HNO3	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
	MASSBG-GW-MW03-0410	4/13/10 / 1455	GW	1	1	—										
	MASSBG-GW-MW03-0410-F	/ 1455	GW	1	—	1										
	MASSBG-GW-MW01-0410	/ 1655	GW	1	1	—										
	MASSBG-GW-MW01-0410-F	/ 1655	GW	1	—	1										
D2	MASSBG-GW-MW23-0410	4/14/10 / 0955	GW	1	1	—										
D2	MASSBG-GW-MW23-0410-F	/ 0955	GW	1	—	1										
	MASSBG-GW-MW25-0410	/ 1005	GW	1	1	—										
	MASSBG-GW-MW25-0410-F	/ 1005	GW	1	—	1										
	MASSBG-GW-MW24-0410	/ 1048	GW	1	1	—										
	MASSBG-GW-MW24-0410-F	/ 1048	GW	1	—	1										
	MASSBG-GW-DUP02-041410	/ —	GW	1	1	—										
	MASSBG-GW-DUP02-041410-F	/ —	GW	1	—	1										
	MASSBG-GW-MW14-0410	/ 1315	GW	1	1	—										
	MASSBG-GW-MW14-0410-F	/ 1315	GW	1	—	1										
	MASSBG-GW-MW21-0410	/ 1325	GW	1	1	—										
	MASSBG-GW-MW21-0410-F	/ 1325	GW	1	—	1										

COMMENTS

MASSBG-GW-DUP02-041410 collected at MW23.

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[signature]	4-15-2010				
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

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Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: Tetra Tech
Contact: Jeff Criat/C. Race
Phone #: (978) 474-8437
Fax #: (978) 474-84[illegible]
Address: 55 Jonspin Rd.
City: Wilmington
State: MA
Zip Code: 01887
Purchase Order #:
Proj. Name / No.: MDSB Background Study 070432
Katahdin Quote #:
Bill (if different than above):
Address:
Sampler (Print / Sign): Chelsea Fellows / [illegible]
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TEMP °C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	Total Metals 1x250ml poly w/HNO3	Dissolved Metals 1x250ml poly w/HNO3	Filt. ☐Y ☒N	Filt. ☒Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
	MDSB-BG-GW-MW18-0410	4/14/10 / 1645	GW	1	1	—										
	MDSB-BG-GW-MW18-0410-F	/ 1645	GW	1	—	1										
	MDSB-BG-GW-MW39-0410	/ 1647	GW	1	1	—										
	MDSB-BG-GW-MW39-0410-F	/ 1647	GW	1	—	1										
	MDSB-BG-GW-MW36-0410	/ 1735	GW	1	1	—										
	MDSB-BG-GW-MW36-0410-F	/ 1735	GW	1	—	1										
DS	MDSB-BG-GW-MW38-0410	4/15/10 / 1005	GW	1	1	—										
DS	MDSB-BG-GW-MW38-0410-F	/ 1005	GW	1	—	1										
	MDSB-BG-GW-MW303-0410	/ 1005	GW	1	1	—										
	MDSB-BG-GW-MW303-0410-F	/ 1005	GW	1	—	1										
	MDSB-BG-GW-DCP03-041510	/ —	GW	1	1	—										
	MDSB-BG-GW-DCP03-041510-F	/ —	GW	1	—	1										
	MDSB-BG-GW-MW37-0410	/ 1022	GW	3	3	—										
	MDSB-BG-GW-MW37-0410-F	/ 1022	GW	3	—	3										
	MDSB-BG-GW-MW06-0410	/ 1305	GW	1	1	—										
	MDSB-BG-GW-MW06-0410-F	/ 1305	GW	1	—	1										

COMMENTS: MDSB-BG-GW-MW37-0410 → Lab QC
MDSB-BG-GW-DCP03-041510 collected at MW38.

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[illegible]	4/15/10 1510	[illegible]			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS

CUSTOMER COPY

Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: TetraTech NUS
Contact: J. Orrad / E. Race
Phone #: (978) 474-8437
Fax #: (978) 474-8414
Address: 55 Jaspin Rd
City: Wilmington
State: MA
Zip Code: 01887
Purchase Order #:
Proj. Name / No.: MBB-Background Study / 10432
Katahdin Quote #:
Bill (if different than above):
Address:
Sampler (Print / Sign): Chelsea Fellows / [signature]
Copies To:

LAB USE ONLY
WORK ORDER #:
KATAHDIN PROJECT NUMBER
REMARKS:

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT
AIRBILL NO:
TEMP°C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	Total Metals 1 x 250 ml poly w/ HNO3	Dissolved Metals 1 x 250 ml poly w/ HNO3	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
	MBB-BG-GW-MW08-0410	4/15/10 / 1332	GW	1	1	—										
	MBB-BG-GW-MW08-0410F	↓ / 1332	GW	1	—	1										
	MBB-BG-GW-MW07-0410	↓ / 1412	GW	1	1	—										
	MBB-BG-GW-MW07-0410F	↓ / 1412	GW	1	—	1										
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4/15/10

OMMENTS

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[signature]	4-15-10 1510	[signature]			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN

Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: Tetra Tech NUS
Contact: J. Orion / C. Race
Phone #: (978) 474-8437
Fax #: (978) 474-84[illegible]
Address: 55 Jonspin Rd
City: Wilmington
State: MA
Zip Code: 01887
Purchase Order #:
Proj. Name / No.: MDSB Backyard Study CTO-432
Katahdin Quote #:
Bill (if different than above):
Address:
Sampler (Print / Sign): Carissa Fellows / [illegible]
Copies To:

LAB USE ONLY
WORK ORDER #:
KATAHDIN PROJECT NUMBER:
REMARKS:

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT
AIRBILL NO:
TEMP °C: ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	Total Metals 1x250ml poly w/HNO3	Dissolved Metals 1x250ml poly w/HNO3									
					Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
	MDSB-BG-GW-MW12-0410	4/15/10 / 1645	GW	1	1	—									
	MDSB-BG-GW-MW12-0410-F	4/15/10 / 1645	GW	1	—	1									
	MDSB-BG-GW-MW13-0410	4/16/10 / 0820	GW	1	1	—									
	MDSB-BG-GW-MW13-0410-F	/ 0820	GW	1	—	1									
	MDSB-BG-GW-MW11-0410	/ 1037	GW	1	1	—									
	MDSB-BG-GW-MW11-0410-F	/ 1037	GW	1	—	1									
	MDSB-BG-GW-MW10-0410	/ 1040	GW	1	1	—									
	MDSB-BG-GW-MW10-0410-F	/ 1040	GW	1	—	1									
	MDSB-BG-GW-FB01-041610	/ 1150	QC	1	1	—									
	MDSB-BG-GW-RB01-041610	/ 1200	QC	1	1	—									
	MDSB-BG-GW-RB01-041610-F	/ 1200	QC	1	—	1									
	MDSB-BG-GW-MW09-0410	/ 1205	GW	1	1	—									
	MDSB-BG-GW-MW09-0410-F	/ 1205	GW	1	—	1									
	MDSB-BG-GW-RB02-041610	/ 1205	QC	1	1	—									
	MDSB-BG-GW-RB02-041610-F	/ 1205	QC	1	—	1									
		/													

COMMENTS

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[illegible]	4/16/10 1450	[illegible]			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS

Katahdin ANALYTICAL SERVICES

600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: Tetra Tech NUS
Contact: D. Orient / C. Race
Phone #: (978) 474-8437
Fax #: (978) 474-849

Address: 55 Jonspin Rd.
City: Wilmington
State: MA
Zip Code: 01887

Purchase Order #:
Proj. Name / No.: NASB-BG Background Study CTO 132
Katahdin Quote #:

Bill (if different than above):
Address:

Sampler (Print / Sign): Chelsea Fellows / [illegible]
Copies To:

LAB USE ONLY WORK ORDER #:
KATAHDIN PROJECT NUMBER:

REMARKS:

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT
AIRBILL NO:
TEMP °C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	Total Metals 1x250ml poly w/HNO3	Dissolved Metals 1x250ml poly w/HNO3	Filt. ☐Y ☒N	Filt. ☒Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
DU	NASB-BG-GW-MW335-0410	4/19/10 / 1045	GW	1	1	—										
DU	NASB-BG-GW-MW335-0410-F	/ 1045	GW	1	—	1										
	NASB-BG-GW-MW316A-0410	/ 1210	GW	1	1	—										
	NASB-BG-GW-MW316A-0410-F	/ 1210	GW	1	—	1										
	NASB-BG-GW-MW316B-0410	/ 1212	GW	1	1	—										
	NASB-BG-GW-MW316B-0410-F	/ 1212	GW	1	—	1										
	NASB-BG-GW-MW21G-0410	/ 1235	GW	3	3	—										
	NASB-BG-GW-MW21G-0410-F	/ 1235	GW	3	—	3										
	NASB-BG-GW-DUP04-041910	/ —	GW	1	1	—										
	NASB-BG-GW-DUP04-041910-F	/ —	GW	1	—	1										
	NASB-BG-GW-MW310-0410	/ 1430	GW	1	1	—										
	NASB-BG-GW-MW310-0410-F	/ 1430	GW	1	—	1										
	NASB-BG-GW-RB03-041910	/ 1600	QC	1	1	—										
	NASB-BG-GW-RB03-041910-F	/ 1600	QC	1	—	1										
	NASB-BG-GW-MW317A-0410	/ 1632	GW	1	1	—										
	NASB-BG-GW-MW317A-0410-F	/ 1632	GW	1	—	1										

4/19/10

COMMENTS NASB-BG-GW-MW21G-0410 → LabQC

NASB-BG-GW-DUP04-041910 collected at MW335

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[signature]	4/20/10 1535	[signature]			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN

Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: Tetra tech NUS
Contact: J. Orient/C. Race
Phone #: (978) 474-8137
Fax #: (978) 474-84
Address: 55 Jaspin Rd.
City: Wilmington
State: MA
Zip Code: 01887
Purchase Order #:
Proj. Name / No.: MDSB-Background Study 010432
Katahdin Quote #:
Bill (if different than above):
Address:
Sampler (Print / Sign): Chelsea Fellows
Copies To:

LAB USE ONLY
WORK ORDER #:
KATAHDIN PROJECT NUMBER
REMARKS:

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT
AIRBILL NO:
TEMP °C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	Total Metals 1x250ml poly w/ HNO3	Dissolved Metals 1x250ml poly w/ HNO3	Filt. ☐Y ☒N	Filt. ☒Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
	MDSB-BG-GW-MW317B-0410	4/19/10 / 1650	GW	1	—	—										
	MDSB-BG-GW-MW317B-0410-F	4/19/10 / 1650	GW	1	—	—										
DS	MDSB-BG-GW-MW43-0410	4/20/10 / 0905		1	—	—										
DS	[redacted]-BG-GW-MW43-0410-F	/ 0905		1	—	—										
	MDSB-BG-GW-MW314B-0410	/ 1022		1	—	—										
	MDSB-BG-GW-MW314B-0410-F	/ 1022		1	—	—										
	MDSB-BG-GW-DUPOS-042010	/ —		1	—	—										
	MDSB-BG-GW-DUPOS-042010-F	/ —		1	—	—										
	MDSB-BG-GW-MW17-0410	/ 1030		1	—	—										
	MDSB-BG-GW-MW17-0410-F	/ 1030		1	—	—										
	MDSB-BG-GW-MW44-0410	/ 1030		1	—	—										
	MDSB-BG-GW-MW44-0410-F	/ 1030		1	—	—										
	MDSB-BG-GW-MW334-0410	/ 1125		1	—	—										
	MDSB-BG-GW-MW334-0410-F	/ 1125		1	—	—										
	MDSB-BG-GW-MW315A-0410	/ 1235		1	—	—										
	MDSB-BG-GW-MW315A-0410-F	/ 1235		1	—	—										

DS 4/20/10

COMMENTS: MDSB-BG-GW-DUPOS-042010 collected at MW43.

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[redacted]shed By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[signature]	4/20/10 1335	[signature]			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS

Katahdin ANALYTICAL SERVICES

600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: Tetra tech NUS
Contact: J. Orend / C. Race
Phone #: (978) 474-8437
Fax #: (978) 474-844[illegible]
Address: 55 Jonspin Rd.
City: Wilmington
State: MA
Zip Code: 01887
Purchase Order #:
Proj. Name / No.: MDSB Background Study / 70432
Katahdin Quote #:
Bill (if different than above):
Address:
Sampler (Print / Sign): Chelsea Fellows / [illegible]
Copies To:

LAB USE ONLY
WORK ORDER #:
KATAHDIN PROJECT NUMBER
REMARKS:

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT
AIRBILL NO.:
TEMP°C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	Filt. ☐Y ☒N: total metals 1x250ml poly w/ HNO3	Filt. ☒Y ☐N: dissolved metals 1x250ml poly w/ HNO3	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
	MDSB-BG-GW-MW311A-0410	4/20/10 / 1302	GW	1	1	1								
	MDSB-BG-GW-MW31YA-0410F	/ 1302		1	1	1								
	MDSB-BG-GW-MW16-0410	/ 1315		1	1	1								
	MDSB-BG-GW-MW16-0410F	/ 1315		1	1	1								
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4/20/10

COMMENTS

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[illegible]	4/20/10 1335	[illegible]			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACT [illegible]

Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: Tetra Tech NUS
Contact: Jiorant / C. Race
Phone #: (978) 474-8437
Fax #: (978) 474-8461
Address: 55 Jonspin Rd.
City: Wilmington
State: MA
Zip Code: 01887
Purchase Order #:
Proj. Name / No.: MASS Background Study TC 1132
Katahdin Quote #:
Bill (if different than above):
Address:
Sampler (Print / Sign): Chelsea Fellows / Chelsea Fellows
Copies To:

LAB USE ONLY
WORK ORDER #:
KATAHDIN PROJECT NUMBER
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AIRBILL NO:
TEMP °C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	Total Metals 1x 2 Sample/ml HNO3	Dissolved Metals 1x 250ml poly / HNO3	Filt. ☐Y ☒N	Filt. ☒Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
	MASSBG-GW-MW05-0410	4/20/10 /1650	GW	1	1	—										
	MASSBG-GW-MW05-0410F	/1650		1	—	1										
	MASSBG-GW-MW42-0410	/1705		1	1	—										
	MASSBG-GW-MW42-0410F	/1705		1	—	1										
	MASSBG-GW-MW41-0410	/1706		1	1	—										
	MASSBG-GW-MW41-0410F	/1706		1	—	1										
	MASSBG-GW-MW15-0410	4/21/10 /1040		1	1	—										
	MASSBG-GW-MW15-0410F	/1040		1	—	1										
	MASSBG-GW-MW231A-0410	/1220		1	1	—										
	MASSBG-GW-MW231A-0410F	/1220		1	—	1										
		/														
		/														
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RFS 4/21/10

COMMENTS

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[illegible]	4/21/10 1535	[illegible]			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS.

Surveyors

12/14/09

0830 - CFS meet w/ Brian Smith Surveyors to show all Background Study sample locations.

0900 - Area 1.

0930 - Sample locations around picnic pond (Areas 6, 7, 6S, and area north of 303.)

0945 - Weapons Areas - Area 5 + MW 43 + MW 44.

1330 - Head out of Weapons. CFS describes other Areas to Brian Smith.

1400 - B.S. surveyors go off base to look at Area 4. Will call CFS if any questions/trouble.

1415 - CFS heads to Machine Gun Boresight Range to help Brian Gerhart w/ well installation.

CFS 12/14/09

SW/SD sampling

4/6/10

0600 - C. Fellows + B. Geringer at office to load equipment + consumables.

0630 - Leave for NASB. Pick up dredge and peri-pump at Pine Ehrs on way.

0900 - Arrive on Base. Cal. equipment and load equip./supplies into trucks.

1100 - Arrive at Coffin's Pond.

1130 - Collect 1st surface water sample at SW01.

1140 - Collect NASB-BG-SW02-040610

1200 - Collect NASB-BG-SW03-040610

1220 - Collect NASB-BG-SW04-040610 and NASB-BG-SW-DUP01-040610

1300 - Collect NASB-BG-SW05-040610

1310 - Collect NASB-BG-SW06-040610

1330 - Collect NASB-BG-SW07-040610

1350 - Collect NASB-BG-SW08-040610

1400 - Complete surface water sampling at Coffin's Pond. Load up truck and boat.

1430 - Back on Base. Unload equipment and sample management.

1615 - Off Base.

CFS 4/6/10

4/7/10 SW/SD sampling Rnd 2.

Weather - Sunny 70's

0715 - On Base. Col. equipment. Load trucks. Terry Rojann Johns field crew.

0900 - @ Coffin's Pond and launch boat for sediment sampling.

0930 - collect NASB-BG-SD08-0006.

0940 - collect NASB-BG-SD07-0006

0950 - collect NASB-BG-SD06-0006

0958 - collect NASB-BG-SD05-0006

1010 - collect NASB-BG-SD04-0006

1018 - collect NASB-BG-SD03-0006 and SD-DUP

1035 - collect NASB-BG-SD02-0006

1058 - Collect NASB-BG-SD01-0006

1130 - Complete SD sampling at Coffin's Pond

1200 - @ Field trailer and unload equip/boat

1320 - Collect NASB-BG-SW-FB01-040710.

1325 - Collect NASB-BG-SD-FB01-040710

1330 - collect NASB-BG-SW-RB01-040710

1335 - Collect NASB-BG-SD-RB01-040710

1400 - Call security to open gate to Moore Brook.

1430 - attach staff gauge at SG-1 (upstream)

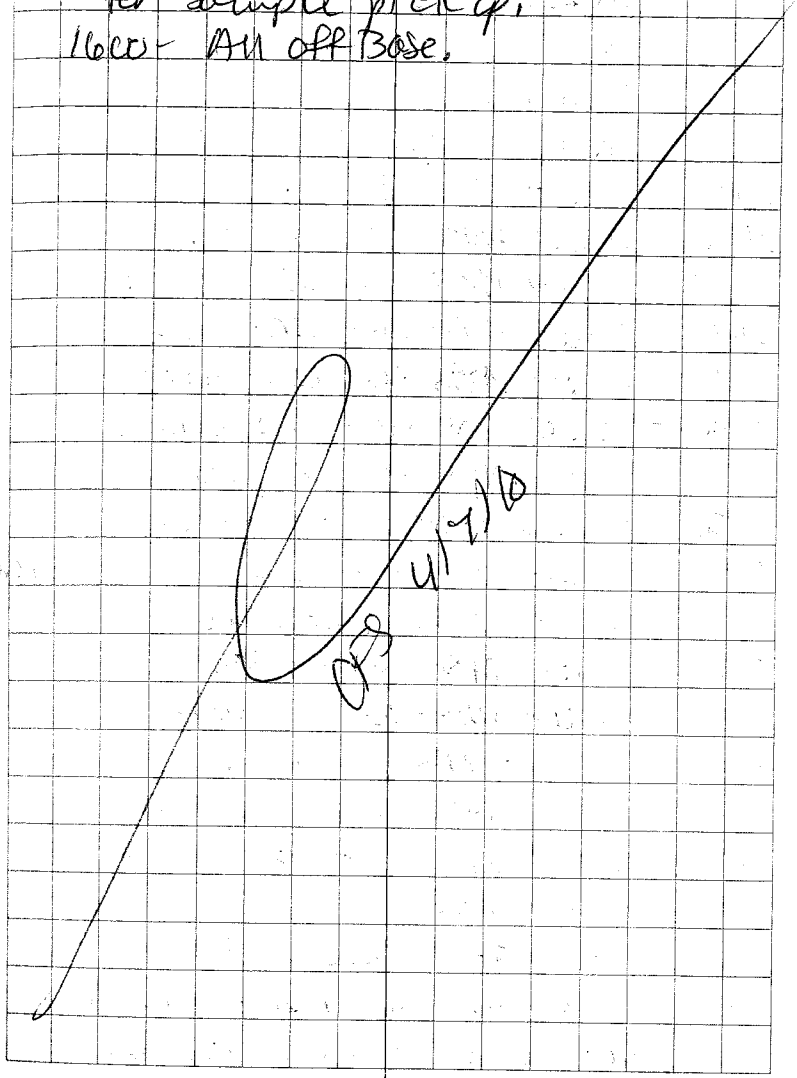
1500 - water level too high to attach staff gauge at SG-2 (downstream)

SW/SD Sampling - Rnd 2 4/7/10

1520 - Security lets us out of secured area.

1530 - Meet Katandin at Golf Course for sample pick up.

1600 - All off Base.



SW/SD Sampling Rnd 2

4/8/10

Weather: Cloudy 60's

0700 - On Base. Cal. equipment. Load up trucks w/ equip./supplies.

0800 - at Mere Brook gate waiting for security.

0830 - Security arrives and opens gate.

0915 - collect NASB-BG-SW16-040810

0920 - collect NASB-BG-SD16-0006

0925 - collect NASB-BG-SW15-040810

0930 - collect NASB-BG-SD15-0006

0930 - collect NASB-BG-SW14-040810

0940 - collect NASB-BG-SW13-040810

0945 - collect NASB-BG-SD14-0006-Lab QC

0950 - collect NASB-BG-SD13-0006

0955 - collect NASB-BG-SW12-040810 ~~Lab QC~~

1020 - collect NASB-BG-SD12-0006

1025 - collect NASB-BG-SW11-040810

1030 - collect NASB-BG-SD11-0006

1035 - collect NASB-BG-SW09-040810 and NASB-BG-SW-DUP02-040810

1050 - Collect NASB-BG-SD10-0006

1100 - collect NASB-BG-SD09-0006 and NASB-BG-SD-DUP02-040810

1115 - Pack up equipment/samples

1200 - Let out of area by Security.

SW/SD Sampling - Rnd 2

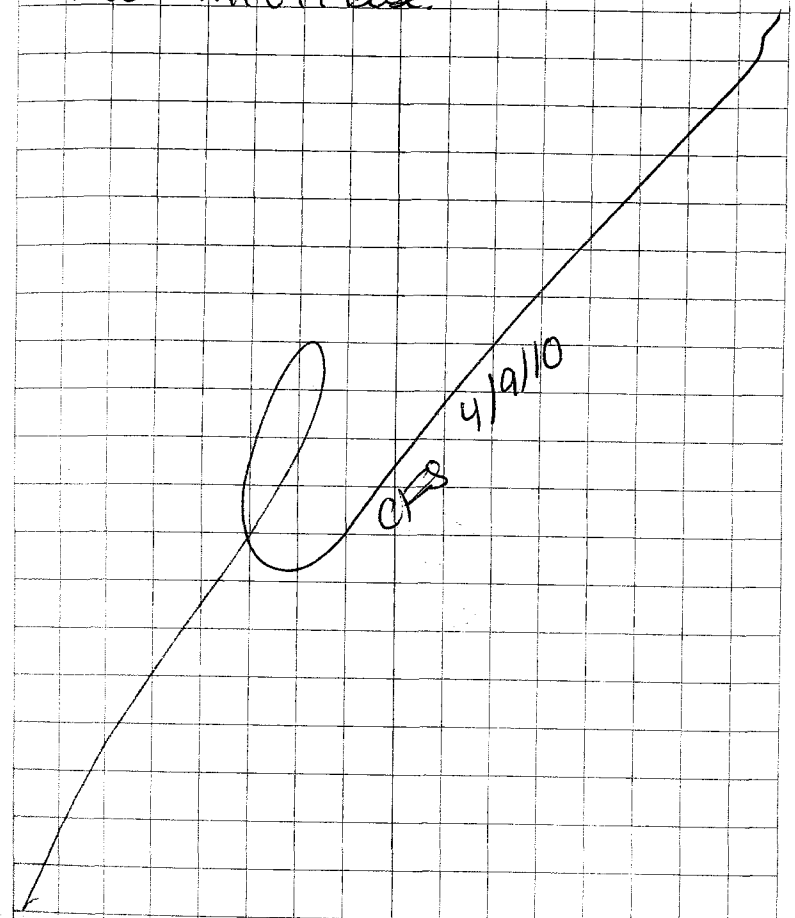
4/8/10

1220 - off Base. Get ice, gas, and lunch.

1330 - Pick up soma canisters from M. Fagan for B225/252 soil gas.

1345 - @ trailer - sample management

1600 - All off Base.



SW/SD Sampling - Rnd 2

4/9/10

Weather - Rain Showers, 50's

1430 - Drop off samples at Katahdin Lab.

1630 - Back @ Office. Leave equipment for CJS. Environmental.

4/9/10

CFS

GW Sampling - Rnd 2

4/12/10

Weather - Sunny 60's

0730 - Arrive on Base. (CFS, BG, + TR)
- Cal. equipment, load up trucks.

0900 - Call AirSpec about nitrogen tank delivery. Problem w/ delivery - Driver suppose to deliver called in sick.

1000 - Still waiting to hear from AirSpec about if can deliver today.

1100 - Nitrogen tanks arrive. Head over to Beaudoin Pines. Called Mark Fisher 4/5/10 to let know we would be sampling on 4/12/10.

1200 - Set up on Beaudoin Pines wells.

1400 - Collect NASB-BG-GW-MW30-0410 and F

1425 - Collect NASB-BG-GW-MW32-0410 and F

1522 - Collect NASB-BG-GW-MW31-0410 and F and NASB-BG-GW-PUP01-041210 and F

1645 - Collect NASB-BG-GW-MW29-0410 and F

1700 - Head back to trailer. Cal check, unload equip./supplies and sample management.

1800 - Off Base for day.

CFS 4/12/10

4/13/10

GW-Sampling-Rnd 2

Weather: Sunny 50's

0700 - On Base and at trailer, Cal. equipment, load up trucks.

0800 - Head to Area 1.

0915 - BG collects sample at NDSB-BG-GW-MW40-0410

1000 - TR, having problems w/ pump, not getting any water out MW27.

1015 - CFS collects NDSB-BG-GW-MW28-0410 (Lab QC)

1020 - TR gets pump to work (1/2 mach part of pump was stick).

1030 - CFS and BG go to Area 1 and set up on MW04 and MW03.

1205 - TR collects NDSB-BG-GW-MW27-0410

1210 - BG goes back to Area 1 to pick up TR and equipment.

1300 - TR sets up on MW02.

1405 - CFS collects NDSB-BG-GW-MW04-0410

1440 - TR collects NDSB-BG-GW-MW02-0410

1455 - BG collects NDSB-BG-GW-MW03-0410

1500 - CFS leaves to get ice and meet lab.

1530 - CFS meets Katahdin for sample pick up.

1545 - CFS heads back to Area 1.

1655 - Collect NDSB-BG-GW-MW01-0410

4/13/10

1700 - Head back to trailer to cal. check and unload equip. supplies.

1800 - Off Base for day.

4/13/10

CFS

4/14/10

Weather - Sunny 60's

0700 - At trailer. Calibrate and load up trucks w/ equip./supplies.

0800 - Head to Area 6S.

0950 - TR's well is dewatering. Purges for 2hrs then goes dry. Wait for recharge then collect sample.

0955 - collect NDSB-BG-GW-MW23-0410 and NDSB-BG-GW-DUP02-0414/10

1005 - Collect NDSB-BG-GW-MW25-0410

1030 - CFS and BG move to MW21 and MW19. TR is still at MW24 waiting for well to recharge.

1048 - Collect NDSB-BG-GW-MW24-0410

1315 - Collect NDSB-BG-GW-MW19-0410

1325 - collect NDSB-BG-GW-MW21-0410

1400 - BG and TR get lunch then set up on MW39 and MW36.

- CFS sets up on MW18.

1645 - Collect NDSB-BG-GW-MW18-0410

1647 - Collect NDSB-BG-GW-MW39-0410

1735 - collect NDSB-BG-GW-MW36-0410

1750 - Head back to trailer.

1800 - Cal. check, unload equip/supplies and sample management.

1845 - all off Base for day.

CFS 4/14/10

4/15/10

Weather - Sunny 60's

0700 - At trailer. Calibrate and load equipment

0800 - Head to area north of MW303. Set up on MW38, MW37, and MW303.

0820 - Get ECC/HDS to open 303 and remove Passive Diffusion Bag.

1005 - collect NDSB-BG-GW-MW38-0410 and NDSB-BG-GW-DUP03-0415/10

1005 - also collect NDSB-BG-GW-MW303-0410

1022 - Collect NDSB-BG-GW-MW37-0410 (Lab QC)

1100 - Pick up lunch

1120 - Head to Area 4.

1200 - Set up on MW06, MW07, and MW08.

1305 - Collect sample at NDSB-BG-GW-MW06-0410

1332 - collect sample at NDSB-BG-GW-MW08-0410

1412 - collect NDSB-BG-GW-MW07-0410

1420 - BG and CFS set up on MW12 and MW13.

1515 - CFS leaves to next lab.

1520 - Drop off Samples to Katahdin.

1615 - MW13 goes dry after 1hr. 25min. will return tomorrow morning to collect grab sample.

1645 - collect NDSB-BG-GW-MW12-0410

1745 - Head back on Base to cal. check and unload equip/supplies.

1855 - all off Base.

CFS 4/15/10

GW Sampling - Rd 2

4/16/10

Weather - Cloudy, Light showers

0700 - At trailer. Calibrate equipment and load up trucks.

0750 - Head to Area 4. CFS goes back to MW13 to collect grab sample.

0820 - collect MASB-BG-GW-MW13-0410.

0900 - CFS moves to MW08.

1037 - collect MASB-BG-GW-MW11-0410

1040 - collect MASB-BG-GW-MW10-0410

1130 - BG and TR leave Area 4 and head back to trailer to collect rinsate samples and field blank.

1150 - collect MASB-BG-GW-RB01-041610 (see log sheet)

1200 - collect MASB-BG-GW-RB01-041610 using GW sampling set up (pump, teflon tubing, poly tubing, and filter for filtered sample).

1205 - collect MASB-BG-GW-MW09-041610

1205 - collect MASB-BG-GW-RB02-041610 (using GW sampling set up).

1230 - CFS heads back to trailer.

1245 - sample management.

1330 - All off Base. CFS heads to Lab to drop off samples.

1500 - CFS delivers sample to Lab.

CFS 4/16/10

GW Sampling - Rnd 2

4/19/10

Weather: Partly Cloudy, 50's

0530 - CFS and BG leave office.

0730 - CFS, BG, and TR all at trailer.

0830 - Pick up well keys for existing wells / bedrock wells.

0845 - BG and TR head to Coombs Rd bedrock wells.

- CFS goes into Weepers Area and sets up on MW335.

1045 - Collect MASB-BG-GW-MW335-0410 and MASB-BG-GW-DUP04-041910. Page water at MW335 smells like dead mice. Found dead mouse at bottom of well during Rnd 1.

1235 - collect MASB-BG-GW-MW219-0410 and Lab QC.

1210 - collect MASB-BG-GW-MW316A-0410

1212 - collect MASB-BG-GW-MW316B-0410

1430 - collect MASB-BG-GW-MW310-0410

1600 - collect MASB-BG-GW-RB03-041910

1632 - collect MASB-BG-GW-MW317A-0410

1650 - collect MASB-BG-GW-MW317B-0410

1730 - All back at trailer. Cal check and unload equipment / supplies and

1800 - sample management.

1815 - All off Base.

CFS 4/19/10

Weather - Partly Cloudy 60's

4/20/10 GW Sampling Rnd 2

0700 - At trailer, Calibrate equipment and load up trucks.

0745 - Head into Weapons Area. (10 wells left in Weapons area)

0905 - Collect MASB-BG-GW-MW43-0410 and MASB-BG-GW-DUP05-042010

1022 - Collect MASB-BG-GW-MW314B-0410

1030 - CFS collects MASB-BG-GW-MW44-0410
- BG collects MASB-BG-GW-MW17-0410

1125 - Collect MASB-BG-GW-MW339-0410

1235 - Collect MASB-BG-GW-MW315A-0410

1302 - Collect MASB-BG-GW-MW314A-0410

1315 - Collect MASB-BG-GW-MW116-0410

1340 - Leave Weapons Area. Get ice for samples and lunch.

1415 - Back on Base and head to Area 3.
- Set up on MW05, MW41 and MW42.

1530 - CFS meets Lab for sample pick up.

1650 - Collect MASB-BG-GW-MW05-0410

1705 - Collect MASB-BG-GW-MW42-0410

1706 - Collect MASB-BG-GW-MW41-0410

1730 - Head back to trailer.

1740 - Unload trucks, cal. check and sample management.

1830 - All off Base. (2 more wells left) to sample next day.

CFS 4/20/10

GW Sampling - Rnd 2 4/21/10

Weather: Sunny 60's

0700 - At trailer. Calibrate equipment and load up trucks.

0800 - CFS heads to the Weapons Area to sample last two wells for Rnd 2 GW Sampling. (MW15 and MW231A).
- BG and TR head to Topsham Annex/Munitions Site to begin sampling.

0830 - CFS sets up on MW15.

1040 - Collect MASB-BG-GW-MW15-0410

1120 - CFS heads over to MW231A.

1220 - Collect MASB-BG-GW-MW231A.

1240 - CFS exits Weapons Area and heads to trailer to unload truck, cal. check, and sample management.

1430 - CFS off Base and heads to lab to drop off samples.

Nitrogen Tanks:
12 - Spent
18 - Not Used.

CFS 4/21/10

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW01-0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: N/A (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic Pump~~ Micro Bladder Pump
Depth Sampled: 19.7 (TOR) Screen Int. Depth 12-22 ft bgs
Sample Date & Time: 4 / 13 /2010 1655 hours N/A (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: Chelsea Fellows Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness ;
Visual Evidence of Sheen (Yes/No) ;
Olfactory Evidence of Odor (Yes/No) ;
TD= 24.7 (TOR); Well S/U = 2.71 ;
Weather: Sunny 50's ;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 12.45 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged ~~Gals.~~ L	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1500	* Begin purging, max drawdown, and filling flow through cell.										
1515	12.42	52	40	0.6 L	12.12	30	5.47	236.8	11.45	50	CLEAR
1525	12.43	52	40	1.0	11.83	30	5.39	238.4	9.43	45	"
1535	12.43	52	40	1.4	11.43	30	5.35	248.3	8.97	40	"
1545	12.43	52	40	1.8	11.26	30	5.35	253.1	8.61	30	"
1555	12.43	52	40	2.2	11.02	30	5.38	168.4	8.39	20	"
1605	12.43	52	40	2.6	10.67	30	5.38	172.8	8.39	16	"
1615	12.43	52	40	3.0	9.95	31	5.35	177.6	8.58	9.9	"
1625	12.43	52	40	3.4	9.45	30	5.32	179.2	8.36	8.7	"
1635	12.43	52	40	3.8	9.02	30	5.31	180.8	8.32	7.8	"
1645	12.43	52	40	4.2	8.79	30	5.31	181.5	8.26	5.4	"
1650	12.43	52	40	4.4	8.72	30	5.31	181.5	8.16	4.5	"
1655	* End purge. Begin sampling										
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 1/2 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)
(1" screen = 0.041 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW02-0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: _____ (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic Pump~~ Micro Bladder
Depth Sampled: 15' (TOR) Screen Int. Depth 12-17 ft bgs
Sample Date & Time: 4/13/2010 1440 hours — (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: T. ROJAHN Signature: Terry Rojahn;
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No): if yes, report depths/describe thickness NA;
Visual Evidence of Sheen (Yes/No) NO;
Olfactory Evidence of Odor (Yes/No) NO;
TD= 19.80 (TOR); Well S/U = 3.03;
Weather: Mostly SUNNY & Cool;

H&S Survey Meter 0.00 PPM Field Instrument Group A / B / C / D
Initial WL 12.41 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged ~~Gals.~~ L	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1333	12.41	40	—	—	—	—	—	—	—	—	Start Purge
1343	12.41	40	40	0.4 L	9.77	32	5.74	306.2	10.20	55	CLEAR
1353	12.41	40	40	0.8	9.81	27	5.46	323.1	9.87	21	"
1403	12.41	40	40	1.2	9.83	26	5.48	325.5	9.49	9.1	"
1413	12.41	40	40	1.6	9.76	25	5.54	325.1	9.72	7.3	"
1423	12.41	40	40	2.0	9.93	25	5.46	331.7	9.55	4.8	"
1433	12.41	40	40	2.4	10.02	25	5.44	335.0	9.33	2.7	"
1438	12.41	40	40	2.6 (0.69 gals)	9.90	25	5.40	339.5	9.27	1.5	"
1440	—	—	—	—	—	—	—	—	—	—	SAMPLE TIME
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 0.68 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)
(0.3 gal)
(1" screen = 0.041 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW03-0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: — (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic Pump~~ Micro-Bladder Pump BG
Depth Sampled: ≈ 14 (TOR) Screen Int. Depth 8-18 ft bgs
Sample Date & Time: 04 / 13 /2010 1455 hours — (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: B.Geringer Signature: [signature]
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No): if yes, report depths/describe thickness N/A
Visual Evidence of Sheen (Yes/No) NO
Olfactory Evidence of Odor (Yes/No) NO
TD= 19.86 (TOR); Well S/U = 2.45
Weather: Sunny / 50

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 8.67 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr 1315: START	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged BG ~~Gals.~~ Liter	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1325											Lots of Air in
1335	— Pulled	Pump &	replaced	Air line							Water line —
											Water in Air line
1340	8.68	40 PSI	50	≈ 1	10.29	17	5.96	73.7	2.91	244	Cloudy
1350	8.68	" "	50	1.5	10.47	17	5.16	88.8	3.65	122	Cloudy
1400	8.68		50	2.0	10.51	17	4.88	99.6	4.51	46.3	little Cloudy
1410	8.68		50	2.5	10.40	17	4.71	108.4	5.44	28.3	" "
1420	8.68		50	3.0	10.40	17	4.57	116.2	6.00	10.35	Clear / Colorless
1430	8.68		50	3.5	10.47	17	4.52	117.5	6.40	6.07	" "
1440	8.68		50	4.0	10.40	17	4.50	118.8	6.65	5.28	
1450	8.68		50	4.5	10.25	17	4.42	123.5	6.91	4.16	
	Reached	Stabilization	per Workplan	Started Sampling							
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 0.45 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)
(1" screen = 0.041 gals / ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: ~~NASB-BG~~ A GW-MW04-0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: N/A (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic Pump~~ MicroBladder Pump
Depth Sampled: 14.8 (TOR) Screen Int. Depth 8-18 ft bgs
Sample Date & Time: 4 / 13 /2010 1405 hours N/A (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: C. Fellows Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness ;
Visual Evidence of Sheen (Yes/No) ;
Olfactory Evidence of Odor (Yes/No) ;
TD= 19.80 (TOR); Well S/U = 1.93 ;
Weather: Sunny 50's ;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 8.95 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1 CPM 4	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1230	* Begin purging, measuring drawdown, and filling flow through cell.										
1250	8.96	10/5	40		13.16	23	5.92	133.6	10.11	60	cloudy/colorless
1300	8.96	10/5	40	0.25 gal	12.80	22	5.75	145.0	9.64	25	s.cloudy/colorless
1310	"	"	"		12.68	19	5.65	152.3	9.35	19	"
1320	"	"	"		12.52	19	5.66	154.9	9.40	15	"
1330	"	"	"	0.5 gal	12.82	19	5.60	160.0	9.29	11	clear/colorless
1340	"	"	"		12.88	19	5.60	162.0	9.30	9.5	"
1345	"	"	"		13.03	19	5.60	163.8	9.43	5.0	"
1350	"	"	"	1 gal	13.05	19	5.62	163.3	9.40	4.5	"
1355	"	"	"		13.05	19	5.62	163.3	9.36	4.1	"
1400	"	"	"	1.25 gal	13.07	19	5.62	163.4	9.35	3.6	"
1405	* End purging. Begin sampling.										
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 0.44 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

(1.0" screen = 0.041 gals/ft of depth.)

19.80
− 8.95
10.85

10.850
× 0.041
10850
4340000

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW05-0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: MA (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic~~ MicroBladder Pump
Depth Sampled: 60.5 (TOR) Screen Int. Depth 52-62 ft bgs
Sample Date & Time: 4 / 10 /2010 1650 hours MA (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: C. Fellows Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness ;
Visual Evidence of Sheen (Yes/No) ;
Olfactory Evidence of Odor (Yes/No) ;
TD= 64 (TOR); Well S/U = 2.10 ft ;
Weather: Cloudy 60's ;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 30.64 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1 CPM 4	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1500	* Begin purging, measuring drawdown, and filling flow through cell.										
1545	30.65	10 1/5	600	1/2	11.55	40	6.66	3.2	7.86	8.4	Clear/colorless
1555	30.65	4	600		11.67	39	6.57	8.4	7.70	4.5	"
1605	30.67	"	600		11.68	39	6.51	11.3	7.73	4.2	"
1615	30.68	"	"	1	11.71	38	6.43	13.8	7.41	4.0	"
1625	30.70	"	"		11.87	38	6.41	14.5	7.37	3.8	"
1635	30.71	"	"	1 1/2	11.73	38	6.51	11.5	7.37	2.4	"
1640	30.71	"	"		11.79	37	6.50	12.8	7.37	1.5	"
1645	30.72	"	"	2	11.79	37	6.48	12.1	7.37	1.4	"
1650	* End purge. Begin sampling.										
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	~~+/- 1.0~~ (CB) 0.1 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 1.36 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)
(1" screen = 0.041 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW06-0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: — (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic Pump~~ microBladder Pump BG
Depth Sampled: ≈18' (TOR) Screen Int. Depth 13-18 ft bgs
Sample Date & Time: 04 / 15 /2010 1305 hours — (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: B. Geringer Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness N/A;
Visual Evidence of Sheen (Yes/No) No;
Olfactory Evidence of Odor (Yes/No) No;
TD= 19.78 (TOR); Well S/U = 3.15;
Weather: Pty. Cloudy / 50's;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 2.36 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr START: 1150	Water Depth below MP ft	Pump Dial 1 CPM4	Purge Rate ml/min	Cum. Volume Purged ~~Gals~~ (L)	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1200	4.30	70 PSI	50	0.5	9.57	83	5.57	88.0	2.80	12.9	Clear/Colorless
1210	4.87	" "	50	1.0	9.49	81	5.43	69.1	1.06	8.22	" "
1220	5.05		40	1.4	9.91	81	5.38	66.5	0.94	5.46	
1230	5.16		40	1.8	9.49	80	5.39	61.3	0.68	3.30	
1240	5.21		40	2.2	9.46	79	5.30	62.6	0.56	2.69	
1250	5.26		40	2.6	9.34	79	5.31	61.1	0.54	0.04	
1300	5.30		40	3.0	9.49	79	5.31	60.0	0.52	0.00	
	Reached	Stabilization	Per - Work	Plan - Started	Collecting	Samples					
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 0.71 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)
(1" screen = 0.041 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW07-0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: — (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic~~ MicroBladder Pump
Depth Sampled: 10.9 (TOR) Screen Int. Depth 4-9 ft bgs
Sample Date & Time: 4/15/2010 1412 hours — (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: T. Rojahn Signature: [signature]
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness NA;
Visual Evidence of Sheen (Yes/No) No;
Olfactory Evidence of Odor (Yes/No) No;
TD= 11.9 (TOR); Well S/U = 3.04';
Weather: Partly Cloudy & Cool;

H&S Survey Meter 0.00 PPM Field Instrument Group (A) / B / C / D
Initial WL 3.92 ft btor (Dedicated tubing)

* WL PROBE BLOCKED BY PUMP TUBING
** LOWERED PUMP to 1' ABOVE bottom - COULD GET WL

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged ~~Gals.~~ L	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1210	3.92	25	—	0	—	—	—	—	—	—	START PURGE
1220	*	25	40	0.4 L	9.62	81	6.10	181.3	5.43	33	CLEAR
1230	*	25	40	0.8	8.90	79	5.87	196.6	3.05	130	Sl. Cloudy
1240	*	25	40	1.2	8.74	88	5.91	204.7	2.15	100	V.Sl. Cloudy
1250	** 6.87	20	30	1.5	8.76	96	6.26	188.6	1.51	70	" " "
1300	6.88	20	30	1.8	9.10	99	6.30	186.3	1.24	130	Sl. Cloudy
1310	6.88	20	30	2.1	9.06	108	6.33	184.2	0.97	70	V.Sl. Cloudy
1320	6.88	20	30	2.4	9.56	111	6.48	174.0	0.66	38	CLEAR
1330	6.88	20	30	2.7	10.16	114	6.57	164.4	0.64	33	"
1340	6.88	20	30	3.0	9.99	114	6.53	165.0	0.68	23	"
1350	6.88	20	30	3.3	10.19	114	6.40	169.9	0.77	18	"
1400	6.88	20	30	3.6	10.18	113	6.49	162.5	0.80	9.3	"
1410	6.88	20	30	3.9	10.25	111	6.59	152.0	0.91	15	"
1412	—	—	—	—	—	—	—	—	—	—	SAMPLE TIME
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 0.74 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)
(1" Screen = 0.041 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW08-0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: MA (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic Pump~~ Micro Purge Bladder
Depth Sampled: MP2 (TOR) Screen Int. Depth 5-10 ft bgs
Sample Date & Time: 4/15/2010 1332 hours N/A (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: C. Fellows Signature: [signature]
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness
Visual Evidence of Sheen (Yes/No)
Olfactory Evidence of Odor (Yes/No)
TD= 12.78 (TOR); Well S/U = 2.97
Weather: Partly Cloudy 50's

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 3.98 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1 CPM 4	Purge Rate ml/min	Cum. Volume Purged ~~Gals.~~ mL	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1220	* Begin purging, measuring drawdown, and filling flow through cell.										
1310	4.6	10/5	25		10.05	109	6.73	16.1	3.26	4.3	Clear/colorless
1320	4.7	"	"	1500mL	9.82	106	6.61	22.9	2.50	4.1	"
1325	4.75	"	"	~~1750mL~~ (CB)	9.82	106	6.59	22.7	2.45	4.0	"
1330	4.78	"	"	1750mL	9.84	106	6.58	21.5	2.40	3.8	"
1332	* End purge. Begin sampling. All parameters stable except for drawdown. Can't control drawdown even on lowest purge rate possible.										
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- ~~1.0~~ 0.1 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 0.36 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)
(1" Screen = 0.041 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

250 × 6 = 1500

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW09-0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: NA (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic~~ MicroBladder Pump
Depth Sampled: 1ft off bottom (TOR) Screen Int. Depth 5-10 ft bgs
Sample Date & Time: 4 / 16 /2010 1205 hours NA (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: C.Fellows Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness ;
Visual Evidence of Sheen (Yes/No) ;
Olfactory Evidence of Odor (Yes/No) ;
TD= 12.2 (TOR); Well S/U = 2.95 :
Weather: Cloudy, Light Showers. ;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 4.25 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1 CPM4	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1000	* Begin purging, filling flow through cell and measuring draw down.										
1030	4.48	10/5	40		6.53	82	5.88	-1.3	2.34	33	sl. cloudy / colorless
1040	4.58	10/5	40		6.21	86	5.90	-10.2	1.51	20	clear / colorless
1050	4.60	10/5	40	1/2	6.11	88	5.92	-11.8	0.87	16	clear / colorless
1100	4.60	"	"		6.02	89	5.99	-13.8	0.68	20	"
1110	4.60	"	"		5.99	90	5.97	-15.7	0.61	19	"
1120	"	"	"		5.76	91	5.95	-23.5	0.45	11	"
1130	"	"	"		5.58	92	5.97	-38.8	0.35	8	"
1140	"	"	"	1	5.51	93	5.98	-40.0	0.33	7	"
1150	"	"	"		5.52	93	6.01	-41.5	0.34	5	"
1155	"	"	"		5.52	93	5.99	-41.7	0.31	4.8	"
1200	"	"	"	1 1/2	5.52	93	5.99	-41.8	0.32	4.5	"
1205	* End Purge, Begin Sampling.										"
Acceptance Criteria:	<0.3 ft (drawdown)				3%	3%	+/- ~~1.0~~ 0.1 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 0.32 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW10-0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: — (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic Pump~~ Micro-Bladder Pump BG
Depth Sampled: ≈10.5 (TOR) Screen Int. Depth 5-10 ft bgs
Sample Date & Time: 04 / 16 /2010 1040 hours — (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: B. Geringer Signature: [signature]
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness N/A
Visual Evidence of Sheen (Yes/No) No
Olfactory Evidence of Odor (Yes/No) No
TD= ~~6~~ 12.53 (TOR); Well S/U = 3.10
Weather: Cloudy / 40

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 4.77 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr START: 0835	Water Depth below MP ft	Pump Dial 1 CPM4	Purge Rate ml/min	Cum. Volume Purged ~~Gals.~~ (L)	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
0845	6.20	40 PSI	≈50	0.5	6.66	313	5.65	45.0	2.21	817	Cloudy/Lt.Tan
0855	6.09	30 PSI	25	0.75	6.44	292	5.74	20.9	1.71	593	" "
0905	6.18	" "	30	1.05	6.37	288	5.79	25.4	0.85	243	" "
0915	6.18	" "	30	1.35	6.31	256	5.79	27.3	0.72	127	" "
0925	6.10	40 PSI	30	1.65	6.17	246	5.79	30.1	0.65	93.8	" "
0935	6.25	" "	35	2.00	6.13	241	5.76	32.1	0.63	51.0	Little Cloudy
0945	6.26	" "	30	2.30	6.09	238	5.76	33.9	0.70	48.0	" "
0955	6.21	" "	30	2.60	6.11	235	5.79	34.7	0.70	45.4	" "
1005	6.18	" "	30	2.90	6.08	232	5.79	36.2	0.68	30.4	Clear/colorless
1015	6.16	" "	30	3.20	6.12	232	5.80	37.4	0.71	35.9	" "
1025	6.18	" "	30	3.50	6.20	233	5.81	37.9	0.75	44.0	little Cloudy
1035	6.18	" "	30	3.80	6.25	232	5.81	38.7	0.77	41.5	" "
	Reached two hour purge limit Collected Samples										
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 0.32 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW11-0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: — (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic~~ Microbladder Pump
Depth Sampled: 10.25 (TOR) Screen Int. Depth 5-10 ft bgs
Sample Date & Time: 4/16/2010 1037 hours — (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: T. ROJAHN Signature: Terry Rojahn;
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness NA;
Visual Evidence of Sheen (Yes/No) NO;
Olfactory Evidence of Odor (Yes/No) NO;
TD= 12.75 (TOR); Well S/U = 2.88:
Weather: OVERCAST & COOL;

H&S Survey Meter A (MALFUCTIONING) PPM Field Instrument Group A / B / C / D
Initial WL 3.65 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
0835	3.65	20	—	0	—	—	—	—	—	—	START PURGE
0845	4.67	20	30	0.3	6.39	212	6.02	180.9	7.80	280	CLOUDY
0855	4.72	20	30	0.6	6.33	212	6.03	172.8	1.35	140	SL. CLOUDY
0905	4.75	20	30	0.9	6.27	213	5.93	178.0	1.24	100	V. SL. CLOUDY
0915	4.77	20	30	1.2	6.22	213	5.91	180.3	1.19	55	" " "
0925	4.77	20	30	1.5	6.07	213	6.11	170.0	0.95	100	" " "
0935	4.80	20	30	1.8	6.02	212	5.94	180.6	0.86	80	" " "
0945	4.80	20	30	2.1	6.01	211	6.02	179.8	0.81	65	" " "
0955	4.80	20	30	2.4	6.03	211	6.12	176.1	0.70	50	CLEAR
1005	4.80	20	30	2.7	6.03	211	6.12	178.2	0.67	39	"
1015	4.80	20	30	3.0	6.05	212	6.05	183.4	0.64	37	"
1025	4.80	20	30	3.3	6.07	212	6.16	177.3	0.60	32	"
1035	4.80	20	30	3.6	6.07	212	6.04	196.0	0.55	17	"
1037	—	—	—	—	—	—	—	—	—	—	SAMPLE TIME
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 0.84 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-~~M~~ GW-MW12-0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: N/A (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic~~ MicroBladder Pump
Depth Sampled: ≈12 (TOR) Screen Int. Depth 5-10 ft bgs
Sample Date & Time: 04 /15 /2010 1645 hours N/A (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: B. Geringer Signature: [signature]
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness N/A;
Visual Evidence of Sheen (Yes/No) NO;
Olfactory Evidence of Odor (Yes/No) NO;
TD= 12.69 (TOR); Well S/U = 3.20;
Weather: Pthy. Cloudy / 50's;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 3.50 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr START: 1440	Water Depth below MP ft	Pump Dial 1 CPM 4	Purge Rate ml/min	Cum. Volume Purged Gals. (L)	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1450	5.64	30	40	0.4	9.77	~~86.7~~ 184	6.51	68.7	2.03	9.74	Clear/Colorless
1510	7.08	~~20~~ 25	~~20~~ ~~25~~	0.8	10.16	183	6.20	30.3	1.77	11.9	" "
1530	7.90	20	16	1.1	10.80	174	6.19	31.4	1.41	9.00	" "
1550	8.27	20	16	1.4	10.96	172	6.17	33.1	1.33	5.71	" "
1600	8.54	20	10 *	1.6	10.97	172	6.16	33.9	1.30	7.22	" "
1610	8.95	30	16	1.9	10.69	171	6.13	34.2	1.44	9.14	" "
1620	9.39	30	16	2.2	9.87	164	6.09	34.1	1.56	9.70	" "
1630	9.76	30	16	2.5	9.59	159	6.06	35.7	1.53	5.74	" "
1640	10.10	30	16	2.8	9.47	157	6.04	37.3	1.67	5.78	" "
	Reached	two hour Limit. Collected Samples									
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 0.37 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

* Flow stopped; increased PSI to 30.

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW B-04 10

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: NA (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic Pump~~ Micro Purge Bladder
Depth Sampled: 1 ft off Bottom (TOR) Screen Int. Depth 5-10 ft bgs
Sample Date & Time: 4 / 16 /2010 0820 hours NA (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: C. Fellows Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness ;
Visual Evidence of Sheen (Yes/No) ;
Olfactory Evidence of Odor (Yes/No) ;
TD= 12.2 (TOR); Well S/U = 2.2 :
Weather: Sunny 60's ;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 7.80 ft btor (Dedicated tubing)

* WL BELOW TOP OF PUMP - WL PROBE BLOCKED

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

	Clock Time 24hr	Water Depth below MP ft	Pump Dial 1 CPM	Purge Rate ml/min	Cum. Volume Purged ~~Gals.~~ L	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
4/15/10	1450	* Begin purging, measuring drawdown, and filling flow through cell.										
	1515	8.04	20 PSI	15	0.375	8.43	89	6.52	-49.4	4.10	6.4	Clear/colorless
	1545	9.00	20	30	1.0	8.09	80	6.34	-96.2	2.89	5.8	" "
	1555	9.50	20	30	1.3	7.94	78	6.31	-111.9	2.87	3.7	" "
	1605	9.93	20	30	1.6	7.87	77	6.29	-115.6	3.01	3.6	" "
	1615	10.50	20	30	1.9	7.87	78	6.32	-157.3	3.01	6.5	" "
	1625	11.00	20	30	2.2	7.77	81	6.34	-136.9	2.53	9.3	" "
	1635	*	20	30	2.5	7.86	83	6.38	-147.2	2.05	11	" "
	1637	—	—	—	—	—	—	—	—	—	—	DRY
		* Well dewaters. Allow recharge overnight and collect grab sample w/in 24 hrs.										
4/16/10	0818	8.2	20 PSI	30	—	—	—	—	—	—	3.8	Clear/colorless
	0820	* Collect grab sample.										
Acceptance Criteria: <0.3 ft (drawdown)						3%	3%	+/- ~~1.0~~ 0.1 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 0.18 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

(1.0" Screen = 0.041 gal/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW15-0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: N/A (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic~~ MicroBladder Pump
Depth Sampled: 29.5 (TOR) Screen Int. Depth 24-29 ft bgs
Sample Date & Time: 4/21/2010 1040 hours N/A (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: C.Fellows Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness ;
Visual Evidence of Sheen (Yes/No) ;
Olfactory Evidence of Odor (Yes/No) ;
TD= 31.42 (TOR); Well S/U = 2.95 ;
Weather: Sunny 60's ;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 18.5 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1 (Dial 4)	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
0835	* Begin purging, measuring drawdown, and filling flow through cell.										
0900	18.61	10/5	40		10.54	195	7.16	22.8	3.99	50	sl. cloudy/colorless
0910	18.63	10/5	40		10.52	203	7.26	15.8	2.81	65	"
0920	18.64	"	"	1/2	10.51	204	7.27	14.0	1.90	80	"
0930	18.65	"	"		10.53	206	7.28	10.7	1.56	80	"
0940	18.64	"	"		11.08	210	7.30	5.6	1.03	50	"
0950	18.64	"	"	1	10.42	214	7.37	0.5	0.92	50	"
1000	18.64	"	"		11.41	214	7.39	-2.1	0.85	50	"
1010	18.64	"	"		12.10	213	7.41	-6.6	0.80	30	"
1020	18.64	"	"	1 1/2	12.31	213	7.41	-8.0	0.75	23	clear/colorless
1025	"	"	"		12.71	212	7.49	-9.8	0.81	22	"
1030	"	"	"		12.72	213	7.48	-9.6	0.82	19	"
1035	"	"	"	2	12.87	215	7.45	-8.9	0.80	18	"
1040	* End purge. Begin sampling										
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 0.53 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)
(1" screen = 0.041 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW16-0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: _____ (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic Pump~~ Microbladder Pump
Depth Sampled: ≈30' (TOR) Screen Int. Depth 24-29 ft bgs
Sample Date & Time: 04 / 20 /2010 1315 hours _____(Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: B.Geringer Signature: _____;
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness N/A;
Visual Evidence of Sheen (Yes/No) No;
Olfactory Evidence of Odor (Yes/No) No;
TD= 29.58 (TOR); Well S/U = 2.41;
Weather: Pt.ly. Cloudy / 50's;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 14.66 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr START: 1110	Water Depth below MP ft	Pump Dial 1 CPM 4	Purge Rate ml/min ~~CPM 4~~	Cum. Volume Purged ~~Gals.~~ (2)	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1120	14.97	70 PSI	50	0.5	10.62	199	6.64	32.2	3.20	39.5	Slightly Cloudy
1130	14.95	" "	50	1.0	10.17	202	6.56	34.1	1.59	101.2	Cloudy
1140	14.95	" "	50	1.5	10.33	175	6.41	37.9	1.73	89.8	" "
1150	14.95	" "	50	2.0	10.68	154	6.24	41.6	2.05	~~30.0~~ 84.1	" "
1200	14.95	" "	50	2.5	10.78	140	6.17	42.9	2.36	60.5	little Cloudy
1210	14.95	" "	50	3.0	10.41	129	6.02	45.4	2.56	43.6	" "
1220	14.95	" "	50	3.5	10.82	123	5.95	47.4	2.60	35.0	" "
1230	14.95	" "	50	4.0	10.95	118	5.89	48.4	2.81	26.3	Slightly Cloudy
1240	14.95	" "	50	4.5	11.13	114	5.84	49.9	2.80	24.6	" "
1250	14.95	" "	50	5.0	11.33	111	5.79	51.0	2.92	23.8	" "
1300	14.95	" "	50	5.5	11.19	108	5.76	50.8	2.97	16.2	Clear/colorless
1310	14.95	" "	50	6.0	11.40	107	5.78	48.5	3.01	9.42	" "
	Reached	two hour	purge limit	Collected	Samples						
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 0.6 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW17-0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: _____ (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic Pump~~ Microbladder Pump BG
Depth Sampled: ≈ 17' (TOR) Screen Int. Depth 11.5-16.5 ft bgs
Sample Date & Time: 04 / 20 /2010 1030 hours _____ (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: B.Geringer Signature: [signature]
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness N/A
Visual Evidence of Sheen (Yes/No) No
Olfactory Evidence of Odor (Yes/No) No
TD= 19.76 (TOR); Well S/U = 3.84
Weather: Ptly Cloudy / 50's

H&S Survey Meter 0.0 PPM Field Instrument Group A (B) / C / D
Initial WL 11.29 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr 0825 START: 0825	Water Depth below MP ft	Pump Dial 1 CPM 4	Purge Rate ml/min	Cum. Volume Purged ~~Gals.~~ (L)	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
0835	11.68	60 PSI	40	0.4	8.39	159	6.66	187.5	15.83	946	Cloudy
0845	11.63	" "	40	0.8	8.35	164	6.10	45.2	1.42	125	Cloudy
0855	11.66		40	1.2	8.40	166	6.14	50.8	1.16	56.9	little cloudy
0905	11.66		40	1.6	8.59	170	6.16	44.0	0.93	42.1	" "
0915	11.66		40	2.0	8.63	173	6.21	41.6	0.69	27.0	Clear/colorless
0925	11.66		40	2.4	8.72	175	6.20	43.0	0.73	19.3	" "
0935	11.66		40	2.8	9.00	177	6.23	42.0	0.66	16.0	" "
0945	11.66		40	3.2	9.17	179	6.27	40.8	0.65	12.7	" "
0955	11.66		40	3.6	9.23	180	6.28	40.6	0.58	12.6	" "
1005	11.66		40	4.0	9.42	182	6.27	41.9	0.54	12.9	" "
1015	11.66		40	4.4	9.55	183	6.30	42.9	0.55	11.6	" "
1025	~~Pre~~ 11.66	✓	40	4.8	9.76	184	6.31	41.0	0.52	11.3	" "
	Reached	two hour	purge limit	Collected	Samples						
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 0.35 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW18-0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: NA (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic Pump~~ Micro Bladder Pump
Depth Sampled: ~9 (TOR) Screen Int. Depth 3-8 ft bgs
Sample Date & Time: 4/14/2010 1645 hours NA (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: C. Fellows Signature: [signature]
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No) if yes, report depths/describe thickness
Visual Evidence of Sheen (Yes/No)
Olfactory Evidence of Odor (Yes/No)
TD= 9.86 (TOR); Well S/U = 2.10
Weather: Cloudy 60's

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 3.77 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1 CPM 4	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1450	* Begin purging, measuring drawdown, and filling flow through cell.										
1530	3.84	10/5	30	0.25	10.71	44	6.01	95.0	5.20	45	sl. cloudy/colorless
1540	3.84	"	"		10.15	38	5.48	101.3	4.82	30	"
1550	3.83	"	"	0.50	9.93	35	5.40	115.7	4.41	21	"
1600	3.83	"	"		9.87	33	5.32	123.3	4.34	17	clear/colorless
1610	3.83	"	"	0.75	10.28	24	5.23	129.2	4.33	8.9	"
1620	3.84	"	"		9.99	24	5.15	134.8	3.88	6.1	"
1630	3.85	"	"	1	9.98	24	5.10	136.7	3.77	5.3	"
1635	3.85	"	"		9.88	24	5.10	136.9	3.81	4.9	"
1640	3.84	"	"	1.25	9.93	24	5.10	137.2	3.92	4.1	"
1645	* End purge. Begin sampling.										
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 0.25 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)
(1" screen = 0.041 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: MPBB-BG-GW-MW19-0410.

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: N/A (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic Pump~~ MicroPurge Bladder
Depth Sampled: ~9ft (TOR) Screen Int. Depth 1.5-6.5 ft bgs
Sample Date & Time: 4/14/2010 1315 hours NA (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn.
Data Recorded By: C.Fellows Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness ;
Visual Evidence of Sheen (Yes/No) ;
Olfactory Evidence of Odor (Yes/No) ;
TD= 9.85 (TOR); Well S/U = 3.56 ;
Weather: Cloudy 60's ;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 4.14 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1 CPM4	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1140 1040	*Begin purging, filling flow through cell, and measuring drawdown.										
1210	4.18	10/5	35		13.02	94	6.24	1.2	3.73	12	Clear/colorless
1220	4.20	10/5	35		12.78	90	6.13	5.9	3.06	10	"
1230	4.21	10/5	35	0.25	11.48	76	5.97	21.7	1.89	8.9	"
1240	4.22	"	"		11.30	67	5.88	22.5	1.42	6.8	"
1250	4.23	"	"		11.02	62	5.83	28.8	1.08	4.6	"
1300	4.23	"	"	0.50	11.01	61	5.78	31.5	0.89	3.7	"
1305	"	"	"		11.04	61	5.78	32.2	0.84	3.6	"
1310	"	"	"	0.75	11.10	60	5.78	31.4	0.86	3.1	"
1315	*End purge. Begin sampling.										
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 0.23 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)
(1" screen = 0.041 gal/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW21-0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: _____ (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic Pump~~ Micro-Bladder Pump BG
Depth Sampled: ≈6.5 (TOR) Screen Int. Depth 1-6 ft bgs
Sample Date & Time: 04 / 14 /2010 1325 hours _____ (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: B.Geringer Signature: [signature]
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness N/A
Visual Evidence of Sheen (Yes/No) _____
Olfactory Evidence of Odor (Yes/No) _____
TD= 9.95 (TOR); Well S/U = 3.93
Weather: Pthy Cloudy / 50's

H&S Survey Meter 0.0 PPM Field Instrument Group A (B) C / D
Initial WL 5.86 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr START: 1120	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged ~~Gals.~~ (L)	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1130	6.04	60 PSI	50 BG	0.5	9.92	33	3.91	87.3	5.41	1.95	Clear/colorless
1140	6.04	" "	50 BG	1.0	9.47	31	3.92	81.7	4.08	0.00	" / "
1150	6.04		50	1.5	9.31	30	3.88	84.8	3.19	0.00	
1200	6.04		50	2.0	9.21	30	3.80	89.9	2.75	0.00	
1210	6.04		50	2.5	9.04	36	4.17	82.7	2.34	474	Cloudy / Yellowish / Brown
1220	6.04		50	3.0	9.11	35	4.08	81.4	2.12	379	" "
1230	6.04		50	3.5	9.19	32	3.92	86.1	1.96	60.2	Little cloudy
1240	6.04		50	4.0	9.24	31	3.82	89.8	1.78	14.2	Clear / ~~Colorless~~ BG Lt. Tan
1250	6.04		50	4.5	9.22	30	3.80	90.5	1.70	13.2	" " / Lt. Tan
1300	6.04		50	5.0	9.40	30	3.83	89.4	1.61	13.8	/ Lt. Tan
1310	6.04		50	5.5	9.58	30	3.78	91.2	1.59	9.70	/ Lt. Tan
1320	6.04		50	6.0	9.58	30	3.85	87.3	1.53	8.97	/ Lt. Tan
	Reached	two hour	Purge limit	- Collected	Samples						
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 0.17 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW23-0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: NASB-BG-GW-DUP02-041410 (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic Pump~~ MicroPurge Bladder
Depth Sampled: ~ 14 (TOR) Screen Int. Depth 6-16 ft bgs
Sample Date & Time: 4/14/2010 0955 hours DUP02 (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: C. Fellows Signature: [signature]
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness
Visual Evidence of Sheen (Yes/No)
Olfactory Evidence of Odor (Yes/No)
TD= 18.6 (TOR); Well S/U = 2.75
Weather: Sunny 60's

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 7.40 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1 CPM4	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
0850	* Begin purging, measuring drawdown, and filling flow through cell.										
0910	7.45	10/5	40		6.63	101	6.12	137.2	2.49	22	sl. cloudy/colorless
0920	7.45	10/5	40		6.80	102	6.12	133.3	1.41	8.8	clear/colorless
0930	"	"	"	1/2	7.12	103	6.21	126.7	1.52	6.9	"
0940	"	"	"		7.87	106	6.25	119.8	1.37	4.6	"
0945	"	"	"		7.90	108	6.30	116.7	1.35	4.5	"
0950	"	"	"	1	7.95	108	6.29	116.6	1.25	3.9	"
0955	End purge. Begin sampling.										
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 0.46 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)
(1" screen = 0.041 gal/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

3.11.5
-.40
5

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW24-0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: — (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic~~ Micro Bladder Pump — LOWERED PUMP to bottom of WELL - INTAKE 1 ft OFF Bottom.
Depth Sampled: (TR) ~~10~~ 14' (TOR) Screen Int. Depth 3-13 ft bgs
Sample Date & Time: 4 / 14 /2010 1048 hours — (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: T. ROJAHN Signature: Terry Rojahn
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness NA
Visual Evidence of Sheen (Yes/No) NO
Olfactory Evidence of Odor (Yes/No) NO
TD= 15.0' (TOR); Well S/U = 2.1'
Weather: Mostly Sunny & Cold

H&S Survey Meter 0.00 PPM Field Instrument Group (A) / B / C / D
Initial WL 3.66 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged ~~Gals.~~ L	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
0835	3.66	50	—	0	—	—	—	—	—	—	START PURGE
0845	5.72	50	50	0.5 L	5.88	109	6.33	275.6	5.02	6.3	CLEAR
0855	6.55	50	50	1.0 L	5.99	110	6.19	278.4	4.28	7.6	"
0905	7.62	50	50	1.5 L	6.10	110	6.13	276.8	4.02	11	"
0915	8.50	35	40	1.9 L	6.39	109	6.14	276.8	3.58	16	"
0925	9.65	30	30	2.2 L	6.81	126	6.44	222.2	2.61	14	"
0935	*	30	30	2.5 L	7.05	123	6.49	215.5	2.66	12	"
0945	*	45	30	2.8 L	7.36	113	6.29	228.8	2.66	14	"
0955	*	45	30	3.1 L	7.64	109	6.36	228.9	2.57	11	"
1005	*	45	30	3.4 L	8.09	112	6.47	231.1	2.47	14	"
1015	*	45	30	3.7 L	8.48	127	6.77	222.8	2.11	14	" (1.43 gals)
1018	*	—	—	—	—	—	—	—	—	—	DRY to Intake
1048	—	—	—	—	—	—	—	—	—	—	START sampling
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 1.04 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

* CANNOT TAKE WATER LEVEL PROBE blocked by PUMP TUBING
LOWERED PUMP to 1' OFF Bottom
Will try to dry out well to that pt. Let recharge & sample

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW25-0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: _____ (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic Pump~~ Micro-Bladder Pump BG
Depth Sampled: ≈16 (TOR) Screen Int. Depth 5-15 ft bgs
Sample Date & Time: 04 / 14 /2010 1005 hours _____(Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: B. Geringer Signature: _____;
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness N/A;
Visual Evidence of Sheen (Yes/No) No;
Olfactory Evidence of Odor (Yes/No) No;
TD= 17.87 (TOR); Well S/U = 3.30;
Weather: Sunny / 30's;

H&S Survey Meter 0.0 PPM Field Instrument Group A (B) C / D
Initial WL 11.72 ft btor (Dedicated tubing)

* Temp rising due to warming of day; Flow through cell is in shade & covered. ← Allowing cell to warm

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr START: 0825	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged ~~Gals~~ (L)	Temp °C *	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
0835	11.90	65 PSI	40	0.40	6.32	71	5.81	100.2	7.61	61.1	Little cloudy
0845	11.92	↓	" "	0.80	6.40	67	5.16	75.3	6.65	35.5	" "
0858	11.92	↓	↓	1.32	6.68	64	5.06	80.4	6.44	21.0	Clear/colorless
0911	11.92	↓	↓	1.84	7.40	64	5.03	82.9	6.33	9.69	" "
0924	11.92	↓	↓	2.36	7.69	64	5.10	79.9	6.18	4.84	↓
0937	11.92	↓	↓	2.88	8.18	66	5.08	80.9	5.92	2.44	↓
0950	11.92	↓	↓	3.40	8.30	66	5.11	78.9	5.92	2.12	↓
1003	11.92	↓	↓	3.80	8.38	66	5.10	79.7	5.93	1.87	↓
	Reached	Stabilization	for workpla	- Started							
	Collecting	Samples									
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 0.25 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW27-0416

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: — (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic~~ MicroBladder Pump
Depth Sampled: 34' (TOR) Screen Int. Depth 25-35' ft bgs
Sample Date & Time: 4/13/2010 1205 hours — (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: T. ROJAHN Signature: Terry Rojahn
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No) if yes, report depths/describe thickness NA
Visual Evidence of Sheen (Yes/No) NO
Olfactory Evidence of Odor (Yes/No) NO
TD= 36.95 (TOR); Well S/U = 2.21
Weather: Mostly sunny and cool

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 27.38 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged ~~Gals.~~ L	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
11:03	27.38	67	—	—	—	—	—	—	—	—	Start Purge
11:13	27.38	67	40	0.400	8.43	128	6.35	294.7	11.06	7.7	CLEAR
11:23	27.38	67	40	0.800	8.45	131	6.25	300.4	9.94	5.3	"
11:33	27.38	67	40	1.200	8.35	140	6.33	300.8	9.66	3.1	"
11:43	27.38	67	40	1.600	8.40	146	6.40	300.6	9.51	2.0	"
11:53	27.38	67	40	2.000	8.45	150	6.41	300.4	9.44	1.5	"
11:58	27.38	67	40	2.200	8.50	151	6.41	301.0	9.41	0.55	"
12:03	27.38	67	40	2.400	8.55	152	6.44	301.0	9.38	0.15	" (0.63 gal)
1205	—	—	—	—	—	—	—	—	—	—	SAMPLE TIME
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 0.88 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: MAB-BG-GW-MW28-0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: Lab QC (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic Pump~~ MicroBladder Pump
Depth Sampled: 31.74 (TOR) Screen Int. Depth 25-35 ft bgs
Sample Date & Time: 4/13/2010 1015 hours NA (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: Chelsea Fellows Signature: [signature]
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness
Visual Evidence of Sheen (Yes/No)
Olfactory Evidence of Odor (Yes/No)
TD= 36.74 (TOR); Well S/U = 1.82
Weather: Sunny 50's

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 27.25 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1 CPM 4	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
0850	* Begin purging, measuring drawdown, and filling flow through cell.										
0910	27.10	10.3/4.5	40		7.30	229	6.62	62.2	10.30	50.5	cloudy/colorless
0920	27.12	"	"		7.39	210	6.17	85.9	9.45	30.2	sl. cloudy/colorless
0930	27.12	"	"		7.45	204	6.01	92.0	9.44	15.3	"
0940	* Help Terry R. w/ well and problem pumping well.										
0950	27.15	"	"	1/2	7.80	199	5.86	100.3	9.55	1.95	clear/colorless
1000	27.15	"	"		7.80	199	5.86	100.0	9.50	1.51	"
1010	27.15	"	"	3/4	7.89	201	5.84	97.7	9.45	1.38	"
1015	End purge. Begin sampling.										
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 0.39 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)
(1.0" screen = 0.041 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW29-0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: N/A (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic~~ MicroBladder Pump
Depth Sampled: ~19.6 (TOR) Screen Int. Depth 22-32 ft bgs
Sample Date & Time: 4/12/2010 1645 hours N/A (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: B. Geringer Signature: [signature]
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness N/A
Visual Evidence of Sheen (Yes/No) NO
Olfactory Evidence of Odor (Yes/No) No
TD= 34.61 (TOR); Well S/U = 2.63
Weather: Cloudy 50's

H&S Survey Meter 0.0 PPM Field Instrument Group A B C / D
Initial WL 26.08 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged ~~Gals.~~ (Mls)	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1525	Start -	Purge -	Fill Flow	through Cell							
1535	26.10	60 PSI	~~230~~ 86		9.63	19	5.83	422.6	14.83	0.14	Filled Flow through Cell
1545	26.10	"	20	600	9.55	35	5.82	410.0	12.40	0.00	Clear/colorless
1555	26.10		20	800	9.47	32	4.37	154.0	10.54	0.00	
1610	26.10		20	1100	9.40	29	4.49	145.5	10.60	0.00	
1625	26.10		20	1400	9.43	28	4.57	143.0	10.45	0.00	
1640	26.10		20	1700	9.36	28	4.53	145.7	10.74	0.00	
	Reached	Stabilization	per Workplan - Started		to Collect	Sample					
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 0.35 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-MW30-~~041210~~ BG.0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: N/A (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic~~ MicroBladder Pump
Depth Sampled: ~~14.5~~ 14.8 (TOR) Screen Int. Depth 7-17 ft bgs
Sample Date & Time: 04 /12 /2010 1400 hours _____ (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: B.Geringer Signature: [signature]
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness N/A
Visual Evidence of Sheen (Yes/No) No
Olfactory Evidence of Odor (Yes/No) No
TD= 19.38 (TOR); Well S/U = 2.5'
Weather: Partly cloudy / 50's

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 5.73 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr START: 1255	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged ~~Gals.~~ Liters	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1305	5.76	60PSI	≈50	0.5	9.83	139	5.39	340.0	11.45	16.4	Clear / colorless
1315	5.78	" "	50	1.0	8.99	138	4.33	108.4	9.67	7.93	" "
1320 25	5.78		50	1.5	8.73	139	4.27	116.5	9.25	2.86	
1330 35	5.78		50	2.0	8.95	140	4.24	124.1	8.89	0.16	
1345	5.78		50	2.5	8.96	143	4.22	128.0	8.81	0.00	
1355	5.78	↓	50	3.0	8.97	144	4.20	132.3	8.60	0.00	↓
	Completed	Purge in	accordance	with Work	plan						
	Started	Sampling									
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 0.56 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-MW31-0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: NASB-BG-DUP01-041210 (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic~~ MicroBladder Pump
Depth Sampled: 14.7 (TOR) Screen Int. Depth 5-7.17 ft bgs
Sample Date & Time: 4/12/2010 1522 hours 0000 (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: T. ROJAHN Signature: [signature]
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness NA;
Visual Evidence of Sheen (Yes/No) NO;
Olfactory Evidence of Odor (Yes/No) NO;
TD= 19.18' (TOR); Well S/U = 2.30';
Weather: Mostly Cloudy & Cool;

H&S Survey Meter 0.00 PPM Field Instrument Group A / B / C / D
Initial WL 8.47 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged ~~Gals.~~ L	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1340	8.47	33	12	–	–	–	–	–	–	–	Start Purge
1350	8.46	33	12	0.120	14.90	17	5.37	255.5	11.66	–	CLEAR
1400	8.47	33	12	0.240	15.36	32	5.25	280.0	11.82	–	"
1410	8.47	33	12	0.360	15.56	31	4.52	334.5	8.13	–	" (Barrel Full)
1420	8.47	35	22	0.580	14.08	31	4.60	339.8	8.85	10.68	"
1430	8.47	35	22	0.800	11.35	30	4.20	369.9	10.30	6.06	"
1440	8.45	40	25	1.050	9.70	29	3.66	405.1	10.57	0.00	"
1450	8.45	40	25	1.300	9.29	28	3.19	436.3	10.12	0.29	"
1500	8.46	40	25	1.550	9.12	29	3.15	438.0	10.23	0.00	"
1510	8.46	40	25	1.800	8.98	29	3.28	434.0	9.92	0.00	"
1520	8.46	40	25	2.050 L	9.01	29	3.28	432.2	9.90	0.00	"
1522	–	–	–	0.5 gal	–	–	–	–	–	–	Start Sampling
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 0.99 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background GW Study, NASB Brunswick, ME
Sample ID: NASB-BG-MW32-0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: N/A (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic~~ MicroBladder Pump
Depth Sampled: 14.2 (TOR) Screen Int. Depth 7-17 ft bgs
Sample Date & Time: 4/12/2010 1425 hours N/A (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: C. Fellows Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness ;
Visual Evidence of Sheen (Yes/No) ;
Olfactory Evidence of Odor (Yes/No) ;
TD= 19.22 (TOR); Well S/U = 2.23 ;
Weather: Sunny 50's ;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 8.26 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1 CPM	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1325	8.20	4	* Begin purging, measuring drawdown, and filling flow through cell.								
1345	8.21	4	40		10.05	50	5.32	302.4	12.31	8.9	clear/colorless
1355	8.21	4	40		9.60	49	5.26	308.7	11.70	7.0	"
1400	8.21	4	45		9.59	49	5.19	308.4	11.46	4.5	"
1405	8.21	4	45		9.57	50	5.19	307.2	11.56	3.9	"
1410	8.21	4	45		9.46	50	5.19	160.3	11.32	3.6	"
1415	"	"	"		9.43	50	5.17	155.5	11.19	3.5	"
1420	"	"	"	1/2	9.44	50	5.17	154.5	11.13	3.6	"
1425	*End purge. Begin sampling.										
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 0.45 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-MW36-0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: _____ (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic Pump~~ Micro-Bladder Pump BG
Depth Sampled: ≈62 (TOR) Screen Int. Depth 54-64 ft bgs
Sample Date & Time: 04/14/2010 1735 hours _____ (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: B. Geringer Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No) if yes, report depths/describe thickness N/A;
Visual Evidence of Sheen (Yes/No) No;
Olfactory Evidence of Odor (Yes/No) No;
TD= 66.51 (TOR); Well S/U = 2.90;
Weather: Pty Cloudy / 60;

H&S Survey Meter 0.0 PPM Field Instrument Group A (B) C / D
Initial WL 5.45 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr START: 1530	Water Depth below MP ft	Pump Dial 1 CPM 4	Purge Rate ml/min	Cum. Volume Purged ~~Gals.~~ (L)	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1540	5.43	65 PSI	50	0.5	10.14	228	5.27	60.8	2.25	102.4	Cloudy
1550	5.43	" "	60	1.1	9.73	234	5.13	33.8	0.84	121	" "
1600	5.43		60	1.7	9.74	235	5.09	31.2	0.52	57.2	Little Cloudy
1610	5.43		60	2.3	9.55	236	5.08	31.2	0.37	39.4	" "
1620	5.43		60	2.9	9.53	237	5.10	28.7	0.35	30.7	" "
1630	5.43		60	3.5	9.70	237	5.12	26.7	0.37	20.8	Clear/colorless
1640	5.43		60	4.1	9.66	237	5.14	25.8	0.27	14.9	" "
1650	5.43		60	4.7	9.51	237	5.14	28.6	0.21	12.0	" "
1700	5.43		60	5.3	9.59	237	5.14	27.3	0.28	12.3	" "
1710	5.43		60	5.9	9.64	238	5.16	25.9	0.28	9.83	" "
1720	5.43		60	6.5	9.69	238	5.15	29.0	0.25	6.25	" "
1730	5.43	✓	60	7.1	9.58	238	5.16	29.9	0.17	4.65	" "
	Reached	two hour Purge Limit-		Collected Samples							
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 2.5 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NAS8-BG-GW-MW37-0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: MS / MSD (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic~~ MicroBladder Pump
Depth Sampled: 43.5 (TOR) Screen Int. Depth 38.5-48.5 ft bgs
Sample Date & Time: 4/15/2010 1022 hours — (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: T. ROJAHN Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); If yes, report depths/describe thickness NA;
Visual Evidence of Sheen (Yes/No) NO;
Olfactory Evidence of Odor (Yes/No) NO;
TD= *49.3 (TOR); Well S/U = 2.38; * SOFT Bottom SEDI. ACCUMULATION
Weather: SUNNY & Cool

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 13.13 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged ~~Gals.~~ L	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
0820	13.13	50	—	0	—	—	—	—	—	—	Start Purge
0830	13.47	50	60	0.60 L	9.13	202	7.25	650	2.96	110	Slightly Cloudy
0840	13.47	50	60	1.2	9.17	220	7.53	~~0.85~~ 2.9	0.85	100	V.Sl. Cloudy
0850	13.47	50	60	1.8	9.57	234	7.79	-49.3	0.61	45	CLEAR
0900	13.47	50	60	2.4	9.85	237	7.76	-53.0	0.46	13	"
0910	13.47	50	60	3.0	10.40	232	7.83	-64.3	0.45	2.9	"
0920	13.47	50	60	3.6	10.79	228	7.75	-72.1	0.35	000	"
0930	13.47	50	60	4.2	10.88	226	7.88	-84.6	0.37	0.10	"
0940	13.47	50	60	4.8	10.98	223	7.88	-80.4	0.34	9.5	"
0945	13.47	50	60	5.1	11.22	222	7.87	-78.2	0.31	13	"
0955	13.47	50	60	5.7	11.47	222	7.91	-85.2	0.32	14	"
1005	13.47	50	60	6.3	11.55	220	7.91	-86.1	0.56	11	"
1015	13.47	50	60	6.9	11.75	220	7.93	-86.6	0.68	10	"
1020	13.47	50	60	7.2	11.77	220	7.90	-81.6	0.54	6.3	" (1.9 gals)
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	SAMPLE TIME 1022

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 3.3 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW38-0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: NASB-BG-GW-DUP03-041510 (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic Pump~~ MicroPurge Bladder
Depth Sampled: 37 (TOR) Screen Int. Depth 33-38 ft bgs
Sample Date & Time: 4 / 10 /2010 1005 hours DUP03 (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: C. Fellows Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness ;
Visual Evidence of Sheen (Yes/No) ;
Olfactory Evidence of Odor (Yes/No) ;
TD= 39.35 (TOR); Well S/U = 1.6 :
Weather: Sunny 60's ;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 13.58 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1 CPM 4	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
0850	* Begin purging, measuring drawdown, and filling flow through cell.										
0910	13.59	10/5	55		7.67	113	7.99	107.2	1.81	8.8	Clear/colorless
0920	13.58	10/5	55		7.69	113	8.23	68.5	0.91	4.5	"
0930	13.58	10/5	60		7.77	119	8.29	-3.9	0.63	2.8	"
0940	"	"	"	1	7.96	129	8.33	-48.8	0.46	2.0	"
0950	"	"	"		8.03	134	8.36	-66.9	0.45	1.8	"
0955	"	"	"		8.02	135	8.36	-68.7	0.45	1.9	"
1000	"	"	"	1.5	8.03	136	8.36	-71.1	0.41	1.8	"
1005	* End purge. Begin sampling.										
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- ~~1.0~~ 0.1 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 1.1 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)
(1" Screen = 0.041 gal/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW39-0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: ——— (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic~~ MicroBladder Pump
Depth Sampled: 20' (TOR) Screen Int. Depth 12-22 ft bgs
Sample Date & Time: 4 / 14 /2010 1647 hours — (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: T. ROJAHN Signature: Tony Rojahn ;
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness NA ;
Visual Evidence of Sheen (Yes/No) NO ;
Olfactory Evidence of Odor (Yes/No) NO ;
TD= 24.8' (TOR); Well S/U = 2.77 ;
Weather: SUNNY & Cool ;

H&S Survey Meter 0.00 PPM Field Instrument Group A / B / C / D
Initial WL 15.35 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged ~~Gals.~~ L	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
15:35	15.35	40	—	0	—	—	—	—	—	—	START PURGE
1545	15.35	40	40	0.4 L	12.89	246	6.13	190.0	5.28	0.10	CLEAR
1555	15.35	40	40	0.8	12.64	246	6.12	201.1	4.89	0.10	"
1605	15.35	40	40	1.2	12.68	245	6.15	207.8	4.61	0.00	"
1615	15.35	40	40	1.6	12.66	245	6.12	215.0	4.57	0.00	"
1625	15.35	40	40	2.0	12.81	245	6.17	219.8	4.44	0.00	"
1635	15.35	40	40	2.4	13.14	245	6.06	230.2	4.32	0.00	"
1640	15.35	40	40	2.6	13.10	245	6.05	232.9	4.45	0.00	"
1645	15.35	40	40	2.8	13.22	245	6.09	229.8	4.38	0.00	"
1647	—	—	—	—	—	—	—	—	—	—	SAMPLE TIME
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 0.87 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW40-0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: _____ (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic Pump~~ Micro-Bladder Pump
Depth Sampled: ≈27 (TOR) Screen Int. Depth 20-30 ft bgs
Sample Date & Time: 04 / 13 /2010 0915 hours _____(Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: B. Geringer Signature: [signature]
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness N/A
Visual Evidence of Sheen (Yes/No) No
Olfactory Evidence of Odor (Yes/No) No
TD= 32.55 (TOR); Well S/U = 2.70'
Weather: Sunny / 40's

H&S Survey Meter 0.0 PPM Field Instrument Group A (B) / C / D
Initial WL 22.88 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr START: 0820	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged ~~Gals.~~ Liters	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
0830	22.88	60 PSI	50	0.5	7.50	107	4.69	84.5	9.98	4.47	Clear/colorless
0840	22.88	" / "	" "	1.0	7.68	98	4.37	89.5	8.89	1.38	" "
0850	22.88			1.5	7.70	95	4.35	101.0	8.95	0.10	
0900	22.88			2.0	7.77	95	4.36	104.1	8.80	0.00	
0910	22.88			2.5	7.89	95	4.34	109.5	8.98	0.00	
Reached	Stabilization	Per Work plan	- Started	Collecting Samples							
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 0.4 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW41-0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: — (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic~~ MicroBladder Pump
Depth Sampled: 40.8 (TOR) Screen Int. Depth 36-41 ft bgs
Sample Date & Time: 4 /20 /2010 1706 hours — (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: T. ROJAHN Signature: Tony Rojahn ;
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No) if yes, report depths/describe thickness NA;
Visual Evidence of Sheen (Yes/No) NO;
Olfactory Evidence of Odor (Yes/No) NO;
TD= 43.33 (TOR); Well S/U = 2.67 :
Weather: Partly Sunny & MILD ;

H&S Survey Meter MALFUCTIONING PPM Field Instrument Group A / B / C / D
Initial WL 25.3 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged ~~Gals.~~ L	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1504	25.30	40	—	0	—	—	—	—	—	—	Start Purge
1514	28.21	40	50	0.50L	10.77	99	7.26	177.7	2.63	850	CLOUDY
1524	28.88	35	40	0.90	11.13	98	7.52	140.6	1.00	190	SI CLOUDY
1534	28.05	25	20	1.10	12.25	98	7.67	127.3	1.16	140	SI "
1544	28.25	30	30	1.40	12.54	98	7.68	114.3	1.16	95	V.SI. "
1554	28.30	30	30	1.70	12.85	98	7.64	100.9	1.05	45	CLEAR
1604	28.35	30	30	2.00	13.06	99	7.76	82.9	0.87	29	"
1614	28.35	30	30	2.30	13.27	99	7.82	69.1	0.79	23	"
1624	28.35	30	30	2.60	13.37	99	7.87	53.2	0.73	18	"
1634	28.35	30	30	2.90	13.24	100	7.84	46.4	0.71	14	"
1644	28.35	30	30	3.20	13.11	99	7.84	36.7	0.68	11	"
1654	28.35	30	30	3.50	12.85	100	7.87	32.8	0.66	10	"
1704	28.35	30	30	3.80	11.90	100	7.89	25.4	0.67	9.4	"
1706	—	—	—	—	—	—	—	—	—	—	Sample Time
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 2.9 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW42-0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: _____ (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic Pump~~ Microbladder Pump BG
Depth Sampled: ≈41 (TOR) Screen Int. Depth 35-40 ft bgs
Sample Date & Time: 04 / 20 /2010 1705 hours _____(Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: B. Geringer Signature: [signature]
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness N/A
Visual Evidence of Sheen (Yes/No) NO
Olfactory Evidence of Odor (Yes/No) NO
TD= 42.49 (TOR); Well S/U = 3.15'
Weather: Mostly Cloudy / 60

H&S Survey Meter 0.0 PPM Field Instrument Group A (B) / C / D
Initial WL 13.07 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr START: 1500	Water Depth below MP ft	Pump Dial 1 CPM4	Purge Rate ml/min	Cum. Volume Purged ~~Gals.~~ (L)	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1510	16.22	70 PSI	70	0.7	11.56	110	7.19	21.3	2.15	746	Cloudy
1520	16.75	60 PSI	60	1.3	11.09	107	7.22	23.4	0.89	316	" "
1530	16.66	40	50	1.8	11.25	106	7.31	20.6	0.58	163	" "
1540	16.58	40	50	2.3	11.97	104	7.32	17.8	0.62	75.8	little cloudy
1550	16.58	40	50	2.8	12.09	103	7.34	13.3	0.45	53.6	" "
1600	16.58	40	50	3.3	12.57	103	7.36	9.7	0.43	48.8	" "
1610	16.58	40	50	3.8	12.68	103	7.38	5.6	0.43	37.2	Slightly cloudy
1620	16.58	40	50	4.3	12.67	103	7.41	3.9	0.34	30.5	" "
1630	16.58	40	50	4.8	13.14	103	7.53	-2.2	0.36	37.6	" "
1640	16.58	40	50	5.3	12.72	102	7.52	-3.2	0.33	27.0	Clear/colorless
1650	16.58	40	50	5.8	12.38	103	7.41	2.3	0.31	24.7	" "
1700	16.58	40	50	6.3	11.84	103	7.41	1.9	0.30	20.5	" "
	Reached	two hour	purge limit-	Collected Samples							
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 1.2 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW43-0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: NASB-BG-GW-DUP05-042010 (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic~~ MicroBladder Pump
Depth Sampled: 60.5 (TOR) Screen Int. Depth 56-61 ft bgs
Sample Date & Time: 4/20/2010 0905 hours DUP05 (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: C.Fellows Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness ;
Visual Evidence of Sheen (Yes/No) Some iron floc.;
Olfactory Evidence of Odor (Yes/No) ;
TD= 63.1 (TOR); Well S/U = 2.25 :
Weather: Partly Cloudy 60's ;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL at top of casing ft btor (Dedicated tubing)
*Artesian well.

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
0820	* Begin purging, measuring drawdown, and filling flow through cell. Artesian well - no pump needed and no drawdown.										
0835	@ top of casing	No pump	120		8.64	105	7.24	-90.7	2.00	3.5	Clear/colorless
0845	"	"	120	1/2	8.56	104	7.21	-111.2	0.98	1.2	"
0850	"	"	120		8.57	103	7.26	-132.0	0.80	1.0	"
0855	"	"	"	1	8.57	103	7.29	-135.1	0.87	0.81	"
0900	"	"	"	1 1/4	8.57	103	7.30	-131.5	0.84	0.58	"
0905	* End purge. Begin sampling.										
					3%	3%	+/- ~~1.0~~ 0.1 S.U.	+/- 10mV	10%	10%	

Acceptance Criteria: <0.3 ft (drawdown)
Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 2.6 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)
(1" screen = 0.041 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: MASB-BG-GW-MW44-0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: MA (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic~~ MicroBladder Pump
Depth Sampled: 80 (TOR) Screen Int. Depth 70-80 ft bgs
Sample Date & Time: 9/20/2010 1030 hours MA (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: C.Fellows Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness ;
Visual Evidence of Sheen (Yes/No) ;
Olfactory Evidence of Odor (Yes/No) ;
TD= 82.0 (TOR); Well S/U = 2.45 ;
Weather: Partly Cloudy Cool ;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL @ top of PVC ft btor (Dedicated tubing)
* Artesian Well

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
0930	* Begin purging, measuring drawdown, and filling flow through cell. Artesian well - No pump needed and no drawdown.										
0935	@ Top of PVC	No Pump	110	1/4	8.70	214	7.87	-147.5	0.90	45	sl. cloudy/colorless
0945	"	"	110		8.70	208	8.04	-136.6	0.21	23	clear/colorless
0955	"	"	110	1	8.69	208	8.05	-138.1	0.17	16	"
1005	"	"	"		8.76	197	8.07	-146.6	0.16	"	"
1015	"	"	"	1.5	8.76	196	8.08	-147.6	0.10	4.3	"
1020	"	"	"		8.80	195	8.08	-147.9	0.09	4.1	"
1025	"	"	"	2	8.79	195	8.08	-148.8	0.08	4.8	"
1030	* End purge. Begin sampling.										
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 3.4 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)
(1" screen = 0.041 gal/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW219-0410.

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: Lab QC (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic~~ MicroBladder Pump
Depth Sampled: ~75 (TOR) Screen Int. Depth 58.4-68.4 ft bgs
Sample Date & Time: 4/19/2010 1235 hours MA (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: C.Fellows Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness ;
Visual Evidence of Sheen (Yes/No) ;
Olfactory Evidence of Odor (Yes/No) ;
TD= 70.20 (TOR); Well S/U = 2.95 ;
Weather: Partly Cloudy, 50's ;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 27.89 ft btor (Dedicated tubing) poly

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1 cm4	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1145	* Begin purge, measuring drawdown, and filling flow through cell.										
1155	27.90	10/5	60		11.17	108	6.67	-1.8	7.37	3.9	clear/colorless
1205	27.90	10/5	60		11.51	106	6.43	4.1	6.42	3.8	"
1215	27.90	10/5	60	1/2	11.57	106	6.41	4.3	6.10	3.7	"
1220	"	"	"		11.69	105	6.39	3.7	6.09	3.8	"
1225	"	"	"		11.94	105	6.38	4.2	5.95	3.6	"
1230	"	"	"	1	11.92	105	6.37	4.6	6.00	3.5	"
1235	* End purge. Begin sampling.										
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- ~~1.0~~ 0.1 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 6.9 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW231A-0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: N/A (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic~~ MicroBladder Pump
Depth Sampled: 56.2 (TOR) Screen Int. Depth 50-60 ft bgs
Sample Date & Time: 4/21/2010 1220 hours N/A (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: C.Fellows Signature: [signature]
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness
Visual Evidence of Sheen (Yes/No)
Olfactory Evidence of Odor (Yes/No)
TD= 61.2 (TOR); Well S/U = 2.8
Weather: Sunny 60's/70's

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 17.69 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1 ODM4	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1135	* Begin purging measuring drawdown and filling flow through cells.										
		10/5									
1145	16.70	10/5	85		10.75	70	7.29	49.9	9.60	0.00	clear/colorless
1155	16.71	10/5	85	1/2	10.46	71	7.10	60.7	8.78	0.00	"
1205	16.71	"	"		10.47	70	6.94	65.8	8.42	0.00	"
1210	16.71	"	"		10.51	70	6.98	65.3	8.39	0.00	"
1215	16.71	"	"	1	10.54	70	6.98	65.6	8.35	0.00	"
1220	* End purge. Begin sampling.										
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- ~~1.0~~ 0.1 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 7.1 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW303-0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: _____ (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic Pump~~ Micro-Bladder Pump BG
Depth Sampled: ≈66 (TOR) Screen Int. Depth 59-69 ft bgs
Sample Date & Time: 04/15/2010 1005 hours _____(Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: B. Geringer Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness N/A;
Visual Evidence of Sheen (Yes/No) No;
Olfactory Evidence of Odor (Yes/No) No;
TD= 71.91 (TOR); Well S/U = 2.18;
Weather: Sunny / 40's;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 9.01 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr START: 0850	Water Depth below MP ft	Pump Dial 1 CPM4	Purge Rate ml/min	Cum. Volume Purged ~~Gals.~~ (L)	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
0900	9.01	70 PSI	70	0.7	6.93	208	6.84	55.0	4.10	13.3	Clear/Colorless
0910	9.01	"	70	1.4	6.89	214	7.13	29.9	1.35	23.4	"
0920	9.01		60	2.0	6.90	215	7.27	20.1	0.76	16.1	
0930	9.01		60	2.6	6.95	216	7.33	14.8	0.61	6.22	
0940	9.01		60	3.2	7.07	217	7.38	5.1	0.64	4.38	
0950	9.01		60	3.8	7.12	217	7.40	-0.6	0.65	3.05	
1000	9.01		60	4.4	7.17	217	7.40	-3.0	0.62	0.00	
	Reached	Stabilization	per Work-plan - Collected Samples								
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 10.3 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW310

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: N/A (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic~~ MicroBladder Pump
Depth Sampled: 60.0 (TOR) Screen Int. Depth ~~N/A~~ 61-71 CPS ft bgs
Sample Date & Time: 4/14/2010 1430 hours N/A (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: C.Fellows Signature: [signature]
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness
Visual Evidence of Sheen (Yes/No)
Olfactory Evidence of Odor (Yes/No)
TD= 72.9 (TOR); Well S/U = 2.2
Weather: Partly Cloudy 50's

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C D
Initial WL 22.07 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1 CPM 4	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1345	* Begin purging, measuring drawdown, and filling flow through cell.										
1355	22.08	10/5	70		12.02	159	6.23	5.1	6.30	1.5	clear/colorless
1405	22.08	10/5	70		12.12	175	5.78	13.5	4.94	0.35	"
1415	"	"	"	1/2	12.53	180	5.77	10.6	4.35	0.29	"
1420	"	"	"		12.57	181	5.83	8.3	4.29	0.15	"
1425	"	"	"	3/4	12.57	181	5.72	10.4	4.24	0.28	"
1430	* End purging. Begin sampling										
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- ~~1.0~~ 0.1 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 8.3 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: MASB-BG-GW-MW314A-0410.

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: — (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic~~ MicroBladder Pump
Depth Sampled: 57.0 (TOR) Screen Int. Depth 49.5-59.5 ft bgs
Sample Date & Time: 4 /20/2010 1302 hours — (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn.
Data Recorded By: T. ROJAHN Signature: ;
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness NA;
Visual Evidence of Sheen (Yes/No) NO;
Olfactory Evidence of Odor (Yes/No) NO;
TD= 62.0 (TOR); Well S/U = 2.84;
Weather: ;

H&S Survey Meter 0.00 PPM Field Instrument Group A / B / C / D
Initial WL 3.60 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged ~~Gals.~~ L	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1100	3.60	50	—	0	—	—	—	—	—	—	START PURGE
1110	3.60	50	60	0.6 L	11.57	74	6.83	212.4	10.44	15	CLEAR
1120	3.60	50	60	1.2	11.20	73	6.59	220.2	10.01	11	"
1130	3.60	50	60	1.8	10.86	72	6.41	228.0	9.87	9.6	"
1140	3.60	50	60	2.4	12.05	72	6.60	220.0	9.03	8.4	"
1150	3.60	50	60	3.0	12.43	72	6.56	223.1	9.16	3.1	"
1200	3.60	50	60	3.6	12.29	73	6.61	225.0	9.40	2.0	"
1210	3.60	50	60	4.2	11.48	72	6.22	247.5	9.27	1.4	"
1220	3.60	50	60	4.8	12.10	72	6.29	244.0	9.12	0.90	"
1230	3.60	50	60	5.4	12.47	73	6.35	251.0	9.16	0.55	"
1240	3.60	50	60	6.0	12.80	73	654	244.1	9.08	0.20	"
1250	3.60	50	60	6.6	12.96	73	6.46	250.3	9.01	0.10	"
1300	3.60	50	60	7.2	12.35	72	6.56	249.2	9.39	0.10	"
1302	—	—	—	—	—	—	—	—	—	—	SAMPLE TIME
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 9.5 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW314B-0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: — (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic~~ Micro Bladder Pump
Depth Sampled: 30.6 (TOR) Screen Int. Depth 23-33 ft bgs
Sample Date & Time: 4 / 20 /2010 1022 hours — (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: T. ROJAHN Signature: [signature]
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness NA;
Visual Evidence of Sheen (Yes/No) NO;
Olfactory Evidence of Odor (Yes/No) NO;
TD= 35.6 (TOR); Well S/U = 2.27;
Weather: ;

H&S Survey Meter 0.00 PPM Field Instrument Group A (B) C / D
Initial WL 2.00 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged ~~Gals.~~ L	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
0820	2.00	35	—	0	—	—	—	—	—	—	Start Purge
0830	2.41	TR ~~35~~ 40	50	0.5 L	9.19	68	7.50	188.5	11.12	140	Sl. Cloudy
0840	2.75	40	50	1.0	9.13	65	7.37	193.8	7.00	120	Sl. "
0850	3.02	40	50	1.5	9.33	64	7.31	198.2	5.46	90	V.Sl. "
0900	3.18	40	50	2.0	9.51	62	7.32	200.1	4.91	80	V.Sl. "
0910	3.26	40	50	2.5	9.84	62	7.32	200.4	4.50	70	V.Sl. "
0920	3.35	40	50	3.0	9.84	61	7.13	211.1	4.20	60	V.Sl. "
0930	3.39	40	50	3.5	10.24	61	7.44	195.7	3.85	55	V.Sl. "
0940	3.39	40	50	4.0	10.60	61	7.39	198.9	3.72	50	CLEAR
0950	3.40	40	50	4.5	10.65	61	7.24	207.1	3.61	45	"
1000	3.41	40	50	5.0	10.78	61	7.43	196.9	3.35	45	"
1010	3.41	40	50	5.5	11.26	61	7.44	197.7	3.09	45	"
1020	3.42	40	50	6.0	11.60	61	7.47	196.7	2.87	36	"
1022	—	—	—	—	—	—	—	—	—	—	Sample Time
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 5.48 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW31SA-0416.

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: N/A (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic~~ MicroBladder Pump
Depth Sampled: 72.2 (TOR) Screen Int. Depth 64.5-74.5 ft bgs
Sample Date & Time: 4 /20 /2010 1235 hours N/A (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: C.Fellows Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness ;
Visual Evidence of Sheen (Yes/No) ;
Olfactory Evidence of Odor (Yes/No) ;
TD= 77.02 (TOR); Well S/U = 2.32 ;
Weather: Partly Cloudy 60's ;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL @ top of PVC ft btor (Dedicated tubing)
* Artesian well - no pump needed.

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1145	* Begin purging, measuring drawdown, and filling flow through cell. Artesian well - no pump needed.										
1155	0.70	No Pump	60S		10.51	137	7.86	-114.5	1.25	0.00	Clear/colorless
1205	0.70	"	70	1/2	10.68	137	7.91	-119.1	0.90	0.00	"
1215	"	"	70		10.66	137	7.94	-118.7	0.90	0.00	"
1220	"	"	"	1	11.26	137	7.92	-120.5	0.71	0.00	"
1225	"	"	"		11.32	137	7.93	-120.8	0.69	0.00	"
1230	"	"	"	1 1/2	11.33	137	7.92	-117.3	0.66	0.00	"
1235	* End purge. Begin sampling.										
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- ~~1.0~~ 0.1 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 12.5 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW316A-0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: _____ (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic Pump~~ Microbladder pump
Depth Sampled: ≈97.6 (TOR) Screen Int. Depth 89.5-99.5 ft bgs
Sample Date & Time: 04 / 19 /2010 1210 hours _____(Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: B. Geringer Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness N/A;
Visual Evidence of Sheen (Yes/No) No;
Olfactory Evidence of Odor (Yes/No) No;
TD= 103.06 (TOR); Well S/U = 3.10;
Weather: Cloudy / 40's;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 20.10 ft btor (Dedicated tubing)

1110 = Changed Air Cylinder

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged ~~Gals.~~ (L)	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
START: 1005											
1015	20.65	80 PSI	40	0.4	8.02	172	6.92	168.5	4.50	12.7	Clear/Colorless
1025	21.15	" "	40	0.8	8.15	195	7.08	67.2	2.47	6.88	" "
1035	21.65	100 PSI	45	1.25	8.14	207	7.66	58.3	1.88	4.90	" "
1045	22.10	80 PSI	40	1.65	8.28	210	7.85	55.9	1.12	6.55	" "
1055	22.60	" "	40	2.10	8.53	206	7.87	51.9	0.81	7.47	" "
1105	22.80	" "	40	2.50	8.67	204	7.87	50.6	0.57	4.51	" "
1115	23.05	" "	40	2.90	8.82	202	7.90	46.8	0.48	4.16	" "
1125	23.35	" "	40	3.30	9.05	201	7.89	45.4	0.48	2.73	" "
1135	23.63	" "	40	3.70	9.11	201	7.90	43.0	0.40	5.17	" "
1145	23.90	" "	40	4.10	9.14	201	7.90	41.9	0.38	6.10	" "
1155	24.12	" "	40	4.50	9.21	202	7.90	40.3	0.37	5.74	" "
1205	24.28	" "	40	4.90	9.44	202	7.90	39.3	0.33	4.03	" "
	Reached 2 hour Purge limit - Collected Samples										
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 13.5 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW316B-0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: — (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic~~ MicroBladder Pump
Depth Sampled: 52 (TOR) Screen Int. Depth 45-58 ft bgs
Sample Date & Time: 4/19/2010 1212 hours _____(Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: T. ROJAHN Signature: Terry Rojahn;
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness NA;
Visual Evidence of Sheen (Yes/No) NO;
Olfactory Evidence of Odor (Yes/No) NO;
TD= 58.0 (TOR); Well S/U = 2.48 : ~2+ ft of sediment
Weather: Cloudy & Cool;

H&S Survey Meter 0.00 PPM Field Instrument Group A / B / C / D
Initial WL 9.98 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged ~~Gals.~~ L	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1010	9.98	85	—	0	—	—	—	—	—	—	Start Purge
1020	10.27	85	~~0.60~~	0.6 L	7.78	198	7.45	235.5	2.93	8.3	CLEAR
1030	10.33	85	~~0.60~~	1.2	7.69	202	7.30	188.1	1.08	6.6	"
1040	10.33	85	60	1.8	7.71	202	7.33	153.0	0.74	4.1	"
1050	10.35	85	60	2.4	7.83	199	7.20	134.7	0.58	2.2	"
1100	10.37	85	60	3.0	7.97	197	7.41	117.5	0.52	1.1	"
1110	10.37	85	60	3.6	8.10	195	7.36	119.4	0.97	0.50	"
1120	10.37	85	60	4.2	8.27	190	7.36	119.7	1.38	0.45	"
1130	10.39	85	60	4.8	8.45	182	7.28	124.9	1.14	0.10	"
1140	10.39	85	60	5.4	8.50	171	7.18	126.9	1.21	0.10	"
1150	10.40	85	60	6.0	8.48	163	7.04	136.3	1.28	0.10	"
1200	10.41	85	60	6.6	8.44	156	7.01	139.0	1.32	0.40	"
1210	10.4	85	60	7.2	8.50	150	6.92	147.2	1.45	0.10	"
1212	—	—	—	—	—	—	—	—	—	—	Sample Time
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 7.8 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW317A-0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: — (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic~~ MicroBladder Pump
Depth Sampled: ~~4-19~~ 115.7 (TOR) (TR) Screen Int. Depth 108-118 ft bgs
Sample Date & Time: 4/19/2010 1632 hours — (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: T ROJAHN Signature: [signature]
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness NA;
Visual Evidence of Sheen (Yes/No) NO;
Olfactory Evidence of Odor (Yes/No) NO;
TD= 120.68 (TOR); Well S/U = 3.66;
Weather: Mostly Cloudy & Cool;

H&S Survey Meter 0.00 PPM Field Instrument Group A (B) C / D
Initial WL 13.13 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1450	13.13	90	-	0	—	—	—	—	—	—	START PURGE
1500	13.52	90	60	0.6L	11.06	263	7.39	197.7	4.47	3.3	CLEAR
1510	13.62	90	60	1.2	10.10	294	7.55	203.3	3.98	2.9	"
1520	13.66	90	60	1.8	9.82	301	7.63	205.3	3.58	3.4	"
1530	13.71	90	60	2.4	9.78	313	7.69	204.8	3.32	3.0	"
1540	13.75	90	60	3.0	9.52	315	7.65	209.0	3.07	3.2	"
1550	13.77	90	60	3.6	9.57	315	7.57	213.9	2.87	3.0	"
1555	13.78	90	60	3.9	9.59	314	7.56	215.2	2.82	2.1	"
1600	13.80	90	60	4.2	9.66	315	7.68	208.4	2.94	2.8	"
1610	13.81	90	60	4.8	9.46	315	7.64	212.5	2.88	1.6	"
1620	13.83	90	60	5.4	9.28	315	7.65	212.2	2.65	1.4	"
1630	13.84	90	60	6.0	9.50	315	7.63	214.1	2.63	0.95	"
1632	—	—	—	—	—	—	—	—	—	—	SAMPLE TIME
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) A 17.5 ~~7.8 gal~~ (TR) (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW317B-0410

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: _____ (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic Pump~~ Microbladder Pump BG
Depth Sampled: ≈92' (TOR) Screen Int. Depth 84.5-94.5 ft bgs
Sample Date & Time: 04 / 19 /2010 1650 hours _____ (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: B.Geringer Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness N/A;
Visual Evidence of Sheen (Yes/No) No;
Olfactory Evidence of Odor (Yes/No) No;
TD= 91.85 (TOR); Well S/U = 2.78;
Weather: Pt'ly Cloudy / 50's;

H&S Survey Meter 0.0 PPM Field Instrument Group A (B) / C / D
Initial WL 11.88 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr START: 1445	Water Depth below MP ft	Pump Dial 1 CPM4	Purge Rate ml/min	Cum. Volume Purged ~~Gals.~~ (L)	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1455	13.50	70 PSI	50	0.5	9.96	275	7.40	45.9	3.73	1018	Cloudy / Gray
1505	13.82	" "	" "	1.0	10.00	271	7.44	44.2	3.02	205	" "
1515	13.92	" "	" "	1.5	9.71	269	7.38	44.6	2.49	94.0	little cloudy
1525	14.02	" "	" "	2.0	9.68	268	7.39	44.7	2.25	64.4	" "
1535	14.08	" "	" "	2.5	9.53	268	7.42	42.1	2.09	236	Cloudy
1545	14.03	" "	" "	3.0	9.43	267	7.38	42.9	1.84	72.1	little cloudy
1555	14.04	" "	" "	3.5	9.70	267	7.39	41.8	1.77	40.1	" "
1605	14.08	" "	" "	4.0	9.47	267	7.38	42.0	1.68	45.3	" "
1615	14.13	" "	" "	4.5	9.24	266	7.38	39.4	1.54	42.7	" "
1625	14.17	" "	" "	5.0	9.23	266	7.34	42.2	1.48	41.9	" "
1635	14.21	" "	" "	5.5	9.43	266	7.35	41.6	1.30	45.7	" "
1645	14.24	" "	" "	6.0	9.47	267	7.35	40.7	1.25	44.3	" "
	Reached	two hour	Purge limit -	Collected Samples							
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 13 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: NASB-BG-GW-MW335-0410.

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: NASB-BG-GW-DUP04-041910 (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic~~ Micro Bladder Pump
Depth Sampled: ~ 83.5 (TOR) Screen Int. Depth 76-86 ft bgs
Sample Date & Time: 4/19/2010 1045 hours DUP04 (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: C.Fellows Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness ;
Visual Evidence of Sheen (Yes/No) Sheen;
Olfactory Evidence of Odor (Yes/No) * Odor - Dead mouse/mice found at bottom of well last Rnd. water smells of dead animal still.;
TD= 89.05 (TOR); Well S/U = 2.80;
Weather: Sunny 50's;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 16.12 ft btor (Dedicated tubing)

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1 CPM 4	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
0950	* Begin purging, measuring drawdown, and filling flow through cell.										
1005	16.15	10/5	70		7.87	2666	6.82	-70.1	1.81	2.1	Clear/colorless
1015	16.15	10/5	70	1/2	8.03	2666	7.04	-78.6	0.76	1.1	"
1025	16.15	10/5	70		8.01	2666	7.00	-83.1	0.60	0.70	"
1030	"	"	"		7.94	2666	7.12	-86.4	0.51	0.10	"
1035	"	"	"	1	7.88	2666	7.06	-86.5	0.51	0.00	"
1040	"	"	"	1 1/4	7.85	2666	7.04	-86.5	0.48	0.00	"
1045	* End purge. Begin sampling.										
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- ~~1.0~~ 0.1 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 11.9 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

PURGE DATA SHEET - "LOW FLOW" GROUNDWATER

Site Name: Background Study, NASB Brunswick, ME
Sample ID: MASB-BG-GW-MW339-0410.

Tetra Tech NUS Charge No. 112G00958 / CTO 432 Page 1 of 1
QC: N/A (If applicable)

Sample Method: Low Stress (flow) with ~~Peristaltic~~ MicroBladder Pump
Depth Sampled: 72 (TOR) Screen Int. Depth 62-72 ft bgs
Sample Date & Time: 4/20/2010 1125 hours N/A (Dup Time)
Sampler(s): C.Fellows / B. Geringer / T. Rojahn
Data Recorded By: C.Fellows Signature: [signature];
Notes: Water Depth MP = top of riser (TOR); NAPL signal at start (Yes/No); if yes, report depths/describe thickness ;
Visual Evidence of Sheen (Yes/No) ;
Olfactory Evidence of Odor (Yes/No) ;
TD= 74.8 (TOR); Well S/U = 2.8 :
Weather: partly Cloudy 60's ;

H&S Survey Meter 0.0 PPM Field Instrument Group A / B / C / D
Initial WL 0.30 ft btor (Dedicated tubing)
* Not artesian but water flows w/o pump.

Sampling Hierarchy and Lab Analyses:
1. Total Metals 2. Dissolved Metals

(Also see separate sample logsheet for gw)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	Spec. Cond. 2 uS/cm	pH (S.U.)	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1045	* Begin pumping, measuring drawdown, and filling flow through cells.										
1050	0.3	No Pump	200		9.09	127	8.01	-107.0	1.47	0.00	clear/colorless
1100	0.3	"	200	1	9.06	126	7.90	-112.5	0.79	0.00	"
1110	0.3	"	200	2	9.05	125	7.93	-132.2	0.45	0.00	"
1115	"	"	"		9.15	124	7.94	-132.8	0.45	0.00	"
1120	"	"	"	3	9.17	124	7.95	-133.5	0.43	0.00	"
1125	* End purge. Begin sampling										
Acceptance Criteria: <0.3 ft (drawdown)					3%	3%	+/- 1.0 S.U.	+/- 10mV	10%	10%	

Modified TtNUS Form 0009

Saturated screen or well volume (gallons) 12.1 (1.5" screen = 0.092 gals/ft of depth; 2" screen = 0.163 gals/ft of depth)

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW01 -0410
Sample Location: MW01
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/13/10								
Time: 1655								
Method: LowFlow/MicroBladder	clear/colorless	8.72	30	8.40	5.31	181.5	4.5	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date: 4/13/10								
Method: LowFlow								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC 1"								
Total Well Depth (TD): 24.7								
Static Water Level (WL): 12.45								
Well or Sat. Scrn. Vol. (gal): 1/2								
Start Purge (hrs): 1500								
End Purge (hrs): 1655								
Total Purge Time (min): 1hr 55min								
Total Vol. Purged (gal/L): 4.4L								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle If Applicable:

MS/MSD	Duplicate ID No.:
NA	NA

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Page___ of ___

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW02 -0410
Sample Location: MW02
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/13/10								
Time: 1440								
Method: MICRO PURGE	CLEAR	9.90	25	9.27	5.40	339.5	1.5	

PURGE DATA:

Date: 4-13-10	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method: SAME								
Monitor Reading (ppm): 0.00								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC 1"								
Total Well Depth (TD): 19.80								
Static Water Level (WL): 12.41								
Well or Sat. Scrn. Vol. (gal): 0.68								
Start Purge (hrs): 13:33								
End Purge (hrs): 14:38								
Total Purge Time (min): 65								
Total Vol. Purged (gal/L): 2.6	≈ 0.69 gals							

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle If Applicable:

MS/MSD	Duplicate ID No.:
___	___

Signature(s): Tony Rojahn

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW03-0410
Sample Location: MW-03
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 04/13/10								
Time: 1455								
Method: Low Flow/ MicroBladder	Clear/colorless	10.25	17	6.91	4.42	123.5	4.16	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date: 4/13/10								
Method: Low Flow/Microbladder								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC (1")								
Total Well Depth (TD): 19.86								
Static Water Level (WL): 8.67								
Well or Sat. Scrn. Vol. (gal): 0.45								
Start Purge (hrs): 1340								
End Purge (hrs): 1450								
Total Purge Time (min): 70								
Total Vol. Purged (gal/L): 4.52								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle If Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW04 -0410
Sample Location: MW04
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

Date: 4/13/10	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Time:								
Method: Low Flow / Micro Bladder	Clear/colless	13.07	19	9.35	5.62	162.4	5.6	

PURGE DATA:

Date: 4/13/10	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method: Low Flow								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC 1"								
Total Well Depth (TD): 19.80								
Static Water Level (WL): 8.95								
Well or Sat. Scrn. Vol. (gal): 0.44								
Start Purge (hrs): 1230								
End Purge (hrs): 1405								
Total Purge Time (min): 1hr 35 min								
Total Vol. Purged (gal/L): 1.28 gal								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	N/A

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW05 -0410
Sample Location: MW05
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/20/10								
Time: 1650								
Method: Micro Bladder	Clear/colorless	11.79	37	7.37	6.48	121	1.4	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date: 4/20/10								
Method: Low Flow								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC 1"								
Total Well Depth (TD): 64.0								
Static Water Level (WL): 38.64								
Well or Sat. Scrn. Vol. (gal): 1.36								
Start Purge (hrs): 1500								
End Purge (hrs): 1650								
Total Purge Time (min): 1hr 50min								
Total Vol. Purged (gal/L): 2 gal								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle If Applicable:

MS/MSD	Duplicate ID No.:
N/A	N/A

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW06 -0410
Sample Location: MW-06
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/15/10								
Time: 1305								
Method: Low Flow/ Microbladder	Clear/Colorless	9.49	79	0.52	5.31	60.0	0.00	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date: 4/15/10								
Method: Low Flow/ Microbladder								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch (1") (PVC)								
Total Well Depth (TD): 19.78								
Static Water Level (WL): 8.36								
Well or Sat. Scrn. Vol. (gal): 0.7								
Start Purge (hrs): 1150								
End Purge (hrs): 1300								
Total Purge Time (min): 70								
Total Vol. Purged (gal/L): 3.0 L								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	(Yes) / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or (no) If yes, describe:

Olfactory evidence of contamination - yes or (no) If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

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Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW07-0410
Sample Location: MW07
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4-15-10								
Time: 1412								
Method: MICRO PURGE	CLEAR	10.25	191	0.91	6.59	152.0	15	-

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date: 4-15-10								
Method: SAME								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD): 11.90								
Static Water Level (WL): 3.93								
Well or Sat. Scrn. Vol. (gal): ~~.74~~	0.74 gals							
Start Purge (hrs): 1210								
End Purge (hrs): 1410								
Total Purge Time (min): 120								
Total Vol. Purged (gal/L): 3.9								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD ___ Duplicate ID No.: ___

Signature(s): Terry Rojahn

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW08 -0410
Sample Location: MW108
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/15/10								
Time: 1332								
Method: LowFlow/MicroBailer	Clear/Colorless	9.84	106	2.40	6.58	21.5	3.8	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date: 4/15/10								
Method: LowFlow								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC 1"								
Total Well Depth (TD): 12.78								
Static Water Level (WL): 3.98								
Well or Sat. Scrn. Vol. (gal): 0.36								
Start Purge (hrs): 1220								
End Purge (hrs): 1332								
Total Purge Time (min): 1hr. 12min								
Total Vol. Purged (gal/L): 750mL								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle If Applicable:

MS/MSD	Duplicate ID No.:
NA	NA

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW09 -0410
Sample Location: MW09
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/16/10								
Time: 1705								
Method: Low Flow/Peristaltic	Clear-Yellow	5.52	93	0.32	5.99	-41.8	4.5	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date: 4/16/10								
Method: Low Flow								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC 1"								
Total Well Depth (TD): 12.2								
Static Water Level (WL): 4.25								
Well or Sat. Scrn. Vol. (gal): 0.32								
Start Purge (hrs): 1000								
End Purge (hrs): 1705								
Total Purge Time (min): 2hr 5min								
Total Vol. Purged (gal/L): 1½ gall								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	(Yes) No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or (no) If yes, describe:

Olfactory evidence of contamination - yes or (no) If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:	Signature(s):
N/A	N/A	[signature]

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW10 -0410
Sample Location: MW-10
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

Date: 4/16/10	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Time: ~~Low~~ 1040								
Method: Low Flow/microbladder	little cloudy/ colorless	6.25	238	0.77	5.81	38.7	41.5	

PURGE DATA:

Date: 4/16/10	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method: low flow/microbladder								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC (1")								
Total Well Depth (TD): 12.53								
Static Water Level (WL): 4.77								
Well or Sat. Scrn. Vol. (gal): 0.33								
Start Purge (hrs): 0835								
End Purge (hrs): 1035								
Total Purge Time (min): 120								
Total Vol. Purged (gal/L): 3.8L								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

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Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW 11-0410
Sample Location: MW 11
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4-16-10								
Time: 1037								
Method: MICRO PURGE								—

PURGE DATA:

Date: 4-16-10	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method: SAME								
Monitor Reading (ppm): *								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC 1"								
Total Well Depth (TD): 12.75								
Static Water Level (WL): 3.65								
Well or Sat. Scrn. Vol. (gal): 0.84								
Start Purge (hrs): 0835								
End Purge (hrs): 1035								
Total Purge Time (min): 120								
Total Vol. Purged (gal/L): 3.6	Gals: 0.95							

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

* MALFUNCTIONING PID

Circle if Applicable:

MS/MSD ___ Duplicate ID No.: ___

Signature(s): Terry Rojahn

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW12-0410
Sample Location: MW-12
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

Date: 4/15/10 Time: 1645	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Method: Low Flow / Microbladder	Clear/colorless	9.47	157	1.67	6.04	37.3	5.78	

PURGE DATA:

Date: 4/15/10	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method: Low Flow / Microbladder								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD): 12.69								
Static Water Level (WL): 3.50								
Well or Sat. Scrn. Vol. (gal): 0.37								
Start Purge (hrs): 1440								
End Purge (hrs): 1640								
Total Purge Time (min): 120								
Total Vol. Purged (gal/L): 2.8L								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW13 -0410
Sample Location: MW13
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

Date: 4/16/10	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Time: 0820								
Method: Low Flow / Grab	Clear/colorless	7.86	83	2.05	6.38	-147.2	11	

PURGE DATA:

Date: 4/15/10	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method: Low Flow/MicroBladder								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC 1"								
Total Well Depth (TD): 12.2								
Static Water Level (WL): 7.8								
Well or Sat. Scrn. Vol. (gal): 0.18								
Start Purge (hrs): 1450								
End Purge (hrs): 1637								
Total Purge Time (min): 1hr.47min								
Total Vol. Purged (gal/L): 2.5L								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	N/A

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW 15 -0410
Sample Location: MW15
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/21/10								
Time: 1040								
Method: Micro Bladder	Clear/colorless	12.87	213	0.80	7.45	-8.9	1.8	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date: 4/21/10								
Method: Low Flow								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC 1"								
Total Well Depth (TD): 31.42								
Static Water Level (WL): 18.5								
Well or Sat. Scrn. Vol. (gal): 0.53								
Start Purge (hrs): 0835								
End Purge (hrs): 1040								
Total Purge Time (min): 2hrs 5min								
Total Vol. Purged (gal/L): 2gal								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW16 -0410
Sample Location: MW-16
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

Date: 4/20/10	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Time: 1315								
Method: Low Flow/Microbladder	Clear/Colorless	11.40	107	3.01	5.78	48.5	9.42	

PURGE DATA:

Date: 4/20/10	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method: Low Flow/Microbladder								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch (1") (PVC)								
Total Well Depth (TD): 29.58								
Static Water Level (WL): 14.66								
Well or Sat. Scrn. Vol. (gal): 0.6								
Start Purge (hrs): 1110								
End Purge (hrs): 1310								
Total Purge Time (min): 120								
Total Vol. Purged (gal/L): 6.0 L								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	(Yes) No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or (no) If yes, describe:

Olfactory evidence of contamination - yes or (no) If yes, describe:

Circle If Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW17 -0410
Sample Location: MW-17
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

Date: 04/20/10	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Time: 1030								
Method: low flow/microbladder	Clear/colorless	9.76	184	0.52	6.31	41.0	11.3	

PURGE DATA:

Date: 4/20/10	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method: low flow/Microbladder								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD): 19.76								
Static Water Level (WL): 11.29								
Well or Sat. Scrn. Vol. (gal): 0.33								
Start Purge (hrs): 0825								
End Purge (hrs): 1025								
Total Purge Time (min): 120								
Total Vol. Purged (gal/L): 4.8L								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW 18 -0410
Sample Location: MW18
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/14/10								
Time: 1645								
Method: Low Flow/MicroBladder	Clear/Colorless	9.93	24	3.92	5.1	137.2	4.1	

PURGE DATA:

Date: 4/14/10	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method: Low Flow								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC 1"								
Total Well Depth (TD): 9.86								
Static Water Level (WL): 3.77								
Well or Sat. Scrn. Vol. (gal): 0.25								
Start Purge (hrs): 1450								
End Purge (hrs): ~~1455~~/645								
Total Purge Time (min): 1hr 55min								
Total Vol. Purged (gal/L): 1.25gal								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	N/A

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW19-0410
Sample Location: MW19
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/14/10								
Time: 1315								
Method: Low Flow Minipump Bladder	Clear/colorless	11.10	60	0.86	5.78	31.4	3.1	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date: 4/14/10								
Method: Low Flow								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC 1"								
Total Well Depth (TD): 9.85								
Static Water Level (WL): ~~14~~ 4.14								
Well or Sat. Scrn. Vol. (gal): 0.23								
Start Purge (hrs): 1140								
End Purge (hrs): 1315								
Total Purge Time (min): 1hr. 35min								
Total Vol. Purged (gal/L): 3/4 gal								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	N/A

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW-21-0410
Sample Location: MW-21
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/14/10								
Time: 1325								
Method: Low flow/Microbladder	Slight Tan	9.58	30	1.53	3.85	87.3	8.97	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date: 4/14/10								
Method: Low flow/microbladder								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch (PVC)								
Total Well Depth (TD): 9.95								
Static Water Level (WL): 5.86								
Well or Sat. Scrn. Vol. (gal): 0.16								
Start Purge (hrs): 1120								
End Purge (hrs): 1320								
Total Purge Time (min): 120								
Total Vol. Purged (gal/L): 6.0L								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or (no) If yes, describe:

Olfactory evidence of contamination - yes or (no) If yes, describe:

Became very turbid after 50 minutes of purging, then cleared up.

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): [illegible]

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW23 -0410
Sample Location: MW23
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/14/10								
Time: 0955								
Method: LowFlow/MicroBladder	Clear/colorless	7.95	108	1.25	6.29	116.6	3.9	

PURGE DATA:

Date: 4/14/10	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method: LowFlow								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC 1"								
Total Well Depth (TD): 18.60								
Static Water Level (WL): 7.40								
Well or Sat. Scrn. Vol. (gal): 0.46								
Start Purge (hrs): 0850								
End Purge (hrs): 0955								
Total Purge Time (min): 1hr 5min								
Total Vol. Purged (gal/L): 1gal								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	NASB-BG-GW-DUP02-041410

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW24-0410
Sample Location: MW24
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4-14-10								
Time: 1048								
Method: MICRO PURGE	CLEAR	8.48	127	2.11	6.77	222.8	14	—

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date: 4-14-10								
Method: SAME								
Monitor Reading (ppm): 0.00								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC 1"								
Total Well Depth (TD): 15.00								
Static Water Level (WL): 3.66								
Well or Sat. Scrn. Vol. (gal): 1.04								
Start Purge (hrs): 0835								
End Purge (hrs): 1018	— DRY to INTAKE							
Total Purge Time (min): 103								
Total Vol. Purged (gal/L): 3.7	gals = 1.43							

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s): Terry Rojahn

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW25 -0410
Sample Location: MW-25
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 04/13/10								
Time: 1005								
Method: Low Flow/ Microbladder	Clear	8.38	66	5.93	5.10	78.7	1.87	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date: 4/14/10								
Method: Low Flow/ Microbladder								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD): 17.87								
Static Water Level (WL): 11.72								
Well or Sat. Scrn. Vol. (gal): 0.25								
Start Purge (hrs): 0825								
End Purge (hrs): 1003								
Total Purge Time (min): 98								
Total Vol. Purged (gal/L): 3.8L								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

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Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW27-0410
Sample Location: MW27
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

Date: 4/13/10	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Time: 1205								
Method: MICRO PURGE	CLEAR	8.55	152	9.38	6.44	301.0	0.15	—

PURGE DATA:

Date: 4/13/10	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method: SAME								
Monitor Reading (ppm): 0.00								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC 1"								
Total Well Depth (TD): 36.95								
Static Water Level (WL): 27.38								
Well or Sat. Scrn. Vol. (gal): 0.88								
Start Purge (hrs): 1103								
End Purge (hrs): 1203								
Total Purge Time (min): 60								
Total Vol. Purged (gal/L): 0.63								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s): Tony Rojahn

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW28 -0410
Sample Location: MW28
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/13/10								
Time: 1015								
Method: Low Flow/MicroBladder	Clear/colorless	7.89	201	9.45	5.84	97.7	1.38	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date: 4/13/10								
Method: Low Flow								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC 1.0"								
Total Well Depth (TD): 36.74								
Static Water Level (WL): 27.25								
Well or Sat. Scrn. Vol. (gal): 0.39								
Start Purge (hrs): 0850								
End Purge (hrs): 1015								
Total Purge Time (min): 1hr 25min								
Total Vol. Purged (gal/L): 3/4 gal								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly (3x) Lab QC	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
YES	N/A

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW29 -0410
Sample Location: MW29
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/12/10								
Time: 1645								
Method: Low Flow/MicroBailer	Clear/colorless	9.36	28	10.74	4.53	145.7	0.00	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date: 4/12/10								
Method: Low Flow								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC 1"								
Total Well Depth (TD): 34.61								
Static Water Level (WL): 26.08								
Well or Sat. Scrn. Vol. (gal): 0.35								
Start Purge (hrs): 1525								
End Purge (hrs): 1640								
Total Purge Time (min): 1hr. 15min								
Total Vol. Purged (~~gal~~/L): 17 mL								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	N/A

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW30-0410
Sample Location: MW30
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/12/10								
Time: 1400								
Method: LowFlow/AquaBladder	clear/colorless	8.97	144	8.60	4.20	132.3	0.00	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date: 4/12/10								
Method: LowFlow								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC 1"								
Total Well Depth (TD): 14.38								
Static Water Level (WL): 5.73								
Well or Sat. Scrn. Vol. (gal): 0.56								
Start Purge (hrs): 1255								
End Purge (hrs): 1355								
Total Purge Time (min): 1hr								
Total Vol. Purged (gal/L): 3L								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	Yes X No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	N/A

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW31-0410
Sample Location: MW31
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

Date: 4/12/10	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Time: 1522								
Method: Low Flow MicroBladder	Clear/colorless	9.01	29	9.90	3.28	432.2	0.00	

PURGE DATA:

Date: 4/12/10	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method: Low Flow								
Monitor Reading (ppm): 0.00								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC 1"								
Total Well Depth (TD): 19.18								
Static Water Level (WL): 8.47								
Well or Sat. Scrn. Vol. (gal): 0.99								
Start Purge (hrs): 1340								
End Purge (hrs): 1520								
Total Purge Time (min): 1hr. 40min								
Total Vol. Purged (gal/L): 0.5gal								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:	Signature(s):
N/A	NASB-BG-GW-DUP0-0412.10	[signature]

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW32-0410
Sample Location: MW32
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/12/10								
Time: 1425								
Method: LowFlow/Bladder	clear/colorless	9.44	50	11.13	5.17	154.5	3.60	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date: 4/12/10								
Method: LowFlow								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC 1"								
Total Well Depth (TD): 19.22								
Static Water Level (WL): 8.26								
Well or Sat. Scrn. Vol. (gal): 0.42								
Start Purge (hrs): 1325								
End Purge (hrs): 1425								
Total Purge Time (min): 1 hr.								
Total Vol. Purged (gal/L): 0.5 gal								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	(Yes) No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or (no) If yes, describe:

Olfactory evidence of contamination - yes or (no) If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	N/A

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW36-0410
Sample Location: MW36
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

Date: 4/14/10	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Time: 1735								
Method: Low Flow/ MicroBladder	Clear/colorless	9.58	238	0.17	5.16	29.9	4.65	

PURGE DATA:

Date: 4/14/10	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method: low Flow/ microbladder								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch (2") PVC								
Total Well Depth (TD): 66.51								
Static Water Level (WL): 5.45								
Well or Sat. Scrn. Vol. (gal): 2.5								
Start Purge (hrs): 1530								
End Purge (hrs): 1730								
Total Purge Time (min): 120								
Total Vol. Purged (gal/L): 7.1 L								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	(Yes) / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or (no) If yes, describe:

Olfactory evidence of contamination - yes or (no) If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Page___ of ___

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW37-0410
Sample Location: MW37
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

Date: 4-15-10	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Time: 1022								
Method: MicroPurge	CLEAR	11.77	220	0.54	7.90	-81.6	6.3	—

PURGE DATA:

Date: 4-15-10	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method: SAME								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC 1"								
Total Well Depth (TD): *49.3								
Static Water Level (WL): 13.13								
Well or Sat. Scrn. Vol. (gal): 3.39 gals								
Start Purge (hrs): 0820								
End Purge (hrs): 1020								
Total Purge Time (min): 120								
Total Vol. Purged (gal/L): 7.2								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

*Soft Bottom TD = 49.3 should be more based on s/w & screen depth

Circle if Applicable:

MS/MSD YES

Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW38 -0410
Sample Location: MW38
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/15/10								
Time: 1005								
Method: Low Flow/Micro Purge	Clear/colorless	8.03	136	0.41	8.36	-71.1	1.8	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date: 4/15/10								
Method: Low Flow								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC 1"								
Total Well Depth (TD): 39.35								
Static Water Level (WL): 13.58								
Well or Sat. Scrn. Vol. (gal): 1.1								
Start Purge (hrs): 0850								
End Purge (hrs): 1005								
Total Purge Time (min): 1hr 15min								
Total Vol. Purged (gal/L): 1.5 gal								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no. If yes, describe:

Olfactory evidence of contamination - yes or no. If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	NASB-BG-GW-DUP03-041510

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Page___ of ___

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW39-0410
Sample Location: MW39
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4-14-10								
Time: 1647								
Method: MicroPurge	CLEAR	13.22	245	4.38	6.09	229.8	0.00	—

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date: 4-14-10								
Method: SAME								
Monitor Reading (ppm): 0.00								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC 1"								
Total Well Depth (TD): 24.80								
Static Water Level (WL): 15.35								
Well or Sat. Scrn. Vol. (gal): 0.87								
Start Purge (hrs): 1535								
End Purge (hrs): 1645								
Total Purge Time (min): 70								
Total Vol. Purged (gal/L): 2.8	GALS =	0.74						

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s): Troy Rojahn

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW40-0410
Sample Location: MW-40
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 04/13/10								
Time: 0915								
Method: Low Flow / micro bladder	Clear/colorless	7.89	95	8.98	4.34	109.5	0.00	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date: 04/13/10								
Method: Low Flow/microbladder								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch PVC (1")								
Total Well Depth (TD): 32.55								
Static Water Level (WL): 22.88								
Well or Sat. Scrn. Vol. (gal): 0.41								
Start Purge (hrs): 0820								
End Purge (hrs): 0910								
Total Purge Time (min): 50								
Total Vol. Purged (gal/L): 2.5L								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

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Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW 41-0410
Sample Location: MW41
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4-20-10								
Time: 1706								
Method: MicroPurge	CLEAR	11.90	100	0.67	7.89	25.4	9.4	—

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date: 4-20-10								
Method: SAME								
Monitor Reading (ppm): —								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC 1"								
Total Well Depth (TD): 43.33								
Static Water Level (WL): 25.3								
Well or Sat. Scrn. Vol. (gal): 2.9								
Start Purge (hrs): 1504								
End Purge (hrs): 1704								
Total Purge Time (min): 120								
Total Vol. Purged (gal/L): 3.8								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s): Terry Rojahn

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW42-0410
Sample Location: MW-42
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

Date: 4/20/10	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Time: 1705								
Method: Low Flow/Microbladder	Clear/colorless	11.84	103	0.30	7.41	1.9	20.5	

PURGE DATA:

Date: 4/20/10	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method: low Flow/Microbladder								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC (1")								
Total Well Depth (TD): 42.49								
Static Water Level (WL): 13.07								
Well or Sat. Scrn. Vol. (gal): 1.2								
Start Purge (hrs): 1500								
End Purge (hrs): 1700								
Total Purge Time (min): 120								
Total Vol. Purged (gal/L): 6.3 L								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): [illegible]

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW43 -0410
Sample Location: MW43
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/20/10								
Time: 0905								
Method: MicroPurge Bladder	Clear/colorless	8.57	103	0.84	7.30	-131.5	0.58	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date: 4/20/10								
Method: LowFlow								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC 1"								
Total Well Depth (TD): 63.1								
Static Water Level (WL): Top of Casing								
Well or Sat. Scrn. Vol. (gal): 2.6								
Start Purge (hrs): 0820								
End Purge (hrs): 0905								
Total Purge Time (min): 45 min								
Total Vol. Purged (gal/L): 1.25 gal								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	(Yes) No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or (no) If yes, describe:

Olfactory evidence of contamination - yes or (no) If yes, describe:

* Artesian well - no pump needed to purge.

Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	NASB-BG-GW-DUP05-042010

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW44-0410
Sample Location: MW44
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/20/10								
Time: 1030								
Method: Micro Bladder	Near/colorless	8.79	195	0.08	8.08	-148.8	4.8	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date: 4/20/10								
Method: Low Flow								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC 1"								
Total Well Depth (TD): 82.0								
Static Water Level (WL): @ top of PVC								
Well or Sat. Scrn. Vol. (gal): 3.4								
Start Purge (hrs): 0930								
End Purge (hrs): 1030								
Total Purge Time (min): 1 hr.								
Total Vol. Purged (gal/L): 2 gal								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	(Yes) / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or (no) If yes, describe:

Olfactory evidence of contamination - yes or (no) If yes, describe:

* Artesian Well

Circle If Applicable:

MS/MSD	Duplicate ID No.:
N/A	N/A

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW219 -0410
Sample Location: MW219
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/19/10								
Time: 1235								
Method: Low Flow/Micro Purge	Clear/colorless	11.92	105	6.00	6.37	4.6	3.5	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date: 4/19/10								
Method: Low Flow								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or (2 inch) PVC								
Total Well Depth (TD): 70.20								
Static Water Level (WL): 27.89								
Well or Sat. Scrn. Vol. (gal): 6.9								
Start Purge (hrs): 1145								
End Purge (hrs): 1235								
Total Purge Time (min): 50 min								
Total Vol. Purged (gal/L): 1 gal								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	(Yes) No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or (no) If yes, describe:

Olfactory evidence of contamination - yes or (no) If yes, describe:

Circle If Applicable:

MS/MSD	Duplicate ID No.:
Yes	N/A

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW231A-0410
Sample Location: MW231A
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/21/10								
Time:								
Method: MicroBladder	Clear/Colorless	10.54	70	8.35	6.98	65.6	0.00	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date: 4/21/10								
Method: Low Flow								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch PVC								
Total Well Depth (TD): 61.2								
Static Water Level (WL): 17.66								
Well or Sat. Scrn. Vol. (gal): 7.1								
Start Purge (hrs): 1135								
End Purge (hrs): 1220								
Total Purge Time (min): 1hr 45min								
Total Vol. Purged (gal/L): 1 gal								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle If Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW303-0410
Sample Location: MW-303
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/15/10								
Time: 1005								
Method: Low Flow/microbladder	clear/colorless	7.17	217	0.62	7.40	-3.0	0.00	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date: 4/15/10								
Method: ~~1005~~ Low Flow/microbladder								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or (2) inch / (PVC)								
Total Well Depth (TD): 71.91								
Static Water Level (WL): 9.01								
Well or Sat. Scrn. Vol. (gal): 10.2								
Start Purge (hrs): 0850								
End Purge (hrs): 1000								
Total Purge Time (min): 70								
Total Vol. Purged (gal/L): 4.4L								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	(Yes) / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or (no) If yes, describe:

Olfactory evidence of contamination - yes or (no) If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW 3/0-0410
Sample Location: MW 3/0
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/19/10								
Time: 1430								
Method: Low Flow/Micro Purge	Clear/colorless	12.57	181	4.24	5.72	10.4	0.28	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date: 4/19/10								
Method: Low Flow								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD): 72.9								
Static Water Level (WL): 22.07								
Well or Sat. Scrn. Vol. (gal): 8.3								
Start Purge (hrs): 1345								
End Purge (hrs): 1430								
Total Purge Time (min): 45 min								
Total Vol. Purged (gal/L): 3/4 gal								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	N/A

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

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Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW 314A -0410
Sample Location: MW 314A
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4-20-10								
Time: 1302								
Method: MICRO PURGE								

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date: 4-20-10								
Method: SAME								
Monitor Reading (ppm): 0.00								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC 1"								
Total Well Depth (TD): 62.0								
Static Water Level (WL): 3.60								
Well or Sat. Scrn. Vol. (gal) 9.5								
Start Purge (hrs): 1100								
End Purge (hrs): 1300								
Total Purge Time (min): 120								
Total Vol. Purged (gal/L) 7.2								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD —

Duplicate ID No.: —

Signature(s): Terry Rojah

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

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Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW 314B -0410
Sample Location: MW 314B
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4-20-10								
Time: 1022								
Method: MICRO PURGE	CLEAR	11.60	61	2.87	7.47	196.7	36	–

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date: 4-20-10								
Method: SAME								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC 1"								
Total Well Depth (TD): 35.6								
Static Water Level (WL): 2.0								
Well or Sat. Scrn. Vol. (gal) 5.48								
Start Purge (hrs): 0820								
End Purge (hrs): 1020								
Total Purge Time (min): 120								
Total Vol. Purged (gal/L) 6.0								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle If Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s): Terry Rojahn

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW315A-0410
Sample Location: MW-315A
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/20/10								
Time: 1235								
Method: MicroBladder	Clear/colorless	11.33	137	0.00	7.92	-117.3	0.00	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date: 4/20/10								
Method: Low Flow								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or (2 inch) / PVC								
Total Well Depth (TD): 72.02								
Static Water Level (WL): 0.5 feet PVC								
Well or Sat. Scrn. Vol. (gal): 12.5								
Start Purge (hrs): 1145								
End Purge (hrs): 1235								
Total Purge Time (min): 50 min								
Total Vol. Purged (gal/L): 1.5 gal								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	(Yes) / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or (no) If yes, describe:

Olfactory evidence of contamination - yes or (no) If yes, describe:

Circle If Applicable:

MS/MSD	Duplicate ID No.:
N/A	N/A

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW316A0410
Sample Location: MW-316A
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

Date: 4/19/10	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Time: 1210								
Method: Low Flow/microbladder	Clear/colorless	9.44	202	0.33	7.90	39.3	4.03	

PURGE DATA:

Date: 4/19/10	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method: low flow/microbladder								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC								
Total Well Depth (TD): ~~97.66~~	103.05							
Static Water Level (WL): 20.10								
Well or Sat. Scrn. Vol. (gal): 13								
Start Purge (hrs): 1005								
End Purge (hrs): 1205								
Total Purge Time (min): 120								
Total Vol. Purged (gal/L): 4.92								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:	Signature(s):
		[signature]

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

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Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW 316B -0410
Sample Location: MW316B
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

Date: 4-19-10	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Time: 1212								
Method: MICRO PURGE	CLEAR	8.50	150	1.45	6.92	147.2	0.01	—

PURGE DATA:

Date: 4-19-10	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method: SAME								
Monitor Reading (ppm): 0.00								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC 1"								
Total Well Depth (TD): 58.0								
Static Water Level (WL): 9.98								
Well or Sat. Scrn. Vol. (gal): 7.8 gal	1 OR 29.6 L							
Start Purge (hrs): 1010								
End Purge (hrs): 1210								
Total Purge Time (min): 120								
Total Vol. Purged (gal/L) 7.2								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	(Yes) / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or (no) If yes, describe:

Olfactory evidence of contamination - yes or (no) If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s): Terry Rojahn

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

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Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW 317A -0410
Sample Location: MW 317A
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4-19-10								
Time: 1632								
Method: MICRO PURGE	CLEAR	9.50	315	2.63	7.63	214.1	0.95	—

PURGE DATA:

Date: 4-19-10	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Method: SAME								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or 2 inch / PVC 1"								
Total Well Depth (TD): 120.68								
Static Water Level (WL): 13.13								
Well or Sat. Scrn. Vol (gal): 17.5								
Start Purge (hrs): 1450								
End Purge (hrs): 1630								
Total Purge Time (min): 100								
Total Vol. Purged (gal/L): 6.0								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	Yes / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or no If yes, describe:

Olfactory evidence of contamination - yes or no If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:	Signature(s):
—	—	Terry Rojahn

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW317B0410
Sample Location: MW-317B
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/19/10								
Time: 1650								
Method: low Flow/Microbladder	Colorless	9.47	267	1.25	7.35	40.7	44.3	little cloudy

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date: 4/19/10								
Method: low Flow/Microbladder								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or (2) inch / (PVC)								
Total Well Depth (TD): 91.85								
Static Water Level (WL): 11.88								
Well or Sat. Scrn. Vol. (gal): 13								
Start Purge (hrs): 1445								
End Purge (hrs): 1645								
Total Purge Time (min): 120								
Total Vol. Purged (gal/L): 6.0 L								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	(Yes) / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or (no) If yes, describe:

Olfactory evidence of contamination - yes or (no) If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW335-0410
Sample Location: MW335
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/19/10								
Time: 1045								
Method: Low Flow/MicroPurge	Clear/colorless	7.85	2000	0.48	7.04	-86.5	0.00	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date: 4/19/10								
Method: Low Flow								
Monitor Reading (ppm):								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or (2 inch) PVC								
Total Well Depth (TD): 89.05								
Static Water Level (WL): 16.12								
Well or Sat. Scrn. Vol. (gal): 11.9								
Start Purge (hrs): 0950								
End Purge (hrs): 1045								
Total Purge Time (min): 55 min								
Total Vol. Purged (gal/L): 1.25 gal								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	(Yes) No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or (no) If yes, describe:

Olfactory evidence of contamination - yes or (no) If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:	Signature(s):
N/A	NASB-BG-FLW-DUP04-041910	[illegible]

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASB - Background Study Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No. NASB-BG-GW-MW33G-0410
Sample Location: MW33G
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:
Type of Sample:
[X] Low / Moderate Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp (°C)	S.C. (µS/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/20/10								
Time: 1125								
Method: MicroBladder	Clear/Colorless	9.15	124	0.45	7.94	-132.8	0.00	

PURGE DATA:

	Volume	Temp	S.C.	DO	pH	ORP	Turbidity	Other
Date: 4/20/10								
Method: Low Flow								
Monitor Reading (ppm): 0.0								
Well Casing Diameter & Material	See separate low-flow purge data sheet							
Type: 1.5 or (2 inch) PVC								
Total Well Depth (TD): 74.8								
Static Water Level (WL): 0.3								
Well or Sat. Scrn. Vol. (gal): 12.1								
Start Purge (hrs): 1045								
End Purge (hrs): 1125								
Total Purge Time (min): 40 min								
Total Vol. Purged (gal/L): 3 gal								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Metals (unfiltered and filtered)	HNO_3	1 for each x 500mL poly	(Yes) / No

OBSERVATIONS / NOTES:

Visual evidence of contamination - yes or (no) If yes, describe:

Olfactory evidence of contamination - yes or (no) If yes, describe:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	N/A

Signature(s):

Tetra Tech NUS, Inc.

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: NASB-Background Study, Brunswick, ME
Project No.: 112G00958 / CTO 432

[ ] Stream
[] Spring
[X] Pond
[] Lake
[] Other:
[] QA Sample Type:

Sample ID No. NASB-BG-SW 01 -040610
Sample Location: SW01
Sampled By: Jalkut, Fellows, Geringer, Rojahn
C.O.C. No.:

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp. (°C)	S.C. (us/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/6/10 Time: 1130 Depth: 1.5 Removed Method: ~~Direct Dip~~	Clear / odorless	8.80	251	15.40	6.13	311.9	4.1	

SAMPLE COLLECTION INFORMATION:

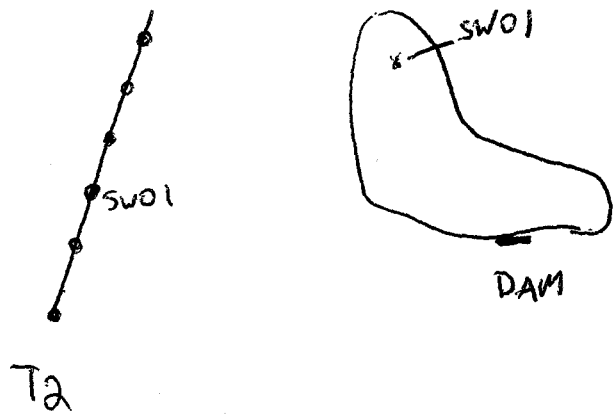
Analysis	Preservative	Container Requirements	Collected
PAH	---	2 x 1 liter amber glass, unpreserved	Yes / No
TAL Metals (unfiltered and filtered)	HNO_3	1 each 500 mL poly with HNO_3	Yes / No

OBSERVATIONS / NOTES:

- Depth of water = 2.8
- Dissolved metals collected in unpreserved poly then filtered into preserved poly at field trailer.
- ~~Direct dip method~~ CFS

No Sheen / NO Petroleum odor

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	N/A

Signature(s):

Tetra Tech NUS, Inc.

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: NASB-Background Study, Brunswick, ME
Project No.: 112G00958 / CTO 432

[ ] Stream
[] Spring
[X] Pond
[] Lake
[] Other:
[] QA Sample Type:

Sample ID No. NASB-BG-SW-02-0406-10
Sample Location: SW02
Sampled By: Jalkut, Fellows, Geringer, Rojahn
C.O.C. No.:

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp. (°C)	S.C. (us/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/6/10 Time: 1140 Depth: 1.2 Method: ~~Kemmerer~~ Direct Dip	Clear/ Colorless	8.99	262	11.40	5.43	3.438	1.6	

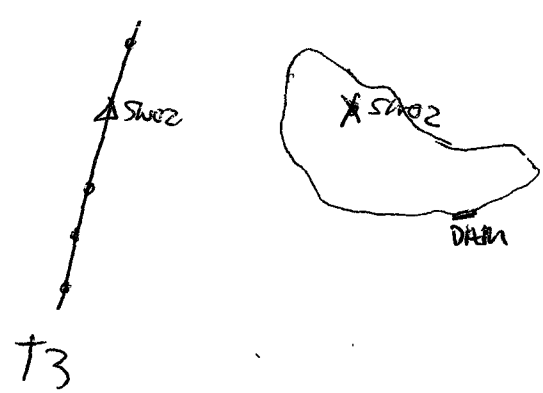
SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
PAH	---	2 x 1 liter amber glass, unpreserved	Yes / No
TAL Metals (unfiltered and filtered)	HNO_3	1 each 500 mL poly with HNO_3	Yes / No

OBSERVATIONS / NOTES:

- Depth of Water = 2.2
- Dissolved metals collected in unpreserved poly then filtered into preserved poly out field trailer.
- No sheen, No odors.
- Direct dip method used b/c location was to shallow for Kemmerer to work properly/effectively.

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	N/A

Signature(s):

Tetra Tech NUS, Inc.

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: NASB-Background Study, Brunswick, ME
Project No.: 112G00958 / CTO 432

[ ] Stream
[] Spring
[X] Pond
[] Lake
[] Other:
[] QA Sample Type:

Sample ID No. NASB-BG-SW 03 -040610
Sample Location: SW03
Sampled By: Jalkut, Fellows, Geringer, Rojahn
C.O.C. No.:

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp. (°C)	S.C. (us/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/16/10 Time: 1200 Depth: 1.6' Method: Kemmerer	clear/ colorless	8.82	254	10.98	5.04	356.7	3.6	

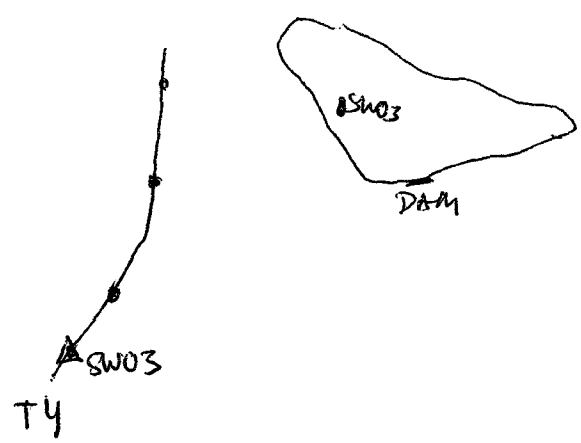
SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
PAH	---	2 x 1 liter amber glass, unpreserved	Yes / No
TAL Metals (unfiltered and filtered)	HNO_3	1 each 500 mL poly with HNO_3	Yes / No

OBSERVATIONS / NOTES:

- Depth of water = 2.9 ft
- Dissolved metals collected in unpreserved poly then filtered into preserved poly at field trailer.
- No sheen, no odor

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	N/A

Signature(s):

Tetra Tech NUS, Inc.

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: NASB-Background Study, Brunswick, ME
Project No.: 112G00958 / CTO 432

[ ] Stream
[] Spring
[X] Pond
[] Lake
[] Other:
[] QA Sample Type:

Sample ID No. NASB-BG-SW04-040610
Sample Location: SW04
Sampled By: Jalkut, Fellows, Geringer, Rojahn
C.O.C. No.:

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp. (°C)	S.C. (us/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/6/10								
Time: 1220								
Depth: 1.1	clear	8.84	243	12.16	4.80	361.0	1.7	
Method: Direct Dip	colorless							

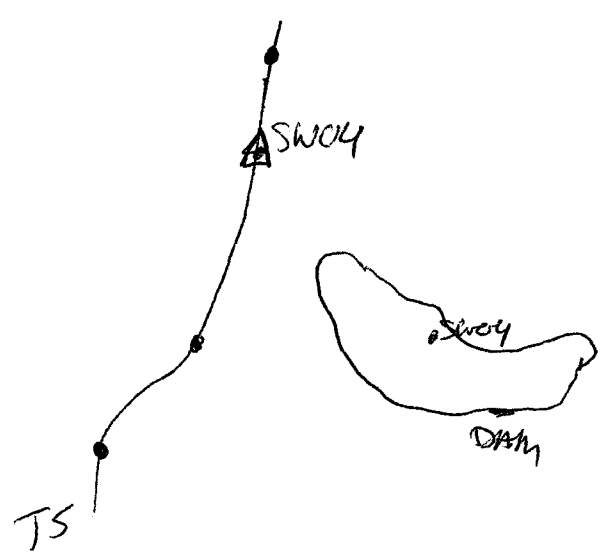
SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
PAH	---	2 x 1 liter amber glass, unpreserved	Yes / No
TAL Metals (unfiltered and filtered)	HNO_3	1 each 500 mL poly with HNO_3	Yes / No

OBSERVATIONS / NOTES:

- Depth of water = 2.1
- Dissolved metals collected in unpreserved poly then filtered into preserved poly at field trailer
- Used Direct Dip method b/c water too shallow for kemmerer to work properly / effectively.
- Small area of blocky organic steam
- No odor.

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
N	NASB-BG-SW-DUP01-040610

TIME = 1230

Signature(s):

Tetra Tech NUS, Inc.

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: NASB-Background Study, Brunswick, ME
Project No.: 112G00958 / CTO 432

[ ] Stream
[] Spring
[X] Pond
[] Lake
[] Other:
[] QA Sample Type:

Sample ID No. NASB-BG-SW 05-0406 10
Sample Location: SW05
Sampled By: Jalkut, Fellows, Geringer, Rojahn
C.O.C. No.:

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp. (°C)	S.C. (us/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/6/10								
Time: 1300								
Depth: 2.5	Clear/ Colorless	8.39	250	11.07	4.56	355.3	1.2	
Method: Kemmerer								

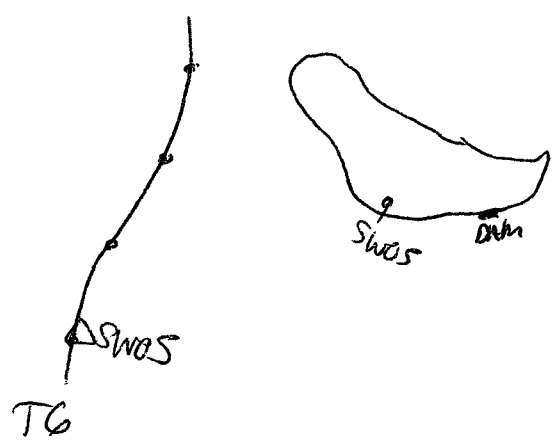
SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
PAH	---	2 x 1 liter amber glass, unpreserved	Yes / No
TAL Metals (unfiltered and filtered)	HNO_3	1 each 500 mL poly with HNO_3	Yes / No

OBSERVATIONS / NOTES:

- Depth of Water = 4.0
- Dissolved metals collected in unpreserved poly then transfered to preserved poly at AYLD trailer.
- No sheen / no odor.

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	N/A

Signature(s): [signature]

Tetra Tech NUS, Inc.

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: NASB-Background Study, Brunswick, ME
Project No.: 112G00958 / CTO 432

[ ] Stream
[] Spring
[X] Pond
[] Lake
[] Other:
[] QA Sample Type:

Sample ID No. NASB-BG-SW06-040010
Sample Location: SW06
Sampled By: Jalkut, Fellows, Geringer, Rojahn
C.O.C. No.:

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp. (°C)	S.C. (us/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/6/10								
Time: 1310								
Depth: 2.5								
Method: Kemmerer	Clear Colorless	8.87	253	11.61	4.58	356.6	1.8	

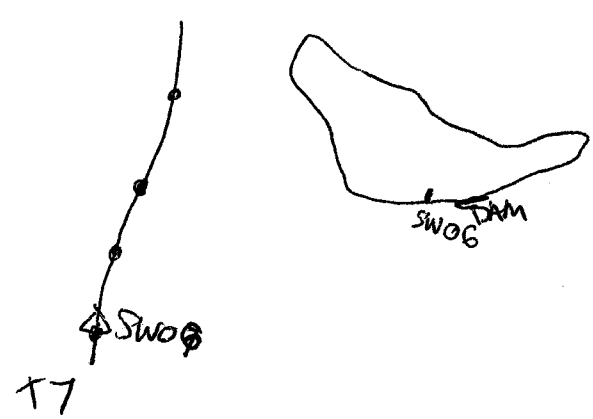
SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
PAH	---	2 x 1 liter amber glass, unpreserved	Yes / No
TAL Metals (unfiltered and filtered)	HNO_3	1 each 500 mL poly with HNO_3	Yes / No

OBSERVATIONS / NOTES:

- Depth of Water = 4.1
- Dissolved metals collected in unpreserved poly then transferred to preserved poly at field trailer.

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	N/A

Signature(s): [signature]

Tetra Tech NUS, Inc.

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: NASB-Background Study, Brunswick, ME
Project No.: 112G00958 / CTO 432

[ ] Stream
[] Spring
[X] Pond
[] Lake
[] Other:
[] QA Sample Type:

Sample ID No. NASB-BG-SW07-0406 10
Sample Location: SW07
Sampled By: Jalkut, Fellows, Geringer, Rojahn
C.O.C. No.:

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp. (°C)	S.C. (us/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/6/10								
Time: 1330								
Depth: 2.5	Clear/ Colorless	8.26	241	10.03	5.01	326.0	1.6	
Method: Kemmerer								

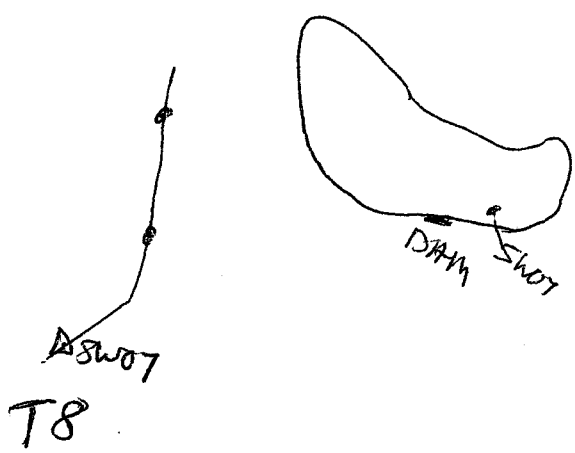
SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
PAH	---	2 x 1 liter amber glass, unpreserved	Yes / No
TAL Metals (unfiltered and filtered)	HNO_3	1 each 500 mL poly with HNO_3	Yes / No

OBSERVATIONS / NOTES:

- Depth of water = 4.5
- Dissolved metals collected in unpreserved poly then transfered to preserved poly at field trailer.
- No sheen / no odor.

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	N/A

Signature(s):

Tetra Tech NUS, Inc.

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: NASB-Background Study, Brunswick, ME
Project No.: 112G00958 / CTO 432

[ ] Stream
[] Spring
[X] Pond
[] Lake
[] Other:
[] QA Sample Type:

Sample ID No. NASB-BG-SW 08 -040010
Sample Location: SW08
Sampled By: Jalkut, Fellows, Geringer, Rojahn
C.O.C. No.:

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 4/6/10	Color (Visual)	Temp. (°C)	S.C. (us/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Time: 1350								
Depth: 1.75	clear/colorless	8.76	207	8.92	5.08	315.0		
Method: Immerser								

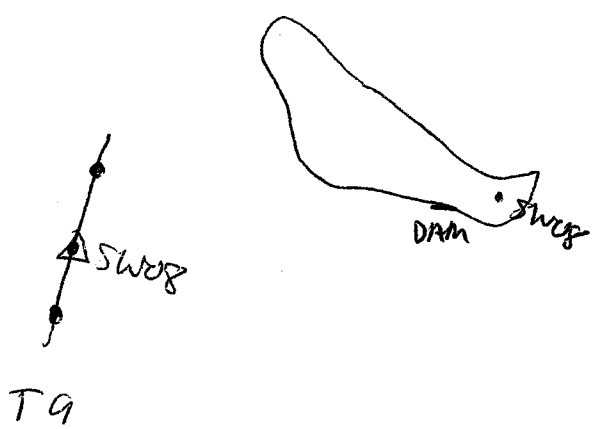
SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
PAH	---	2 x 1 liter amber glass, unpreserved	Yes / No
TAL Metals (unfiltered and filtered)	HNO_3	1 each 500 mL poly with HNO_3	Yes / No

OBSERVATIONS / NOTES:

- Depth of Water = 3.5 ft
- Dissolved metals collected on unpreserved poly then transfered to preserved poly at field trailer.
- No Sheen / no odor

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	N/A

Signature(s):

Tetra Tech NUS, Inc.

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: NASB-Background Study, Brunswick, ME
Project No.: 112G00958 / CTO 432

Sample ID No. NASB-BG-SW09-040810
Sample Location: SW09
Sampled By: Jalkut, Fellows, Geringer, Rojahn
C.O.C. No.:

[X] Stream
[] Spring
[] Pond
[] Lake
[] Other:
[] QA Sample Type:

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp. (°C)	S.C. (us/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/8/10								
Time: 1045								
Depth: 0.4'	clear/ colorless	10.90	203	10.09	3.47	374.2	1.13	
Method: Grab								

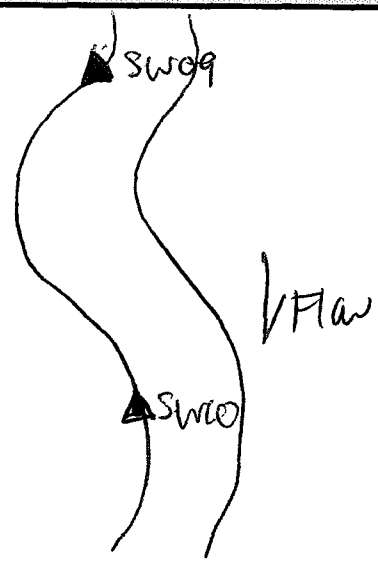
SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
PAH	---	2 x 1 liter amber glass, unpreserved	Yes/No
TAL Metals (unfiltered and filtered)	HNO_3	1 each 500 mL poly with HNO_3	Yes/No

OBSERVATIONS / NOTES:

No sheen or odor
SW Depth = 0.6'
Stream width = 6.8 ft
Distance from post to bank = 1.2

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	NASB-BG-SW-DUP02-040810

Signature(s):

Tetra Tech NUS, Inc.

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: NASB-Background Study, Brunswick, ME
Project No.: 112G00958 / CTO 432

[X] Stream
[] Spring
[] Pond
[] Lake
[] Other:
[] QA Sample Type:

Sample ID No. NASB-BG-SW 10 -0408 10
Sample Location: SW10
Sampled By: Jalkut, Fellows, Geringer, Rojahn
C.O.C. No.:

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp. (°C)	S.C. (us/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/8/10								
Time: 1035								
Depth: 2.1'	Clear							
Method: Grab	colorless	10.89	203	10.11	3.08	392.7	0.88	

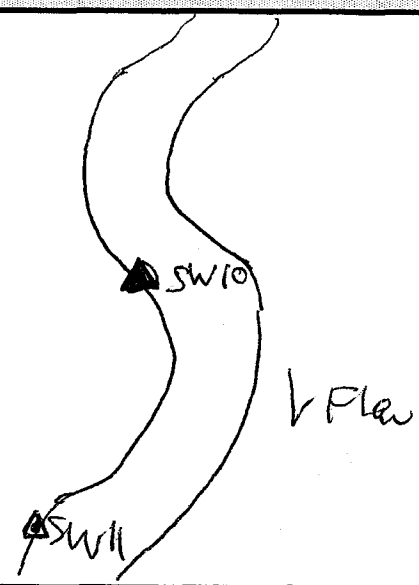
SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
PAH	---	2 x 1 liter amber glass, unpreserved	Yes / No
TAL Metals (unfiltered and filtered)	HNO_3	1 each 500 mL poly with HNO_3	Yes / No

OBSERVATIONS / NOTES:

No odor or sheen
SW Depth = 2.25
width of stream = 7ft
distance from post to bank = 1.1 ft

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
MS	MD

Signature(s):

Tetra Tech NUS, Inc.

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: NASB-Background Study, Brunswick, ME
Project No.: 112G00958 / CTO 432

Sample ID No. NASB-BG-SW11-0410
Sample Location: SW11
Sampled By: Jalkut, Fellows, Geringer, Rojahn
C.O.C. No.:

[X] Stream
[] Spring
[] Pond
[] Lake
[] Other:
[] QA Sample Type:

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp. (°C)	S.C. (us/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/8/10 Time: 1025 Depth: 1.1' Method: Grab	Clear/colorless	10.89	202	10.14	3.06	392.3	1.23	

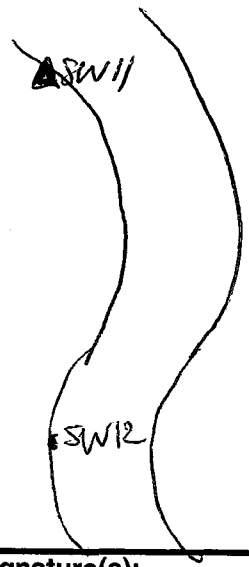
SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
PAH	---	2 x 1 liter amber glass, unpreserved	Yes / No
TAL Metals (unfiltered and filtered)	HNO_3	1 each 500 mL poly with HNO_3	Yes / No

OBSERVATIONS / NOTES:

No sheen no odor
SW Depth = 1.25 ft
width of stream = 8 ft
Distance from post to bank = 2.1 ft

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	N/A

Signature(s):

Tetra Tech NUS, Inc.

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: NASB-Background Study, Brunswick, ME
Project No.: 112G00958 / CTO 432

Sample ID No. NASB-BG-SW12-040810
Sample Location: SW12
Sampled By: Jalkut, Fellows, Geringer, Rojahn
C.O.C. No.:

[X] Stream
[] Spring
[] Pond
[] Lake
[] Other:
[] QA Sample Type:

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp. (°C)	S.C. (us/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/8/10								
Time: 0955								
Depth: ~~2.3~~ 1.0'								
Method: Grab	Clear/colorless	10.86	203	9.99	3.58	365.4	1.19	

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
PAH	---	2 x 1 liter amber glass, unpreserved (6 liters)	Yes / No
TAL Metals (unfiltered and filtered)	HNO_3	1 each 500 mL poly with HNO_3 (2 each)	Yes / No

OBSERVATIONS / NOTES:

No sheen or odor
SW Depth = 1.3'
Width of stream = 7.5'
Distance from post to bank = 2.5'

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
Yes	NA

Signature(s): [illegible]

Tetra Tech NUS, Inc.

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: NASB-Background Study, Brunswick, ME
Project No.: 112G00958 / CTO 432

[X] Stream
[] Spring
[] Pond
[] Lake
[] Other:
[] QA Sample Type:

Sample ID No. NASB-BG-SW13-040810
Sample Location: SW13
Sampled By: Jalkut, Fellows, Geringer, Rojahn
C.O.C. No.:

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp. (°C)	S.C. (us/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/8/10								
Time: 0940								
Depth: 1.5	Clear							
Method: Grab	colorless	10.79	198	10.11	3.78	350.0	0.81	

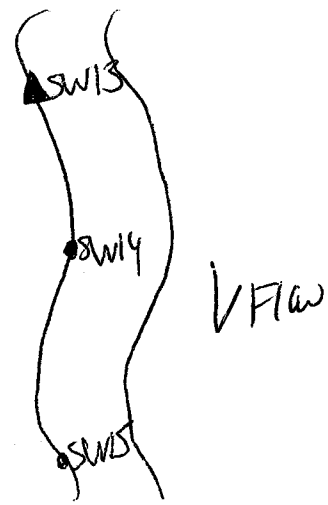
SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
PAH	---	2 x 1 liter amber glass, unpreserved	Yes / No
TAL Metals (unfiltered and filtered)	HNO_3	1 each 500 mL poly with HNO_3	Yes / No

OBSERVATIONS / NOTES:

- No stream or odor
- SW Depth = 1.75
- Width of stream = 8.2 ft
- Distance to post from bank = 1.0

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
NA	NA

Signature(s):

Tetra Tech NUS, Inc.

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: NASB-Background Study, Brunswick, ME
Project No.: 112G00958 / CTO 432

[X] Stream
[] Spring
[ ] Pond
[] Lake
[] Other:
[] QA Sample Type:

Sample ID No. NASB-BG-SW 14 -040810
Sample Location: SW14
Sampled By: Jalkut, Fellows, Geringer, Rojahn
C.O.C. No.:

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp. (°C)	S.C. (us/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/8/10								
Time: 0930								
Depth: 0.7 ft	Clear/ Colorless	10.80	199	10.05	4.46	312.6	0.88	
Method: Grab								

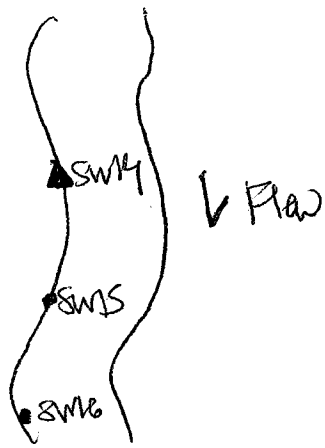
SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
PAH	---	2 x 1 liter amber glass, unpreserved	Yes / No
TAL Metals (unfiltered and filtered)	HNO_3	1 each 500 mL poly with HNO_3	Yes / No

OBSERVATIONS / NOTES:

- No sheen, no odor
- SW depth = 0.9 ft
- width of stream = 7 ft
- Distance to post from bank = 2.5 ft

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	N/A

Signature(s):

Tetra Tech NUS, Inc.

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: NASB-Background Study, Brunswick, ME
Project No.: 112G00958 / CTO 432

Sample ID No. NASB-BG-SW 15 -040810
Sample Location: SW15
Sampled By: Jalkut, Fellows, Geringer, Rojahn
C.O.C. No.:

[X] Stream
[] Spring
[] Pond
[] Lake
[] Other:
[] QA Sample Type:

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp. (°C)	S.C. (us/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/8/10								
Time: 0925								
Depth: 1.2	clear colorless	10.80	199	10.01	5.02	306.8	1.44	
Method: Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
PAH	---	2 x 1 liter amber glass, unpreserved	Yes / No
TAL Metals (unfiltered and filtered)	HNO_3	1 each 500 mL poly with HNO_3	Yes / No

OBSERVATIONS / NOTES:

- No sheen, no odor
- SW Depth = 1.4
- width of stream ≈ 7 ft
- SW15 post 1.2 ft from bank

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	N/A

Signature(s):

Tetra Tech NUS, Inc.

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: NASB-Background Study, Brunswick, ME
Project No.: 112G00958 / CTO 432

Sample ID No. NASB-BG-SW 16-0409 10
Sample Location: SW16
Sampled By: Jalkut, Fellows, Geringer, Rojahn
C.O.C. No.:

[X] Stream
[] Spring
[] Pond
[] Lake
[] Other:
[] QA Sample Type:

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	Temp. (°C)	S.C. (us/cm)	DO (mg/L)	pH (S.U.)	ORP (mv)	Turbidity (NTU)	Other
Date: 4/8/10 Time: 0915 Depth: 0.8 ft Method: Grab	clear colorless	10.81	199	10.46	5.73	289.2	1.1	

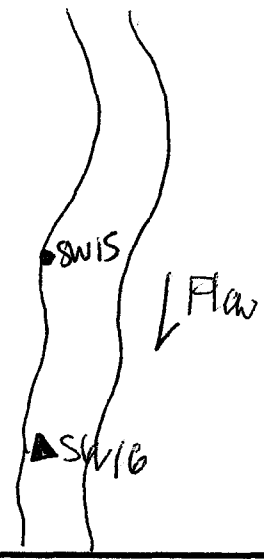
SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
PAH	---	2 x 1 liter amber glass, unpreserved	(Yes) / No
TAL Metals (unfiltered and filtered)	HNO_3	1 each 500 mL poly with HNO_3	(Yes) / No

OBSERVATIONS / NOTES:

- No sheens or odors
- SW depth at post = 1.0 ft
- width of stream = 6 ft
- SW16 post 1.5 ft ft from bank

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	N/A

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NASB-Background Study, Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: NASB-BG-SD01-0006
Sample Location: SD01
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:

Type of Sample:
[X] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 4/7/10 Time: 1038 Method: Power Dredge Monitor Reading (ppm):	00-06	Dark Brown	Organic material, some silt, saturated.

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

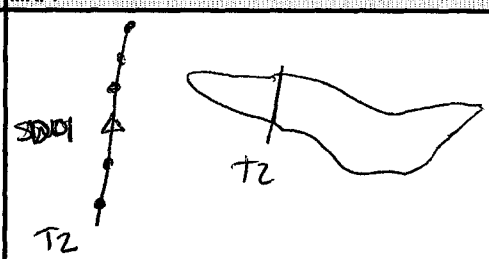
SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected	Other
PAH	Cool 4° C,	1 x 8 oz wide mouth jar	YES / NO	
Pesticides/Herbicides	Cool 4° C	1 x 8 oz wide mouth jar	YES / NO	
TOC/Metals	Cool 4° C,	1 x 4 oz wide mouth jar	YES / NO	
Grain Size	Cool 4° C	1 x liter poly	YES / NO	

OBSERVATIONS / NOTES:

*See NASB BG-SWC1-040810 log sheet
-organic odor

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	N/A

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NASB-Background Study, Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: NASB-BG-SD02-0006
Sample Location: SD02
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:

Type of Sample:
[X] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 4/7/10 Time: 1035 Method: Dover Dredge Monitor Reading (ppm):	00-06	Dark Brown	organic material, some silt, saturated

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

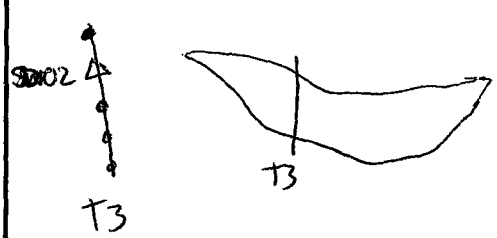
SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected	Other
PAH	Cool 4° C,	1 x 8 oz wide mouth jar	YES / NO	
Pesticides/Herbicides	Cool 4° C	1 x 8 oz wide mouth jar	YES / NO	
TOC/Metals	Cool 4° C,	1 x 4 oz wide mouth jar	YES / NO	
Grain Size	Cool 4° C	1 x liter poly	YES / NO	

OBSERVATIONS / NOTES:

* See NASB-BG-SW02-040710 log sheet
-Organic odor

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	N/A

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NASB-Background Study, Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: NASB-BG-SD03-0006
Sample Location: SD03
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:

Type of Sample:
[X] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 4/7/10 Time: 1018 Method: Paper bucket Monitor Reading (ppm):	00-06	Dark Brown	Organic material, some silt, saturated (longitudinal, green plant-stringie)

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

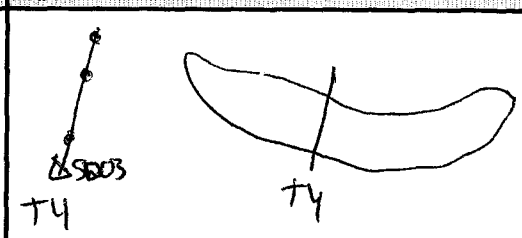
SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected	Other
PAH	Cool 4° C,	1 x 8 oz wide mouth jar	YES / NO	
Pesticides/Herbicides	Cool 4° C	1 x 8 oz wide mouth jar	YES / NO	
TOC/Metals	Cool 4° C,	1 x 4 oz wide mouth jar	YES / NO	
Grain Size	Cool 4° C	1 x liter poly	YES / NO	

OBSERVATIONS / NOTES:

* See NASB-BG-SW03-040606 logsheet
- organic odor

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	NASB-BG-SD-DUP01-040710

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NASB-Background Study, Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: NASB-BG-SD04-0006
Sample Location: SD04
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:

Type of Sample:
[X] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 4/7/10 Time: 1010 Method: Petite Dredge Monitor Reading (ppm):	00-06	Dark Brown	-organic materials, some silt, saturated (lay, thin, green plant-stringie)

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

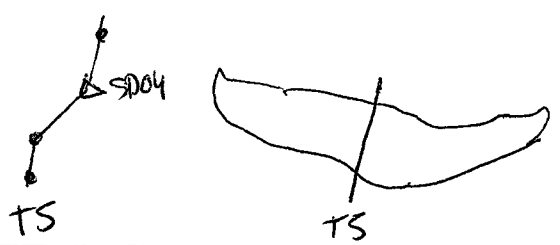
SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected	Other
PAH	Cool 4° C,	1 x 8 oz wide mouth jar	YES NO	
Pesticides/Herbicides	Cool 4° C	1 x 8 oz wide mouth jar	YES NO	
TOC/Metals	Cool 4° C,	1 x 4 oz wide mouth jar	YES NO	
Grain Size	Cool 4° C	1 x liter poly	YES NO	

OBSERVATIONS / NOTES:

*See NASB-BG-SW04-040610 log sheet
-organic odor

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
NA	N/A

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NASB-Background Study, Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: NASB-BG-SD05-0006
Sample Location: SD05
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:

Type of Sample:
[X] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 4/7/10 Time: 0958 Method: Ponar Dredge Monitor Reading (ppm):	00-06	Dark Brown	organic material, some silt, saturated.

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

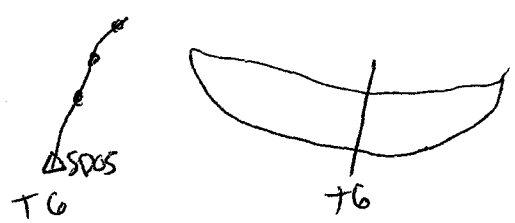
SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected	Other
PAH	Cool 4° C,	1 x 8 oz wide mouth jar	YES / NO	
Pesticides/Herbicides	Cool 4° C	1 x 8 oz wide mouth jar	YES / NO	
TOC/Metals	Cool 4° C,	1 x 4 oz wide mouth jar	YES / NO	
Grain Size	Cool 4° C	1 x liter poly	YES / NO	

OBSERVATIONS / NOTES:

*see NASB-BG-SW05-040710 log sheet
-organic odor

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	N/A

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NASB-Background Study, Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: NASB-BG-SD06-0006
Sample Location: SD06
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:

Type of Sample:
[X] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 4/7/10 Time: 0950 Method: Ponar Dredge Monitor Reading (ppm):	00-06	Dark Brown	organic material, some silt, saturated.

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

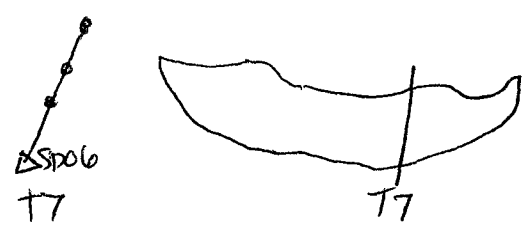
SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected	Other
PAH	Cool 4° C,	1 x 8 oz wide mouth jar	YES / NO	
Pesticides/Herbicides	Cool 4° C	1 x 8 oz wide mouth jar	YES / NO	
TOC/Metals	Cool 4° C,	1 x 4 oz wide mouth jar	YES / NO	
Grain Size	Cool 4° C	1 x liter poly	YES / NO	

OBSERVATIONS / NOTES:

* See NASB-BG-SW06-040610 log sheet
- organic odor

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	N/A

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NASB-Background Study, Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: NASB-BG-SD07-0006
Sample Location: SD07
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:

Type of Sample:
[X] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 4/7/10 Time: 0940 Method: Paper Dredge Monitor Reading (ppm):	00-06	Dark Brown	Mostly organics, some silt, saturated

COMPOSITE SAMPLE DATA:

	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:				
Method:				
Monitor Readings (Range in ppm):				

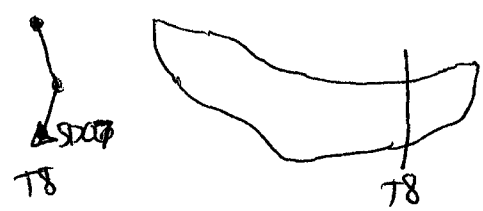
SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected	Other
PAH	Cool 4° C,	1 x 8 oz wide mouth jar	YES / NO	
Pesticides/Herbicides	Cool 4° C	1 x 8 oz wide mouth jar	YES / NO	
TOC/Metals	Cool 4° C,	1 x 4 oz wide mouth jar	YES / NO	
Grain Size	Cool 4° C	1 x liter poly	YES / NO	

OBSERVATIONS / NOTES:

*See NASB-BG-SW07-040610 logsheet
-organic odor

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
NA	NA

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NASB-Background Study, Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: NASB-BG-SD08-0006
Sample Location: SD08
Sampled By: ~~Fellows/Geringer/Rojahn~~
C.O.C. No.:

Type of Sample:
[X] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 4/7/10 Time: 0930 Method: Ponar Dredge Monitor Reading (ppm):	00-06	Dark Brown	Mostly organics, some silt, saturated. (Pineneedles, leaves, etc.)

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

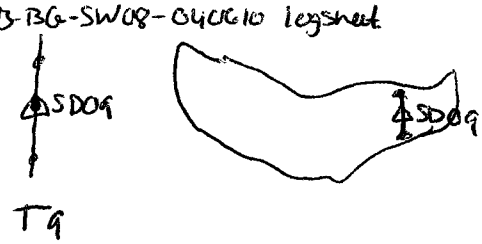
Analysis	Preservative	Container Requirements	Collected	Other
PAH	Cool 4° C,	1 x 8 oz wide mouth jar	YES / NO	
Pesticides/Herbicides	Cool 4° C	1 x 8 oz wide mouth jar	YES / NO	
TOC/Metals	Cool 4° C,	1 x 4 oz wide mouth jar	YES / NO	
Grain Size	Cool 4° C	1 x liter poly	YES / NO	

OBSERVATIONS / NOTES:

- organic odor

MAP:

See NASB-BG-SW08-040610 logsheet



Circle if Applicable:

MS/MSD	Duplicate ID No.:
MS	MA

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NASB-Background Study, Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: NASB-BG-SD09-0006
Sample Location: SD-09
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:

Type of Sample:
[X] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 04/08/10 Time: 1100 Method: Auger-Grab Monitor Reading (ppm):	0-6"	Brown	Sand(F), trace Silt, some organic material, wood Saturated

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected	Other
PAH	Cool 4° C,	1 x 8 oz wide mouth jar	YES / NO	
Pesticides/Herbicides	Cool 4° C	1 x 8 oz wide mouth jar	YES / NO	
TOC/Metals	Cool 4° C,	1 x 8 oz wide mouth jar	YES / NO	
Grain Size	Cool 4° C	1 x liter poly	YES / NO	

OBSERVATIONS / NOTES:

Some organic odor

MAP:

Refer to SW09 ~~BG~~ BG log

Circle if Applicable:

MS/MSD	Duplicate ID No.:
MS	NASB-BG-SD-DUP02-040810

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NASB-Background Study, Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: NASB-BG-SD 10 -0006
Sample Location: SD-10
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:

Type of Sample:
[X] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 04/08/10 Time: 1050 Method: Auger-Grab Monitor Reading (ppm):	0-6"	Dk. Brown / Brown	Silt & Sand(F) - Some Peat, Wood, organic Material Saturated

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected	Other
PAH	Cool 4° C,	1 x 8 oz wide mouth jar	YES / NO	
Pesticides/Herbicides	Cool 4° C	1 x 8 oz wide mouth jar	YES / NO	
TOC/Metals	Cool 4° C,	1 x 8 oz wide mouth jar	YES / NO	
Grain Size	Cool 4° C	1 x liter poly	YES / NO	

OBSERVATIONS / NOTES:

Some organic odor - Peat noted in Sample

MAP:

Refer to SW-10 log.

Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	N/A

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NASB-Background Study, Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: NASB-BG-SD-11-0006
Sample Location: SD-11
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:

Type of Sample:
[X] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 04/08/10 Time: 1030 Method: Auger-Grab Monitor Reading (ppm):	0-6"	Brown	Sand (F), Trace Silt, Some organic material, roots, wood Saturated

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected	Other
PAH	Cool 4° C,	1 x 8 oz wide mouth jar	YES / NO	
Pesticides/Herbicides	Cool 4° C	1 x 8 oz wide mouth jar	YES / NO	
TOC/Metals	Cool 4° C,	1 x 8 oz wide mouth jar	YES / NO	
Grain Size	Cool 4° C	1 x liter poly	YES / NO	

OBSERVATIONS / NOTES:

Organic odor

MAP:

Refer to SW-11 Map

Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	N/A

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NASB-Background Study, Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: NASB-BG-SD 12 -0006
Sample Location: SD-12
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:

Type of Sample:
[X] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 04/08/10 Time: 1020 Method: Auger-Grab Monitor Reading (ppm):	0-6"	Brown/ Dk. Brown	Sand(F), little Silt, Some organic Material, roots Saturated

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected	Other
PAH	Cool 4° C,	1 x 8 oz wide mouth jar	YES / NO	
Pesticides/Herbicides	Cool 4° C	1 x 8 oz wide mouth jar	YES / NO	
TOC/Metals	Cool 4° C,	1 x 8 oz wide mouth jar	YES / NO	
Grain Size	Cool 4° C	1 x liter poly	YES / NO	

OBSERVATIONS / NOTES:

- Organic odor
- Feeder Stream located 10-15ft downstream has iron staining on stream sediments.

MAP:

Refer to SW-12 Map

Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	N/A

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NASB-Background Study, Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: NASB-BG-SD 13 -0006
Sample Location: SD13
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:

Type of Sample:
[X] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 4/08/10 Time: 0950 Method: Auger-Grab Monitor Reading (ppm):	0-6"	Brown	Sand (F), Some Silt, organic material, wood, Saturated

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected	Other
PAH	Cool 4° C,	1 x 8 oz wide mouth jar	YES / NO	
Pesticides/Herbicides	Cool 4° C	1 x 8 oz wide mouth jar	YES / NO	
TOC/Metals	Cool 4° C,	1 x 8 oz wide mouth jar	YES / NO	
Grain Size	Cool 4° C	1 x liter poly	YES / NO	

OBSERVATIONS / NOTES:

organic odor

MAP:

Refer to SW-13 log

Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	N/A

Signature(s):

207-607-1563 Captain Vroomen

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NASB-Background Study, Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: NASB-BG-SD14-0006
Sample Location: SD-14
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:

Type of Sample:
[X] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 4/8/10 Time: 0945 Method: Auger - Grab Monitor Reading (ppm):	0-6"	Brown / Dk. Brown	Sand(F), T-Silt, Some organic material, wood, roots, Saturated

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected	Other
PAH	Cool 4° C,	1 x 8 oz wide mouth jar	YES / NO	
Pesticides/Herbicides	Cool 4° C	1 x 8 oz wide mouth jar	YES / NO	
TOC/Metals	Cool 4° C,	1 x 8 oz wide mouth jar	YES / NO	
Grain Size	Cool 4° C	1 x liter poly	YES / NO	
Extra volume for MS/MSD	cool 4°C	1 x liter poly	Yes / NO	

OBSERVATIONS / NOTES:

organic odor
Collected extra 1 liter jar for MS/MSD

MAP:

Refer to SW14 log

Circle if Applicable:

MS/MSD

Duplicate ID No.: NA

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NASB-Background Study, Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: NASB-BG-SD15-0006
Sample Location: SD15
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:

Type of Sample:
[X] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 4/08/10 Time: 0930 Method: Auger - Grab Monitor Reading (ppm):	0-6	Lt. Brown/Gray	SAND(F), Trace Silt, little organic Material Saturated

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected	Other
PAH	Cool 4° C,	1 x 8 oz wide mouth jar	YES / NO	
Pesticides/Herbicides	Cool 4° C	1 x 8 oz wide mouth jar	YES / NO	
TOC/Metals	Cool 4° C,	2x4 ~~1x8~~ oz wide mouth jar	YES / NO	
Grain Size	Cool 4° C	1 x liter poly	YES / NO	

OBSERVATIONS / NOTES:

No odor

MAP:

Refer to SW-15 log

Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	N/A

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NASB-Background Study, Brunswick, ME
Project No.: 112G00958 / CTO 432

[] Surface Soil
[] Subsurface Soil
[X] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: NASB-BG-SD16-0006
Sample Location: SD16
Sampled By: Fellows/Geringer/Rojahn
C.O.C. No.:

Type of Sample:
[X] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 04/03/10 Time: 0920 Method: Auger-Grab Monitor Reading (ppm):	0-6"	Brown / Dk. Brown	Sand(F) & Silt - Some organic Material Saturated, roots etc.

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected	Other
PAH	Cool 4° C,	1 x 8 oz wide mouth jar	(YES) / NO	
Pesticides/Herbicides	Cool 4° C	1 x 8 oz wide mouth jar	(YES) / NO	
TOC/Metals	Cool 4° C,	2x 4 oz wide mouth jar	(YES) / NO	2x 4oz jars
Grain Size	Cool 4° C	1 x liter poly	(YES) / NO	

OBSERVATIONS / NOTES:

Some organic odor

MAP:

Refer to SW16 log

Circle if Applicable:

MS/MSD	Duplicate ID No.:
N/A	N/A

Signature(s):

Tetra Tech NUS, Inc.

QA SAMPLE LOG SHEET

Project Site Name: NASB-Background Study, Brunswick, ME
Project Number: 112G00958 / CTO 432
Sample Location:
QA Sample Type:

Sample ID Number: NASB-BG-SW-RB01-0407 10
Sampled By: Fellows/Geringer/Rojahn
C.O.C. Number:

[ ] Trip Blank
[ ] Source Water Blank (Field Blank)
[X] Rinsate Blank
[ ] Other Blank

SAMPLING DATA:

Date: 4/7/10
Time: 1330
Method: Direct Pour

WATER SOURCE:

[] Laboratory Prepared
[X] Purchased
[] Other
[] Tap
[] Fire Hydrant

PURCHASED WATER INFORMATION (If Applicable as Source or Rinsate Water):

Product Name: Reagent Grade Water (DIUF)
Supplier: NERL Diagnostics
Manufacturer:
Order Number:
Lot Number: 0313030
Expiration Date: 03-2011

RINSATE INFORMATION (If Applicable):

Media Type: Surface water
Equipment Used: Kemmerer
Equipment Type:
[ ] Dedicated
[X] Reusable
[ ] Disposable

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
PAH	---	2 X 1 liter glass amber - unpreserved	YES / NO
Metals (filtered and unfiltered)	HNO_3	1 for each X 500mL poly with HNO_3	YES / NO

OBSERVATIONS / NOTES:

Signature(s):

Tetra Tech NUS, Inc.

QA SAMPLE LOG SHEET

Project Site Name: NASB-Background Study, Brunswick, ME
Project Number: 112G00958 / CTO 432
Sample Location:
QA Sample Type:

Sample ID Number: NASB-BG-SW-FB01-04-07-10
Sampled By: Fellows/Geringer/Rojahn
C.O.C. Number:

[ ] Trip Blank
[X] Source Water Blank (Field Blank)
[ ] Rinsate Blank
[ ] Other Blank

SAMPLING DATA:

Date: 4/7/10
Time: 1320
Method: Direct Pour

WATER SOURCE:

[] Laboratory Prepared
[X] Purchased
[] Other
[] Tap
[] Fire Hydrant

PURCHASED WATER INFORMATION (If Applicable as Source or Rinsate Water):

Product Name: Reagent Grade Water (DIUF)
Supplier: NERL Diagnostics
Manufacturer:
Order Number:
Lot Number: 0509069
Expiration Date: 05-2010

RINSATE INFORMATION (If Applicable):

Media Type: N/A
Equipment Used: N/A
Equipment Type:
[] Dedicated
[] Reusable
[] Disposable

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
PAH	---	2 x 1 liter amber glass jars, unpreserved	YES / NO
TAL Metals (unfiltered)	HNO_3	1 X 500mL poly with HNO_3	YES / NO

OBSERVATIONS / NOTES:

Signature(s):

Tetra Tech NUS, Inc.

QA SAMPLE LOG SHEET

Project Site Name: NASB-Background Study, Brunswick, ME
Project Number: 112G00958 / CTO 432
Sample Location:
QA Sample Type:

Sample ID Number: NASB-BG-SD-RB01-0407 10
Sampled By: Jalkut, Fellows/ ~~Traut~~ Geringer/Rojann
C.O.C. Number:

[ ] Trip Blank
[ ] Source Water Blank (Field Blank)
[X] Rinsate Blank
[ ] Other Blank

SAMPLING DATA:

Date: 4/7/10
Time: 1335
Method: Direct Pour

WATER SOURCE:

[] Laboratory Prepared
[X] Purchased
[] Other
[] Tap
[] Fire Hydrant

PURCHASED WATER INFORMATION (If Applicable as Source or Rinsate Water):

Product Name: Reagent Grade Water (DIUF)
Supplier: NERL Diagnostics
Manufacturer:
Order Number:
Lot Number: 0313030
Expiration Date: 03-2011

RINSATE INFORMATION (If Applicable):

Media Type: Sediment
Equipment Used: Disposable aluminum pan ~~and a disposable plastic scoop~~ CPS
Equipment Type:
[] Dedicated
[] Reusable
[X] Disposable

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
PAH	Cool 4°C	2 x 1L amber glass jars, unpreserved	YES / NO
Pesticides/Herbicides	Cool 4°C	2 x 1L amber glass jars, unpreserved	YES / NO
TAL Metals (unfiltered)	Cool 4°C, HNO3	1 x 500ml poly bottle	YES / NO
			~~YES / NO~~ CPS

OBSERVATIONS / NOTES:

Signature(s):

Tetra Tech NUS, Inc.

QA SAMPLE LOG SHEET

Project Site Name: NASB-Background Study, Brunswick, ME
Project Number: 112G00958 / CTO 432
Sample Location:
QA Sample Type:

Sample ID Number: NASB-BG-SD-FB01-04 07 10
Sampled By: Fellows/Geringer/Rojahn
C.O.C. Number:

[ ] Trip Blank
[X] Source Water Blank (Field Blank)
[ ] Rinsate Blank
[ ] Other Blank

SAMPLING DATA:

Date: 4/7/10
Time: 1325
Method: Direct Pour

WATER SOURCE:

[] Laboratory Prepared
[X] Purchased
[] Other
[] Tap
[] Fire Hydrant

PURCHASED WATER INFORMATION (If Applicable as Source or Rinsate Water):

Product Name: Reagent Grade Water (DIUF)
Supplier: NERL Diagnostics
Manufacturer:
Order Number:
Lot Number: 0509069
Expiration Date: 05-2010

RINSATE INFORMATION (If Applicable):

Media Type: N/A
Equipment Used: N/A
Equipment Type:
[] Dedicated
[] Reusable
[] Disposable

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
PAH	---	2 x 1 liter amber glass jars, unpreserved	YES / NO
Pesticides/Herbicides	---	2 x 1 liter amber glass jars, unpreserved	YES / NO
TAL Metals (unfiltered)	HNO_3	1 X 500mL poly with HNO_3	YES / NO
			~~YES / NO~~
			~~YES / NO~~

OBSERVATIONS / NOTES:

Signature(s):

Tetra Tech NUS, Inc.

QA SAMPLE LOG SHEET

Project Site Name: NASB-Background Study, Brunswick, ME
Project Number: 112G00958 / CTO 432
Sample Location:
QA Sample Type:

Sample ID Number: NASB-BG-GW-FB01-~~03~~ 041610 ~~10~~ BG
Sampled By: Fellows/Geringer/Rojahn
C.O.C. Number:

[ ] Trip Blank
[X] Source Water Blank (Field Blank)
[ ] Rinsate Blank
[ ] Other Blank

SAMPLING DATA:

Date: 04/16/10
Time: 1150
Method: Direct Pour

WATER SOURCE:

[] Laboratory Prepared
[X] Purchased
[] Other
[] Tap
[] Fire Hydrant

PURCHASED WATER INFORMATION (If Applicable as Source or Rinsate Water):

Product Name: Reagent Grade Water (DIUF)
Supplier: NERL Diagnostics
Manufacturer:
Order Number: 0108120
Lot Number:
Expiration Date: 01/2011

RINSATE INFORMATION (If Applicable):

Media Type: N/A
Equipment Used:
Equipment Type:
[] Dedicated
[] Reusable
[] Disposable

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
PAH	---	2 x 1 liter amber glass jars, unpreserved	YES / NO
TAL Metals (unfiltered)	HNO_3	1 X 500mL poly with HNO_3	YES / NO

OBSERVATIONS / NOTES:

Signature(s):

Tetra Tech NUS, Inc.

QA SAMPLE LOG SHEET

Project Site Name: NASB-Background Study, Brunswick, ME
Project Number: 112G00958 / CTO 432
Sample Location:
QA Sample Type:

Sample ID Number: NASB-BG-GW-RB01-04-16-10
Sampled By: Fellows/Geringer/Rojahn
C.O.C. Number:

[ ] Trip Blank
[ ] Source Water Blank (Field Blank)
[X] Rinsate Blank
[ ] Other Blank

SAMPLING DATA:

Date: 4/16/10
Time: 1200
Method: ~~Direct Pour~~ Microbladder

WATER SOURCE:

[] Laboratory Prepared
[X] Purchased
[] Other
[] Tap
[] Fire Hydrant

PURCHASED WATER INFORMATION (If Applicable as Source or Rinsate Water):

Product Name: Reagent Grade Water (DIUF)
Supplier: NERL Diagnostics
Manufacturer:
Order Number:
Lot Number: 0108120
Expiration Date: 01/2011

RINSATE INFORMATION (If Applicable):

Media Type: Groundwater
Equipment Used: Microbladder Pump; teflon tubing
Equipment Type: Poly tubing; 45 um Filter
[X] Dedicated
[] Reusable
[] Disposable

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
PAH	---	2 x 1 liter amber glass jars, unpreserved	YES / NO
TAL Metals (unfiltered and filtered)	HNO_3	1 for each X 500mL poly with HNO_3	YES / NO

OBSERVATIONS / NOTES:

Signature(s):

Tetra Tech NUS, Inc.

QA SAMPLE LOG SHEET

Project Site Name: NASB-Background Study, Brunswick, ME
Project Number: 112G00958 / CTO 432
Sample Location:
QA Sample Type:

Sample ID Number: NASB-BG-GW-RB02-04 16 10
Sampled By: Fellows/Geringer/Rojahn
C.O.C. Number:

[ ] Trip Blank
[ ] Source Water Blank (Field Blank)
[X] Rinsate Blank
[ ] Other Blank

SAMPLING DATA:

Date: 4/16/10
Time: 1205
Method: ~~Direct Pour~~ Microbladder

WATER SOURCE:

[] Laboratory Prepared
[X] Purchased
[] Other
[] Tap
[] Fire Hydrant

PURCHASED WATER INFORMATION (If Applicable as Source or Rinsate Water):

Product Name: Reagent Grade Water (DIUF)
Supplier: NERL Diagnostics
Manufacturer:
Order Number:
Lot Number: 0108120
Expiration Date: 01/2011

RINSATE INFORMATION (If Applicable):

Media Type: Groundwater
Equipment Used: Microbladder Pump, teflon tubing,
Equipment Type: Poly tubing; 45 um Filter
[X] Dedicated
[] Reusable
[] Disposable

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
PAH	---	2 x 1 liter amber glass jars, unpreserved	YES / NO
TAL Metals (unfiltered and filtered)	HNO_3	1 for each X 500mL poly with HNO_3	YES / NO

OBSERVATIONS / NOTES:

Signature(s):

Tetra Tech NUS, Inc.

QA SAMPLE LOG SHEET

Project Site Name: NASB-Background Study, Brunswick, ME
Project Number: 112G00958 / CTO 432
Sample Location:
QA Sample Type:

Sample ID Number: NASB-BG-GW-RB03-0419 10
Sampled By: Fellows/Geringer/Rojahn
C.O.C. Number:

[ ] Trip Blank
[ ] Source Water Blank (Field Blank)
[X] Rinsate Blank
[ ] Other Blank

SAMPLING DATA:

Date: 4/19/10
Time: 1600
Method: ~~Direct Pour~~ Microbladder

WATER SOURCE:

[] Laboratory Prepared
[X] Purchased
[] Other
[] Tap
[] Fire Hydrant

PURCHASED WATER INFORMATION (If Applicable as Source or Rinsate Water):

Product Name: Reagent Grade Water (DIUF)
Supplier: NERL Diagnostics
Manufacturer:
Order Number:
Lot Number: 0509069
Expiration Date: 05-2010

RINSATE INFORMATION (If Applicable):

Media Type: Groundwater
Equipment Used: Microbladder pump, teflon tubing
Equipment Type: poly tubing, .45 µm filter
[X] Dedicated
[X] Reusable
[] Disposable

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
PAH	---	2 x 1 liter amber glass jars, unpreserved	YES NO
TAL Metals (unfiltered and filtered)	HNO_3	1 for each X 500mL poly with HNO_3	YES NO

OBSERVATIONS / NOTES:

Signature(s):

APPENDIX D

DATABASE

LOCATION	NASB-BG-SB-01	NASB-BG-SB-01	NASB-BG-SB-02	NASB-BG-SB-02	NASB-BG-SB-03	NASB-BG-SB-03	NASB-BG-SB-04	NASB-BG-SB-04
SAMPLE ID	NASB-BG-SB-SB01-0110	NASB-BG-SB-SB01-0001	NASB-BG-SB-SB02-0110	NASB-BG-SB-SB02-0001	NASB-BG-SB-SB03-0110	NASB-BG-SB-SB03-0001	NASB-BG-SB-SB04-0001	NASB-BG-SB-SB04-0110-D
SAMPLE DATE	8/20/2009	8/20/2009	8/20/2009	8/20/2009	8/20/2009	8/20/2009	8/20/2009	8/20/2009
Geplogic Unit	Upper Sand	Upper Sand	Upper Sand	Upper Sand	Upper Sand	Upper Sand	Upper Sand	Upper Sand
HERBICIDES (UG/KG)								
2,4,5-T	--	11 U	--	10 U	--	11 U	11 U	--
2,4,5-TP (SILVEX)	--	6.6 U	--	6.5 U	--	6.8 U	6.8 U	--
2,4-D	--	6.4 U	--	6.3 U	--	6.6 U	6.6 U	--
2,4-DB	--	12 U	--	12 U	--	12 U	12 U	--
DALAPON	--	7.2 U	--	7.0 U	--	7.4 U	7.3 U	--
DICAMBA	--	3.6 U	--	3.5 U	--	3.7 U	3.6 U	--
DICHLOROPROP	--	8.9 U	--	8.8 U	--	9.2 U	9.1 U	--
DINOSEB	--	1.2 U	--	1.2 U	--	1.2 U	1.2 U	--
MCPA	--	1400 U	--	1400 U	--	1400 U	1400 U	--
MCPP	--	300 U	--	290 U	--	310 U	300 U	--
METALS (MG/KG)								
ALUMINUM	4300	8190	5300	5790	4200	7910	8670	4070
ANTIMONY	0.02 UJ	0.03 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.05 UJ	0.02 UJ	0.02 UJ
ARSENIC	1.2	1.7	1.6	1.2	1.0	4.5	1.6	1.3
BARIUM	13.6	9.5	15.9	10.4	10.4	11.9	8.6	12.1
BERYLLIUM	0.20 J	0.32 J	0.69	0.24 J	0.21 J	0.30 J	0.31 J	0.20 J
CADMIUM	0.03 J	0.03 J	0.03 J	0.03 J	0.03 J	0.05 J	0.03 J	0.03 J
CALCIUM	769 J	258 J	694 J	330 J	541 J	330 J	323 J	655 J
CHROMIUM	6.9	7.9	7.6	6.3	5.9	6.3	7.5	5.8
COBALT	3.8	3.8	4.1	3.4	3.7	2.3	3.8	3.7
COPPER	5.7	5.5	6.8	5.1	5.5	5.0	4.8	6.0
IRON	6900	7630	7450	6510	6010	6800	7940	6800
LEAD	2.7 J	5.2 J	3.0 J	4.2 J	2.8 J	17.5 J	5.3 J	2.9 J
MAGNESIUM	1770 J	1200 J	1910 J	1240 J	1440 J	703 J	1020 J	1600 J
MANGANESE	182 J	145 J	166 J	192 J	194 J	202 J	174 J	206 J
MERCURY	0.01 U	0.03 J	0.01 U	0.01 J	0.01 U	0.09	0.02 J	0.01 U
NICKEL	7.6	7.8	7.9	6.6	8.0	3.8	5.6	8.0
POTASSIUM	815	329	851	519	588	200	232	698
SELENIUM	0.19 UJ	0.40 UJ	0.16 UJ	0.26 UJ	0.11 UJ	0.46 U	0.50 U	0.14 UJ
SILVER	0.06 U	0.07 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.07 U
SODIUM	48.8 J	29.7 J	47.5 J	30.4 J	34.2 J	26.3 J	29.4 J	41.4 J
THALLIUM	0.11 UJ	0.08 UJ	0.09 UJ	0.07 UJ	0.09 UJ	0.1 UJ	0.08 UJ	0.09 UJ
VANADIUM	11.4	12.9	12.7	10.8	9.5	11.3	13.7	11.2
ZINC	14.2	15.2	14.7	12.2	12.5	16.1	14.9	14.3
MISCELLANEOUS PARAMETERS								
TOTAL ORGANIC CARBON (MG/KG)	540	13000	530 J	7500	570	23000	17000	330 J
POLYCYCLIC AROMATIC HYDROCARBONS (UG/KG)								
2-METHYLNAPHTHALENE	2 U	2 U	2 UJ	2 U	2 U	2 U	2 U	2 U
ACENAPHTHENE	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
ACENAPHTHYLENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
ANTHRACENE	1 U	5 J	1 U	4 J	1 U	7 J	2 J	1 U
BENZO(A)ANTHRACENE	2 U	3 J	2 U	2 J	2 U	5 J	2 J	2 U
BENZO(A)PYRENE	3 U	4 J	4 U	3 U	3 U	6 J	4 U	3 U
BENZO(B)FLUORANTHENE	2 U	2 U	2 U	2 U	2 U	3 U	3 U	2 U
BENZO(G,H,I)PERYLENE	2 U	4 J	2 U	2 U	2 U	8 J	2 J	2 U
BENZO(K)FLUORANTHENE	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
CHRYSENE	2 U	4 J	2 U	2 J	2 U	7 J	2 J	2 U
DIBENZO(A,H)ANTHRACENE	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
FLUORANTHENE	2 U	9 J	2 U	4 J	2 U	12 J	4 J	2 U
FLUORENE	3 U	3 U	3 U	3 U	3 U	4 U	3 U	3 U
INDENO(1,2,3-CD)PYRENE	2 U	5 J	2 U	2 J	2 U	7 J	2 J	2 U
NAPHTHALENE	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
PHENANTHRENE	2 U	5 J	2 U	4 J	2 U	8 J	2 J	2 U

LOCATION	NASB-BG-SB-01	NASB-BG-SB-01	NASB-BG-SB-02	NASB-BG-SB-02	NASB-BG-SB-03	NASB-BG-SB-03	NASB-BG-SB-04	NASB-BG-SB-04
SAMPLE ID	NASB-BG-SB-SB01-0110	NASB-BG-SB-SB01-0001	NASB-BG-SB-SB02-0110	NASB-BG-SB-SB02-0001	NASB-BG-SB-SB03-0110	NASB-BG-SB-SB03-0001	NASB-BG-SB-SB04-0001	NASB-BG-SB-SB04-0110-D
SAMPLE DATE	8/20/2009	8/20/2009	8/20/2009	8/20/2009	8/20/2009	8/20/2009	8/20/2009	8/20/2009
Geplogic Unit	Upper Sand	Upper Sand	Upper Sand	Upper Sand	Upper Sand	Upper Sand	Upper Sand	Upper Sand
HERBICIDES (UG/KG)								
2,4,5-T	--	11 U	--	10 U	--	11 U	11 U	--
2,4,5-TP (SILVEX)	--	6.6 U	--	6.5 U	--	6.8 U	6.8 U	--
2,4-D	--	6.4 U	--	6.3 U	--	6.6 U	6.6 U	--
2,4-DB	--	12 U	--	12 U	--	12 U	12 U	--
DALAPON	--	7.2 U	--	7.0 U	--	7.4 U	7.3 U	--
DICAMBA	--	3.6 U	--	3.5 U	--	3.7 U	3.6 U	--
DICHLOROPROP	--	8.9 U	--	8.8 U	--	9.2 U	9.1 U	--
DINOSEB	--	1.2 U	--	1.2 U	--	1.2 U	1.2 U	--
MCPA	--	1400 U	--	1400 U	--	1400 U	1400 U	--
MCPP	--	300 U	--	290 U	--	310 U	300 U	--
METALS (MG/KG)								
ALUMINUM	4300	8190	5300	5790	4200	7910	8670	4070
ANTIMONY	0.02 UJ	0.03 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.05 UJ	0.02 UJ	0.02 UJ
ARSENIC	1.2	1.7	1.6	1.2	1.0	4.5	1.6	1.3
BARIUM	13.6	9.5	15.9	10.4	10.4	11.9	8.6	12.1
BERYLLIUM	0.20 J	0.32 J	0.69	0.24 J	0.21 J	0.30 J	0.31 J	0.20 J
CADMIUM	0.03 J	0.03 J	0.03 J	0.03 J	0.03 J	0.05 J	0.03 J	0.03 J
CALCIUM	769 J	258 J	694 J	330 J	541 J	330 J	323 J	655 J
CHROMIUM	6.9	7.9	7.6	6.3	5.9	6.3	7.5	5.8
COBALT	3.8	3.8	4.1	3.4	3.7	2.3	3.8	3.7
COPPER	5.7	5.5	6.8	5.1	5.5	5.0	4.8	6.0
IRON	6900	7630	7450	6510	6010	6800	7940	6800
LEAD	2.7 J	5.2 J	3.0 J	4.2 J	2.8 J	17.5 J	5.3 J	2.9 J
MAGNESIUM	1770 J	1200 J	1910 J	1240 J	1440 J	703 J	1020 J	1600 J
MANGANESE	182 J	145 J	166 J	192 J	194 J	202 J	174 J	206 J
MERCURY	0.01 U	0.03 J	0.01 U	0.01 J	0.01 U	0.09	0.02 J	0.01 U
NICKEL	7.6	7.8	7.9	6.6	8.0	3.8	5.6	8.0
POTASSIUM	815	329	851	519	588	200	232	698
SELENIUM	0.19 UJ	0.40 UJ	0.16 UJ	0.26 UJ	0.11 UJ	0.46 U	0.50 U	0.14 UJ
SILVER	0.06 U	0.07 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.07 U
SODIUM	48.8 J	29.7 J	47.5 J	30.4 J	34.2 J	26.3 J	29.4 J	41.4 J
THALLIUM	0.11 UJ	0.08 UJ	0.09 UJ	0.07 UJ	0.09 UJ	0.1 UJ	0.08 UJ	0.09 UJ
VANADIUM	11.4	12.9	12.7	10.8	9.5	11.3	13.7	11.2
ZINC	14.2	15.2	14.7	12.2	12.5	16.1	14.9	14.3
MISCELLANEOUS PARAMETERS								
TOTAL ORGANIC CARBON (MG/KG)	540	13000	530 J	7500	570	23000	17000	330 J
POLYCYCLIC AROMATIC HYDROCARBONS (UG/KG)								
2-METHYLNAPHTHALENE	2 U	2 U	2 UJ	2 U	2 U	2 U	2 U	2 U
ACENAPHTHENE	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
ACENAPHTHYLENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
ANTHRACENE	1 U	5 J	1 U	4 J	1 U	7 J	2 J	1 U
BENZO(A)ANTHRACENE	2 U	3 J	2 U	2 J	2 U	5 J	2 J	2 U
BENZO(A)PYRENE	3 U	4 J	4 U	3 U	3 U	6 J	4 U	3 U
BENZO(B)FLUORANTHENE	2 U	2 U	2 U	2 U	2 U	3 U	3 U	2 U
BENZO(G,H,I)PERYLENE	2 U	4 J	2 U	2 U	2 U	8 J	2 J	2 U
BENZO(K)FLUORANTHENE	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
CHRYSENE	2 U	4 J	2 U	2 J	2 U	7 J	2 J	2 U
DIBENZO(A,H)ANTHRACENE	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
FLUORANTHENE	2 U	9 J	2 U	4 J	2 U	12 J	4 J	2 U
FLUORENE	3 U	3 U	3 U	3 U	3 U	4 U	3 U	3 U
INDENO(1,2,3-CD)PYRENE	2 U	5 J	2 U	2 J	2 U	7 J	2 J	2 U
NAPHTHALENE	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
PHENANTHRENE	2 U	5 J	2 U	4 J	2 U	8 J	2 J	2 U

LOCATION	NASB-BG-SB-01	NASB-BG-SB-01	NASB-BG-SB-02	NASB-BG-SB-02	NASB-BG-SB-03	NASB-BG-SB-03	NASB-BG-SB-04	NASB-BG-SB-04
SAMPLE ID	NASB-BG-SB-SB01-0110	NASB-BG-SB-SB01-0001	NASB-BG-SB-SB02-0110	NASB-BG-SB-SB02-0001	NASB-BG-SB-SB03-0110	NASB-BG-SB-SB03-0001	NASB-BG-SB-SB04-0001	NASB-BG-SB-SB04-0110-D
SAMPLE DATE	8/20/2009	8/20/2009	8/20/2009	8/20/2009	8/20/2009	8/20/2009	8/20/2009	8/20/2009
Geplogic Unit	Upper Sand	Upper Sand	Upper Sand	Upper Sand	Upper Sand	Upper Sand	Upper Sand	Upper Sand
PYRENE	2 U	7 J	2 U	3 J	2 U	17 J	4 J	2 U
PESTICIDES/PCBS (UG/KG)								
4,4'-DDD	--	0.45 U	--	0.44 U	--	0.46 U	0.46 U	--
4,4'-DDE	--	0.77 J	--	1.0 J	--	0.41 U	0.57 J	--
4,4'-DDT	--	0.80 J	--	1.3 J	--	0.46 UJ	0.46 UJ	--
ALDRIN	--	0.44 U	--	0.43 U	--	0.45 U	0.45 U	--
ALPHA-BHC	--	0.49 U	--	0.48 U	--	0.51 U	0.50 U	--
ALPHA-CHLORDANE	--	0.48 U	--	0.47 U	--	0.50 U	0.49 U	--
BETA-BHC	--	0.41 U	--	0.40 U	--	0.42 U	0.42 U	--
DELTA-BHC	--	0.35 U	--	0.35 U	--	0.36 U	0.36 U	--
DIELDRIN	--	0.41 U	--	0.40 U	--	0.42 U	0.42 U	--
ENDOSULFAN I	--	0.43 U	--	0.42 U	--	0.44 U	0.44 U	--
ENDOSULFAN II	--	0.47 U	--	0.46 U	--	0.48 U	0.48 U	--
ENDOSULFAN SULFATE	--	0.48 U	--	0.47 U	--	0.50 U	0.49 U	--
ENDRIN	--	0.41 U	--	0.40 U	--	0.42 U	0.42 U	--
ENDRIN ALDEHYDE	--	0.38 U	--	0.37 U	--	0.39 U	0.38 U	--
ENDRIN KETONE	--	0.96 U	--	0.95 U	--	0.99 U	0.98 U	--
GAMMA-BHC (LINDANE)	--	0.49 U	--	0.48 U	--	0.51 U	0.50 U	--
GAMMA-CHLORDANE	--	0.50 U	--	0.50 U	--	0.52 U	0.51 U	--
HEPTACHLOR	--	0.50 U	--	0.50 U	--	0.52 U	0.51 U	--
HEPTACHLOR EPOXIDE	--	0.47 U	--	0.46 U	--	0.48 U	0.48 U	--
METHOXYCHLOR	--	0.54 U	--	0.53 U	--	0.55 U	0.55 U	--
TOXAPHENE	--	15 U	--	15 U	--	15 U	15 U	--

SOIL Footnotes:

-- = The chemical was not analyzed or no value was available.

Data Qualifiers:

Blank (i.e., no qualifier) = the chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

R = The chemical was rejected.

LOCATION	NASB-BG-SB-04	NASB-BG-SB-04	NASB-BG-SB-05	NASB-BG-SB-05	NASB-BG-SB-06	NASB-BG-SB-06	NASB-BG-SB-07	NASB-BG-SB-07
SAMPLE ID	NASB-BG-SB-SB04-0110	NASB-BG-SB-SB04-0110-AVG	NASB-BG-SB-SB05-0110	NASB-BG-SB-SB05-0001	NASB-BG-SB-SB06-0110	NASB-BG-SB-SB06-0001	NASB-BG-SB-SB07-0109	NASB-BG-SB-SB07-0001
SAMPLE DATE	8/20/2009	8/20/2009	8/20/2009	8/20/2009	8/18/2009	8/18/2009	8/18/2009	8/18/2009
Geplogic Unit	Upper Sand	Upper Sand	Upper Sand	Upper Sand	Transition	Transition	Transition	Transition
HERBICIDES (UG/KG)								
2,4,5-T	--	--	--	11 U	--	13 U	--	12 U
2,4,5-TP (SILVEX)	--	--	--	6.9 U	--	8.1 U	--	7.5 U
2,4-D	--	--	--	6.7 U	--	7.9 U	--	7.3 U
2,4-DB	--	--	--	12 U	--	14 U	--	13 U
DALAPON	--	--	--	7.4 U	--	8.7 U	--	8.1 U
DICAMBA	--	--	--	3.7 U	--	4.4 U	--	4.0 U
DICHLOROPROP	--	--	--	9.3 U	--	11 U	--	10 U
DINOSEB	--	--	--	1.2 U	--	1.4 U	--	1.3 U
MCPA	--	--	--	1400 U	--	1700 U	--	1600 U
MCPP	--	--	--	310 U	--	370 U	--	340 U
METALS (MG/KG)								
ALUMINUM	4270	4170	4380	9140	21600	21700	15000	14800
ANTIMONY	0.02 UJ	0.02 UJ	0.02 UJ	0.04 UJ	0.04 J	0.03 J	0.02 J	0.02 UJ
ARSENIC	1.2	1.25	1.0	2.1	10.7	6.0	5.0	3.9
BARIUM	14.8	13.45	9.8	11.0	70.5	61.6	50.0	50.3
BERYLLIUM	0.20 J	0.20 J	0.21 J	0.32 J	0.81	0.77	0.90	0.69
CADMIUM	0.03 J	0.03 J	0.03 J	0.04 J	0.04 J	0.04 J	0.03 J	0.02 UJ
CALCIUM	731 J	693 J	605 J	292 J	2670 J	856 J	2300 J	752 J
CHROMIUM	6.4	6.1	6.4	6.9	44.4	33.4	28.0	20.1
COBALT	3.6	3.65	3.7	2.8	16.4	9.4	11.6	8.7
COPPER	5.5	5.75	5.7	5.0	28.1	15.4	21.2	18.2
IRON	6680	6740	5870	7280	33000	26600	22200	17600
LEAD	2.6 J	2.75 J	2.8 J	11.0 J	12.4	11.3 J	7.8 J	5.9 J
MAGNESIUM	1660 J	1630 J	1570 J	834 J	9070	5550	5720	3950
MANGANESE	210 J	208 J	178 J	217 J	681 J	294 J	429 J	288 J
MERCURY	0.01 U	0.01 U	0.01 U	0.04	0.01 UJ	0.02 J	0.01 UJ	0.01 UJ
NICKEL	8.0	8	7.4	5.4	38.1	23.5	24.8	18.1
POTASSIUM	730	714	600	233	5400	2950	3020	2120
SELENIUM	0.18 UJ	0.16 UJ	0.19 UJ	0.53 U	0.30 UJ	0.59	0.21 UJ	0.30 UJ
SILVER	0.06 U	0.065 U	0.07 U	0.07 U	0.13 UJ	0.08 UJ	0.06 UJ	0.08 UJ
SODIUM	45.2 J	43.3 J	40.8 J	30.8 J	236 U	125 U	162 U	93.7 UJ
THALLIUM	0.08 UJ	0.085 UJ	0.08 UJ	0.09 UJ	0.29 U	0.22 UJ	0.19 U	0.16 UJ
VANADIUM	11.7	11.45	10.0	13.1	55.1	47.0	33.2	30.1
ZINC	13.2	13.75	12.7	14.5	72.0	58.4	46.6	33.2
MISCELLANEOUS PARAMETERS								
TOTAL ORGANIC CARBON (MG/KG)	260 J	295 J	420	21000	1500	14000	900	1900
POLYCYCLIC AROMATIC HYDROCARBONS (UG/KG)								
2-METHYLNAPHTHALENE	2 U	2 U	2 U	2 U	3 U	3 U	3 U	3 U
ACENAPHTHENE	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
ACENAPHTHYLENE	1 U	1 U	1 U	2 J	1 U	2 U	1 U	1 U
ANTHRACENE	1 U	1 U	1 U	8 J	1 U	2 U	1 U	1 U
BENZO(A)ANTHRACENE	2 U	2 U	2 U	7 J	2 U	2 U	2 U	2 U
BENZO(A)PYRENE	3 U	3 U	3 U	9 J	4 U	4 U	4 U	4 U
BENZO(B)FLUORANTHENE	2 U	2 U	2 U	14 J	3 U	3 U	3 U	3 U
BENZO(G,H,I)PERYLENE	2 U	2 U	2 U	8 J	2 UJ	3 U	2 UJ	2 UJ
BENZO(K)FLUORANTHENE	3 U	3 U	3 U	12 J	4 U	4 U	4 U	4 U
CHRYSENE	2 U	2 U	2 U	10 J	2 U	2 U	2 U	2 U
DIBENZO(A,H)ANTHRACENE	2 U	2 U	2 U	2 U	2 UJ	2 UJ	2 UJ	2 UJ
FLUORANTHENE	2 U	2 U	2 U	18 J	2 U	2 U	2 U	2 U
FLUORENE	3 U	3 U	3 U	4 U	4 U	4 U	4 U	4 U
INDENO(1,2,3-CD)PYRENE	2 U	2 U	2 U	10 J	2 UJ	2 U	2 UJ	2 UJ
NAPHTHALENE	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
PHENANTHRENE	2 U	2 U	2 U	8 J	2 U	2 U	2 U	2 U

LOCATION	NASB-BG-SB-04	NASB-BG-SB-04	NASB-BG-SB-05	NASB-BG-SB-05	NASB-BG-SB-06	NASB-BG-SB-06	NASB-BG-SB-07	NASB-BG-SB-07
SAMPLE ID	NASB-BG-SB-SB04-0110	NASB-BG-SB-SB04-0110-AVG	NASB-BG-SB-SB05-0110	NASB-BG-SB-SB05-0001	NASB-BG-SB-SB06-0110	NASB-BG-SB-SB06-0001	NASB-BG-SB-SB07-0109	NASB-BG-SB-SB07-0001
SAMPLE DATE	8/20/2009	8/20/2009	8/20/2009	8/20/2009	8/18/2009	8/18/2009	8/18/2009	8/18/2009
Geplogic Unit	Upper Sand	Upper Sand	Upper Sand	Upper Sand	Transition	Transition	Transition	Transition
PYRENE	2 U	2 U	2 U	18 J	2 U	3 U	2 U	2 U
PESTICIDES/PCBS (UG/KG)								
4,4'-DDD	--	--	--	0.47 U	--	0.55 U	--	0.51 U
4,4'-DDE	--	--	--	0.65 J	--	0.48 U	--	0.45 U
4,4'-DDT	--	--	--	0.47 UJ	--	0.55 U	--	0.51 U
ALDRIN	--	--	--	0.46 U	--	0.54 U	--	0.50 U
ALPHA-BHC	--	--	--	0.51 U	--	0.60 U	--	0.56 U
ALPHA-CHLORDANE	--	--	--	0.50 U	--	0.59 U	--	0.55 U
BETA-BHC	--	--	--	0.42 U	--	0.50 U	--	0.46 U
DELTA-BHC	--	--	--	0.37 U	--	0.43 U	--	0.40 U
DIELDRIN	--	--	--	0.42 U	--	0.50 U	--	0.46 U
ENDOSULFAN I	--	--	--	0.45 U	--	0.52 U	--	0.48 U
ENDOSULFAN II	--	--	--	0.49 U	--	0.58 U	--	0.53 U
ENDOSULFAN SULFATE	--	--	--	0.50 U	--	0.59 U	--	0.55 U
ENDRIN	--	--	--	0.42 U	--	0.50 U	--	0.46 U
ENDRIN ALDEHYDE	--	--	--	0.39 U	--	0.46 U	--	0.42 U
ENDRIN KETONE	--	--	--	1.0 U	--	1.2 U	--	1.1 U
GAMMA-BHC (LINDANE)	--	--	--	0.51 U	--	0.60 U	--	0.56 U
GAMMA-CHLORDANE	--	--	--	0.52 U	--	0.62 U	--	0.57 U
HEPTACHLOR	--	--	--	0.52 U	--	0.62 U	--	0.57 U
HEPTACHLOR EPOXIDE	--	--	--	0.49 U	--	0.58 U	--	0.53 U
METHOXYCHLOR	--	--	--	0.56 U	--	0.66 U	--	0.61 U
TOXAPHENE	--	--	--	16 U	--	18 U	--	17 U

SOIL Footnotes:

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Data Qualifiers:

Blank (i.e., no qualifier) = the chemical was detected.

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J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

R = The chemical was rejected.

LOCATION	NASB-BG-SB-08	NASB-BG-SB-08	NASB-BG-SB-09	NASB-BG-SB-09	NASB-BG-SB-09	NASB-BG-SB-09	NASB-BG-SB-10	NASB-BG-SB-10
SAMPLE ID	NASB-BG-SB-SB08-0001	NASB-BG-SB-SB08-0110	NASB-BG-SB-SB09-0001	NASB-BG-SB-SB09-0001-D	NASB-BG-SB-SB09-0001-AVG	NASB-BG-SB-SB09-0110	NASB-BG-SB-SB10-0110	NASB-BG-SB-SB10-0001
SAMPLE DATE	8/18/2009	8/18/2009	8/17/2009	8/17/2009	8/17/2009	8/17/2009	8/17/2009	8/17/2009
Geplogic Unit	Transition	Transition	Transition	Transition	Transition	Transition	Transition	Transition
HERBICIDES (UG/KG)								
2,4,5-T	15 U	--	14 U	14 U	14 U	--	--	11 UJ
2,4,5-TP (SILVEX)	9.3 U	--	8.5 U	8.5 U	8.5 U	--	--	6.9 UJ
2,4-D	9.0 U	--	8.2 U	8.2 U	8.2 U	--	--	6.6 UJ
2,4-DB	16 U	--	15 U	15 U	15 U	--	--	12 UJ
DALAPON	10 U	--	9.1 U	9.2 U	9.15 U	--	--	7.4 U
DICAMBA	5.0 U	--	4.6 U	4.6 U	4.6 U	--	--	3.7 U
DICHLOROPROP	12 U	--	11 U	11 U	11 U	--	--	9.2 U
DINOSEB	1.6 U	--	1.5 U	1.5 U	1.5 U	--	--	1.2 UJ
MCPA	1900 U	--	1800 U	1800 U	1800 U	--	--	1400 U
MCPP	420 U	--	380 U	380 U	380 U	--	--	310 U
METALS (MG/KG)								
ALUMINUM	30800	17100	30800	27100	28950	15200	21300	9200
ANTIMONY	0.04 J	0.03 J	0.03 J	0.04 J	0.035 J	0.03 J	0.04 J	0.02 UJ
ARSENIC	7.2	6.7	6.3	6.4	6.35	5.3	7.8	3.9
BARIUM	85.0	59.8	80.1	69.6	74.85	49.4	70.2	24.0
BERYLLIUM	1.1	0.65	0.89	0.81	0.85	0.54	0.75	0.30 J
CADMIUM	0.05 J	0.03 J	0.04 J	0.04 J	0.04 J	0.04 J	0.05 J	0.03 J
CALCIUM	1000 J	2260 J	706 J	840 J	773 J	2630 J	2640 J	826 J
CHROMIUM	45.9	32.6	41.0	40.9	40.95	31.1	42.0	14.1
COBALT	15.2	12.7	9.2	11.5	10.35	10.5	13.5	3.7
COPPER	20.5	23.0	16.6	16.0	16.3	21.7	25.0	8.6
IRON	33800	25600	32000	32400	32200	23600	33000	10500
LEAD	15.0 J	8.7 J	16.2	15.2	15.7	8.1	11.4	7.1
MAGNESIUM	7410	6270	6040	5810	5925	6440	8240 J	2080 J
MANGANESE	449 J	418 J	301 J	433 J	367 J	394 J	474 J	122 J
MERCURY	0.05 J	0.01 UJ	0.04 J	0.03 J	0.035 J	0.01 UJ	0.01 UJ	0.01 J
NICKEL	32.0	27.8	23.9	22.0	22.95	26.6	33.0	10.0
POTASSIUM	3630	3700	3050	2790	2920	3310	4900	1050
SELENIUM	1.0	0.26 UJ	0.78	0.80	0.79	0.29 UJ	0.37 UJ	0.26 UJ
SILVER	1.6 J	0.07 UJ	0.15 UJ	0.14 UJ	0.145 UJ	0.11 UJ	0.44 J	0.16 J
SODIUM	155 U	177 U	128 U	132 U	130 U	195 U	248 U	95.9 UJ
THALLIUM	0.31 U	0.22 UJ	0.25 U	0.26 U	0.255 U	0.18 U	0.27 U	0.13 UJ
VANADIUM	57.6	41.5	52.8	56.9	54.85	37.1	52.3	19.1
ZINC	83.4	54.5	64.2	58.6	61.4	51.1	65.6	21.7
MISCELLANEOUS PARAMETERS								
TOTAL ORGANIC CARBON (MG/KG)	18000	750	16000	17000	16500	700	3200	12000
POLYCYCLIC AROMATIC HYDROCARBONS (UG/KG)								
2-METHYLNAPHTHALENE	3 UJ	3 UJ	3 UJ	3 UJ	3 UJ	3 UJ	3 UJ	2 UJ
ACENAPHTHENE	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ
ACENAPHTHYLENE	2 U	1 UJ	2 U	2 U	2 U	1 U	2 U	2 J
ANTHRACENE	2 U	1 UJ	2 U	2 U	2 U	1 U	2 U	2 J
BENZO(A)ANTHRACENE	3 U	2 UJ	2 U	3 U	2.5 U	2 U	2 U	12 J
BENZO(A)PYRENE	5 U	4 UJ	4 U	4 U	4 U	4 U	4 U	14 J
BENZO(B)FLUORANTHENE	4 U	3 UJ	3 U	3 U	3 U	3 U	3 U	17 J
BENZO(G,H,I)PERYLENE	3 UJ	2 UJ	3 UJ	3 UJ	3 UJ	2 UJ	2 U	10 J
BENZO(K)FLUORANTHENE	5 U	4 UJ	4 U	4 U	4 U	4 U	4 U	14 J
CHRYSENE	2 U	2 UJ	2 J	2 U	1.5 J	2 U	2 U	17 J
DIBENZO(A,H)ANTHRACENE	3 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ
FLUORANTHENE	3 J	2 UJ	5 J	3 J	4 J	2 U	2 U	28
FLUORENE	5 UJ	4 UJ	4 UJ	4 UJ	4 UJ	4 UJ	4 UJ	4 UJ
INDENO(1,2,3-CD)PYRENE	3 UJ	2 UJ	2 UJ	3 UJ	2.5 UJ	2 UJ	2 U	10 J
NAPHTHALENE	4 U	3 UJ	4 U	4 U	4 U	3 U	3 U	3 U
PHENANTHRENE	3 U	2 UJ	2 U	2 U	2 U	2 U	2 U	15 J

LOCATION	NASB-BG-SB-08	NASB-BG-SB-08	NASB-BG-SB-09	NASB-BG-SB-09	NASB-BG-SB-09	NASB-BG-SB-09	NASB-BG-SB-10	NASB-BG-SB-10
SAMPLE ID	NASB-BG-SB-SB08-0001	NASB-BG-SB-SB08-0110	NASB-BG-SB-SB09-0001	NASB-BG-SB-SB09-0001-D	NASB-BG-SB-SB09-0001-AVG	NASB-BG-SB-SB09-0110	NASB-BG-SB-SB10-0110	NASB-BG-SB-SB10-0001
SAMPLE DATE	8/18/2009	8/18/2009	8/17/2009	8/17/2009	8/17/2009	8/17/2009	8/17/2009	8/17/2009
Geplogic Unit	Transition	Transition	Transition	Transition	Transition	Transition	Transition	Transition
PYRENE	3 U	2 UJ	4 J	3 J	3.5 J	2 U	3 U	26
PESTICIDES/PCBS (UG/KG)								
4,4'-DDD	0.63 U	--	0.57 U	0.58 U	0.575 U	--	--	2.3 U
4,4'-DDE	0.65 J	--	0.50 U	0.51 U	0.505 U	--	--	2.0 U
4,4'-DDT	0.63 U	--	0.57 U	0.58 U	0.575 U	--	--	3.1 J
ALDRIN	0.61 U	--	0.56 U	0.56 U	0.56 U	--	--	2.3 U
ALPHA-BHC	0.69 U	--	0.63 U	0.63 U	0.63 U	--	--	2.6 U
ALPHA-CHLORDANE	0.67 U	--	0.62 U	0.62 U	0.62 U	--	--	2.5 U
BETA-BHC	0.57 U	--	0.52 U	0.52 U	0.52 U	--	--	2.1 U
DELTA-BHC	0.49 U	--	0.45 U	0.45 U	0.45 U	--	--	1.8 U
DIELDRIN	0.57 U	--	0.52 U	0.52 U	0.52 U	--	--	2.1 U
ENDOSULFAN I	0.60 U	--	0.55 U	0.55 U	0.55 U	--	--	2.2 U
ENDOSULFAN II	0.66 U	--	0.60 U	0.60 U	0.60 U	--	--	2.4 U
ENDOSULFAN SULFATE	0.67 U	--	0.62 U	0.62 U	0.62 U	--	--	2.5 U
ENDRIN	0.57 U	--	0.52 U	0.52 U	0.52 U	--	--	2.1 U
ENDRIN ALDEHYDE	0.52 U	--	0.48 U	0.48 U	0.48 U	--	--	1.9 U
ENDRIN KETONE	1.3 U	--	1.2 U	1.2 U	1.2 U	--	--	5.0 U
GAMMA-BHC (LINDANE)	0.69 U	--	0.63 U	0.63 U	0.63 U	--	--	2.6 U
GAMMA-CHLORDANE	0.70 U	--	0.64 U	0.64 U	0.64 U	--	--	2.6 U
HEPTACHLOR	0.70 U	--	0.64 U	0.64 U	0.64 U	--	--	2.6 U
HEPTACHLOR EPOXIDE	0.66 U	--	0.60 U	0.60 U	0.60 U	--	--	2.4 U
METHOXYCHLOR	0.75 U	--	0.68 U	0.69 U	0.685 U	--	--	2.8 U
TOXAPHENE	21 U	--	19 U	19 U	19 U	--	--	78 U

SOIL Footnotes:

-- = The chemical was not analyzed or no value was available.

Data Qualifiers:

Blank (i.e., no qualifier) = the chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

R = The chemical was rejected.

LOCATION	NASB-BG-SB-11	NASB-BG-SB-11	NASB-BG-SB-12	NASB-BG-SB-12	NASB-BG-SB-13	NASB-BG-SB-13	NASB-BG-SB-13	NASB-BG-SB-13
SAMPLE ID	NASB-BG-SB-SB11-0110	NASB-BG-SB-SB11-0001	NASB-BG-SB-SB12-0110	NASB-BG-SB-SB12-0001	NASB-BG-SB-SB13-0110	NASB-BG-SB-SB13-0001-AVG	NASB-BG-SB-SB13-0001	NASB-BG-SB-SB13-0001-D
SAMPLE DATE	8/17/2009	8/17/2009	8/18/2009	8/18/2009	8/18/2009	8/18/2009	8/18/2009	8/18/2009
Geplogic Unit	Transition	Transition	Transition	Transition	Transition	Transition	Transition	Transition
HERBICIDES (UG/KG)								
2,4,5-T	--	13 UJ	--	13 U	--	14 U	14 U	14 U
2,4,5-TP (SILVEX)	--	7.9 UJ	--	7.9 U	--	8.6 U	8.6 U	8.6 U
2,4-D	--	7.7 UJ	--	7.6 U	--	8.35 U	8.3 U	8.4 U
2,4-DB	--	14 UJ	--	14 U	--	15 U	15 U	15 U
DALAPON	--	8.5 U	--	8.5 U	--	9.25 U	9.2 U	9.3 U
DICAMBA	--	4.3 U	--	4.2 U	--	4.6 U	4.6 U	4.6 U
DICHLOROPROP	--	11 U	--	10 U	--	12 U	12 U	12 U
DINOSEB	--	1.4 UJ	--	1.4 U	--	1.5 U	1.5 U	1.5 U
MCPA	--	1700 U	--	1600 U	--	1800 U	1800 U	1800 U
MCPP	--	360 U	--	350 U	--	390 U	390 U	390 U
METALS (MG/KG)								
ALUMINUM	15900	27800	22900	17700	20700	22250	22100	22400
ANTIMONY	0.03 J	0.05 J	0.05 J	0.02 J	0.03 J	0.03 UJ	0.03 UJ	0.03 UJ
ARSENIC	8.1	8.9	17.9	6.7	11.6	5.5	5.3	5.7
BARIUM	55.9	88.6	72.9	47.9	66.8	55.55	54.8	56.3
BERYLLIUM	0.63	1.0	0.82	0.70	0.75	0.87	0.86	0.88
CADMIUM	0.04 J	0.03 J	0.06 J	0.03 J	0.04 J	0.065 J	0.06 J	0.07 J
CALCIUM	2700 J	874 J	2920 J	728 J	2650 J	656.5 J	641 J	672 J
CHROMIUM	30.9	46.0	48.5	30.2	42.8	31.9	31.4	32.4
COBALT	10.5	11.5	17.9	10.7	14.9	9.25	8.6	9.9
COPPER	24.3	18.5	33.9	14.1	29.2	13.35	12.1	14.6
IRON	25900	46800	38400	28400	33400	25400	24800	26000
LEAD	8.1 J	18.7	13.4	12.8	12.4	11.75 J	11.9	11.6 J
MAGNESIUM	6580	7340 J	9850	5030	8340	4365	4090	4640
MANGANESE	355 J	652 J	742 J	394 J	599 J	289.5 J	266 J	313 J
MERCURY	0.01 UJ	0.01 J	0.01 UJ	0.01 J	0.01 UJ	0.045 J	0.04 J	0.05
NICKEL	26.4	31.2	44.7	23.0	39.5	23.1	22.0	24.2
POTASSIUM	4010	4110	5260	1760	4390	1830	1730	1930
SELENIUM	0.33 UJ	0.59 UJ	0.31 UJ	0.58	0.30 UJ	0.4925 J	0.71	0.55 UJ
SILVER	0.07 UJ	0.58 J	0.13 UJ	0.11 UJ	0.15 UJ	0.08 UJ	0.08 UJ	0.08 UJ
SODIUM	212 U	162 U	237 U	90.2 U	208 UJ	91.1 UJ	91.9 UJ	90.3 UJ
THALLIUM	0.22 U	0.28 U	0.25 U	0.18 U	0.22 UJ	0.20 UJ	0.20 UJ	0.20 UJ
VANADIUM	39.4	62.8	57.8	46.9	51.8	44.9	44.6	45.2
ZINC	54.3	61.4	80.6	41.1	67.4	61.1	60.8	61.4
MISCELLANEOUS PARAMETERS								
TOTAL ORGANIC CARBON (MG/KG)	680	27000	1600	14000	780	21500	21000	22000
POLYCYCLIC AROMATIC HYDROCARBONS (UG/KG)								
2-METHYLNAPHTHALENE	3 UJ	3 UJ	3 UJ	3 UJ	3 UJ	3 UJ	3 UJ	3 UJ
ACENAPHTHENE	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ
ACENAPHTHYLENE	1 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
ANTHRACENE	1 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
BENZO(A)ANTHRACENE	2 U	2 U	2 U	2 U	2 U	2.25 J	3 U	3 J
BENZO(A)PYRENE	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
BENZO(B)FLUORANTHENE	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
BENZO(G,H,I)PERYLENE	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	3 UJ	3 UJ	3 UJ
BENZO(K)FLUORANTHENE	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
CHRYSENE	2 U	2 U	2 U	2 U	2 U	3 J	2 J	4 J
DIBENZO(A,H)ANTHRACENE	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ
FLUORANTHENE	2 U	4 J	2 U	2 U	2 U	6 J	5 J	7 J
FLUORENE	4 UJ	4 UJ	4 UJ	4 UJ	4 UJ	4 UJ	4 UJ	4 UJ
INDENO(1,2,3-CD)PYRENE	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	3 UJ	3 UJ	3 UJ
NAPHTHALENE	3 U	3 U	3 U	3 U	3 U	4 U	4 U	4 U
PHENANTHRENE	2 U	2 U	2 U	2 U	2 U	2 J	2 U	3 J

LOCATION SAMPLE ID SAMPLE DATE Geplogic Unit	NASB-BG-SB-11 NASB-BG-SB-SB11-0110 8/17/2009 Transition	NASB-BG-SB-11 NASB-BG-SB-SB11-0001 8/17/2009 Transition	NASB-BG-SB-12 NASB-BG-SB-SB12-0110 8/18/2009 Transition	NASB-BG-SB-12 NASB-BG-SB-SB12-0001 8/18/2009 Transition	NASB-BG-SB-13 NASB-BG-SB-SB13-0110 8/18/2009 Transition	NASB-BG-SB-13 NASB-BG-SB-SB13-0001-AVG 8/18/2009 Transition	NASB-BG-SB-13 NASB-BG-SB-SB13-0001 8/18/2009 Transition	NASB-BG-SB-13 NASB-BG-SB-SB13-0001-D 8/18/2009 Transition
PYRENE	2 U	3 J	3 U	3 U	3 U	5 J	4 J	6 J
PESTICIDES/PCBS (UG/KG)								
4,4'-DDD	--	0.54 U	--	0.53 U	--	0.58 U	0.58 U	0.58 U
4,4'-DDE	--	0.57 J	--	0.55 J	--	0.69 J	0.64 J	0.74 J
4,4'-DDT	--	0.54 U	--	0.53 U	--	0.58 U	0.58 U	0.58 U
ALDRIN	--	0.52 U	--	0.52 U	--	0.57 U	0.57 U	0.57 U
ALPHA-BHC	--	0.59 U	--	0.58 U	--	0.64 U	0.64 U	0.64 U
ALPHA-CHLORDANE	--	0.58 U	--	0.57 U	--	0.625 U	0.62 U	0.63 U
BETA-BHC	--	0.49 U	--	0.48 U	--	0.53 U	0.53 U	0.53 U
DELTA-BHC	--	0.42 U	--	0.42 U	--	0.46 U	0.46 U	0.46 U
DIELDRIN	--	0.49 U	--	0.48 U	--	0.53 U	0.53 U	0.53 U
ENDOSULFAN I	--	0.51 U	--	0.51 U	--	0.56 U	0.56 U	0.56 U
ENDOSULFAN II	--	0.56 U	--	0.56 U	--	0.61 U	0.61 U	0.61 U
ENDOSULFAN SULFATE	--	0.58 U	--	0.57 U	--	0.625 U	0.62 U	0.63 U
ENDRIN	--	0.49 U	--	0.48 U	--	0.53 U	0.53 U	0.53 U
ENDRIN ALDEHYDE	--	0.45 U	--	0.44 U	--	0.485 U	0.48 U	0.49 U
ENDRIN KETONE	--	1.2 U	--	1.1 U	--	1.2 U	1.2 U	1.2 U
GAMMA-BHC (LINDANE)	--	0.59 U	--	0.58 U	--	0.64 U	0.64 U	0.64 U
GAMMA-CHLORDANE	--	0.60 U	--	0.60 U	--	0.65 U	0.65 U	0.65 U
HEPTACHLOR	--	0.60 U	--	0.60 U	--	0.65 U	0.65 U	0.65 U
HEPTACHLOR EPOXIDE	--	0.56 U	--	0.56 U	--	0.61 U	0.61 U	0.61 U
METHOXYCHLOR	--	0.64 U	--	0.63 U	--	0.695 U	0.69 U	0.70 U
TOXAPHENE	--	18 U	--	18 U	--	19 U	19 U	19 U

SOIL Footnotes:

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Data Qualifiers:

Blank (i.e., no qualifier) = the chemical was detected.

> = The chemical was detected.

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LOCATION	NASB-BG-SB-14	NASB-BG-SB-14	NASB-BG-SB-15	NASB-BG-SB-15	NASB-BG-SB-16	NASB-BG-SB-16	NASB-BG-SB-16	NASB-BG-SB-16
SAMPLE ID	NASB-BG-SB-SB14-0001	NASB-BG-SB-SB14-0110	NASB-BG-SB-SB15-0110	NASB-BG-SB-SB15-0001	NASB-BG-SB-SB16-0110-D	NASB-BG-SB-SB16-0110	NASB-BG-SB-SB16-0001	NASB-BG-SB-SB16-0110-AVG
SAMPLE DATE	8/18/2009	8/18/2009	8/25/2009	8/25/2009	8/25/2009	8/25/2009	8/25/2009	8/25/2009
Geplogic Unit	Transition	Transition	Transition	Transition	Transition	Transition	Transition	Transition
HERBICIDES (UG/KG)								
2,4,5-T	14 U	--	--	13 U	--	--	13 U	--
2,4,5-TP (SILVEX)	8.7 U	--	--	8.2 U	--	--	7.8 U	--
2,4-D	8.4 U	--	--	8.0 U	--	--	8.0 J	--
2,4-DB	15 U	--	--	14 U	--	--	14 U	--
DALAPON	9.3 U	--	--	8.8 U	--	--	8.4 U	--
DICAMBA	4.6 U	--	--	4.4 U	--	--	4.2 U	--
DICHLOROPROP	12 U	--	--	11 U	--	--	10 U	--
DINOSEB	1.5 U	--	--	1.4 U	--	--	1.4 U	--
MCPA	1800 U	--	--	1700 U	--	--	1600 U	--
MCPP	390 U	--	--	370 U	--	--	350 U	--
METALS (MG/KG)								
ALUMINUM	27300	26200	28400	19700	26400	27200	25000	26800
ANTIMONY	0.03 UJ	0.05 J	0.07 UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ	0.06 UJ
ARSENIC	8.1	9.8	12.2	6.9	13.4	15.9	9.1	14.65
BARIUM	66.1	85.8	93.3	57.2	89.0	89.0	78.2	89
BERYLLIUM	1.1	1.0	1.5	1.1	1.5	1.5	1.3	1.5
CADMIUM	0.04 J	0.04 J	0.05 J	0.04 J	0.06 J	0.06 J	0.06 J	0.06 J
CALCIUM	684 J	2750 J	3260 J	750 J	2900 J	2930 J	1600 J	2915 J
CHROMIUM	39.2	49.5	57.3	32.6	50.3	53.9	45.9	52.1
COBALT	11.1	17.9	20.8	15.4	17.9	19.9	16.4	18.9
COPPER	14.8	32.5	38.5 J	19.3 J	33.5 J	38.3 J	30.1 J	35.9 J
IRON	32300	37200	43100	26200	39000	43100	35200	41050
LEAD	15.1	13.7 J	16.1	12.6	13.8	14.6	12.8	14.2
MAGNESIUM	5550	9940	11600	5790	9930	10900	8940	10415
MANGANESE	359 J	669 J	918	462	722	882	598	802
MERCURY	0.06	0.01 UJ	0.01 U	0.02 J	0.01 U	0.01 U	0.02 J	0.01 U
NICKEL	26.9	41.4	50.4	24.3	46.4	48.9	41.5	47.65
POTASSIUM	2610	6110	6370 J	2590 J	5570 J	5980 J	3970 J	5775 J
SELENIUM	1.3	0.39 UJ	0.44 UJ	0.64 U	0.40 UJ	0.39 UJ	0.54 U	0.395 UJ
SILVER	0.08 UJ	0.16 UJ	0.16 UJ	0.08 UJ	0.14 UJ	0.14 UJ	0.14 UJ	0.14 UJ
SODIUM	109 UJ	263 U	289 UJ	116 UJ	273 UJ	270 UJ	176 UJ	271.5 UJ
THALLIUM	0.22 UJ	0.33 U	0.33 U	0.19 UJ	0.29 U	0.31 U	0.25 U	0.30 U
VANADIUM	55.9	60.9	68.7	40.0	58.3	62.8	52.6	60.55
ZINC	68.7	82.3	90.4	49.4	79.1	85.5	71.4	82.3
MISCELLANEOUS PARAMETERS								
TOTAL ORGANIC CARBON (MG/KG)	30000	1400	1700 J	11000 J	1100 J	1500 J	10000 J	1300 J
POLYCYCLIC AROMATIC HYDROCARBONS (UG/KG)								
2-METHYLNAPHTHALENE	3 UJ	3 UJ	3 UJ	3 UJ	3 UJ	3 UJ	3 UJ	3 UJ
ACENAPHTHENE	2 UJ	2 UJ	2 U	2 U	2 U	2 U	2 U	2 U
ACENAPHTHYLENE	2 U	2 U	2 U	2 U	1 U	1 U	2 U	1 U
ANTHRACENE	2 U	2 U	2 U	2 U	1 U	1 U	2 U	1 U
BENZO(A)ANTHRACENE	4 J	2 U	2 U	2 U	3 J	2 U	2 U	2 J
BENZO(A)PYRENE	5 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
BENZO(B)FLUORANTHENE	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
BENZO(G,H,I)PERYLENE	8 J	2 UJ	2 U	3 U	2 U	2 U	2 U	2 U
BENZO(K)FLUORANTHENE	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
CHRYSENE	3 J	2 U	2 U	3 J	2 U	2 U	2 U	2 U
DIBENZO(A,H)ANTHRACENE	13 J	2 UJ	2 U	2 U	2 U	2 U	2 U	2 U
FLUORANTHENE	3 J	2 U	2 U	6 J	2 U	2 U	2 U	2 U
FLUORENE	4 UJ	4 UJ	4 U	4 U	4 U	4 U	4 U	4 U
INDENO(1,2,3-CD)PYRENE	8 J	2 UJ	2 U	3 J	2 U	2 U	2 U	2 U
NAPHTHALENE	4 U	3 U	3 UJ	3 UJ	3 UJ	3 UJ	3 UJ	3 UJ
PHENANTHRENE	2 U	2 U	2 U	3 J	2 U	2 U	2 U	2 U

LOCATION	NASB-BG-SB-14	NASB-BG-SB-14	NASB-BG-SB-15	NASB-BG-SB-15	NASB-BG-SB-16	NASB-BG-SB-16	NASB-BG-SB-16	NASB-BG-SB-16
SAMPLE ID	NASB-BG-SB-SB14-0001	NASB-BG-SB-SB14-0110	NASB-BG-SB-SB15-0110	NASB-BG-SB-SB15-0001	NASB-BG-SB-SB16-0110-D	NASB-BG-SB-SB16-0110	NASB-BG-SB-SB16-0001	NASB-BG-SB-SB16-0110-AVG
SAMPLE DATE	8/18/2009	8/18/2009	8/25/2009	8/25/2009	8/25/2009	8/25/2009	8/25/2009	8/25/2009
Geplogic Unit	Transition	Transition	Transition	Transition	Transition	Transition	Transition	Transition
PYRENE	3 U	3 U	3 U	6 J	2 U	2 U	3 U	2 U
PESTICIDES/PCBS (UG/KG)								
4,4'-DDD	0.59 U	--	--	0.56 U	--	--	0.53 U	--
4,4'-DDE	0.84 J	--	--	0.77 J	--	--	0.47 U	--
4,4'-DDT	0.59 U	--	--	0.56 U	--	--	0.53 U	--
ALDRIN	0.57 U	--	--	0.54 U	--	--	0.52 U	--
ALPHA-BHC	0.64 U	--	--	0.61 U	--	--	0.58 U	--
ALPHA-CHLORDANE	0.63 U	--	--	0.60 U	--	--	0.57 U	--
BETA-BHC	0.53 U	--	--	0.50 U	--	--	0.48 U	--
DELTA-BHC	0.46 U	--	--	0.44 UJ	--	--	0.42 U	--
DIELDRIN	0.53 U	--	--	0.50 U	--	--	0.48 U	--
ENDOSULFAN I	0.56 U	--	--	0.53 U	--	--	0.51 U	--
ENDOSULFAN II	0.61 U	--	--	0.58 U	--	--	0.56 U	--
ENDOSULFAN SULFATE	0.63 U	--	--	0.60 U	--	--	0.57 U	--
ENDRIN	0.53 U	--	--	0.50 U	--	--	0.48 U	--
ENDRIN ALDEHYDE	0.49 U	--	--	0.46 U	--	--	0.44 U	--
ENDRIN KETONE	1.2 U	--	--	1.2 U	--	--	1.1 U	--
GAMMA-BHC (LINDANE)	0.64 U	--	--	0.61 U	--	--	0.58 U	--
GAMMA-CHLORDANE	0.66 U	--	--	0.62 U	--	--	0.60 U	--
HEPTACHLOR	0.66 U	--	--	0.62 U	--	--	0.60 U	--
HEPTACHLOR EPOXIDE	0.61 U	--	--	0.58 U	--	--	0.56 U	--
METHOXYCHLOR	0.70 U	--	--	0.66 U	--	--	0.63 U	--
TOXAPHENE	20 U	--	--	18 U	--	--	18 U	--

SOIL Footnotes:

-- = The chemical was not analyzed or no value was available.

Data Qualifiers:

Blank (i.e., no qualifier) = the chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

R = The chemical was rejected.

LOCATION	NASB-BG-SB-17	NASB-BG-SB-17	NASB-BG-SB-18	NASB-BG-SB-18	NASB-BG-SB-19	NASB-BG-SB-19	NASB-BG-SB-21	NASB-BG-SB-21
SAMPLE ID	NASB-BG-SB-SB17-0110	NASB-BG-SB-SB17-0001	NASB-BG-SB-SB18-0001	NASB-BG-SB-SB18-0107	NASB-BG-SB-SB19-0001	NASB-BG-SB-SB19-0105	NASB-BG-SB-SB21-0105	NASB-BG-SB-SB21-0001
SAMPLE DATE	8/25/2009	8/25/2009	8/13/2009	8/13/2009	8/13/2009	8/13/2009	8/14/2009	8/14/2009
Geplogic Unit	Transition	Transition	Upper Sand	Upper Sand	Upper Sand	Upper Sand	Upper Sand	Upper Sand
HERBICIDES (UG/KG)								
2,4,5-T	--	14 U	14 UJ	--	13 UJ	--	--	13 UJ
2,4,5-TP (SILVEX)	--	9.0 U	8.6 UJ	--	7.9 UJ	--	--	8.2 UJ
2,4-D	--	8.7 U	8.4 UJ	--	7.6 UJ	--	--	8.0 UJ
2,4-DB	--	16 U	15 UJ	--	14 UJ	--	--	14 UJ
DALAPON	--	9.6 U	9.3 U	--	8.4 U	--	--	8.8 U
DICAMBA	--	4.8 U	4.6 U	--	4.2 U	--	--	4.4 U
DICHLOROPROP	--	12 U	12 U	--	10 U	--	--	11 U
DINOSEB	--	1.6 U	1.5 UJ	--	1.4 UJ	--	--	1.4 UJ
MCPA	--	1900 U	1800 U	--	1600 U	--	--	1700 U
MCPP	--	400 U	390 U	--	350 U	--	--	370 U
METALS (MG/KG)								
ALUMINUM	29000	33600	19800	5310	3810	6420	9040	19400
ANTIMONY	0.08 UJ	0.08 UJ	0.08 J	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.04 J
ARSENIC	12.9	10.6	2.7	2.1	0.77	0.56	0.97	2.8
BARIUM	90.0	102	14.5	11.4	5.7	15.3	9.2	10.9
BERYLLIUM	1.5	1.7	0.46 J	0.31 J	0.24 J	0.36 J	0.50	0.84
CADMIUM	0.04 J	0.05 J	0.07 J	0.01 UJ	0.01 U	0.01 U	0.01 UJ	0.04 J
CALCIUM	2910 J	871 J	187 J	640 J	156 J	1080 J	1110 J	339 J
CHROMIUM	57.5	55.0	15.3	8.0	3.6	8.5	9.6	18.7
COBALT	20.8	27.1	1.3	3.1	0.55	2.1	2.2	1.9
COPPER	36.1 J	26.3 J	3.2 U	5.4	1.5 UJ	3.4	3.5	4.1
IRON	44300	44100	14400	8740	2230	6480	7800	16900
LEAD	15.6	17.4	11.1	2.6	4.3	2.1	2.6	5.8
MAGNESIUM	11400	9590	808 J	1620 J	404 J	1900 J	1600 J	1160 J
MANGANESE	778	1210	40.5 J	160 J	24.2 J	87.2 J	79.0 J	74.7 J
MERCURY	0.01 U	0.05	0.08	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.06
NICKEL	50.0	43.6	3.5 J	6.8	1.3 J	6.8	6.0	4.6 J
POTASSIUM	5620 J	4010 J	359	843	313	1230	666	426
SELENIUM	0.42 UJ	0.70 U	1.0 U	0.28 UJ	0.27 UJ	0.28 UJ	0.30 UJ	0.92 U
SILVER	0.15 UJ	0.17 UJ	0.21 J	0.14 J	0.13 J	0.15 J	0.13 J	0.29 J
SODIUM	254 UJ	163 UJ	63.3 UJ	60.2 UJ	40.4 UJ	80.1 UJ	60.5 UJ	58.9 UJ
THALLIUM	0.29 U	0.28 U	0.1 UJ	0.09 UJ	0.05 UJ	0.09 UJ	0.06 UJ	0.08 UJ
VANADIUM	67.0	62.9	26.3	12.8	7.5	12.9	17.7	32.6
ZINC	86.5	96.6	9.5	14.0	3.5	15.3	12.3	14.2
MISCELLANEOUS PARAMETERS								
TOTAL ORGANIC CARBON (MG/KG)	1800 J	17000 J	20000	2700	28000	6700	5400	14000
POLYCYCLIC AROMATIC HYDROCARBONS (UG/KG)								
2-METHYLNAPHTHALENE	3 UJ	3 UJ	3 U	3 U	3 U	3 U	3 U	3 U
ACENAPHTHENE	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
ACENAPHTHYLENE	1 U	2 U	2 U	1 U	2 U	1 U	2 U	2 U
ANTHRACENE	1 U	2 U	2 U	1 U	2 U	1 U	2 U	2 U
BENZO(A)ANTHRACENE	2 U	5 J	6 J	2 U	2 U	2 U	2 U	2 U
BENZO(A)PYRENE	4 U	10 J	7 J	4 U	4 U	4 U	4 U	4 U
BENZO(B)FLUORANTHENE	3 U	10 J	12 J	3 U	3 U	3 U	3 U	3 U
BENZO(G,H,I)PERYLENE	2 U	26 J	5 J	2 U	2 U	2 U	2 U	3 U
BENZO(K)FLUORANTHENE	4 U	13 J	5 J	4 U	4 U	4 U	4 U	4 U
CHRYSENE	2 U	9 J	9 J	2 U	2 U	2 U	2 U	2 U
DIBENZO(A,H)ANTHRACENE	2 U	14 J	2 U	2 U	2 U	2 U	2 U	2 U
FLUORANTHENE	2 U	5 J	17 J	2 U	4 J	2 U	2 U	2 U
FLUORENE	4 U	5 U	4 U	4 U	4 U	4 U	4 U	4 U
INDENO(1,2,3-CD)PYRENE	2 U	26 J	7 J	2 U	2 U	2 U	2 U	2 U
NAPHTHALENE	3 UJ	4 UJ	4 U	3 U	3 U	3 U	3 U	3 U
PHENANTHRENE	2 U	3 J	11 J	2 U	3 J	2 U	2 U	2 U

LOCATION	NASB-BG-SB-17	NASB-BG-SB-17	NASB-BG-SB-18	NASB-BG-SB-18	NASB-BG-SB-19	NASB-BG-SB-19	NASB-BG-SB-21	NASB-BG-SB-21
SAMPLE ID	NASB-BG-SB-SB17-0110	NASB-BG-SB-SB17-0001	NASB-BG-SB-SB18-0001	NASB-BG-SB-SB18-0107	NASB-BG-SB-SB19-0001	NASB-BG-SB-SB19-0105	NASB-BG-SB-SB21-0105	NASB-BG-SB-SB21-0001
SAMPLE DATE	8/25/2009	8/25/2009	8/13/2009	8/13/2009	8/13/2009	8/13/2009	8/14/2009	8/14/2009
Geplogic Unit	Transition	Transition	Upper Sand	Upper Sand	Upper Sand	Upper Sand	Upper Sand	Upper Sand
PYRENE	3 U	4 J	17 J	3 U	3 J	2 U	3 U	3 U
PESTICIDES/PCBS (UG/KG)								
4,4'-DDD	--	0.61 U	0.58 U	--	0.53 U	--	--	0.56 U
4,4'-DDE	--	0.68 J	1.00 J	--	0.47 U	--	--	0.49 U
4,4'-DDT	--	0.61 U	1.1 J	--	0.53 U	--	--	0.56 U
ALDRIN	--	0.59 U	0.57 U	--	0.52 U	--	--	0.54 U
ALPHA-BHC	--	0.67 U	0.64 U	--	0.58 U	--	--	0.61 U
ALPHA-CHLORDANE	--	0.65 U	0.63 U	--	0.57 U	--	--	0.60 U
BETA-BHC	--	0.55 U	0.53 U	--	0.48 U	--	--	0.50 U
DELTA-BHC	--	0.48 U	0.46 U	--	0.42 U	--	--	0.44 U
DIELDRIN	--	0.55 U	0.53 U	--	0.48 U	--	--	0.50 U
ENDOSULFAN I	--	0.58 U	0.56 U	--	0.51 U	--	--	0.53 U
ENDOSULFAN II	--	0.64 U	0.61 U	--	0.56 U	--	--	0.58 U
ENDOSULFAN SULFATE	--	0.65 U	0.63 U	--	0.57 U	--	--	0.60 U
ENDRIN	--	0.55 U	0.53 U	--	0.48 U	--	--	0.50 U
ENDRIN ALDEHYDE	--	0.51 U	0.49 U	--	0.44 U	--	--	0.46 U
ENDRIN KETONE	--	1.3 U	1.2 U	--	1.1 U	--	--	1.2 U
GAMMA-BHC (LINDANE)	--	0.67 U	0.64 U	--	0.58 U	--	--	0.61 U
GAMMA-CHLORDANE	--	0.68 U	0.65 U	--	0.60 U	--	--	0.62 U
HEPTACHLOR	--	0.68 U	0.65 U	--	0.60 U	--	--	0.62 U
HEPTACHLOR EPOXIDE	--	0.64 U	0.61 U	--	0.56 U	--	--	0.58 U
METHOXYCHLOR	--	0.72 U	0.70 U	--	0.63 U	--	--	0.66 U
TOXAPHENE	--	20 U	19 U	--	18 U	--	--	18 U

SOIL Footnotes:

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Data Qualifiers:

Blank (i.e., no qualifier) = the chemical was detected.

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< = The chemical was not detected.

R = The chemical was rejected.

LOCATION	NASB-BG-SB-22	NASB-BG-SB-22	NASB-BG-SB-23	NASB-BG-SB-23	NASB-BG-SB-24	NASB-BG-SB-24	NASB-BG-SB-24	NASB-BG-SB-24
SAMPLE ID	NASB-BG-SB-SB22-0103	NASB-BG-SB-SB22-0001	NASB-BG-SB-SB23-0110	NASB-BG-SB-SB23-0001	NASB-BG-SB-SB24-0001	NASB-BG-SB-SB24-0001-AVG	NASB-BG-SB-SB24-0001-D	NASB-BG-SB-SB24-0110
SAMPLE DATE	8/14/2009	8/14/2009	8/17/2009	8/17/2009	8/14/2009	8/14/2009	8/14/2009	8/14/2009
Geplogic Unit	Upper Sand	Upper Sand	Transition	Transition	Transition	Transition	Transition	Transition
HERBICIDES (UG/KG)								
2,4,5-T	--	13 UJ	--	13 UJ	12 UJ	12.5 UJ	13 UJ	--
2,4,5-TP (SILVEX)	--	7.8 UJ	--	8.1 UJ	7.7 UJ	8 UJ	8.3 UJ	--
2,4-D	--	7.6 UJ	--	7.8 UJ	7.5 UJ	7.75 UJ	8.0 UJ	--
2,4-DB	--	14 UJ	--	14 UJ	14 UJ	14.5 UJ	15 UJ	--
DALAPON	--	8.4 U	--	8.7 U	8.3 U	8.6 U	8.9 U	--
DICAMBA	--	4.2 U	--	4.4 U	4.2 U	4.35 U	4.5 U	--
DICHLOROPROP	--	10 U	--	11 U	10 U	10.5 U	11 U	--
DINOSEB	--	1.4 UJ	--	1.4 UJ	1.4 UJ	1.45 UJ	1.5 UJ	--
MCPA	--	1600 U	--	1700 U	1600 U	1650 U	1700 U	--
MCPP	--	350 U	--	360 U	350 U	360 U	370 U	--
METALS (MG/KG)								
ALUMINUM	4940	12700	26900	17600	20600	21550	22500	25000
ANTIMONY	0.02 UJ	0.03 J	0.05 J	0.03 UJ	0.04 J	0.055 J	0.07 J	0.04 J
ARSENIC	1.3	1.8	8.0	3.8	4.9	5.3	5.7	15.1
BARIUM	10.9	10.1	86.9	38.7	59.7	61.85	64.0	84.9
BERYLLIUM	0.34 J	0.51 J	1.0	0.64	1.0	1.05	1.1	1.3
CADMIUM	0.01 U	0.03 J	0.05 J	0.03 J	0.04 J	0.04 J	0.04 J	0.04 J
CALCIUM	618 J	251 J	2460 J	466 J	763 J	733.5 J	704 J	3040 J
CHROMIUM	7.6	9.8	53.6	23.4	32.6	33.25	33.9	50.4
COBALT	2.9	1.8	24.4	5.7	8.9	9.95	11.0	15.6
COPPER	5.7	4.6	35.6	11.5	15.2	16.7	18.2	30.9
IRON	7610	10600	41200	19500	25100	26700	28300	36500
LEAD	2.3	5.6	15.5	6.7	9.8	10.5	11.2	11.1
MAGNESIUM	1620 J	1070 J	10200 J	3480 J	5640 J	5965 J	6290 J	9780 J
MANGANESE	91.0 J	59.1 J	805 J	172 J	317 J	344 J	371 J	655 J
MERCURY	0.01 UJ	0.07	0.01 UJ	0.04 J	0.02 J	0.02 J	0.02 J	0.01 UJ
NICKEL	6.2	4.6 J	47.1	16.9	23.7	25.4	27.1	43.1
POTASSIUM	822	489	5780	1490	2800	2940	3080	5960
SELENIUM	0.25 UJ	0.68 U	0.31 UJ	0.59 UJ	0.47 U	0.515 UJ	0.56 UJ	0.37 UJ
SILVER	0.19 J	0.20 J	0.74 J	0.41 J	0.12 UJ	0.345 J	0.63 J	0.16 UJ
SODIUM	64.2 UJ	50.6 UJ	224 U	72.4 UJ	118 U	121 UJ	124 UJ	281
THALLIUM	0.07 UJ	0.06 UJ	0.31 U	0.12 UJ	0.20 U	0.22 UJ	0.24 UJ	0.29 U
VANADIUM	13.4	19.4	63.0	31.6	43.1	44.85	46.6	61.0
ZINC	13.9	14.4	80.6	47.6	58.4	61.75	65.1	79.6
MISCELLANEOUS PARAMETERS								
TOTAL ORGANIC CARBON (MG/KG)	1000	9200	1900	27000	19000 J	15000 J	11000 J	1000
POLYCYCLIC AROMATIC HYDROCARBONS (UG/KG)								
2-METHYLNAPHTHALENE	3 U	3 U	3 UJ	3 UJ	3 U	3 U	3 U	3 U
ACENAPHTHENE	2 U	2 U	2 UJ	2 UJ	2 U	2 U	2 U	2 U
ACENAPHTHYLENE	1 U	2 U	2 U	2 U	1 U	1.5 U	2 U	2 U
ANTHRACENE	1 U	2 U	2 U	2 U	1 U	1.5 U	2 U	2 U
BENZO(A)ANTHRACENE	2 U	2 U	2 U	2 U	3 J	2 J	2 U	2 U
BENZO(A)PYRENE	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
BENZO(B)FLUORANTHENE	3 U	3 U	3 U	3 U	5 J	3.25 J	3 U	3 U
BENZO(G,H,I)PERYLENE	2 U	2 U	2 U	3 J	3 J	2.25 J	3 U	2 U
BENZO(K)FLUORANTHENE	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
CHRYSENE	2 U	2 U	2 U	2 U	4 J	2.5 J	2 U	2 U
DIBENZO(A,H)ANTHRACENE	2 U	2 U	2 UJ	2 UJ	2 U	2 U	2 U	2 U
FLUORANTHENE	2 U	2 U	2 U	2 U	7 J	4 J	2 U	2 U
FLUORENE	4 U	4 U	4 UJ	4 UJ	4 U	4 U	4 U	4 U
INDENO(1,2,3-CD)PYRENE	2 U	2 U	2 U	2 U	4 J	2.5 J	2 U	2 U
NAPHTHALENE	3 U	3 U	3 U	3 U	3 UJ	3 UJ	3 UJ	3 UJ
PHENANTHRENE	2 U	2 U	2 U	2 U	4 J	2.5 J	2 U	2 U

LOCATION	NASB-BG-SB-22	NASB-BG-SB-22	NASB-BG-SB-23	NASB-BG-SB-23	NASB-BG-SB-24	NASB-BG-SB-24	NASB-BG-SB-24	NASB-BG-SB-24
SAMPLE ID	NASB-BG-SB-SB22-0103	NASB-BG-SB-SB22-0001	NASB-BG-SB-SB23-0110	NASB-BG-SB-SB23-0001	NASB-BG-SB-SB24-0001	NASB-BG-SB-SB24-0001-AVG	NASB-BG-SB-SB24-0001-D	NASB-BG-SB-SB24-0110
SAMPLE DATE	8/14/2009	8/14/2009	8/17/2009	8/17/2009	8/14/2009	8/14/2009	8/14/2009	8/14/2009
Geplogic Unit	Upper Sand	Upper Sand	Transition	Transition	Transition	Transition	Transition	Transition
PYRENE	2 U	3 U	3 U	3 U	7 J	4.25 J	3 U	3 U
PESTICIDES/PCBS (UG/KG)								
4,4'-DDD	--	0.53 U	--	0.55 U	0.52 U	0.54 U	0.56 U	--
4,4'-DDE	--	0.47 U	--	0.48 U	0.56 J	0.61 J	0.66 J	--
4,4'-DDT	--	0.53 U	--	0.55 U	0.52 U	0.54 U	0.56 U	--
ALDRIN	--	0.52 U	--	0.54 U	0.51 U	0.53 U	0.55 U	--
ALPHA-BHC	--	0.58 U	--	0.60 U	0.57 U	0.595 U	0.62 U	--
ALPHA-CHLORDANE	--	0.57 U	--	0.59 U	0.56 U	0.58 U	0.60 U	--
BETA-BHC	--	0.48 U	--	0.50 U	0.47 U	0.49 U	0.51 U	--
DELTA-BHC	--	0.42 U	--	0.43 U	0.41 U	0.425 U	0.44 U	--
DIELDRIN	--	0.48 U	--	0.50 U	0.47 U	0.49 U	0.51 U	--
ENDOSULFAN I	--	0.50 U	--	0.52 U	0.50 U	0.52 U	0.54 U	--
ENDOSULFAN II	--	0.55 U	--	0.57 U	0.55 U	0.57 U	0.59 U	--
ENDOSULFAN SULFATE	--	0.57 U	--	0.59 U	0.56 U	0.58 U	0.60 U	--
ENDRIN	--	0.48 U	--	0.50 U	0.47 U	0.49 U	0.51 U	--
ENDRIN ALDEHYDE	--	0.44 U	--	0.46 U	0.44 U	0.455 U	0.47 U	--
ENDRIN KETONE	--	1.1 U	--	1.2 U	1.1 U	1.15 U	1.2 U	--
GAMMA-BHC (LINDANE)	--	0.58 U	--	0.60 U	0.57 U	0.595 U	0.62 U	--
GAMMA-CHLORDANE	--	0.59 U	--	0.61 U	0.58 U	0.605 U	0.63 U	--
HEPTACHLOR	--	0.59 U	--	0.61 U	0.58 U	0.605 U	0.63 U	--
HEPTACHLOR EPOXIDE	--	0.55 U	--	0.57 U	0.55 U	0.57 U	0.59 U	--
METHOXYCHLOR	--	0.63 U	--	0.65 U	0.62 U	0.645 U	0.67 U	--
TOXAPHENE	--	18 U	--	18 U	17 U	18 U	19 U	--

SOIL Footnotes:

-- = The chemical was not analyzed or no value was available.

Data Qualifiers:

Blank (i.e., no qualifier) = the chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

R = The chemical was rejected.

LOCATION	NASB-BG-SB-25	NASB-BG-SB-25	NASB-BG-SB-26	NASB-BG-SB-26	NASB-BG-SB-27	NASB-BG-SB-27	NASB-BG-SB-28	NASB-BG-SB-28
SAMPLE ID	NASB-BG-SB-SB25-0001	NASB-BG-SB-SB25-0110	NASB-BG-SB-SB26-0110	NASB-BG-SB-SB26-0001	NASB-BG-SB-SB27-0110	NASB-BG-SB-SB27-0001	NASB-BG-SB-SB28-0001-AVG	NASB-BG-SB-SB28-0001
SAMPLE DATE	8/14/2009	8/14/2009	8/19/2009	8/19/2009	8/19/2009	8/19/2009	8/19/2009	8/19/2009
Geplogic Unit	Transition	Transition	Upper Sand	Upper Sand	Upper Sand	Upper Sand	Upper Sand	Upper Sand
HERBICIDES (UG/KG)								
2,4,5-T	13 UJ	--	--	11 U	--	11 U	11 U	11 U
2,4,5-TP (SILVEX)	8.0 UJ	--	--	6.7 U	--	6.9 U	6.7 U	6.7 U
2,4-D	7.7 UJ	--	--	6.5 U	--	6.6 U	6.45 U	6.4 U
2,4-DB	14 UJ	--	--	12 U	--	12 U	12 U	12 U
DALAPON	8.6 U	--	--	7.2 U	--	7.4 U	7.2 U	7.2 U
DICAMBA	4.3 U	--	--	3.6 U	--	3.7 U	3.6 U	3.6 U
DICHLOROPROP	11 U	--	--	9.0 U	--	9.2 U	8.95 U	8.9 U
DINOSEB	1.4 UJ	--	--	1.2 U	--	1.2 U	1.2 U	1.2 U
MCPA	1700 U	--	--	1400 U	--	1400 U	1400 U	1400 U
MCPP	360 U	--	--	300 U	--	310 U	300 U	300 U
METALS (MG/KG)								
ALUMINUM	26600	19400	3350	7050	3850	9580	7435	7120
ANTIMONY	0.05 J	0.05 J	0.02 UJ	0.01 UJ	0.02 UJ	0.04 UJ	0.02 UJ	0.02 UJ
ARSENIC	7.5	6.4	1.2	1.5	1.7	1.6	1.85	1.9
BARIUM	82.9	61.8	8.6	9.2	10.1	10.8	10.15	10
BERYLLIUM	1.3	1.1	0.19 J	0.26 J	0.27 J	0.32 J	0.27 J	0.27 J
CADMIUM	0.05 J	0.03 J	0.03 J	0.02 UJ	0.03 J	0.03 J	0.03 J	0.03 J
CALCIUM	1250 J	1960 J	657 J	370 J	504 J	256 J	389 J	384 J
CHROMIUM	42.6	34.9	5.0	8.0	5.6	9.7	7.3	7.0
COBALT	14.5	12.8	3.2	4.0	3.9	3.2	3.65	3.6
COPPER	25.4	24.7	5.6	5.5	6.7	4.1	5.35	5.3
IRON	31400	27600	5060	7480	6960	9430	7085	7020
LEAD	12.8	9.5	2.4	4.3	3.7 J	5.2 J	5.95 J	7.6 J
MAGNESIUM	7630 J	7160 J	1230	1470	1480 J	1340 J	1250 J	1160 J
MANGANESE	553 J	552 J	212 J	172 J	265 J	140 J	219.5 J	209 J
MERCURY	0.02 J	0.01 UJ	0.01 UJ	0.01 UJ	0.01 U	0.02 J	0.015 J	0.02 J
NICKEL	32.6	30.2	8.4	8.9	9.2	6.4	7.8	7.4
POTASSIUM	4560	4090	486	464	598	277	396	395
SELENIUM	0.56 U	0.38 UJ	0.13 UJ	0.24 UJ	0.17 UJ	0.53 U	0.40 UJ	0.40 UJ
SILVER	0.14 UJ	0.13 UJ	0.05 U	0.05 UJ	0.07 U	0.07 U	0.055 U	0.05 U
SODIUM	175 U	161 U	59.0 UJ	44.9 UJ	42.0 J	35.2 J	38.55 J	39.3 J
THALLIUM	0.31 U	0.23 U	0.06 UJ	0.08 UJ	0.11 UJ	0.13 UJ	0.09 UJ	0.08 UJ
VANADIUM	55.2	48.6	8.0	12.1	9.9	16.7	12.3	12.6
ZINC	74.6	57.9	10.6	15.0	15.3	13.0	11.65	11.5
MISCELLANEOUS PARAMETERS								
TOTAL ORGANIC CARBON (MG/KG)	9400	530	330 J	7500	440	19000	10100	12000
POLYCYCLIC AROMATIC HYDROCARBONS (UG/KG)								
2-METHYLNAPHTHALENE	3 U	3 U	2 U	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ
ACENAPHTHENE	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
ACENAPHTHYLENE	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
ANTHRACENE	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
BENZO(A)ANTHRACENE	2 U	2 U	2 U	2 U	2 U	2 J	2 U	2 U
BENZO(A)PYRENE	4 U	4 U	3 U	4 U	3 U	4 U	4 U	4 U
BENZO(B)FLUORANTHENE	4 J	3 U	2 U	2 U	2 U	3 U	2.5 U	2 U
BENZO(G,H,I)PERYLENE	2 U	2 U	2 UJ	2 UJ	2 U	2 U	2 U	2 U
BENZO(K)FLUORANTHENE	4 U	4 U	3 U	3 U	3 U	3 U	3 U	3 U
CHRYSENE	3 J	2 U	2 U	2 U	2 U	3 J	2 U	2 U
DIBENZO(A,H)ANTHRACENE	2 U	2 U	2 UJ	2 UJ	2 U	2 U	2 U	2 U
FLUORANTHENE	6 J	2 U	2 U	2 J	2 U	5 J	2 J	3 J
FLUORENE	4 U	4 U	3 U	3 U	3 U	4 U	3 U	3 U
INDENO(1,2,3-CD)PYRENE	3 J	2 U	2 UJ	2 UJ	2 U	2 J	2 U	2 U
NAPHTHALENE	3 U	3 UJ	3 U	3 U	3 U	3 U	3 U	3 U
PHENANTHRENE	3 J	2 U	2 U	2 U	2 U	3 J	2 U	2 U

LOCATION	NASB-BG-SB-25	NASB-BG-SB-25	NASB-BG-SB-26	NASB-BG-SB-26	NASB-BG-SB-27	NASB-BG-SB-27	NASB-BG-SB-28	NASB-BG-SB-28
SAMPLE ID	NASB-BG-SB-SB25-0001	NASB-BG-SB-SB25-0110	NASB-BG-SB-SB26-0110	NASB-BG-SB-SB26-0001	NASB-BG-SB-SB27-0110	NASB-BG-SB-SB27-0001	NASB-BG-SB-SB28-0001-AVG	NASB-BG-SB-SB28-0001
SAMPLE DATE	8/14/2009	8/14/2009	8/19/2009	8/19/2009	8/19/2009	8/19/2009	8/19/2009	8/19/2009
Geplogic Unit	Transition	Transition	Upper Sand	Upper Sand	Upper Sand	Upper Sand	Upper Sand	Upper Sand
PYRENE	5 J	2 U	2 U	2 U	2 U	5 J	2 J	3 J
PESTICIDES/PCBS (UG/KG)								
4,4'-DDD	0.54 U	--	--	0.45 U	--	0.46 U	0.455 U	0.45 U
4,4'-DDE	0.58 J	--	--	0.40 U	--	0.41 U	0.355 J	0.51 J
4,4'-DDT	0.54 U	--	--	0.45 U	--	0.46 UJ	0.455 UJ	0.45 UJ
ALDRIN	0.53 U	--	--	0.44 U	--	0.45 U	0.44 U	0.44 U
ALPHA-BHC	0.59 U	--	--	0.50 U	--	0.51 U	0.495 U	0.49 U
ALPHA-CHLORDANE	0.58 U	--	--	0.49 U	--	0.50 U	0.485 U	0.48 U
BETA-BHC	0.49 U	--	--	0.41 U	--	0.42 U	0.41 U	0.41 U
DELTA-BHC	0.42 U	--	--	0.36 U	--	0.36 U	0.355 U	0.35 U
DIELDRIN	0.49 U	--	--	0.41 U	--	0.42 U	0.41 U	0.41 U
ENDOSULFAN I	0.52 U	--	--	0.43 U	--	0.44 U	0.435 U	0.43 U
ENDOSULFAN II	0.57 U	--	--	0.48 U	--	0.49 U	0.475 U	0.47 U
ENDOSULFAN SULFATE	0.58 U	--	--	0.49 U	--	0.50 U	0.485 U	0.48 U
ENDRIN	0.49 U	--	--	0.41 U	--	0.42 U	0.41 U	0.41 U
ENDRIN ALDEHYDE	0.45 U	--	--	0.38 U	--	0.39 U	0.38 U	0.38 U
ENDRIN KETONE	1.2 U	--	--	0.97 U	--	1.00 U	0.975 U	0.97 U
GAMMA-BHC (LINDANE)	0.59 U	--	--	0.50 U	--	0.51 U	0.495 U	0.49 U
GAMMA-CHLORDANE	0.61 U	--	--	0.51 U	--	0.52 U	0.505 U	0.50 U
HEPTACHLOR	0.61 U	--	--	0.51 U	--	0.52 U	0.505 U	0.50 U
HEPTACHLOR EPOXIDE	0.57 U	--	--	0.48 U	--	0.49 U	0.475 U	0.47 U
METHOXYCHLOR	0.64 U	--	--	0.54 U	--	0.55 U	0.54 U	0.54 U
TOXAPHENE	18 U	--	--	15 U	--	16 U	15 U	15 U

SOIL Footnotes:

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LOCATION	NASB-BG-MW-01	NASB-BG-MW-01	NASB-BG-MW-02	NASB-BG-MW-02	NASB-BG-MW-03	NASB-BG-MW-03	NASB-BG-MW-04	NASB-BG-MW-04	NASB-BG-MW-05
SAMPLE ID	NASB-BG-GW-MW-01-0909	NASB-BG-GW-MW-01-0410	NASB-BG-GW-MW-02-0909	NASB-BG-GW-MW-02-0410	NASB-BG-GW-MW-03-0909	NASB-BG-GW-MW-03-0410	NASB-BG-GW-MW-04-0909	NASB-BG-GW-MW-04-0410	NASB-BG-GW-MW-05-0909
SAMPLE DATE	9/24/2009	4/13/2010	9/24/2009	4/13/2010	9/24/2009	4/13/2010	9/24/2009	4/13/2010	9/23/2009
METALS (UG/L)									
ALUMINUM	916 J	333	92.7 UJ	118 J	194 UJ	450	380 J	304	278 UJ
ANTIMONY	0.15 U	0.10 U	0.15 U	0.10 U	0.15 U	0.13 UJ	0.15 U	0.10 U	0.15 U
ARSENIC	2.1 UJ	0.80 U	2.3 UJ	0.80 U	4.2 J	1.6 UJ	2.9 UJ	2.1 UJ	2.0 UJ
BARIUM	14.1	11.3	6.2	6.6	8.8	6.5	6.1	5.1	3.3 J
BERYLLIUM	0.06 UJ	0.06 J	0.05 U	0.05 U	0.05 U	0.06 J	0.05 U	0.05 U	0.05 U
CADMIUM	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 U	0.09 UJ	0.05 U	0.05 U	0.05 U
CALCIUM	2130	1620	1220	1190	1120	993	931	1040	2530
CHROMIUM	3.8 U	4.2 U	2.3 UJ	2.7 UJ	3.2 U	4.1 U	3.4 U	4.3 U	4.9 U
COBALT	0.71 J	0.26 J	0.10 U	0.05 U	0.21 J	0.31 J	0.19 J	0.22 J	0.24 J
COPPER	2.1 J	1 J	0.70 U	0.48 U	0.70 U	1 J	0.76 J	1.8 J	0.70 U
IRON	652 J	192	25.8 J	17.2 UJ	130 J	310	312 J	230	571 J
LEAD	0.96 J	0.29 J	0.09 UJ	0.10 U	0.15 UJ	0.31 J	0.24 UJ	0.29 J	0.19 UJ
MAGNESIUM	540	460	352	306	383	355	410	407	898
MANGANESE	66.8	25.8	19.1	13.6	39.3	21.6	31.0	25.3	23.2
MERCURY	0.02 U	0.02 U	0.02 U	0.03 UJ	0.02 U	0.02 U	0.02 U	0.03 UJ	0.02 U
NICKEL	1.5	0.63 UJ	0.26 UJ	0.26 UJ	0.67 UJ	0.74 UJ	0.77 J	0.56 UJ	0.94 J
POTASSIUM	1070	818 J	445 UJ	576 J	618 J	480 J	282 UJ	306 J	942 J
SELENIUM	0.80 U	0.50 U	0.80 U	0.50 U	0.83 UJ	0.50 U	0.80 U	0.53 J	0.80 U
SILVER	0.05 UJ	0.05 U	0.05 UJ	0.05 U	0.05 UJ	0.05 U	0.05 UJ	0.05 U	0.05 UJ
SODIUM	3000	2800	2270	2340	1550	1320	1460	1470	3180
THALLIUM	0.10 U	0.05 U	0.10 U	0.05 U	0.10 U	0.05 U	0.10 U	0.05 U	0.10 U
VANADIUM	2.5 UJ	1.5 UJ	1.3 UJ	2.1 UJ	1.5 UJ	1.7 UJ	2.2 UJ	3.3 UJ	1.6 UJ
ZINC	3.7 J	1.9 UJ	3.55 U	1.6 U	3.9 J	2.3 UJ	3.55 U	2.3 UJ	4.7 J
DISSOLVED METALS (UG/L)									
ALUMINUM	56.8 UJ	67 UJ	32.3 UJ	32.1 UJ	32.5 UJ	24.5 UJ	31.2 UJ	18.7 UJ	27.0 UJ
ANTIMONY	0.15 U	0.10 U	0.15 U	0.13 UJ	0.15 U	0.11 UJ	0.15 U	0.10 U	0.15 U
ARSENIC	2.7 UJ	1.1 UJ	3.3 UJ	0.93 UJ	1.6 UJ	0.80 U	2.0 UJ	2.3 UJ	3.0 UJ
BARIUM	12.0	10.1	6.6	6.5	8.0	4.9 J	4.7 J	3.7 J	1.5 UJ
BERYLLIUM	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
CADMIUM	0.05 U	0.06 UJ	0.05 U	0.05 U	0.05 U	0.05 U	0.08 UJ	0.05 U	0.05 U
CALCIUM	2130	1630	1250	1290	1150	980	913	1120	2510
CHROMIUM	2.6 UJ	3.8 U	2.6 UJ	2.6 UJ	2.8 UJ	3.5 U	1.9 UJ	1.6 UJ	2.9 UJ
COBALT	0.15 J	0.10 J	0.10 U	0.05 U	0.10 U	0.05 U	0.11 J	0.05 U	0.10 U
COPPER	1.4 J	2.5 J	0.70 U	0.48 U	0.74 J	0.49 J	0.70 U	0.95 J	0.70 U
IRON	39.1 J	20.5 UJ	5.17 U	6.27 U	8.8 J	6.27 U	6.0 J	6.27 U	17.3 J
LEAD	0.20 UJ	0.24 J	0.09 UJ	0.14 J	0.05 U	0.10 U	0.10 UJ	0.10 U	0.05 U
MAGNESIUM	437	431	352	321	366	300	344	358	798
MANGANESE	34.3	16.3	16.7	12.1	30.7	6.6	11.0	7.6	14.5
MERCURY	0.02 U	0.02 U	0.02 U	0.03 UJ	0.02 U	0.02 U	0.02 U	0.03 UJ	0.02 U
NICKEL	0.60 UJ	0.97 J	0.45 UJ	1.8	0.57 UJ	0.42 UJ	0.69 UJ	0.49 UJ	0.50 UJ
POTASSIUM	958 J	817 J	662 J	639 J	668 J	425 J	339 UJ	260 J	968 J
SELENIUM	0.80 U	0.50 U	0.80 U	0.50 U	0.80 U	0.50 U	0.80 U	0.50 U	0.80 U
SILVER	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
SODIUM	3050	2850	2360	2360	1570	1300	1470	1450	3160
THALLIUM	0.10 U	0.05 U	0.10 U	0.05 U	0.10 U	0.05 U	0.21 UJ	0.05 U	0.10 U
VANADIUM	1.4 UJ	1.8 UJ	1.7 UJ	1.1 UJ	1.6 UJ	0.60 U	1.1 UJ	1.8 UJ	1.4 UJ
ZINC	3.55 U	5.2 J	3.55 U	2.9 J	3.55 U	1.9 UJ	3.55 U	3.2 J	3.8 J
MISCELLANEOUS PARAMETERS									
BROMIDE (MG/L)	0.50 U	--	0.50 U	--	0.50 U	--	0.50 U	--	0.50 U
CHLORIDE (MG/L)	3.9	--	2.2	--	1.8 J	--	0.85 J	--	1.9 J

GROUNDWATER Footnotes:

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LOCATION	NASB-BG-MW-05	NASB-BG-MW-06	NASB-BG-MW-06	NASB-BG-MW-06	NASB-BG-MW-06	NASB-BG-MW-07	NASB-BG-MW-07	NASB-BG-MW-08	NASB-BG-MW-08
SAMPLE ID	NASB-BG-GW-MW-05-0410	NASB-BG-GW-MW-06-0909-AVG	NASB-BG-GW-MW-06-0909	NASB-BG-GW-MW-06-0909-D	NASB-BG-GW-MW-06-0410	NASB-BG-GW-MW-07-0909	NASB-BG-GW-MW-07-0410	NASB-BG-GW-MW-08-0909	NASB-BG-GW-MW-08-0410
SAMPLE DATE	4/20/2010	9/22/2009	9/22/2009	9/22/2009	4/15/2010	9/22/2009	4/15/2010	9/21/2009	4/15/2010
METALS (UG/L)									
ALUMINUM	78.4 UJ	114.55 UJ	84.1 UJ	145 UJ	61.4 UJ	474 J	327 J	1080 J	374 J
ANTIMONY	0.10 U	0.165 UJ	0.18 UJ	0.15 U	0.10 U	0.27 UJ	0.10 U	0.28 UJ	0.11 UJ
ARSENIC	0.80 U	1.95 UJ	2.4 UJ	1.50 U	1.5 J	3.2 UJ	3 J	4.2 J	1.2 J
BARIUM	1.9 J	9.3	9.2	9.4	3.3 J	22.5	10.2	12.2	5.6
BERYLLIUM	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
CADMIUM	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.08 UJ	0.05 U
CALCIUM	2750	4740	4750	4730	4330	6480	6380	5480	5320
CHROMIUM	3.6 U	2.6 UJ	2.5 UJ	2.7 UJ	2.6 UJ	2.8 UJ	2.7 UJ	4.1 U	3.5 U
COBALT	0.07 UJ	1.1	1.0	1.2	0.81 J	1.0	0.84 J	1.6	0.59 J
COPPER	0.84 J	0.70 U	0.70 U	0.70 U	0.72 J	0.99 J	0.97 J	4.2 J	1.4 J
IRON	149	169.5 J	130 J	209 J	97.2 J	594 J	582	1380 J	574
LEAD	0.16 UJ	0.16 UJ	0.14 UJ	0.18 UJ	0.14 UJ	0.33 UJ	0.34 UJ	0.99 J	0.28 UJ
MAGNESIUM	826	2785	2790	2780	2370	4860	4750	3600	3460
MANGANESE	3.5 J	91	91.5	90.5	67.8	140	104	171	72.3
MERCURY	0.04 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
NICKEL	0.20 U	3.85	3.7	4.0	2.8 U	4.4	2.3 U	4.7	2.4 U
POTASSIUM	1040	1960	1910	2010	1780	1870	1430	2010	1680
SELENIUM	0.50 U	1.2 UJ	1.4 UJ	1.0 UJ	0.50 U	0.80 U	0.50 U	0.80 U	0.50 U
SILVER	0.05 U	0.05 UJ	0.05 UJ	0.05 UJ	0.05 U	0.05 UJ	0.05 U	0.05 UJ	0.05 U
SODIUM	3180	7025	7010	7040	6520	9040	8190	8500	7090
THALLIUM	0.05 U	0.10 U	0.10 U	0.10 U	0.05 U	0.16 UJ	0.05 U	0.10 U	0.05 U
VANADIUM	1.2 UJ	2 UJ	1.8 UJ	2.2 UJ	1.3 UJ	2.6 UJ	1.6 UJ	4.0 UJ	1.1 UJ
ZINC	2.4 UJ	4.85 J	4.5 J	5.2 J	3.9 UJ	4.8 J	3.2 UJ	8.0 J	6.6 UJ
DISSOLVED METALS (UG/L)									
ALUMINUM	21 UJ	27.15 UJ	26.2 UJ	28.1 UJ	14.9 UJ	50.9 UJ	14.4 UJ	96.8 UJ	24.2 UJ
ANTIMONY	0.10 U	0.15 U	0.15 U	0.15 U	0.10 U	0.18 UJ	0.10 U	0.15 U	0.10 U
ARSENIC	0.80 U	3.2 UJ	3.0 UJ	3.4 UJ	0.80 U	4.2 J	2 J	4.0 J	2.1 J
BARIUM	1.7 J	7.45	7.4	7.5	3.4 J	18.8	8.3	5.6	3.3 J
BERYLLIUM	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
CADMIUM	0.05 U	0.055 UJ	0.06 UJ	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
CALCIUM	2800	4640	4760	4520	4480	6580	6440	5100	5180
CHROMIUM	2.6 UJ	2.3 UJ	2.2 UJ	2.4 UJ	2.8 UJ	2.4 UJ	1.9 UJ	2.4 UJ	2.8 UJ
COBALT	0.05 U	0.985 J	0.99 J	0.98 J	0.90 J	0.78 J	0.65 J	0.97 J	0.38 J
COPPER	0.48 U	0.70 U	0.70 U	0.70 U	0.53 J	0.70 U	0.76 J	0.70 U	1.5 J
IRON	6.27 U	56.3 J	56.3 J	56.3 J	25.1 UJ	62.2 J	94.5 J	88.7 J	57.2 J
LEAD	0.10 UJ	0.08 UJ	0.11 UJ	0.05 U	0.10 U	0.05 U	0.10 U	0.12 UJ	0.10 U
MAGNESIUM	828	2680	2740	2620	2370	4840	4590	3170	3200
MANGANESE	1.9 J	85.6	87.8	83.4	65.4	129	95.8	127	60.8
MERCURY	0.04 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
NICKEL	0.20 U	3.4	3.6	3.2	2.5 U	3.3	2 U	3.1	1.9 U
POTASSIUM	946 J	1910	1890	1930	1740	1770	1400	1740	1490
SELENIUM	0.50 U	1.05 UJ	1.3 UJ	0.80 U	0.50 U	0.80 U	0.50 U	0.80 U	0.50 U
SILVER	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.12 UJ
SODIUM	3150	6875	6980	6770	6470	9140	8210	8010	6980
THALLIUM	0.05 U	0.10 U	0.10 U	0.10 U	0.05 U	0.10 U	0.05 U	0.10 U	0.05 U
VANADIUM	1 UJ	1.6 UJ	1.8 UJ	1.4 UJ	0.74 UJ	1.7 UJ	0.75 UJ	2.2 UJ	0.95 UJ
ZINC	2.7 UJ	2.9375 J	4.1 J	3.55 U	3.6 UJ	3.55 U	2.4 UJ	3.55 U	2.8 UJ
MISCELLANEOUS PARAMETERS									
BROMIDE (MG/L)	--	0.50 U	0.50 U	0.50 U	--	0.50 U	--	0.50 U	--
CHLORIDE (MG/L)	--	3.5	3.5	3.5	--	6.0	--	3.8	--

GROUNDWATER Footnotes:

-- = The chemical was not analyzed or no value was available.

Data Qualifiers:

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U = The chemical was not detected.

R = The chemical was rejected.

LOCATION	NASB-BG-MW-09	NASB-BG-MW-09	NASB-BG-MW-10	NASB-BG-MW-10	NASB-BG-MW-11	NASB-BG-MW-11	NASB-BG-MW-12	NASB-BG-MW-12	NASB-BG-MW-13
SAMPLE ID	NASB-BG-GW-MW-09-0909	NASB-BG-GW-MW-09-0410	NASB-BG-GW-MW-10-0909	NASB-BG-GW-MW-10-0410	NASB-BG-GW-MW-11-0909	NASB-BG-GW-MW-11-0410	NASB-BG-GW-MW-12-0909	NASB-BG-GW-MW-12-0410	NASB-BG-GW-MW-13-0909
SAMPLE DATE	9/21/2009	4/16/2010	9/21/2009	4/16/2010	9/21/2009	4/16/2010	9/22/2009	4/15/2010	9/22/2009
METALS (UG/L)									
ALUMINUM	1100 J	1170	2550 J	2230	2890 J	1190	83.7 UJ	242 J	391 J
ANTIMONY	0.48 UJ	0.10 U	0.18 UJ	0.10 UJ	0.24 UJ	0.10 UJ	0.45 UJ	0.10 UJ	1.3 U
ARSENIC	1.6 UJ	2.1 J	3.6 UJ	3.3 J	6.2	2.8 J	1.6 UJ	1.6 J	3.2 UJ
BARIUM	9.3	7.6	17.7	12.3	26.7	10.5	20.0	7.9	38.4
BERYLLIUM	0.05 U	0.05 U	0.10 UJ	0.10 J	0.12 UJ	0.05 U	0.05 U	0.05 U	0.05 U
CADMIUM	0.05 UJ	0.05 U	0.05 U	0.05 U	0.06 UJ	0.06 J	0.12 UJ	0.05 J	0.09 UJ
CALCIUM	5380	5490	11200	12300	12200	13100	7820	8580	4510
CHROMIUM	4.3 U	3.7 U	6.3 U	6.4 U	6.8 U	4.1 U	3.2 U	2.6 UJ	3.6 U
COBALT	1.3	0.98 J	2.4	1.5	3.0	1.5	0.37 J	0.29 J	0.61 J
COPPER	1.1 J	2.6 UJ	4.2 J	3.4 UJ	4.7 J	2.7 UJ	4.8 J	2 J	5.1 J
IRON	1580 J	1760	3790 J	2900	4430 J	1540	66.0 J	344	616 J
LEAD	0.69 J	0.83 UJ	1.4	1.2 U	2.2	1.1 U	0.44 UJ	0.35 UJ	1.1
MAGNESIUM	5010	5210	14000	15200	13500	13700	8150	9780	3460
MANGANESE	104	60.5	268	150	285	204	49.7	39.6	89.9
MERCURY	0.02 U	0.04 U	0.02 U	0.04 U	0.02 U	0.04 U	0.02 U	0.02 U	0.02 U
NICKEL	4.4	3.1	5.8	4.4	9.7	3.3	1.9	2.6 U	3.0
POTASSIUM	1340	1070	2610	2270	3000	2460	2000	1640	1330
SELENIUM	0.91 UJ	0.50 U	0.80 U	0.50 U	1.0 UJ	0.50 U	1.5 UJ	0.50 U	1.6 UJ
SILVER	0.05 UJ	0.05 U	0.05 UJ	0.05 U	0.05 UJ	0.05 U	0.05 UJ	0.06 UJ	0.05 UJ
SODIUM	7820	7020	13500	13500	13100	13000	11400	11000	7940
THALLIUM	0.10 U	0.05 U	0.10 U	0.05 U	0.10 U	0.05 U	0.18 UJ	0.05 U	0.10 U
VANADIUM	3.3 UJ	3.7 UJ	6.5 U	6.5	7.8	4 UJ	1.5 UJ	1.6 UJ	2.7 UJ
ZINC	7.5 J	4.4 UJ	9.5 J	6.7 UJ	11.5	5.4 UJ	14.7	5.4 UJ	13.8
DISSOLVED METALS (UG/L)									
ALUMINUM	64.2 UJ	24.6 UJ	63.2 UJ	553	83.4 UJ	25.7 UJ	27.5 UJ	12.5 UJ	72.8 UJ
ANTIMONY	0.21 UJ	0.10 U	0.15 U	0.10 U	0.15 U	0.10 U	0.22 UJ	0.10 U	0.65 UJ
ARSENIC	2.2 UJ	1.5 J	3.8 UJ	1.1 J	1.6 UJ	2.8 J	3.0 UJ	0.80 U	3.1 UJ
BARIUM	3.0 UJ	2.4 J	4.6 J	5.3	8.8	5.2	22.8	5.6	26.5
BERYLLIUM	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
CADMIUM	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.07 UJ	0.05 U	0.15 UJ
CALCIUM	5450	5430	11700	12500	12100	12700	8560	8760	4560
CHROMIUM	2.2 UJ	2.4 UJ	2.1 UJ	3.2 U	2.0 UJ	2.4 UJ	2.2 UJ	1.9 UJ	2.5 UJ
COBALT	0.84 J	0.42 J	1.2	0.96 J	1.2	0.81 J	0.26 J	0.28 J	0.49 J
COPPER	0.70 U	0.58 UJ	0.70 U	1.2 UJ	0.70 U	0.48 U	0.70 U	0.51 J	4.7 J
IRON	177	132	217	806	136	129	16.0 J	43.7 UJ	146
LEAD	0.09 UJ	0.10 UJ	0.05 U	0.44 UJ	0.1 UJ	0.17 UJ	0.16 UJ	0.10 U	0.60 J
MAGNESIUM	4810	4780	14100	15000	12800	12800	9240	9690	3580
MANGANESE	83.6	39.3	230	134	216	172	49.3	42.2	94.0
MERCURY	0.02 U	0.04 U	0.02 U	0.04 U	0.02 U	0.04 U	0.02 U	0.02 U	0.02 U
NICKEL	3.0	1.7	2.4	2.2	4.9	1.6	1.3	1.8 U	2.8
POTASSIUM	1020	757 J	2000	1990	2180	2060	2200	1730	1560
SELENIUM	0.80 U	0.50 U	0.81 UJ	0.50 U	0.88 UJ	0.50 U	1.4 UJ	0.50 U	0.87 UJ
SILVER	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
SODIUM	7940	6850	14200	13800	12900	12400	11500	10600	7820
THALLIUM	0.10 U	0.05 U	0.10 U	0.05 U	0.10 U	0.05 U	0.10 U	0.05 U	0.10 U
VANADIUM	2.0 UJ	2.2 UJ	1.1 UJ	2.3 UJ	1.4 UJ	1.7 UJ	1.0 UJ	0.60 U	2.0 UJ
ZINC	3.55 U	1.6 U	3.55 U	3.1 UJ	3.55 U	2 UJ	6.1 J	4.5 UJ	29.6
MISCELLANEOUS PARAMETERS									
BROMIDE (MG/L)	0.50 U	--	0.50 U	--	0.50 U	--	0.50 U	--	0.50 U
CHLORIDE (MG/L)	4.6	--	6.3	--	8.4	--	7.6	--	4.2

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LOCATION	NASB-BG-MW-13	NASB-BG-MW-15	NASB-BG-MW-15	NASB-BG-MW-16	NASB-BG-MW-16	NASB-BG-MW-17	NASB-BG-MW-17	NASB-BG-MW-17	NASB-BG-MW-17
SAMPLE ID	NASB-BG-GW-MW-13-0410	NASB-BG-GW-MW-15-0909	NASB-BG-GW-MW-15-0410	NASB-BG-GW-MW-16-0909	NASB-BG-GW-MW-16-0410	NASB-BG-GW-MW-17-0909	NASB-BG-GW-MW-17-0909-D	NASB-BG-GW-MW-17-0909-AVG	NASB-BG-GW-MW-17-0410
SAMPLE DATE	4/16/2010	9/15/2009	4/21/2010	9/15/2009	4/20/2010	9/15/2009	9/15/2009	9/15/2009	4/20/2010
METALS (UG/L)									
ALUMINUM	128 J	1950	341 U	399 U	1070	116 UJ	83.3 UJ	99.65 UJ	415
ANTIMONY	0.12 UJ	0.40 UJ	0.10 U	0.15 U	0.10 U	0.15 U	0.15 U	0.15 U	0.10 U
ARSENIC	1.4 J	6.7 U	3.8 J	3.3 UJ	1.8 J	5.0 U	3.9 UJ	4.45 UJ	3.6 J
BARIUM	17.1	19.4	4.7 J	7.0	8.2	4.8 J	5.2	5 J	4.2 J
BERYLLIUM	0.05 U	0.07 UJ	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
CADMIUM	0.05 U	0.08 UJ	0.05 U	0.05 U	0.05 U	0.06 UJ	0.05 U	0.055 UJ	0.05 U
CALCIUM	5440	17600 J	17200	10700 J	8430	17800 J	17900 J	17850 J	14300
CHROMIUM	2.5 UJ	6.9 U	2.8 UJ	2.8 UJ	2.8 UJ	2.5 UJ	2.3 UJ	2.4 UJ	3 U
COBALT	0.39 J	1.8	0.38 UJ	1.1	1	1.2	1.1	1.15	0.67 J
COPPER	1.8 J	13.4 UJ	1.7 J	0.70 U	4.2 J	0.70 U	0.70 U	0.70 U	2 UJ
IRON	374	2690 J	457	462 J	1060	174 UJ	111 UJ	142.5 UJ	791
LEAD	0.48 UJ	1.7	0.32 UJ	0.28 UJ	0.57 UJ	0.20 UJ	0.11 UJ	0.155 UJ	0.31 J
MAGNESIUM	4560	10200	10400	5690	4740	9190	9150	9170	9880
MANGANESE	52.9	178 J	47.3	147 J	117	185 J	200 J	192.5 J	139
MERCURY	0.03 J	0.02 U	0.04 U	0.02 U	0.04 U	0.02 U	0.02 U	0.02 U	0.04 U
NICKEL	1.7 U	5.5	1.2	2.1 U	1.8	2.4 U	2.5	1.85	3.1 UJ
POTASSIUM	1150	2990	2820	1710	1750	2610	2610	2610	2090
SELENIUM	0.50 U	0.80 U	0.50 U	0.80 U	0.50 U	0.87 UJ	0.80 U	0.835 UJ	0.50 U
SILVER	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
SODIUM	7800	11000	12300	5840	5810	8760	8920	8840	9330
THALLIUM	0.05 U	0.10 U	0.05 U	0.10 U	0.05 U	0.35 UJ	0.17 UJ	0.26 UJ	0.05 U
VANADIUM	1 UJ	7.1 U	2.5 UJ	3.8 UJ	2.8 UJ	3.3 UJ	2.6 UJ	2.95 UJ	1.8 UJ
ZINC	5.4 UJ	15.2	2 UJ	3.55 U	5 UJ	3.55 U	3.55 U	3.55 U	2.5 J
DISSOLVED METALS (UG/L)									
ALUMINUM	17 UJ	62.4 UJ	79.8 UJ	115 UJ	36.3 UJ	26.4 UJ	29.3 UJ	27.85 UJ	16 UJ
ANTIMONY	0.10 U	0.17 UJ	0.10 U	0.15 U	0.10 U	0.15 U	0.15 U	0.15 U	0.10 U
ARSENIC	1.4 J	3.8 UJ	3.8 J	4.7 UJ	1.8 J	3.7 UJ	2.3 UJ	3 UJ	2.3 J
BARIUM	12.4	2.6 J	3.4 J	5.4	2.5 J	4.3 J	4.4 J	4.35 J	2 J
BERYLLIUM	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
CADMIUM	0.05 U	0.07 UJ	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
CALCIUM	4680	17500 J	17000	10200 J	8580	18500 J	18000 J	18250 J	14400
CHROMIUM	2.2 UJ	2.6 UJ	2.4 UJ	2.2 UJ	1.6 UJ	2.1 UJ	1.9 UJ	2 UJ	2 UJ
COBALT	0.26 J	0.68 J	0.24 UJ	1.0	0.65 UJ	0.96 J	0.90 J	0.93 J	0.29 J
COPPER	0.91 J	3.1 UJ	0.48 U	0.70 U	0.60 J	0.70 U	0.70 U	0.70 U	0.48 U
IRON	8.9 UJ	66.6 UJ	84.9 J	134 U	63 UJ	15.8 UJ	30.2 UJ	23 UJ	95.7 J
LEAD	0.10 U	0.14 UJ	0.74 UJ	0.21 UJ	0.11 UJ	0.07 UJ	0.05 U	0.06 UJ	0.10 U
MAGNESIUM	4170	9650	10100	5370	4480	9410	9100	9255	9800
MANGANESE	38.7	142	43.1	146	102	194	191	192.5	135
MERCURY	0.02 U	0.02 U	0.04 U	0.02 U	0.04 U	0.02 U	0.02 U	0.02 U	0.04 U
NICKEL	1.6 U	2.0 U	0.36 J	1.7 U	0.49 J	2.2 U	2.2 U	2.2 U	1.8 U
POTASSIUM	1120	2610	2770	1640	1550	2700	2600	2650	2060
SELENIUM	0.50 U	1.0 UJ	0.50 U	0.80 U	0.50 U	0.80 U	0.80 U	0.80 U	0.50 U
SILVER	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
SODIUM	7680	10800	12100	5840	5840	9080	8870	8975	9350
THALLIUM	0.05 U	0.10 U	0.05 U	0.12 UJ	0.05 U	0.20 UJ	0.10 U	0.15 UJ	0.05 U
VANADIUM	0.84 UJ	2.7 UJ	1.9 UJ	2.2 UJ	0.62 UJ	3.1 UJ	3.0 UJ	3.05 UJ	0.78 UJ
ZINC	4.2 UJ	4.6 J	3.7 UJ	6.8 J	2.3 UJ	3.55 U	3.55 U	3.55 U	1.6 U
MISCELLANEOUS PARAMETERS									
BROMIDE (MG/L)	--	0.50 U	--	0.50 U	--	0.50 U	0.50 U	0.50 U	--
CHLORIDE (MG/L)	--	5.4	--	3.3	--	4.8	4.6	4.7	--

GROUNDWATER Footnotes:

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LOCATION	NASB-BG-MW-18	NASB-BG-MW-18	NASB-BG-MW-19	NASB-BG-MW-19	NASB-BG-MW-21	NASB-BG-MW-21	NASB-BG-MW-23	NASB-BG-MW-23	NASB-BG-MW-23
SAMPLE ID	NASB-BG-GW-MW-18-0909	NASB-BG-GW-MW-18-0410	NASB-BG-GW-MW-19-0909	NASB-BG-GW-MW-19-0410	NASB-BG-GW-MW-21-0909	NASB-BG-GW-MW-21-0410	NASB-BG-GW-MW-23-0909	NASB-BG-GW-MW-23-0410-AVG	NASB-BG-GW-MW-23-0410
SAMPLE DATE	9/16/2009	4/14/2010	9/14/2009	4/14/2010	9/14/2009	4/14/2010	9/14/2009	4/14/2010	4/14/2010
METALS (UG/L)									
ALUMINUM	357 U	832	512	316	192 UJ	7930	427 U	250.5 J	267 J
ANTIMONY	0.15 U	0.10 U	0.15 U	0.10 U	0.15 U	0.10 U	0.16 UJ	0.145 UJ	0.19 UJ
ARSENIC	1.50 U	2.6 UJ	1.50 U	2.9 UJ	2.3 UJ	3.3 UJ	2.6 UJ	3.65 UJ	4.3 UJ
BARIUM	13.1	7.1	6.4	4.8 J	4.7 J	7.7	9.6	3 J	3 J
BERYLLIUM	0.14 UJ	0.15 J	0.06 UJ	0.05 U	0.12 UJ	0.58 J	0.05 U	0.05 U	0.05 U
CADMIUM	0.15 UJ	0.06 UJ	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
CALCIUM	581	494	2430	2980	995	885	7090	6125	6190
CHROMIUM	3.5 U	5.2 U	3.7 U	5.2 U	2.0 UJ	10.2 U	2.8 UJ	4.9 U	5 U
COBALT	1.2	0.49 J	0.24 J	0.59 J	0.46 J	0.72 J	1.3	0.43 J	0.41 J
COPPER	1.3 UJ	0.59 J	0.75 UJ	0.48 U	0.70 U	0.61 J	1.6 UJ	0.44 J	0.48 U
IRON	415 J	1660	2520 J	2800	483 J	4380	721 J	412	446
LEAD	0.12 UJ	0.23 J	0.24 UJ	0.18 J	0.07 UJ	1.3	0.69 UJ	0.26 J	0.26 J
MAGNESIUM	355	338	1210	1470	644	713	5940	5385	5430
MANGANESE	101 J	14.2	53.4 J	72	26.0 J	22.4	112 J	34	34.3
MERCURY	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
NICKEL	3.2	1	2.2 U	1	1.5 U	1.9	6.4	2.1	2.2
POTASSIUM	487 UJ	247 J	896 UJ	714 J	239 UJ	207 J	2300	1275	1330
SELENIUM	0.80 U	0.50 U	0.80 U	0.72 J	0.80 U	0.63 J	0.80 U	0.50 U	0.50 U
SILVER	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
SODIUM	2010	1800	4060	4060	2980	2870	14900	11400	11400
THALLIUM	0.10 UJ	0.05 U	0.11 UJ	0.05 U	0.10 U	0.05 U	0.10 U	0.05 U	0.05 U
VANADIUM	2.2 UJ	2.4 UJ	2.4 UJ	2.1 UJ	1.7 UJ	10	4.0 UJ	2.5 UJ	2 UJ
ZINC	3.55 U	2.8 J	3.55 U	2.4 UJ	3.55 U	5.3 J	3.8 J	1.9 UJ	2.2 UJ
DISSOLVED METALS (UG/L)									
ALUMINUM	206 UJ	378	127 UJ	115 J	152 UJ	263 J	53.4 UJ	20 UJ	20.2 UJ
ANTIMONY	0.15 U	0.11 UJ	0.15 U	0.13 UJ	0.15 U	0.10 U	0.15 U	0.10 U	0.10 U
ARSENIC	3.3 UJ	1.3 UJ	2.0 UJ	1.9 UJ	1.7 UJ	3 UJ	2.5 UJ	2.85 UJ	4.1 UJ
BARIUM	13.2	6.5	5.8	4.6 J	5.1	4.6 J	7.1	2.1 J	2 J
BERYLLIUM	0.11 UJ	0.09 J	0.05 U	0.05 U	0.12 UJ	0.21 J	0.05 U	0.05 U	0.05 U
CADMIUM	0.19 UJ	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 U
CALCIUM	626	699	2420	3070	1050	957	6660	6285	6230
CHROMIUM	3.4 U	4.1 U	2.9 UJ	5 U	2.3 UJ	4 U	2.0 UJ	4.35 U	4.3 U
COBALT	1.2	0.45 J	0.19 J	0.56 J	0.41 J	0.35 J	1.1	0.305 J	0.31 J
COPPER	1.3 UJ	0.95 J	0.70 U	0.48 U	0.86 UJ	0.48 U	0.70 U	0.48 U	0.48 U
IRON	172 U	160	2320	2590	428	15.3 UJ	53.1 UJ	39.45 UJ	38.7 UJ
LEAD	0.05 U	0.10 U	0.05 U	0.10 U	0.19 UJ	0.32 J	0.22 UJ	0.10 U	0.10 U
MAGNESIUM	360	339	1180	1430	636	572	5500	5445	5360
MANGANESE	101	12.2	49.8	69.9	24.1	10	98.7	31	30.2
MERCURY	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
NICKEL	3.2	1.6	1.3 U	1.6	1.4 U	1.1	5.2	1.85	1.9
POTASSIUM	470 UJ	258 J	846 UJ	696 J	236 UJ	126 J	2180	1290	1240
SELENIUM	0.80 U	0.50 U	0.80 U	0.50 U	0.80 U	0.50 U	0.80 U	0.405 J	0.50 U
SILVER	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
SODIUM	2050	1830	4120	4040	2820	2880	14200	12000	11800
THALLIUM	0.10 U	0.05 U	0.10 U	0.05 U	0.22 UJ	0.05 U	0.10 U	0.05 U	0.05 U
VANADIUM	2.7 UJ	2.2 UJ	2.6 UJ	2.6 UJ	1.1 UJ	2.5 UJ	2.0 UJ	2.2 UJ	2.6 UJ
ZINC	3.55 U	4.7 J	3.55 U	2.4 UJ	3.55 U	3 J	3.55 U	1.8 UJ	2 UJ
MISCELLANEOUS PARAMETERS									
BROMIDE (MG/L)	0.50 U	--	0.50 U	--	0.50 U	--	0.50 U	--	--
CHLORIDE (MG/L)	2.3	--	3.1	--	2.8	--	3.7	--	--

GROUNDWATER Footnotes:

-- = The chemical was not analyzed or no value was available.

Data Qualifiers:

Blank (i.e., no qualifier) = the chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

R = The chemical was rejected.

LOCATION	NASB-BG-MW-23	NASB-BG-MW-24	NASB-BG-MW-24	NASB-BG-MW-25	NASB-BG-MW-25	NASB-BG-MW-27	NASB-BG-MW-27	NASB-BG-MW-28	NASB-BG-MW-28
SAMPLE ID	NASB-BG-GW-MW-23-0410-D	NASB-BG-GW-MW-24-0909	NASB-BG-GW-MW-24-0410	NASB-BG-GW-MW-25-0909	NASB-BG-GW-MW-25-0410	NASB-BG-GW-MW-27-0909	NASB-BG-GW-MW-27-0410	NASB-BG-GW-MW-28-0909	NASB-BG-GW-MW-28-0909-D
SAMPLE DATE	4/14/2010	9/15/2009	4/14/2010	9/14/2009	4/14/2010	9/18/2009	4/13/2010	9/18/2009	9/18/2009
METALS (UG/L)									
ALUMINUM	234 J	265 UJ	2400	361 U	105 J	18.2 UJ	18.8 UJ	21.0 UJ	23.6 UJ
ANTIMONY	0.10 U	1.8	0.14 UJ	0.21 UJ	0.10 UJ	0.15 U	0.15 UJ	0.15 U	0.15 U
ARSENIC	3 UJ	1.50 U	4.4 UJ	1.6 UJ	1.8 UJ	1.7 J	1.7 UJ	1.50 U	1.50 U
BARIUM	3 J	24.1	16.6	8.0	1.2 J	9.7	7.4	33.2	33.4
BERYLLIUM	0.05 U	0.05 U	0.07 J	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
CADMIUM	0.05 U	0.07 UJ	0.05 U	0.11 UJ	0.05 U	0.05 U	0.05 U	0.10 UJ	0.1 UJ
CALCIUM	6060	6320	6870	4060	3650	6750	8880	5150	5150
CHROMIUM	4.8 U	3.0 UJ	9.7 U	2.3 UJ	4.4 U	1.3 UJ	3.8 U	1.8 UJ	1.9 UJ
COBALT	0.45 J	0.22 J	0.65 J	0.74 J	0.16 J	0.10 U	0.14 J	0.10 U	0.25 J
COPPER	0.64 J	3.4 UJ	28	1.0 UJ	0.48 U	0.70 U	0.48 U	0.70 U	0.70 U
IRON	378	436 J	3450	438 J	118	10.4 J	6.27 U	11.6 J	15.6 J
LEAD	0.26 J	0.97 UJ	3.1	0.31 UJ	0.10 U	0.05 U	0.10 U	0.29 J	0.05 U
MAGNESIUM	5340	5280	7350	2810	2280	1050	1050	818	822
MANGANESE	33.7	30.6 J	36.3	69.3 J	12.6	6.4	0.86 UJ	38.0	37.9
MERCURY	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
NICKEL	2	2.1 U	2.9	3.3	1	0.28 UJ	0.42 UJ	0.27 UJ	0.24 UJ
POTASSIUM	1220	2060	2440	1830	836 J	878 J	882 J	1320	1400
SELENIUM	0.50 U	0.80 U	0.68 J	0.80 U	0.50 U	0.80 U	0.50 U	0.80 U	0.80 U
SILVER	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
SODIUM	11400	12600	16700	8170	6540	19200	19800	79900	79700
THALLIUM	0.05 U	0.10 U	0.05 U	0.10 U	0.05 U	0.10 U	0.07 J	0.10 U	0.10 U
VANADIUM	3 UJ	2.4 UJ	6.4 U	1.3 UJ	3 UJ	1.6 J	2 UJ	0.70 U	0.74 J
ZINC	1.6 U	14.3	18.5	6.5 J	2.2 UJ	3.55 U	4 J	3.55 U	3.55 U
DISSOLVED METALS (UG/L)									
ALUMINUM	19.8 UJ	19.4 UJ	38.6 UJ	49.1 UJ	27.6 UJ	14.8 UJ	15.1 UJ	15.0 UJ	14.1 UJ
ANTIMONY	0.10 U	0.24 UJ	0.12 UJ	0.15 U	0.10 U	0.15 U	0.10 U	0.15 U	0.15 U
ARSENIC	1.6 UJ	1.50 U	1.7 UJ	1.50 U	0.80 U	1.6 J	2.1 UJ	1.50 U	2.1 J
BARIUM	2.2 J	20.4	3.4 J	6.1	1.4 J	9.8	7.2	33.3	33.3
BERYLLIUM	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
CADMIUM	0.05 U	0.07 UJ	0.05 U	0.06 UJ	0.05 U	0.05 U	0.05 UJ	0.10 UJ	0.09 UJ
CALCIUM	6340	7740 J	6280	4230	3780	6760	8390	5300	5220
CHROMIUM	4.4 U	2.5 UJ	3.6 U	1.5 UJ	3.9 U	1.3 UJ	3.3 U	2.0 UJ	1.3 UJ
COBALT	0.30 J	0.18 J	0.12 J	0.49 J	0.11 J	0.10 U	0.05 J	0.10 U	0.10 U
COPPER	0.48 U	0.92 UJ	0.63 J	0.79 UJ	0.48 U	0.70 U	0.48 U	0.70 U	0.70 U
IRON	40.2 UJ	17.7 UJ	63.8 J	16.0 UJ	6.4 UJ	5.17 U	6.27 U	5.17 U	5.17 U
LEAD	0.10 U	0.15 UJ	0.10 U	0.05 UJ	0.10 J	0.05 U	0.10 U	0.07 J	0.05 U
MAGNESIUM	5530	6550	6440	2810	2250	1050	1010	840	829
MANGANESE	31.8	23.6	18.9	64.6	10.6	6.0	0.79 UJ	38.3	37.7
MERCURY	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 UJ	0.02 U	0.02 U
NICKEL	1.8	1.3 U	0.73 UJ	2.0 U	1.1	0.35 UJ	0.52 UJ	0.50 UJ	0.30 UJ
POTASSIUM	1340	2310	1900	1790	848 J	975 J	826 J	1340	1390
SELENIUM	0.56 J	1.3 UJ	0.68 J	0.80 U	0.50 U	0.80 U	0.50 U	0.80 U	0.80 U
SILVER	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
SODIUM	12200	15500	14300	8540	6570	19600	19100	82000	80300
THALLIUM	0.05 U	0.57 UJ	0.05 U	0.10 U	0.05 U	0.10 U	0.05 U	0.10 U	0.10 U
VANADIUM	1.8 UJ	1.4 UJ	2.4 UJ	1.6 UJ	2.6 UJ	1.4 J	2.5 UJ	1.3 J	1.7 J
ZINC	1.6 U	6.3 J	1.7 UJ	4.2 J	3.2 J	3.55 U	2.1 UJ	3.55 U	3.55 U
MISCELLANEOUS PARAMETERS									
BROMIDE (MG/L)	--	0.50 U	--	0.50 U	--	0.50 U	--	0.50 U	0.50 U
CHLORIDE (MG/L)	--	3.7	--	4.0	--	20.	--	130	130

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LOCATION	NASB-BG-MW-28	NASB-BG-MW-28	NASB-BG-MW-29	NASB-BG-MW-29	NASB-BG-MW-30	NASB-BG-MW-30	NASB-BG-MW-31	NASB-BG-MW-31	NASB-BG-MW-31
SAMPLE ID	NASB-BG-GW-MW-28-0909-AVG	NASB-BG-GW-MW-28-0410	NASB-BG-GW-MW-29-0909	NASB-BG-GW-MW-29-0410	NASB-BG-GW-MW30-1109	NASB-BG-GW-MW-30-0410	NASB-BG-GW-MW31-1109	NASB-BG-GW-MW-31-0410-AVG	NASB-BG-GW-MW-31-0410
SAMPLE DATE	9/18/2009	4/13/2010	9/18/2009	4/12/2010	11/30/2009	4/12/2010	11/30/2009	4/12/2010	4/12/2010
METALS (UG/L)									
ALUMINUM	22.3 UJ	39.5 UJ	16.4 UJ	18.8 UJ	734	501	615	591	592
ANTIMONY	0.15 U	0.10 U	0.15 U	0.10 U	0.15 U	0.12 UJ	0.15 U	0.10 U	0.10 U
ARSENIC	1.5 U	1.2 UJ	1.50 U	1.8 UJ	3.5 UJ	1.3 UJ	3.4 UJ	1.15 UJ	0.80 U
BARIUM	33.3	12.5	5.0 J	3.9 J	215	56.6	9.2	7.3	7
BERYLLIUM	0.05 U	0.05 U	0.05 U	0.05 U	0.28 J	0.21 J	0.08 J	0.09 J	0.10 J
CADMIUM	0.10 UJ	0.08 UJ	0.05 U	0.05 U	0.21 UJ	0.14 UJ	0.05 U	0.05 U	0.05 U
CALCIUM	5150	1900	3040	1650	10400	3370	509	335	337
CHROMIUM	1.85 UJ	2.8 UJ	1.6 UJ	3.2 U	1.7 UJ	1.6 UJ	1.8 UJ	2.5 UJ	2.2 UJ
COBALT	0.15 J	0.05 U	0.10 U	0.05 U	0.69 UJ	0.36 J	0.30 UJ	0.32 J	0.30 J
COPPER	0.70 U	0.48 U	0.70 U	0.48 U	0.93 UJ	0.48 U	0.70 U	0.48 U	0.48 U
IRON	13.6 J	30.1 UJ	14.2 J	6.27 U	63.7 UJ	45.6 UJ	30.3 UJ	6.27 U	6.27 U
LEAD	0.1575 J	0.10 U	0.09 J	0.10 U	0.54 UJ	0.16 J	0.14 UJ	0.095 J	0.10 U
MAGNESIUM	820	306	576	669	2580	928	314	268	264
MANGANESE	37.95	14.2	1.3 J	0.83 UJ	180	67.6	14.2	6.6	6.6
MERCURY	0.02 U	0.03 UJ	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.025 UJ	0.02 U
NICKEL	0.255 UJ	0.47 UJ	0.35 UJ	0.20 U	3.6	2.6	1.7	1.3	1.2
POTASSIUM	1360	614 J	404 UJ	284 J	1980	963 J	303 UJ	175.5 J	176 J
SELENIUM	0.80 U	0.50 U	0.80 U	0.50 U	0.80 U	0.60 J	0.80 U	0.465 J	0.50 U
SILVER	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
SODIUM	79800	36100	1770	1750	58000	19500	3220	2330	2340
THALLIUM	0.10 U	0.05 U	0.10 U	0.05 U	0.10 U	0.05 J	0.10 U	0.05 U	0.05 U
VANADIUM	0.545 J	1.3 UJ	0.84 J	1.8 UJ	1.2 J	1.5 UJ	1.1 J	1.31 UJ	0.72 UJ
ZINC	3.55 U	1.6 U	3.55 U	1.6 U	3.55 U	2.4 UJ	3.55 U	2.5 J	2 UJ
DISSOLVED METALS (UG/L)									
ALUMINUM	14.55 UJ	18.2 UJ	11.9 UJ	15.8 UJ	649	383	586	552	577
ANTIMONY	0.15 U	0.18 UJ	0.15 U	0.10 U	0.15 U	0.16 UJ	0.15 U	0.105 UJ	0.10 U
ARSENIC	1.425 J	1 UJ	1.50 U	1.6 UJ	2.7 UJ	2.2 UJ	2.0 UJ	1.45 UJ	1.3 UJ
BARIUM	33.3	12.1	4.5 UJ	4.4 J	214	57.1	9.7	7.15	7.2
BERYLLIUM	0.05 U	0.05 U	0.05 U	0.05 U	0.28 J	0.22 J	0.09 J	0.09 J	0.09 J
CADMIUM	0.095 UJ	0.11 UJ	0.05 U	0.05 U	0.23 UJ	0.08 UJ	0.05 U	0.05 U	0.05 U
CALCIUM	5260	1830	3080	1800	10400	3650	600	405.5	345
CHROMIUM	1.65 UJ	4.1 U	1.8 UJ	3.5 U	1.5 UJ	1.7 UJ	1.8 UJ	2.65 UJ	2.4 UJ
COBALT	0.10 U	0.06 J	0.10 U	0.05 U	0.69 UJ	0.28 J	0.32 UJ	0.28 J	0.29 J
COPPER	0.70 U	0.48 U	0.70 U	0.48 U	0.70 U	0.55 J	0.98 UJ	0.48 U	0.48 U
IRON	5.17 U	6.27 U	5.17 U	6.27 U	9.4 UJ	6.27 U	11.1 UJ	6.27 U	6.27 U
LEAD	0.0475 J	0.12 J	0.05 U	0.10 U	0.31 UJ	0.14 J	0.05 U	0.105 J	0.10 U
MAGNESIUM	834.5	300	593	691	2580	974	337	279	270
MANGANESE	38	13.9	1.4 J	1 UJ	183	69.1	13.9	6.9	6.4
MERCURY	0.02 U	0.02 U	0.02 U	0.02 UJ	0.02 U	0.02 U	0.02 U	0.02 UJ	0.02 UJ
NICKEL	0.40 UJ	0.24 UJ	0.25 UJ	0.36 UJ	3.5	2.7	1.5	1.45	1.4
POTASSIUM	1365	587 J	384 UJ	284 J	1990	1000	330 UJ	172.5 J	164 J
SELENIUM	0.80 U	0.50 U	0.80 U	0.50 U	0.80 U	0.52 J	0.80 U	0.435 J	0.50 U
SILVER	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
SODIUM	81150	35600	1830	1810	57600	20000	3380	2325	2320
THALLIUM	0.10 U	0.05 U	0.10 U	0.05 U	0.10 U	0.05 U	0.10 UJ	0.05 U	0.05 U
VANADIUM	1.5 J	1.3 UJ	0.86 J	1.9 UJ	0.70 U	1.5 UJ	1.3 J	2.15 UJ	1.8 UJ
ZINC	3.55 U	1.7 UJ	3.55 U	3.2 J	7.8 J	2.7 J	3.55 U	3.3 J	2.9 J
MISCELLANEOUS PARAMETERS									
BROMIDE (MG/L)	0.50 U	--	0.50 U	--	0.50 U	--	0.50 U	--	--
CHLORIDE (MG/L)	130	--	1.4 J	--	120	--	5.1	--	--

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LOCATION	NASB-BG-MW-31	NASB-BG-MW-32	NASB-BG-MW-32	NASB-BG-MW-32	NASB-BG-MW-32	NASB-BG-MW-36	NASB-BG-MW-36	NASB-BG-MW-37	NASB-BG-MW-37
SAMPLE ID	NASB-BG-GW-MW-31-0410-D	NASB-BG-GW-MW32-1109	NASB-BG-GW-MW32-1109-AVG	NASB-BG-GW-MW32-1109-D	NASB-BG-GW-MW-32-0410	NASB-BG-GW-MW-36-0909	NASB-BG-GW-MW-36-0410	NASB-BG-GW-MW-37-0909	NASB-BG-GW-MW-37-0410
SAMPLE DATE	4/12/2010	11/30/2009	11/30/2009	11/30/2009	4/12/2010	9/17/2009	4/14/2010	9/17/2009	4/15/2010
METALS (UG/L)									
ALUMINUM	590	49.9 UJ	48.05 UJ	46.2 UJ	644	106 UJ	176 J	956	214 J
ANTIMONY	0.10 U	0.15 U	0.15 U	0.15 U	0.10 U	0.15 U	0.11 UJ	0.15 U	0.10 U
ARSENIC	1.5 UJ	1.8 UJ	2.35 UJ	2.9 UJ	0.80 U	1.50 U	0.80 U	18.7	27.5
BARIUM	7.6	19.1	19.15	19.2	17.3	14.9	8.3	10.1	3.5 J
BERYLLIUM	0.08 J	0.05 U	0.05 U	0.05 U	0.32 J	0.05 U	0.06 J	0.07 J	0.05 U
CADMIUM	0.05 U	0.05 U	0.055 UJ	0.06 UJ	0.05 U	0.10 UJ	0.10 J	0.05 U	0.05 U
CALCIUM	333	2320	2355	2390	1070	14600	13500	11800	11000
CHROMIUM	2.8 UJ	1.2 UJ	1.55 UJ	1.9 UJ	2.1 UJ	2.9 UJ	2.2 UJ	4.6	2 UJ
COBALT	0.34 J	0.46 UJ	0.505 UJ	0.55 UJ	1.6	4.8	1.1	0.57 J	0.16 J
COPPER	0.48 U	0.70 U	0.70 U	0.70 U	0.54 J	1.2 J	1.4 J	2.9 J	1.1 J
IRON	6.27 U	8.3 UJ	6.735 UJ	5.17 U	10.1 UJ	5810	707	2480	982
LEAD	0.14 J	0.05 U	0.155 UJ	0.26 UJ	0.13 J	0.09 J	0.26 UJ	0.73 J	0.14 UJ
MAGNESIUM	272	542	541	540	458	4040	3560	5650	4960
MANGANESE	6.6	78.8	79.5	80.2	60.6	723	141	599	443
MERCURY	0.03 UJ	0.02 U	0.02 U	0.02 U	0.02 UJ	0.02 U	0.02 U	0.02 U	0.02 U
NICKEL	1.4	2.3	2.4	2.5	2.9	11.4	2.5 U	2.0 U	0.56 UJ
POTASSIUM	175 J	1180 U	1140 U	1100 U	494 J	3080	1980	2920	2910
SELENIUM	0.68 J	0.80 U	0.80 U	0.80 U	0.50 U	0.80 U	0.50 U	0.80 U	0.50 U
SILVER	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
SODIUM	2320	19900	19850	19800	4190	23200	21700	23600	26600
THALLIUM	0.05 U	0.10 U	0.10 U	0.10 U	0.05 U	0.10 U	0.05 U	0.16 UJ	0.05 U
VANADIUM	1.9 UJ	0.91 J	0.63 J	0.70 U	0.78 UJ	1.2 J	0.97 UJ	2.7 J	1.7 UJ
ZINC	4 J	3.55 U	5.3875 J	9.0 J	8.3 J	62.2	13.7 U	9.5 J	2.1 UJ
DISSOLVED METALS (UG/L)									
ALUMINUM	527	40.8 UJ	41.85 UJ	42.9 UJ	535	27.1 UJ	29.1 UJ	186 UJ	23.7 UJ
ANTIMONY	0.11 UJ	0.15 U	0.15 U	0.15 U	0.10 UJ	0.15 U	0.10 UJ	0.15 U	0.10 U
ARSENIC	1.6 UJ	1.50 U	1.55 UJ	1.6 UJ	0.80 U	1.50 U	1.1 J	19.2	27.5
BARIUM	7.1	19.4	19.65	19.9	16.9	14.7	8.2	6.2	2.6 J
BERYLLIUM	0.09 J	0.05 U	0.05 U	0.05 U	0.27 J	0.05 U	0.05 U	0.05 U	0.05 U
CADMIUM	0.05 U	0.05 UJ	0.06 UJ	0.07 UJ	0.07 UJ	0.12 UJ	0.11 J	0.05 U	0.09 J
CALCIUM	466	2400	2440	2480	1240	14900	14100	12100	11100
CHROMIUM	2.9 UJ	1.5 UJ	1.7 UJ	1.9 UJ	2.4 UJ	1.7 UJ	1.2 UJ	2.5 UJ	2.3 UJ
COBALT	0.27 J	0.50 UJ	0.51 UJ	0.52 UJ	1.5	4.7	0.93 J	0.16 J	0.24 J
COPPER	0.48 U	0.70 U	0.70 U	0.70 U	0.48 U	0.94 J	0.99 J	0.70 U	0.48 U
IRON	6.27 U	15.9 UJ	10.535 UJ	5.17 U	6.27 U	5800	430	1130	574
LEAD	0.16 J	0.05 U	0.095 UJ	0.14 UJ	0.14 J	0.07 J	0.12 UJ	0.17 J	0.20 UJ
MAGNESIUM	288	560	555.5	551	479	4110	3720	5630	4860
MANGANESE	7.4	78.1	79.3	80.5	57.6	761	142	593	431
MERCURY	0.02 UJ	0.02 U	0.02 U	0.02 U	0.02 UJ	0.02 U	0.02 U	0.02 U	0.02 U
NICKEL	1.5	2.2	2.25	2.3	3.2	11.2	2.5 U	0.76 UJ	0.42 UJ
POTASSIUM	181 J	1210 U	1180 U	1150 U	478 J	3170	2030	2840	2850
SELENIUM	0.62 J	1.6 UJ	1.2 UJ	0.80 U	0.50 U	0.80 U	0.50 U	0.80 U	0.50 U
SILVER	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
SODIUM	2330	20000	20250	20500	4200	23500	22800	24300	26100
THALLIUM	0.05 U	0.10 U	0.10 U	0.10 U	0.05 U	0.10 U	0.05 U	0.10 U	0.05 U
VANADIUM	2.5 UJ	1.2 J	1.35 J	1.5 J	0.92 UJ	0.70 U	0.60 U	0.99 J	0.60 U
ZINC	3.7 J	3.55 U	4.4375 J	7.1 J	9.5 J	59.8	14.7 U	3.55 U	1.6 U
MISCELLANEOUS PARAMETERS									
BROMIDE (MG/L)	--	0.50 U	0.50 U	0.50 U	--	0.50 U	--	0.50 U	--
CHLORIDE (MG/L)	--	32.	32	32.	--	48.	--	3.9	--

GROUNDWATER Footnotes:

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Data Qualifiers:

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LOCATION	NASB-BG-MW-38	NASB-BG-MW-38	NASB-BG-MW-38	NASB-BG-MW-38	NASB-BG-MW-39	NASB-BG-MW-39	NASB-BG-MW-40	NASB-BG-MW-40	NASB-BG-MW-41
SAMPLE ID	NASB-BG-GW-MW-38-0909	NASB-BG-GW-MW-38-0410	NASB-BG-GW-MW-38-0410-D	NASB-BG-GW-MW-38-0410-AVG	NASB-BG-GW-MW-39-0909	NASB-BG-GW-MW-39-0410	NASB-BG-GW-MW-40-0909	NASB-BG-GW-MW-40-0410	NASB-BG-GW-MW-41-0909
SAMPLE DATE	9/17/2009	4/15/2010	4/15/2010	4/15/2010	9/17/2009	4/14/2010	9/18/2009	4/13/2010	9/23/2009
METALS (UG/L)									
ALUMINUM	158 UJ	54.4 UJ	59.2 UJ	56.8 UJ	71.3 UJ	127 J	1030	986	4720 J
ANTIMONY	0.15 U	0.10 UJ	0.10 U	0.10 UJ	0.15 U	0.10 U	0.66 UJ	0.10 U	0.15 U
ARSENIC	12.2	16.7	17.6	17.15	1.50 U	2.1 UJ	2.2 J	1.9 UJ	16.0
BARIUM	3.7 UJ	1.9 J	2.2 J	2.05 J	3.4 UJ	2.7 J	43.4	65.5	23.4
BERYLLIUM	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.39 J	0.56 J	0.20 UJ
CADMIUM	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.20 UJ	0.24 J	0.05 U
CALCIUM	12400	11700	11700	11700	11800	11500	5170	5500	7180
CHROMIUM	2.6 UJ	1.8 UJ	2 UJ	1.9 UJ	3.8 U	4.1 U	2.6 UJ	1.4 UJ	11.2
COBALT	0.10 J	0.07 J	0.05 U	0.0475 J	0.17 J	0.17 J	0.33 J	0.11 J	2.9
COPPER	0.70 U	0.48 U	0.48 U	0.48 U	0.70 U	0.48 U	0.77 J	0.48 U	7.3 J
IRON	382	143	154	148.5	60.4 J	150	282	15.8 UJ	6470 J
LEAD	0.28 J	0.16 UJ	0.10 U	0.13 UJ	0.05 U	0.13 J	0.63 J	0.14 J	3.0
MAGNESIUM	6160	5570	5650	5610	3710	3660	1100	850	5270
MANGANESE	137	181	183	182	8.0	4.5 J	170	238	262
MERCURY	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.03 UJ	0.02 U
NICKEL	0.44 UJ	0.48 UJ	0.40 UJ	0.44 UJ	0.71 UJ	0.85 UJ	3.3	3.9	7.9
POTASSIUM	2590	2440	2450	2445	1540	1460	1050	1840	3750
SELENIUM	0.80 U	0.50 U	0.50 U	0.50 U	0.80 U	0.56 J	0.80 U	0.73 J	0.80 U
SILVER	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 UJ
SODIUM	8130	7740	7820	7780	27800	29800	4770	5710	7500
THALLIUM	0.10 U	0.05 U	0.05 U	0.05 U	0.10 U	0.05 U	0.10 U	0.05 U	0.10 U
VANADIUM	0.70 U	0.60 U	0.70 UJ	0.65 UJ	0.70 U	1.5 UJ	1.9 J	2.1 UJ	10.8
ZINC	3.55 U	4.6 UJ	1.7 UJ	3.15 UJ	3.55 U	2.9 J	3.55 U	1.6 U	17.3
DISSOLVED METALS (UG/L)									
ALUMINUM	28.5 UJ	22.5 UJ	18.6 UJ	20.55 UJ	21.1 UJ	24.2 UJ	797	944	164 UJ
ANTIMONY	0.15 U	0.10 U	0.10 U	0.10 U	0.15 U	0.10 U	0.15 U	0.10 U	0.15 U
ARSENIC	11.9	17.3	17.8	17.55	1.50 U	0.80 U	1.50 U	2.4 UJ	13.0
BARIUM	2.9 UJ	1.9 J	2.2 J	2.05 J	3.3 UJ	2.8 J	42.8	68.5	2.2 UJ
BERYLLIUM	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.34 J	0.54 J	0.05 U
CADMIUM	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.17 UJ	0.22 J	0.05 U
CALCIUM	12300	12000	12000	12000	12200	11300	5210	5790	6460
CHROMIUM	1.8 UJ	1.5 UJ	1.7 UJ	1.6 UJ	1.6 UJ	2.4 UJ	1.5 UJ	2.2 UJ	1.8 UJ
COBALT	0.10 U	0.05 U	0.05 U	0.05 U	0.11 J	0.10 J	0.13 J	0.08 J	0.10 U
COPPER	0.70 U	0.63 J	0.48 U	0.435 J	0.70 U	1.2 J	0.70 U	0.48 U	0.70 U
IRON	110	60.4 J	64.7 J	62.55 J	17.1 J	6.27 U	10.1 J	6.27 U	212
LEAD	0.05 U	0.10 U	0.10 U	0.10 U	0.05 U	0.10 U	0.38 J	0.13 J	0.15 UJ
MAGNESIUM	6050	5700	5840	5770	3780	3540	1040	902	3340
MANGANESE	129	181	187	184	6.3	1.4 UJ	163	242	136
MERCURY	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.03 UJ	0.02 U
NICKEL	0.26 UJ	0.40 UJ	0.21 UJ	0.305 UJ	0.83 UJ	0.89 UJ	2.9	4.1	0.50 UJ
POTASSIUM	2500	2480	2540	2510	1510	1450	1080	1870	2270
SELENIUM	0.80 U	0.50 U	0.50 U	0.50 U	0.86 UJ	0.50 U	0.80 U	0.64 J	0.80 U
SILVER	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
SODIUM	7950	8120	8210	8165	29000	28800	4750	6050	7000
THALLIUM	0.10 U	0.05 U	0.05 U	0.05 U	0.10 U	0.05 U	0.10 U	0.05 U	0.10 U
VANADIUM	0.70 U	0.79 UJ	0.60 UJ	0.695 UJ	0.70 U	1.6 UJ	0.70 U	1.7 UJ	0.80 UJ
ZINC	3.55 U	3 UJ	1.6 U	2.3 UJ	3.55 U	2.5 J	3.55 U	1.7 UJ	3.55 U
MISCELLANEOUS PARAMETERS									
BROMIDE (MG/L)	0.50 U	--	--	--	0.50 U	--	0.50 U	--	0.50 U
CHLORIDE (MG/L)	4.0 J	--	--	--	38.	--	4.7	--	3.4

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LOCATION	NASB-BG-MW-41	NASB-BG-MW-42	NASB-BG-MW-42	NASB-BG-MW-43	NASB-BG-MW-43	NASB-BG-MW-43	NASB-BG-MW-43	NASB-BG-MW-44	NASB-BG-MW-44
SAMPLE ID	NASB-BG-GW-MW-41-0410	NASB-BG-GW-MW-42-0909	NASB-BG-GW-MW-42-0410	NASB-BG-GW-MW43-1209	NASB-BG-GW-MW-43-0410	NASB-BG-GW-MW-43-0410-AVG	NASB-BG-GW-MW-43-0410-D	NASB-BG-GW-MW44-1209	NASB-BG-GW-MW-44-0410
SAMPLE DATE	4/20/2010	9/23/2009	4/20/2010	12/1/2009	4/20/2010	4/20/2010	4/20/2010	12/1/2009	4/20/2010
METALS (UG/L)									
ALUMINUM	441 U	8700 J	1220	76.2 UJ	35.3 UJ	32.65 UJ	30 UJ	726	171 J
ANTIMONY	0.10 U	0.15 U	0.10 U	0.24 UJ	0.10 U	0.10 U	0.10 U	0.15 U	0.10 U
ARSENIC	15.6	11.2	10.8	3.5 UJ	1.6 J	1.75 J	1.9 J	7.2	2.9 J
BARIUM	3.2 J	46.6	7.9	1.4 J	0.59 J	0.405 J	0.44 U	6.2	2.4 J
BERYLLIUM	0.05 U	0.43 J	0.06 J	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
CADMIUM	0.05 U	0.07 UJ	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 U
CALCIUM	6860	9060	8190	5730	5520	5520	5520	5170	5240
CHROMIUM	2.7 UJ	16.4	3.8 U	1.7 UJ	1.3 UJ	2.25 UJ	3.2 U	5.3	3.8 U
COBALT	0.25 UJ	5.3	0.63 UJ	0.10 U	0.05 U	0.05 U	0.05 U	0.42 UJ	0.10 J
COPPER	1 J	29.8	2.4 J	0.70 U	0.48 U	0.48 U	0.48 U	4.1 UJ	1.7 UJ
IRON	537	11200 J	1380	519	382	341.5	301	1530	613
LEAD	0.44 UJ	6.5	0.83 UJ	0.13 UJ	0.10 U	0.10 U	0.10 U	0.77 J	6.7
MAGNESIUM	3620	6800	4210	4320	4110	4135	4160	3880	3700
MANGANESE	126	488	353	707	629	631	633	236	251
MERCURY	0.04 U	0.02 U	0.04 U	0.02 U	0.04 U	0.04 U	0.04 U	0.02 U	0.04 U
NICKEL	0.47 J	13.8	1.5	0.33 UJ	1.2 UJ	2.7 J	4.8 J	1.6	2.1 UJ
POTASSIUM	2400	5230	2770	1970	1940	1925	1910	3270	2830
SELENIUM	0.50 U	0.84 UJ	0.50 U	0.80 U	0.50 U	0.50 U	0.50 U	0.83 UJ	0.50 U
SILVER	0.05 U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
SODIUM	7430	7500	6800	6690	6720	6730	6740	25800	28000
THALLIUM	0.05 U	0.14 UJ	0.05 U	0.19 UJ	0.05 U	0.05 U	0.05 U	0.10 U	0.05 U
VANADIUM	1.6 UJ	18.0	3 UJ	1.3 J	0.60 U	0.90 UJ	1.2 UJ	3.3 J	1.2 UJ
ZINC	2.4 UJ	33.8	4.2 UJ	3.55 U	1.6 U	1.6 U	1.6 U	5.6 J	70.6
DISSOLVED METALS (UG/L)									
ALUMINUM	26.6 UJ	940	40.4 UJ	20.9 UJ	14.9 UJ	15.75 UJ	16.6 UJ	19.8 UJ	40.2 UJ
ANTIMONY	0.10 U	0.15 U	0.10 U	0.17 UJ	0.10 U	0.10 U	0.10 U	0.15 U	0.10 U
ARSENIC	16	9.2	9.3	3.2 UJ	1.3 J	1.4 J	1.5 J	5.8	3.9 J
BARIUM	1.3 J	7.7	1.7 J	1.1 J	0.50 J	0.705 J	0.91 J	2.4 J	1.8 J
BERYLLIUM	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
CADMIUM	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
CALCIUM	6880	8230	7650	5640	5540	5630	5720	5360	5160
CHROMIUM	1.9 UJ	3.6 U	2.1 UJ	1.5 UJ	1.6 UJ	1.9 UJ	2.2 UJ	1.6 UJ	2.4 UJ
COBALT	0.05 U	0.51 J	0.05 U	0.10 U	0.05 U	0.05 U	0.05 U	0.10 U	0.05 U
COPPER	0.48 U	2.0 J	0.48 U	0.70 U	0.54 UJ	0.615 UJ	0.69 UJ	0.70 U	0.58 UJ
IRON	27 UJ	1130	89.9 J	371	229	231.5	234	242	271
LEAD	0.24 UJ	0.78 J	0.22 UJ	0.08 UJ	0.10 U	0.10 U	0.10 U	0.31 UJ	0.10 U
MAGNESIUM	3540	3970	3780	4200	4150	4220	4290	3780	3610
MANGANESE	114	260	315	682	629	635.5	642	220	239
MERCURY	0.04 U	0.02 U	0.04 U	0.02 U	0.04 U	0.04 U	0.04 U	0.02 U	0.04 U
NICKEL	0.20 U	1.8	0.20 U	0.28 UJ	1.6 U	1.45 U	1.3 U	0.38 UJ	1.9 U
POTASSIUM	2270	2840	2210	1930	1930	1945	1960	3190	2810
SELENIUM	0.50 U	0.80 U	0.50 U	0.80 U	0.57 J	0.41 J	0.50 U	0.80 U	0.50 U
SILVER	0.06 UJ	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
SODIUM	7620	6920	6410	6580	6790	6875	6960	26800	28300
THALLIUM	0.05 U	0.10 U	0.05 U	0.16 UJ	0.05 U	0.05 U	0.05 U	0.10 U	0.05 U
VANADIUM	1.4 UJ	2.9 UJ	1.2 UJ	1.1 J	0.75 UJ	1.375 UJ	2 UJ	1.2 J	1.6 UJ
ZINC	2.8 UJ	4.8 J	1.6 U	3.55 U	1.6 U	1.6 U	1.6 U	3.55 U	1.6 U
MISCELLANEOUS PARAMETERS									
BROMIDE (MG/L)	--	0.50 U	--	0.14 J	--	--	--	0.22 J	--
CHLORIDE (MG/L)	--	3.7	--	5.5	--	--	--	17.	--

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LOCATION	MW-231A	MW-231A	MW-303	MW-303	MW-310	MW-310	MW-314A	MW-314A
SAMPLE ID	NASB-BG-GW-MW-231A-0909	NASB-BG-GW-MW-231A-0410	NASB-BG-GW-MW-303-0909	NASB-BG-GW-MW-303-0410	NASB-BG-GW-MW-310-0909	NASB-BG-GW-MW-310-0410	NASB-BG-GW-MW-314A-0909	NASB-BG-GW-MW-314A-0410
SAMPLE DATE	9/16/2009	4/21/2010	9/17/2009	4/15/2010	9/15/2009	4/19/2010	9/16/2009	4/20/2010
METALS (UG/L)								
ALUMINUM	32.3 UJ	69.4 UJ	29.4 UJ	37.8 UJ	24.2 UJ	32 UJ	308 U	41 UJ
ANTIMONY	0.15 U	0.10 U	0.15 U	0.10 U	0.15 U	0.11 J	0.15 U	0.10 U
ARSENIC	1.50 U	1.4 J	32.9	35.6	1.50 U	0.80 U	3.1 UJ	0.80 U
BARIUM	2.1 J	3.1 J	2.4 UJ	1.8 J	3.0 J	4.1 J	1.8 J	1.1 J
BERYLLIUM	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
CADMIUM	0.05 U	0.05 U	0.05 U	0.05 U	0.05 UJ	0.54 J	0.05 UJ	0.05 U
CALCIUM	4300	4910	7560	8160	15200 J	14200	3440 J	4760
CHROMIUM	4.9 U	3.8 U	1.8 UJ	1.8 UJ	2.8 UJ	2.9 UJ	4.4 U	2.1 UJ
COBALT	0.10 U	0.06 UJ	0.10 U	0.06 J	0.10 U	0.28 J	0.24 J	0.05 U
COPPER	0.70 U	0.48 U	0.70 U	0.48 U	0.70 U	0.91 UJ	0.70 U	0.48 U
IRON	8.7 UJ	74.5 J	602	655	15.6 UJ	38.3 J	493 J	47 UJ
LEAD	0.05 U	0.46 UJ	0.05 U	0.10 U	0.05 U	0.22 UJ	0.22 UJ	0.17 UJ
MAGNESIUM	1780	2460	4790	4920	4800	4650	1810 J	2080
MANGANESE	0.67 UJ	2.2 J	143	155	0.67 UJ	2.1 UJ	125 J	2.6 J
MERCURY	0.02 U	0.04 U	0.02 U	0.02 U	0.02 U	0.04 U	0.02 U	0.04 U
NICKEL	0.37 UJ	0.21 J	0.17 UJ	0.62 UJ	0.35 UJ	2.3 UJ	0.92 UJ	0.20 U
POTASSIUM	860 UJ	1120	3590	3550	1470	1490	1430	948 J
SELENIUM	0.80 U	0.50 U	0.80 U	0.50 U	0.80 U	0.50 U	1.0 UJ	0.50 U
SILVER	0.05 U	0.05 U	0.05 U	0.05 U	0.15 UJ	0.46 J	0.05 U	0.05 U
SODIUM	4880	5280	33200	31700	10000	10600	15500	6180
THALLIUM	0.10 U	0.05 U	0.10 U	0.05 U	0.10 U	0.05 J	0.33 UJ	0.05 U
VANADIUM	3.7 UJ	1.9 UJ	0.74 J	0.60 U	3.3 UJ	1.3 UJ	2.5 UJ	0.94 UJ
ZINC	3.55 U	6 UJ	3.55 U	1.9 UJ	3.55 U	3.4 J	3.55 U	2.6 UJ
DISSOLVED METALS (UG/L)								
ALUMINUM	20.3 UJ	23.1 UJ	14.3 UJ	13.8 UJ	15.8 UJ	17 UJ	39.9 UJ	24.5 UJ
ANTIMONY	0.15 U	0.10 U	0.15 U	0.10 U	0.15 U	0.10 J	0.15 U	0.10 U
ARSENIC	3.3 UJ	0.80 U	31.6	34.2	1.50 U	0.89 J	4.4 UJ	0.80 U
BARIUM	1.9 J	3.4 J	2.1 UJ	1.7 J	3.0 J	3 J	0.35 U	1.6 J
BERYLLIUM	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
CADMIUM	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.50 J	0.05 U	0.05 U
CALCIUM	4260	5030	7500	8200	16200 J	14000	3350 J	4870
CHROMIUM	3.8 U	3.1 U	1.8 UJ	1.8 UJ	2.2 UJ	2.6 UJ	3.5 U	1.6 UJ
COBALT	0.10 U	0.05 U	0.10 U	0.05 U	0.10 U	0.13 J	0.10 U	0.05 U
COPPER	1.1 UJ	0.48 U	0.70 U	0.59 J	0.70 U	1.4 UJ	0.70 U	0.61 J
IRON	5.17 U	6.27 U	554	565	5.17 U	6.27 U	21.2 UJ	6.27 U
LEAD	0.05 U	0.11 UJ	0.05 U	0.10 U	0.05 UJ	0.10 U	0.05 U	0.15 UJ
MAGNESIUM	1730	2450	4700	4880	5090 J	4610	1720 J	2100
MANGANESE	0.67 U	0.37 U	140	154	0.67 U	2 UJ	4.5 UJ	0.37 U
MERCURY	0.02 U	0.04 U	0.02 U	0.02 U	0.02 U	0.04 U	0.02 U	0.04 U
NICKEL	0.34 UJ	0.21 J	0.30 UJ	0.34 UJ	0.49 UJ	3.4 U	0.46 UJ	0.20 U
POTASSIUM	833 UJ	1090	3440	3560	1570	1460	1150	940 J
SELENIUM	0.80 U	0.50 U	0.80 U	0.50 U	1.1 UJ	0.50 U	0.80 U	0.50 U
SILVER	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
SODIUM	4800	5260	33100	31600	10300	10500	14900	6130
THALLIUM	0.10 U	0.05 U	0.10 U	0.05 U	0.19 UJ	0.05 U	0.10 U	0.05 U
VANADIUM	2.8 UJ	1.5 UJ	1.3 J	0.60 U	0.88 UJ	0.94 UJ	2.7 UJ	1.4 UJ
ZINC	3.55 U	33.2 U	3.55 U	2 UJ	4.2 J	3.6 J	3.55 U	2.1 UJ
MISCELLANEOUS PARAMETERS								
BROMIDE (MG/L)	0.50 U	--	0.50 U	--	0.5 U	--	0.50 U	--
CHLORIDE (MG/L)	5.7 J	--	4.8	--	36	--	9.0	--

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R = The chemical was rejected.

LOCATION	MW-314B	MW-314B	MW-315A	MW-315A	MW-315A	MW-316A	MW-316A	MW-316B
SAMPLE ID	NASB-BG-GW-MW-314B-0909	NASB-BG-GW-MW-314B-0410	NASB-BG-GW-MW-315A-0909	NASB-BG-GW-MW-315A-0909-D	NASB-BG-GW-MW-315A-0410	NASB-BG-GW-MW-316A-0909	NASB-BG-GW-MW-316A-0410	NASB-BG-GW-MW-316B-0909
SAMPLE DATE	9/16/2009	4/20/2010	9/16/2009	9/16/2009	4/20/2010	9/22/2009	4/19/2010	9/22/2009
METALS (UG/L)								
ALUMINUM	1060	1660	7400	5940	241 UJ	174 UJ	141 J	73.0 UJ
ANTIMONY	0.15 U	0.10 U	0.35 UJ	0.15 U	0.10 U	0.15 U	0.10 U	0.15 U
ARSENIC	2.0 UJ	0.80 U	5.4 U	7.4 U	1.6 J	2.7 UJ	1.4 J	12.7
BARIUM	5.5	9.4	36.3	33.7	2.9 J	1.7 UJ	2.4 J	3.6 J
BERYLLIUM	0.05 U	0.06 J	0.32 J	0.26 J	0.05 U	0.05 U	0.05 U	0.05 U
CADMIUM	0.05 U	0.05 U	0.11 UJ	0.08 UJ	0.41 UJ	0.05 U	0.13 J	0.09 UJ
CALCIUM	3230	3120	7380 J	6520	6480	7980	16300	18500
CHROMIUM	5.4 U	5.6 U	15.3	15.4	1.5 UJ	2.5 UJ	2.1 UJ	2.1 UJ
COBALT	0.78 J	1 J	4.5	3.3	0.16 UJ	0.12 J	0.12 UJ	0.11 J
COPPER	2.4 UJ	2.6 UJ	15.4 UJ	13.7 UJ	0.48 U	0.70 U	0.49 UJ	0.77 J
IRON	1260 J	2050	11700 J	8370 J	514	360 J	302	218 J
LEAD	0.56 UJ	1.1	4.5	3.5	0.43 UJ	0.37 UJ	0.58 UJ	0.17 UJ
MAGNESIUM	2710	2970	6530 J	5430	3830	863	2290	5440
MANGANESE	39.6 J	57.4	588 J	494 J	384	40.4	35.5	50.3
MERCURY	0.02 U	0.04 U	0.02 U	0.02 U	0.04 U	0.02 U	0.04 U	0.05 J
NICKEL	1.9 U	4.4 UJ	11.8	9.1	0.20 U	0.61 UJ	1.8	0.42 UJ
POTASSIUM	1340	1420	4140	3770	2380	270 UJ	558 J	3880
SELENIUM	0.80 U	0.62 J	0.80 U	0.80 U	0.50 U	0.80 U	0.50 U	0.93 UJ
SILVER	0.05 U	0.06 UJ	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 UJ
SODIUM	5120	4800	15200	16400	15800	44300	25900	13100
THALLIUM	0.10 U	0.05 U	1.4 UJ	0.24 UJ	0.06 UJ	0.10 U	0.05 U	0.10 U
VANADIUM	6.5 U	6	17.2	15.2	0.87 UJ	1.5 UJ	1.2 UJ	1.4 UJ
ZINC	4.5 J	7.3 J	45.9	37.2	4.2 UJ	6.3 J	4.9 UJ	3.55 U
DISSOLVED METALS (UG/L)								
ALUMINUM	72.1 UJ	284 J	1420 J	1630 J	29 UJ	42.1 UJ	20.7 UJ	12.9 UJ
ANTIMONY	0.15 U	0.10 U	0.15 U	0.15 U	0.10 U	0.15 U	0.10 U	0.15 U
ARSENIC	2.0 UJ	1.3 J	4.5 UJ	4.5 UJ	1.3 J	1.6 UJ	1.5 J	13.4
BARIUM	0.61 J	1.9 J	8.1	9.0	1.8 J	1.4 UJ	1.9 J	2.5 UJ
BERYLLIUM	0.05 U	0.05 U	0.06 UJ	0.08 UJ	0.05 U	0.05 U	0.05 U	0.05 U
CADMIUM	0.05 U	0.05 U	0.06 UJ	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U
CALCIUM	3130	3210	5900	5970	6540	8700	16500	17600
CHROMIUM	3.7 U	3.3 U	4.9 U	6.3 U	1.1 UJ	1.3 UJ	1.4 UJ	2.1 UJ
COBALT	0.10 U	0.19 J	0.84 J	0.99 J	0.06 UJ	0.10 U	0.05 U	0.10 U
COPPER	0.83 UJ	1.1 UJ	4.9 UJ	2.3 UJ	0.50 J	0.70 U	0.56 UJ	0.70 U
IRON	66.7 UJ	318	2040	2320	175	45.4 J	37.2 J	5.17 U
LEAD	0.06 UJ	0.82 J	0.97 UJ	0.90 UJ	0.23 UJ	0.1 UJ	0.19 UJ	0.05 U
MAGNESIUM	2360	2590	3700	3780	3720	966	2250	5490
MANGANESE	2.9 UJ	10.6	382	389	371	26.5	30.4	3.4 UJ
MERCURY	0.02 U	0.04 U	0.02 U	0.02 U	0.04 U	0.02 U	0.04 U	0.02 U
NICKEL	0.33 UJ	2.3 U	2.3 U	2.4 U	0.20 U	0.36 UJ	0.42 J	0.27 UJ
POTASSIUM	1040	1060	2530	2570	2360	412 UJ	518 J	4110
SELENIUM	0.80 U	0.50 U	0.98 UJ	0.80 U	0.50 U	0.82 UJ	0.50 U	1.1 UJ
SILVER	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
SODIUM	4910	4820	16200	16400	15900	41700	25900	13100
THALLIUM	0.10 U	0.05 U	0.50 UJ	0.19 UJ	0.05 U	0.31 UJ	0.05 U	0.10 U
VANADIUM	3.6 UJ	2.5 UJ	5.8 U	6.3 U	0.60 U	0.70 U	0.97 UJ	2.0 UJ
ZINC	3.55 U	9.8 J	10.1	9.8 J	3 UJ	3.55 U	1.9 UJ	3.55 U
MISCELLANEOUS PARAMETERS								
BROMIDE (MG/L)	0.50 U	--	0.50 U	0.50 U	--	0.50 U	--	0.50 U
CHLORIDE (MG/L)	2.1	--	13	13	--	4.1	--	3.2

GROUNDWATER Footnotes:

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Data Qualifiers:

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LOCATION	MW-316B	MW-317A	MW-317A	MW-317B	MW-317B	MW-335	MW-335	MW-335
SAMPLE ID	NASB-BG-GW-MW-316B-0410	NASB-BG-GW-MW-317A-0909	NASB-BG-GW-MW-317A-0410	NASB-BG-GW-MW-317B-0909	NASB-BG-GW-MW-317B-0410	NASB-BG-GW-MW-335-0909	NASB-BG-GW-MW-335-0410	NASB-BG-GW-MW-335-0410-D
SAMPLE DATE	4/19/2010	9/23/2009	4/19/2010	9/22/2009	4/19/2010	9/15/2009	4/19/2010	4/19/2010
METALS (UG/L)								
ALUMINUM	37 UJ	1320 J	68 UJ	3640 J	1840	296 UJ	33.9 UJ	26.3 UJ
ANTIMONY	0.10 U	0.15 U	0.10 U	0.23 UJ	0.10 U	0.15 U	0.10 U	0.10 U
ARSENIC	8.6	1.50 U	0.80 U	3.1 UJ	0.80 U	4.9 UJ	2.1 J	2.2 J
BARIUM	2 J	9.4	1.1 J	23.2	14	6.1	7.1	6.8
BERYLLIUM	0.05 U	0.07 UJ	0.05 U	0.44 J	0.15 J	0.05 U	0.05 U	0.05 U
CADMIUM	0.11 J	0.32 J	0.13 J	0.14 UJ	0.11 J	0.16 UJ	0.34 J	0.38 J
CALCIUM	12900	27100	26400	24400	25000	14600 J	15200	14900
CHROMIUM	1.7 UJ	5.0 U	2 UJ	4.7 U	3.4 U	2.7 UJ	1.9 UJ	1.4 UJ
COBALT	0.22 UJ	11.2	0.40 J	41.5	30.1	0.21 J	0.09 UJ	0.09 UJ
COPPER	0.78 UJ	32.0	2 UJ	18.3 J	33.8	0.70 U	0.48 U	0.48 U
IRON	104	1860 J	86.4 J	2370 J	1400	1160 J	462	448
LEAD	0.14 UJ	5.3	0.32 J	5.3	2.8	0.29 UJ	0.27 UJ	0.16 UJ
MAGNESIUM	4090	5240	4580	4750	4490	8790 J	8420	8470
MANGANESE	168	104	6.1 U	208	133	416 J	189	185
MERCURY	0.04 U	0.02 U	0.04 U	0.02 U	0.04 U	0.02 U	0.04 U	0.04 U
NICKEL	0.74 J	6.6	2.5 UJ	3.8	4.6 UJ	0.68 UJ	0.32 J	0.42 J
POTASSIUM	2800	2670	2250	2600	2260	2630	2030	2100
SELENIUM	0.50 U	0.80 U	0.50 U	0.80 U	0.50 U	0.80 U	0.50 U	0.50 U
SILVER	0.05 U	0.05 UJ	0.05 U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 U
SODIUM	9450	30300	29500	28700	25000	29800	24300	24300
THALLIUM	0.05 U	0.10 U	0.05 U	0.13 UJ	0.05 U	0.10 U	0.05 U	0.05 U
VANADIUM	1.3 UJ	2.5 UJ	0.99 UJ	2.5 UJ	1.6 UJ	4.3 UJ	1.2 UJ	1.5 UJ
ZINC	1.6 U	13.8	1.9 J	15.3	9.4 J	5.5 J	1.6 U	1.6 U
DISSOLVED METALS (UG/L)								
ALUMINUM	15.4 UJ	24.0 UJ	21.2 UJ	34.6 UJ	717	20.7 UJ	16.9 UJ	16.7 UJ
ANTIMONY	0.10 U	0.15 U	0.10 U	0.15 U	0.12 J	0.15 U	0.11 UJ	0.10 U
ARSENIC	8.1	2.5 UJ	0.80 U	1.9 UJ	0.88 J	5.8 U	2.6 J	2.1 J
BARIUM	1.9 J	1.7 UJ	1.1 J	6.0	9.4	4.7 J	7.6	6.5
BERYLLIUM	0.05 U	0.05 U	0.05 U	0.05 U	0.08 J	0.05 U	0.05 U	0.05 U
CADMIUM	0.10 J	0.05 U	0.08 J	0.05 U	0.07 J	0.05 U	0.05 U	0.05 U
CALCIUM	12000	26800	26400	22300	24800	15100 J	15600	14600
CHROMIUM	1.2 UJ	1.6 UJ	1.4 UJ	1.8 UJ	2 UJ	2.0 UJ	1.8 UJ	2.1 UJ
COBALT	0.21 UJ	0.10 U	0.06 J	2.0	15.5	0.10 U	0.08 UJ	0.12 UJ
COPPER	1.6 UJ	0.70 U	1.1 UJ	0.70 U	21.9 J	1.7 UJ	0.48 UJ	0.48 U
IRON	6.27 U	5.17 U	6.27 U	5.17 U	573	806	386	401
LEAD	0.15 UJ	0.05 U	0.10 U	0.05 U	1.2	0.05 U	0.16 UJ	0.10 U
MAGNESIUM	3840	4820	4590	3980	4330	8920	8590	8280
MANGANESE	152	8.4	1 UJ	6.4	73.4	425 J	191	177
MERCURY	0.04 U	0.02 U	0.04 U	0.02 U	0.04 U	0.02 U	0.04 U	0.04 U
NICKEL	0.76 J	0.62 UJ	1.8 U	0.41 UJ	4 U	0.40 UJ	0.35 J	0.23 J
POTASSIUM	2740	2340	2300	2060	2150	2660	2070	2130
SELENIUM	0.50 U	0.80 U	0.50 U	0.80 U	0.50 U	0.80 U	0.50 U	0.50 U
SILVER	0.05 U	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U	0.05 U
SODIUM	8980	30700	29400	26800	25200	30400	24600	24200
THALLIUM	0.05 U	0.10 U	0.05 U	0.10 U	0.05 U	0.10 U	0.05 U	0.05 U
VANADIUM	0.90 UJ	1.4 UJ	0.90 UJ	1.2 UJ	1.2 UJ	2.2 UJ	1 UJ	1.6 UJ
ZINC	3.3 UJ	3.55 U	1.9 J	3.55 U	5.6 J	3.55 U	1.7 UJ	1.6 U
MISCELLANEOUS PARAMETERS								
BROMIDE (MG/L)	--	0.50 U	--	0.50 U	--	0.50 U	--	--
CHLORIDE (MG/L)	--	26.	--	9.4 J	--	40	--	--

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LOCATION	MW-339	MW-339	MW-219	MW-219
SAMPLE ID	NASB-BG-GW-MW339-1209	NASB-BG-GW-MW-339-0410	NASB-BG-GW-MW-219-0909	NASB-BG-GW-MW-219-0410
SAMPLE DATE	12/1/2009	4/20/2010	9/15/2009	4/19/2010
METALS (UG/L)				
ALUMINUM	25.5 UJ	50 UJ	45.0 UJ	135 J
ANTIMONY	0.15 U	0.10 U	0.15 U	0.20 UJ
ARSENIC	5.4	1.1 J	1.50 U	0.80 U
BARIUM	1.2 J	1 J	2.4 J	3.9 J
BERYLLIUM	0.05 U	0.05 U	0.05 U	0.05 U
CADMIUM	0.05 U	0.05 U	0.05 U	1.1
CALCIUM	6720	6720	9980 J	8260
CHROMIUM	1.7 UJ	2.5 UJ	4.0 U	3.4 U
COBALT	0.10 U	0.05 J	0.10 U	0.23 J
COPPER	0.70 U	0.64 UJ	0.70 U	1.3 UJ
IRON	165	201	45.6 UJ	236
LEAD	0.50 UJ	0.10 U	0.05 U	0.32 UJ
MAGNESIUM	4260	4220	3430 J	2920
MANGANESE	385	394	0.67 UJ	5.1
MERCURY	0.02 U	0.04 U	0.02 U	0.04 U
NICKEL	0.15 U	1.2 UJ	0.87 UJ	1.6
POTASSIUM	2250	2250	1110	1060
SELENIUM	0.80 U	0.50 U	0.80 U	0.50 U
SILVER	0.05 U	0.05 U	0.05 U	0.05 U
SODIUM	8970	9880	6090	5700
THALLIUM	0.10 U	0.05 U	0.10 U	0.05 U
VANADIUM	1.0 J	1.4 UJ	2.0 UJ	1 UJ
ZINC	3.55 U	1.9 J	3.55 U	5.7 UJ
DISSOLVED METALS (UG/L)				
ALUMINUM	13.6 UJ	16 UJ	16.7 UJ	18.1 UJ
ANTIMONY	0.15 U	0.10 U	0.15 U	0.15 UJ
ARSENIC	4.6 J	0.83 J	4.0 UJ	0.80 U
BARIUM	1.3 J	0.70 J	2.4 J	3.7 J
BERYLLIUM	0.05 U	0.05 U	0.05 U	0.05 U
CADMIUM	0.05 U	0.05 U	0.05 U	1
CALCIUM	6730	7070	10000 J	8330
CHROMIUM	1.7 UJ	2 UJ	3.4 U	3.4 U
COBALT	0.10 U	0.05 U	0.10 U	0.17 UJ
COPPER	0.70 U	0.48 U	0.70 U	1.1 UJ
IRON	114	134	5.17 U	6.27 U
LEAD	0.29 UJ	0.10 U	0.05 U	0.10 UJ
MAGNESIUM	4230	4430	3420 J	2920
MANGANESE	378	416	0.67 U	0.41 J
MERCURY	0.02 U	0.04 U	0.02 U	0.04 U
NICKEL	0.21 UJ	1.3 U	0.39 UJ	0.88 J
POTASSIUM	2190	2380	1130	1110
SELENIUM	0.80 U	0.61 J	0.80 U	0.50 U
SILVER	0.05 U	0.05 U	0.05 U	0.05 U
SODIUM	8840	10400	6110	5860
THALLIUM	0.10 U	0.05 U	0.10 U	0.05 U
VANADIUM	0.91 J	1.5 UJ	3.6 UJ	1.8 UJ
ZINC	3.55 U	1.6 U	3.55 U	5.6 UJ
MISCELLANEOUS PARAMETERS				
BROMIDE (MG/L)	0.33 J	--	0.50 U	--
CHLORIDE (MG/L)	11.	--	11	--

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LOCATION	NASB-BG-SW-01	NASB-BG-SW-01	NASB-BG-SW-02	NASB-BG-SW-02	NASB-BG-SW-03	NASB-BG-SW-03	NASB-BG-SW-04	NASB-BG-SW-04	NASB-BG-SW-04
SAMPLE ID	NASB-BG-SW01-090809	NASB-BG-SW-01-040610	NASB-BG-SW02-090809	NASB-BG-SW-02-040610	NASB-BG-SW03-090809	NASB-BG-SW-03-040610	NASB-BG-SW04-090809	NASB-BG-SW-04-040610-D	NASB-BG-SW-04-040610-AVG
SAMPLE DATE	9/8/2009	4/6/2010	9/8/2009	4/6/2010	9/8/2009	4/6/2010	9/8/2009	4/6/2010	4/6/2010
METALS (UG/L)									
ALUMINUM	36.2 J	141 J	19.5 J	149 J	118 J	228 J	2070	76.4 J	82.7 J
ANTIMONY	0.15 U	0.24 UJ	0.15 U	0.16 UJ	0.17 UJ	0.17 UJ	0.19 UJ	0.12 UJ	0.13 UJ
ARSENIC	1.50 U	2.6 UJ	2.0 J	5.1 U	2.9 J	4.1 UJ	3.4 J	2.9 UJ	3.65 UJ
BARIUM	46.9	26.2	37.4	28.7	37.3	42.9	72.4	16.8	17.65
BERYLLIUM	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.19 UJ	0.05 U	0.05 U
CADMIUM	0.06 UJ	0.07 UJ	0.05 U	0.05 U	0.05 UJ	0.08 UJ	0.22 UJ	0.05 U	0.05 U
CALCIUM	9520	8850	11100	9910	11000	10100	11700	10300	10450
CHROMIUM	0.98 J	4.9 UJ	1.3 J	7 U	2.3 J	5.6 U	7.8	4.3 UJ	3.15 UJ
COBALT	0.40 J	0.44 UJ	0.40 J	0.39 UJ	0.44 J	0.56 UJ	1.7	0.23 UJ	0.245 UJ
COPPER	2.5 U	1.1 U	0.62 UJ	1.1 U	1.2 U	2.6	8.9	0.63 UJ	0.57 UJ
IRON	571	334	457	211	677	362	3060	166	174
LEAD	0.98 UJ	0.57 J	0.66 UJ	0.40 J	1.3 J	5.5	11.4 J	0.18 J	0.205 J
MAGNESIUM	2180	1700	2280	1820	2390	1850	3080	2670	2670
MANGANESE	109	82.6	157	95.3	156	105	209	62.1	64.25
MERCURY	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
NICKEL	1.4	2.5	1.8	2.6	2.6	3.6	6.1	1.7	1.75
POTASSIUM	2310	2070	2850	2380	2700	2450	3150	1980	2025
SELENIUM	0.80 U	0.50 U	0.80 U	0.50 U	0.80 U	0.50 U	0.80 U	0.66 J	0.455 J
SILVER	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
SODIUM	34600 J	27100	41500 J	33300	38700 J	32200	40200 J	23500	24200
THALLIUM	0.29 UJ	0.05 U	0.10 U	0.05 U	0.10 U	0.05 U	0.10 U	0.05 U	0.05 U
VANADIUM	1.1 UJ	3.6 UJ	2.9 UJ	5.3 U	2.9 UJ	4.9 UJ	9.4	2.8 UJ	4.05 UJ
ZINC	9.6 J	7.7 J	3.55 U	9.2 J	6.2 J	16.7	34.9	4.7 J	4.95 J
DISSOLVED METALS (UG/L)									
ALUMINUM	11.35 UJ	58.2 UJ	11.35 UJ	79.2 J	11.35 UJ	71.4 J	11.35 UJ	56.8 UJ	52.3 UJ
ANTIMONY	0.15 U	0.20 UJ	0.18 UJ	0.14 UJ	0.15 U	0.16 UJ	0.26 UJ	0.17 UJ	0.15 UJ
ARSENIC	1.50 U	3.3 UJ	1.50 U	3.1 UJ	1.50 U	4.1 UJ	1.5 J	2 UJ	2.2 UJ
BARIUM	36.2	24	33.0	28.5	33.2	27.3	45.2	19.6	17.6
BERYLLIUM	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
CADMIUM	0.05 UJ	0.07 UJ	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.12 UJ	0.085 UJ
CALCIUM	9510	9120	10400	9950	10100	9700	11000	10400	10135
CHROMIUM	0.98 J	4.5 UJ	1.2 J	4.6 UJ	1.2 J	4.6 UJ	0.76 J	3.9 UJ	3.45 UJ
COBALT	0.25 J	0.33 UJ	0.25 J	0.34 UJ	0.34 J	0.30 UJ	0.34 J	0.40 UJ	0.31 UJ
COPPER	0.62 UJ	1.6 U	0.76 UJ	0.99 UJ	0.63 UJ	2	0.57 UJ	0.99 UJ	0.835 UJ
IRON	166 U	112	41.3 UJ	97.2 J	35.6 UJ	75.2 J	92.4 UJ	76.7 J	70.85 J
LEAD	0.54 UJ	0.33 J	0.09 UJ	0.22 J	0.07 UJ	0.15 J	0.26 UJ	0.17 J	0.135 J
MAGNESIUM	2160	1740	2260	1810	2270	1770	2420	2440	2505
MANGANESE	75.8	81.5	139	92.3	128	89.6	157	70.4	61.8
MERCURY	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
NICKEL	1.2 U	2.1	1.4	2.5	1.4	2.5	1.8	2.2	2.25
POTASSIUM	2280	2200	2560	2380	2480	2320	2830	2140	1995
SELENIUM	0.80 U	0.50 U	0.80 U	0.50 U	0.80 U	0.50 U	0.80 U	0.50 U	0.405 J
SILVER	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 J	0.0375 J
SODIUM	33800	27900	37400	33300	34000	31200	39900	27000	24300
THALLIUM	0.19 UJ	0.05 U	0.10 U	0.05 U	0.10 U	0.05 U	0.10 U	0.05 U	0.05 U
VANADIUM	1.5 UJ	5.7 U	2.8 UJ	4.7 UJ	3.4 UJ	6.5 U	1.8 UJ	2.1 UJ	3.25 UJ
ZINC	4.7 J	9.1 J	3.9 J	8 J	3.55 U	9.5 J	3.55 U	6.3 J	7.7 J
POLYCYCLIC AROMATIC HYDROCARBONS (UG/L)									
2-METHYLNAPHTHALENE	0.08 U	0.07 UJ	0.08 U	0.08 UJ	0.07 U	0.07 UJ	0.07 U	0.07 UJ	0.07 UJ
ACENAPHTHENE	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
ACENAPHTHYLENE	0.05 U	0.05 U	0.05 U	0.06 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
ANTHRACENE	0.04 U	0.04 U	0.04 U	0.05 J	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
BENZO(A)ANTHRACENE	0.04 U	0.04 U	0.05 U	0.30	0.04 U	0.04 U	0.05 J	0.04 U	0.04 U
BENZO(A)PYRENE	0.06 U	0.06 U	0.07 U	0.50 J	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
BENZO(B)FLUORANTHENE	0.09 U	0.08 U	0.09 U	0.70	0.08 U	0.08 U	0.08 U	0.08 U	0.085 U
BENZO(G,H,I)PERYLENE	0.06 U	0.06 U	0.06 U	0.30	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
BENZO(K)FLUORANTHENE	0.05 U	0.05 U	0.05 U	0.30	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
CHRYSENE	0.04 U	0.03 U	0.05 U	0.40 J	0.04 U	0.03 U	0.08 U	0.03 U	0.03 U
DIBENZO(A,H)ANTHRACENE	0.07 UJ	0.07 UJ	0.07 UJ	0.20 J	0.07 UJ	0.07 UJ	0.07 UJ	0.07 UJ	0.07 UJ
FLUORANTHENE	0.07 U	0.07 U	0.07 U	0.80	0.07 U	0.07 U	0.1 J	0.07 U	0.07 U
FLUORENE	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
INDENO(1,2,3-CD)PYRENE	0.05 U	0.05 UJ	0.05 U	0.60 J	0.05 U	0.05 UJ	0.05 U	0.05 UJ	0.05 UJ
NAPHTHALENE	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
PHENANTHRENE	0.05 U	0.05 U	0.05 U	0.40	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
PYRENE	0.06 U	0.06 U	0.06 U	0.90	0.06 U	0.06 U	0.07 J	0.06 U	0.06 U

LOCATION	NASB-BG-SW-01	NASB-BG-SW-01	NASB-BG-SW-02	NASB-BG-SW-02	NASB-BG-SW-03	NASB-BG-SW-03	NASB-BG-SW-04	NASB-BG-SW-04	NASB-BG-SW-04
SAMPLE ID	NASB-BG-SW01-090809	NASB-BG-SW-01-040610	NASB-BG-SW02-090809	NASB-BG-SW-02-040610	NASB-BG-SW03-090809	NASB-BG-SW-03-040610	NASB-BG-SW04-090809	NASB-BG-SW-04-040610-D	NASB-BG-SW-04-040610-AVG
SAMPLE DATE	9/8/2009	4/6/2010	9/8/2009	4/6/2010	9/8/2009	4/6/2010	9/8/2009	4/6/2010	4/6/2010

SURFACE WATER Footnotes:

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J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

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LOCATION	NASB-BG-SW-04	NASB-BG-SW-05	NASB-BG-SW-05	NASB-BG-SW-06	NASB-BG-SW-06	NASB-BG-SW-06	NASB-BG-SW-06	NASB-BG-SW-07	NASB-BG-SW-07
SAMPLE ID	NASB-BG-SW-04-040610	NASB-BG-SW05-090809	NASB-BG-SW-05-040610	NASB-BG-SW06-090809	NASB-BG-SW06-090809-D	NASB-BG-SW06-090809-AVG	NASB-BG-SW-06-040610	NASB-BG-SW07-090809	NASB-BG-SW-07-040610
SAMPLE DATE	4/6/2010	9/8/2009	4/6/2010	9/8/2009	9/8/2009	9/8/2009	4/6/2010	9/8/2009	4/6/2010
METALS (UG/L)									
ALUMINUM	89 J	159 J	116 J	17.5 J	17.1 J	17.3 J	135 J	15.8 J	116 J
ANTIMONY	0.14 UJ	0.15 U	0.18 UJ	0.18 UJ	0.15 U	0.165 UJ	0.18 UJ	0.15 U	0.17 UJ
ARSENIC	4.4 UJ	1.7 J	5.5 U	2.6 J	1.50 U	1.675 J	2.7 UJ	1.50 U	2.4 UJ
BARIUM	18.5	35.1	26.4	33.5	36.4	34.95	27.1	34.2	24.4
BERYLLIUM	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
CADMIUM	0.05 U	0.05 U	0.06 UJ	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
CALCIUM	10600	10900	9660	10600	11000	10800	9640	11000	9570
CHROMIUM	2 UJ	1.9 J	4 UJ	1.6 J	1.8 J	1.7 J	4 UJ	0.70 J	4.3 UJ
COBALT	0.26 UJ	0.47 J	0.34 UJ	0.38 J	0.38 J	0.38 J	0.38 UJ	0.38 J	0.29 UJ
COPPER	0.51 UJ	1.3 U	0.75 UJ	0.84 UJ	0.96 UJ	0.90 UJ	0.87 UJ	0.76 UJ	0.88 UJ
IRON	182	767	207	594	632	613	230	619	222
LEAD	0.23 J	1.8 J	0.30 J	0.71 UJ	0.78 UJ	0.745 UJ	0.39 J	0.76 UJ	0.42 J
MAGNESIUM	2670	2510	1780	2410	2500	2455	1790	2460	1810
MANGANESE	66.4	154	94.7	144	154	149	96	135	79.5
MERCURY	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
NICKEL	1.8	3.0	2.6	1.7	1.8	1.75	2.5	1.9	2
POTASSIUM	2070	2680	2240	2520	2620	2570	2310	2560	2300
SELENIUM	0.50 U	0.80 U	0.67 J	0.80 U	0.80 U	0.80 U	0.50 U	0.80 U	0.50 U
SILVER	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
SODIUM	24900	37500 J	30200	35600 J	36900 J	36250 J	30300	35100 J	27900
THALLIUM	0.05 U	0.10 U	0.05 U	0.10 U	0.10 U	0.10 U	0.05 U	0.12 UJ	0.05 U
VANADIUM	5.3 U	4.2 UJ	5 UJ	2.9 UJ	3.0 UJ	2.95 UJ	5.7 U	0.70 U	4 UJ
ZINC	5.2 J	6.2 J	10	4.9 J	5.4 J	5.15 J	8.9 J	6.4 J	8.2 J
DISSOLVED METALS (UG/L)									
ALUMINUM	47.8 UJ	11.35 UJ	68.1 J	11.35 UJ	11.35 UJ	11.35 UJ	69.5 J	11.35 UJ	60.2 UJ
ANTIMONY	0.13 UJ	0.15 U	0.18 UJ	0.20 UJ	0.15 U	0.175 UJ	0.18 UJ	0.15 U	0.14 UJ
ARSENIC	2.4 UJ	1.50 U	3.1 UJ	1.50 U	1.9 J	1.325 J	4.5 UJ	1.50 U	2.4 UJ
BARIUM	15.6	34.9	25.3	33.7	33.4	33.55	26.4	33.7	25.6
BERYLLIUM	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
CADMIUM	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 UJ
CALCIUM	9870	10900	9640	10900	11100	11000	9660	10800	9730
CHROMIUM	3 UJ	1.4 J	3.7 UJ	1 J	1.3 J	1.15 J	3.7 UJ	0.80 J	4.3 UJ
COBALT	0.22 UJ	0.32 J	0.36 UJ	0.33 J	0.33 J	0.33 J	0.35 UJ	0.27 J	0.34 UJ
COPPER	0.68 UJ	0.85 UJ	1.2 U	0.83 UJ	0.58 UJ	0.705 UJ	1.2 U	0.74 UJ	1.1 U
IRON	65 J	61.3 UJ	86 J	50.3 UJ	39.5 UJ	44.9 UJ	89.8 J	62.9 UJ	78.3 J
LEAD	0.10 J	0.12 UJ	0.15 J	0.1 UJ	0.10 UJ	0.10 UJ	0.11 J	0.13 UJ	0.21 J
MAGNESIUM	2570	2430	1760	2470	2560	2515	1770	2420	1840
MANGANESE	53.2	148	92.1	140	128	134	94.7	123	79.2
MERCURY	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
NICKEL	2.3	1.4	2.6	1.8	1.6	1.7	2.5	1.5	2.3
POTASSIUM	1850	2610	2250	2600	2680	2640	2300	2630	2290
SELENIUM	0.56 J	0.80 U	0.57 J	0.80 U	0.80 U	0.80 U	0.50 U	0.80 U	0.50 U
SILVER	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
SODIUM	21600	37400	29700	36900	36700	36800	30000	35300	28800
THALLIUM	0.05 U	0.10 U	0.05 U	0.10 U	0.10 U	0.10 U	0.05 U	0.10 U	0.05 U
VANADIUM	4.4 UJ	2.8 UJ	4.3 UJ	2.2 UJ	4.6 UJ	3.4 UJ	4.1 UJ	0.99 UJ	1.4 UJ
ZINC	9.1 J	3.8 J	12.7	3.55 U	4.4 J	3.0875 J	9.3 J	4.9 J	9.6 J
POLYCYCLIC AROMATIC HYDROCARBONS (UG/L)									
2-METHYLNAPHTHALENE	0.07 UJ	0.07 U	0.07 UJ	0.07 U	0.07 U	0.07 U	0.07 UJ	0.07 U	0.07 UJ
ACENAPHTHENE	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
ACENAPHTHYLENE	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
ANTHRACENE	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
BENZO(A)ANTHRACENE	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
BENZO(A)PYRENE	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
BENZO(B)FLUORANTHENE	0.09 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
BENZO(G,H,I)PERYLENE	0.06 U	0.06 U	0.06 U	0.06 U	0.1 U	0.08 U	0.06 U	0.06 U	0.06 U
BENZO(K)FLUORANTHENE	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
CHRYSENE	0.03 U	0.05 U	0.03 U	0.03 U	0.07 U	0.05 U	0.03 U	0.03 U	0.03 U
DIBENZO(A,H)ANTHRACENE	0.07 UJ	0.07 UJ	0.07 UJ	0.07 UJ	0.07 UJ	0.07 UJ	0.07 UJ	0.07 UJ	0.07 UJ
FLUORANTHENE	0.07 U	0.09 J	0.07 U	0.07 U	0.1 J	0.0675 J	0.07 U	0.07 U	0.07 U
FLUORENE	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
INDENO(1,2,3-CD)PYRENE	0.05 UJ	0.05 U	0.05 UJ	0.05 U	0.09 U	0.07 U	0.05 UJ	0.05 U	0.05 UJ
NAPHTHALENE	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
PHENANTHRENE	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
PYRENE	0.06 U	0.06 J	0.06 U	0.06 U	0.06 J	0.045 J	0.06 U	0.06 U	0.06 U

LOCATION	NASB-BG-SW-04	NASB-BG-SW-05	NASB-BG-SW-05	NASB-BG-SW-06	NASB-BG-SW-06	NASB-BG-SW-06	NASB-BG-SW-06	NASB-BG-SW-07	NASB-BG-SW-07
SAMPLE ID	NASB-BG-SW-04-040610	NASB-BG-SW05-090809	NASB-BG-SW-05-040610	NASB-BG-SW06-090809	NASB-BG-SW06-090809-D	NASB-BG-SW06-090809-AVG	NASB-BG-SW-06-040610	NASB-BG-SW07-090809	NASB-BG-SW-07-040610
SAMPLE DATE	4/6/2010	9/8/2009	4/6/2010	9/8/2009	9/8/2009	9/8/2009	4/6/2010	9/8/2009	4/6/2010

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LOCATION	NASB-BG-SW-08	NASB-BG-SW-08	NASB-BG-SW-09	NASB-BG-SW-09	NASB-BG-SW-09	NASB-BG-SW-09	NASB-BG-SW-10	NASB-BG-SW-10	NASB-BG-SW-11
SAMPLE ID	NASB-BG-SW08-090809	NASB-BG-SW-08-040610	NASB-BG-SW09-090309	NASB-BG-SW-09-040810-D	NASB-BG-SW-09-040810	NASB-BG-SW-09-040810-AVG	NASB-BG-SW10-090309	NASB-BG-SW-10-040810	NASB-BG-SW11-090309
SAMPLE DATE	9/8/2009	4/6/2010	9/3/2009	4/8/2010	4/8/2010	4/8/2010	9/3/2009	4/8/2010	9/3/2009
METALS (UG/L)									
ALUMINUM	308 J	56.2 UJ	138 J	104 J	99.6 J	101.8 J	60.3 J	95.7 J	59.5 J
ANTIMONY	0.26 UJ	0.15 UJ	0.15 U	0.15 UJ	0.17 UJ	0.16 UJ	0.15 U	0.15 UJ	0.15 U
ARSENIC	1.8 J	1.4 UJ	2.4 J	2.8 UJ	0.80 U	1.8 UJ	1.50 U	2.4 UJ	2.0 J
BARIUM	41.7	25.3	27.6	23.1	23.8	23.45	25.0	23.3	25.2
BERYLLIUM	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
CADMIUM	0.07 UJ	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
CALCIUM	11300	8790	9570	8770	8910	8840	9330	8910	9310
CHROMIUM	1.6 J	3.8 UJ	1.7 J	2.2 UJ	2.9 UJ	2.55 UJ	1.5 J	3.5 U	1.2 J
COBALT	0.96 J	0.23 UJ	0.19 J	0.20 UJ	0.21 UJ	0.205 UJ	0.14 J	0.18 UJ	0.11 J
COPPER	1.3 U	0.92 UJ	0.69 UJ	0.84 UJ	0.78 UJ	0.81 UJ	0.64 UJ	0.92 UJ	1.2 U
IRON	880	141	655	204	202	203	478	192	472
LEAD	3.0 J	0.24 J	0.94 UJ	0.40 J	0.46 J	0.43 J	0.50 UJ	0.34 J	0.62 UJ
MAGNESIUM	2350	1450	2090	1730	1760	1745	2020	1750	2000
MANGANESE	110	47.3	109	45.9	44.2	45.05	83.3	45.4	83.9
MERCURY	0.02 U	0.02 U	0.02 U	0.02 UJ	0.02 U	0.02 UJ	0.02 U	0.04 UJ	0.02 U
NICKEL	2.3	1.1	1.4	1.7	1.7	1.7	1.0 U	1.6	1.2 U
POTASSIUM	2870	2540	2280	2140	2180	2160	2290	2130	2230
SELENIUM	0.80 U	0.50 U	0.80 U	0.50 U	0.50 U	0.50 U	0.80 U	0.50 U	0.80 U
SILVER	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
SODIUM	34000 J	26200	27500 J	25800	26200	26000	27100 J	26000	26600 J
THALLIUM	0.10 U	0.05 U	0.10 U	0.05 U	0.05 U	0.05 U	0.10 U	0.05 U	0.10 U
VANADIUM	2.0 UJ	1.8 UJ	1.6 UJ	1.9 UJ	1.3 UJ	1.6 UJ	1.4 UJ	2.5 UJ	1.3 UJ
ZINC	11.8	4.9 J	3.55 U	6 UJ	5.6 UJ	5.8 UJ	3.55 U	5.4 UJ	3.55 U
DISSOLVED METALS (UG/L)									
ALUMINUM	11.35 UJ	35.5 UJ	11.35 UJ	56.7 UJ	50.5 UJ	53.6 UJ	11.35 UJ	53.5 UJ	11.35 UJ
ANTIMONY	0.15 UJ	0.11 UJ	0.15 U	0.17 UJ	0.13 UJ	0.15 UJ	0.15 U	0.14 UJ	0.15 U
ARSENIC	1.50 U	2.3 UJ	2.7 J	1.9 UJ	1.8 UJ	1.85 UJ	1.5 J	0.83 UJ	1.50 U
BARIUM	37.7	25.3	24.0	23.2	23.5	23.35	24.9	23.2	26.5
BERYLLIUM	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
CADMIUM	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
CALCIUM	11000	8970	9320	9110	8980	9045	9140	8990	9300
CHROMIUM	0.65 J	4.4 UJ	1.5 J	2.5 UJ	2.6 UJ	2.55 UJ	1.4 J	1.4 UJ	1.2 J
COBALT	0.21 J	0.20 UJ	0.10 U	0.14 UJ	0.15 UJ	0.145 UJ	0.10 U	0.15 UJ	0.10 U
COPPER	1.4 U	1.1 U	0.69 UJ	0.95 UJ	0.86 UJ	0.905 UJ	0.68 UJ	1.1 U	0.76 U
IRON	63.1 UJ	43.9 J	72.2 UJ	68.3 J	68.9 J	68.6 J	75.9 UJ	62.5 J	68.9 UJ
LEAD	0.18 UJ	0.14 J	0.05 U	0.16 UJ	0.10 U	0.13 UJ	0.05 U	0.13 UJ	0.05 U
MAGNESIUM	2200	1480	2020	1780	1750	1765	1990	1760	2010
MANGANESE	80.8	47.4	73.2	40.1	38.4	39.25	72.1	39	73.8
MERCURY	0.02 U	0.02 U	0.02 U	0.02 UJ	0.02 U	0.02 UJ	0.02 U	0.02 UJ	0.02 U
NICKEL	2.6	1.4	0.97 UJ	1.8	1.7	1.75	0.75 UJ	1.8	1.0 U
POTASSIUM	2910	2550	2290	2210	2170	2190	2280	2130	2280
SELENIUM	0.80 U	0.50 U	0.80 U	0.50 U	0.50 U	0.50 U	0.80 U	0.50 U	1.5 UJ
SILVER	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
SODIUM	33600	26400	27100	26500	26100	26300	26800	26200	27100
THALLIUM	0.10 U	0.05 U	0.10 U	0.05 U	0.05 U	0.05 U	0.10 U	0.05 U	0.10 U
VANADIUM	1.0 UJ	2 UJ	1.0 UJ	1.4 UJ	1.1 UJ	1.25 UJ	0.97 UJ	1.1 UJ	0.97 UJ
ZINC	6.3 J	6.6 J	3.55 U	7.2 UJ	5.8 UJ	6.5 UJ	3.55 U	6.3 UJ	3.55 U
POLYCYCLIC AROMATIC HYDROCARBONS (UG/L)									
2-METHYLNAPHTHALENE	0.07 U	0.07 UJ	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.08 U	0.08 U
ACENAPHTHENE	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
ACENAPHTHYLENE	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
ANTHRACENE	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
BENZO(A)ANTHRACENE	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
BENZO(A)PYRENE	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
BENZO(B)FLUORANTHENE	0.08 U	0.09 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.09 U	0.09 U
BENZO(G,H,I)PERYLENE	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
BENZO(K)FLUORANTHENE	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
CHRYSENE	0.03 U	0.03 U	0.05 U	0.03 U	0.03 U	0.03 U	0.03 U	0.04 U	0.04 U
DIBENZO(A,H)ANTHRACENE	0.07 UJ	0.07 UJ	0.07 UJ	0.07 U	0.07 U	0.07 U	0.07 UJ	0.07 U	0.07 UJ
FLUORANTHENE	0.07 U	0.07 U	0.08 J	0.07 UJ	0.07 UJ	0.07 UJ	0.07 U	0.07 UJ	0.07 U
FLUORENE	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
INDENO(1,2,3-CD)PYRENE	0.05 U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
NAPHTHALENE	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
PHENANTHRENE	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
PYRENE	0.06 U	0.06 U	0.06 UJ	0.06 U	0.06 U	0.06 U	0.06 UJ	0.06 U	0.06 UJ

LOCATION	NASB-BG-SW-08	NASB-BG-SW-08	NASB-BG-SW-09	NASB-BG-SW-09	NASB-BG-SW-09	NASB-BG-SW-09	NASB-BG-SW-10	NASB-BG-SW-10	NASB-BG-SW-11
SAMPLE ID	NASB-BG-SW08-090809	NASB-BG-SW-08-040610	NASB-BG-SW09-090309	NASB-BG-SW-09-040810-D	NASB-BG-SW-09-040810	NASB-BG-SW-09-040810-AVG	NASB-BG-SW10-090309	NASB-BG-SW-10-040810	NASB-BG-SW11-090309
SAMPLE DATE	9/8/2009	4/6/2010	9/3/2009	4/8/2010	4/8/2010	4/8/2010	9/3/2009	4/8/2010	9/3/2009

SURFACE WATER Footnotes:

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LOCATION	NASB-BG-SW-11	NASB-BG-SW-12	NASB-BG-SW-12	NASB-BG-SW-13	NASB-BG-SW-13	NASB-BG-SW-14	NASB-BG-SW-14	NASB-BG-SW-15	NASB-BG-SW-15
SAMPLE ID	NASB-BG-SW-11-040810	NASB-BG-SW12-090309	NASB-BG-SW-12-040810	NASB-BG-SW13-090309	NASB-BG-SW-13-040810	NASB-BG-SW14-090309	NASB-BG-SW-14-040810	NASB-BG-SW15-090309	NASB-BG-SW15-090309-D
SAMPLE DATE	4/8/2010	9/3/2009	4/8/2010	9/3/2009	4/8/2010	9/3/2009	4/8/2010	9/3/2009	9/3/2009
METALS (UG/L)									
ALUMINUM	97.8 J	68.6 J	120 J	70.3 J	106 J	51.3 J	107 J	151 J	81.8 J
ANTIMONY	0.16 UJ	0.15 U	0.10 U	0.15 U	0.13 UJ	0.15 U	0.12 UJ	0.28 UJ	0.15 U
ARSENIC	2.8 UJ	3.2 J	1.8 UJ	1.9 J	1.8 UJ	2.2 J	1.1 UJ	1.50 U	3.3 J
BARIUM	22.8	25.3	24.1	26.7	23.2	16.2	23.3	27.4	25.7
BERYLLIUM	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
CADMIUM	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 U
CALCIUM	8600	9080	8800	9260	8480	9510	8600	9060	9380
CHROMIUM	3.8 U	1.7 J	3.2 U	1.6 J	3.1 U	1.0 J	2.8 UJ	1.4 J	1.6 J
COBALT	0.20 UJ	0.14 J	0.24 UJ	0.16 J	0.16 UJ	0.11 J	0.18 UJ	0.21 J	0.12 J
COPPER	1 U	0.90 UJ	0.85 UJ	0.96 UJ	1.5 U	0.93 UJ	1 U	0.78 UJ	1.0 U
IRON	200	477	227	479	213	536	218	567	485
LEAD	0.35 J	1.6 J	0.50 J	0.80 UJ	0.40 J	0.38 UJ	0.40 J	4.0 J	0.53 UJ
MAGNESIUM	1700	1980	1750	2010	1680	2080	1700	1990	2050
MANGANESE	43	82.0	47	82.8	42.3	91.8	42.8	94.0	83.4
MERCURY	0.03 UJ	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 UJ	0.02 U	0.02 U
NICKEL	1.6	0.91 UJ	1.7	1.0 U	1.7	0.60 UJ	2.1	1.3	1.0 U
POTASSIUM	2080	2260	2070	2300	2000	1410	2070	2260	2300
SELENIUM	0.50 U	1.3 UJ	0.50 U	1.1 UJ	0.50 U	0.80 U	0.50 U	0.80 U	0.80 U
SILVER	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
SODIUM	25200	26400 J	25700	27000 J	24800	27500 J	25000	26200 J	27300 J
THALLIUM	0.05 U	0.10 U	0.05 U	0.10 U	0.05 U	0.21 UJ	0.05 U	0.37 UJ	0.10 U
VANADIUM	2.3 UJ	1.4 UJ	2.1 UJ	0.96 UJ	2.1 UJ	0.82 UJ	1.6 UJ	1.0 UJ	0.94 UJ
ZINC	6.9 UJ	16.0	6.2 UJ	3.55 U	6.3 UJ	3.55 U	6.8 UJ	67.4	3.55 U
DISSOLVED METALS (UG/L)									
ALUMINUM	53 UJ	12.1 J	58.2 UJ	12.2 J	60.2 UJ	12.5 J	59.7 UJ	16.5 J	11.35 UJ
ANTIMONY	0.18 UJ	0.15 U	0.15 UJ	0.15 U	0.11 UJ	0.15 U	0.12 UJ	0.16 UJ	0.18 UJ
ARSENIC	1.8 UJ	1.50 U	1.6 UJ	1.7 J	1.2 UJ	1.50 U	0.90 UJ	1.5 J	2.1 J
BARIUM	23.4	24.3	22.7	25.2	22.4	24.0	23.2	24.6	25.4
BERYLLIUM	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
CADMIUM	0.05 U	0.05 U	0.07 J	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
CALCIUM	9020	9260	8670	9820	8670	9320	8670	9370	9570
CHROMIUM	3.6 U	1.4 J	2.8 UJ	1.4 J	3.3 U	1.3 J	3.1 U	1.2 J	1.3 J
COBALT	0.16 UJ	0.11 J	0.22 UJ	0.10 J	0.16 UJ	0.10 U	0.14 UJ	0.12 J	0.12 J
COPPER	0.89 UJ	0.95 UJ	1.3 U	1.6 UJ	1.1 U	1.3 U	1.2 U	1.0 U	1.2 U
IRON	69.2 J	66.3 UJ	85.7 J	93.6 UJ	84 J	75.9 UJ	81.8 J	79.7 UJ	82.8 UJ
LEAD	0.22 UJ	0.07 UJ	0.21 UJ	0.39 UJ	0.14 UJ	0.11 UJ	0.14 UJ	0.11 UJ	0.1 UJ
MAGNESIUM	1760	2010	1690	2120	1710	2020	1710	2030	2080
MANGANESE	38.5	71.7	37.6	77.2	37.6	74.8	37.3	75.5	75.5
MERCURY	0.03 UJ	0.02 U	0.03 UJ	0.02 U	0.02 UJ	0.02 U	0.02 UJ	0.02 U	0.02 U
NICKEL	1.7	0.92 UJ	1.9	0.96 UJ	1.7	0.94 UJ	1.6	0.82 UJ	0.90 UJ
POTASSIUM	2150	2260	2070	2320	2090	2250	2080	2200	2360
SELENIUM	0.50 U	2.1 UJ	0.50 U	0.80 U	0.50 U	1.4 UJ	0.50 U	1.5 UJ	0.80 U
SILVER	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
SODIUM	26100	26800	25000	28200	25300	27200	25300	27200	27600
THALLIUM	0.05 U	0.10 U	0.05 U	0.10 U	0.05 U	0.16 UJ	0.05 U	0.26 UJ	0.10 U
VANADIUM	1.8 UJ	0.91 UJ	1.7 UJ	0.70 U	2 UJ	0.86 UJ	1.6 UJ	0.70 U	0.95 UJ
ZINC	6.3 UJ	3.55 U	6.6 UJ	3.55 U	5.9 UJ	3.55 U	6.8 UJ	3.55 U	3.55 U
POLYCYCLIC AROMATIC HYDROCARBONS (UG/L)									
2-METHYLNAPHTHALENE	0.08 U	0.07 U	0.07 UJ	0.07 U	0.08 U	0.08 U	0.08 U	0.07 U	0.07 U
ACENAPHTHENE	0.06 U	0.06 U	0.06 U	0.06 U	0.07 U	0.06 U	0.06 U	0.06 U	0.06 U
ACENAPHTHYLENE	0.05 U	0.05 U	0.05 U	0.05 U	0.06 U	0.05 U	0.05 U	0.05 U	0.05 U
ANTHRACENE	0.04 U	0.04 U	0.04 UJ	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
BENZO(A)ANTHRACENE	0.04 U	0.04 U	0.04 U	0.04 U	0.05 U	0.05 J	0.04 U	0.04 U	0.04 U
BENZO(A)PYRENE	0.06 U	0.06 U	0.06 U	0.06 U	0.07 U	0.07 U	0.06 U	0.06 U	0.06 U
BENZO(B)FLUORANTHENE	0.09 U	0.09 U	0.09 U	0.08 U	0.09 U	0.09 U	0.09 U	0.08 U	0.08 U
BENZO(G,H,I)PERYLENE	0.06 U	0.10 U	0.06 U	0.06 U	0.07 U	0.10 U	0.06 U	0.06 U	0.06 U
BENZO(K)FLUORANTHENE	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
CHRYSENE	0.04 U	0.04 U	0.03 U	0.03 U	0.04 U	0.08 U	0.04 U	0.03 U	0.03 U
DIBENZO(A,H)ANTHRACENE	0.07 U	0.07 UJ	0.07 U	0.07 UJ	0.07 U	0.2 J	0.07 U	0.07 UJ	0.07 UJ
FLUORANTHENE	0.07 UJ	0.07 U	0.07 UJ	0.07 U	0.08 UJ	0.07 U	0.07 UJ	0.07 U	0.07 U
FLUORENE	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
INDENO(1,2,3-CD)PYRENE	0.05 U	0.09 U	0.05 U	0.05 U	0.05 U	0.08 U	0.05 U	0.05 U	0.05 U
NAPHTHALENE	0.06 U	0.06 U	0.06 U	0.06 U	0.07 U	0.06 U	0.06 U	0.06 U	0.06 U
PHENANTHRENE	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
PYRENE	0.06 U	0.06 UJ	0.06 U	0.06 UJ	0.06 U	0.06 UJ	0.06 U	0.06 UJ	0.06 UJ

LOCATION	NASB-BG-SW-11	NASB-BG-SW-12	NASB-BG-SW-12	NASB-BG-SW-13	NASB-BG-SW-13	NASB-BG-SW-14	NASB-BG-SW-14	NASB-BG-SW-15	NASB-BG-SW-15
SAMPLE ID	NASB-BG-SW-11-040810	NASB-BG-SW12-090309	NASB-BG-SW-12-040810	NASB-BG-SW13-090309	NASB-BG-SW-13-040810	NASB-BG-SW14-090309	NASB-BG-SW-14-040810	NASB-BG-SW15-090309	NASB-BG-SW15-090309-D
SAMPLE DATE	4/8/2010	9/3/2009	4/8/2010	9/3/2009	4/8/2010	9/3/2009	4/8/2010	9/3/2009	9/3/2009

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LOCATION	NASB-BG-SW-15	NASB-BG-SW-15	NASB-BG-SW-16	NASB-BG-SW-16
SAMPLE ID	NASB-BG-SW15-090309-AVG	NASB-BG-SW-15-040810	NASB-BG-SW16-090309	NASB-BG-SW-16-040810
SAMPLE DATE	9/3/2009	4/8/2010	9/3/2009	4/8/2010
METALS (UG/L)				
ALUMINUM	116.4 J	101 J	97.1 J	100 J
ANTIMONY	0.215 UJ	0.10 UJ	0.15 U	0.15 UJ
ARSENIC	2.025 J	1.3 UJ	1.50 U	2.9 UJ
BARIUM	26.55	22.3	26.8	23.4
BERYLLIUM	0.05 U	0.05 U	0.05 U	0.05 U
CADMIUM	0.05 UJ	0.05 U	0.05 U	0.05 J
CALCIUM	9220	8260	9670	8850
CHROMIUM	1.5 J	2.5 UJ	2.3 J	4.2 U
COBALT	0.165 J	0.18 UJ	0.12 J	0.22 UJ
COPPER	0.89 UJ	0.89 UJ	0.79 UJ	1.1 U
IRON	526	201	501	214
LEAD	2.1325 J	0.36 J	0.60 UJ	0.49 J
MAGNESIUM	2020	1630	2110	1740
MANGANESE	88.7	40.7	85.8	42.3
MERCURY	0.02 U	0.02 U	0.02 U	0.03 UJ
NICKEL	0.90	1.7	1.0 UJ	1.8
POTASSIUM	2280	2010	2490	2080
SELENIUM	0.80 U	0.50 U	0.80 U	0.50 U
SILVER	0.05 U	0.05 U	0.05 U	0.05 U
SODIUM	26750 J	24000	28200 J	25600
THALLIUM	0.235 UJ	0.05 U	0.10 U	0.05 U
VANADIUM	0.97 UJ	1.6 UJ	1.8 UJ	1.7 UJ
ZINC	34.5875	6.7 UJ	3.55 U	7.5 UJ
DISSOLVED METALS (UG/L)				
ALUMINUM	11.0875 J	56.6 UJ	27.5 J	57.3 UJ
ANTIMONY	0.17 UJ	0.11 UJ	0.15 U	0.10 UJ
ARSENIC	1.8 J	1.5 UJ	2.0 J	1.2 UJ
BARIUM	25	22.4	26.2	21.9
BERYLLIUM	0.05 U	0.05 U	0.05 U	0.05 U
CADMIUM	0.05 U	0.05 U	0.05 U	0.05 U
CALCIUM	9470	8620	9620	8400
CHROMIUM	1.25 J	2.8 UJ	1.4 J	1.5 UJ
COBALT	0.12 J	0.13 UJ	0.12 J	0.14 UJ
COPPER	1.1 U	1.5 U	1.1 U	0.98 UJ
IRON	81.25 UJ	74.2 J	78.4 UJ	82.1 J
LEAD	0.105 UJ	0.16 UJ	0.06 UJ	0.17 UJ
MAGNESIUM	2055	1700	2080	1650
MANGANESE	75.5	38.4	75.7	35.9
MERCURY	0.02 U	0.03 UJ	0.02 U	0.03 UJ
NICKEL	0.86 UJ	1.7	1.0 U	1.7
POTASSIUM	2280	2100	2350	1990
SELENIUM	1.15 UJ	0.50 U	0.80 U	0.50 U
SILVER	0.05 U	0.05 U	0.05 U	0.05 U
SODIUM	27400	25000	27800	24300
THALLIUM	0.18 UJ	0.05 U	0.10 U	0.05 U
VANADIUM	0.825 UJ	1.7 UJ	0.98 UJ	0.61 UJ
ZINC	3.55 U	6.4 UJ	3.55 U	6.7 UJ
POLYCYCLIC AROMATIC HYDROCARBONS (UG/L)				
2-METHYLNAPHTHALENE	0.07 U	0.07 U	0.07 U	0.07 U
ACENAPHTHENE	0.06 U	0.06 U	0.06 U	0.06 U
ACENAPHTHYLENE	0.05 U	0.05 UJ	0.05 U	0.05 U
ANTHRACENE	0.04 U	0.04 UJ	0.04 U	0.04 U
BENZO(A)ANTHRACENE	0.04 U	0.04 UJ	0.04 U	0.04 U
BENZO(A)PYRENE	0.06 U	0.06 U	0.06 U	0.06 U
BENZO(B)FLUORANTHENE	0.08 U	0.09 U	0.09 U	0.08 U
BENZO(G,H,I)PERYLENE	0.06 U	0.06 U	0.06 U	0.06 U
BENZO(K)FLUORANTHENE	0.05 U	0.05 U	0.05 U	0.05 U
CHRYSENE	0.03 U	0.03 U	0.03 U	0.03 U
DIBENZO(A,H)ANTHRACENE	0.07 UJ	0.07 U	0.07 UJ	0.07 U
FLUORANTHENE	0.07 U	0.07 UJ	0.07 U	0.07 UJ
FLUORENE	0.06 U	0.06 UJ	0.06 U	0.06 U
INDENO(1,2,3-CD)PYRENE	0.05 U	0.05 U	0.05 U	0.05 U
NAPHTHALENE	0.06 U	0.06 U	0.06 U	0.06 U
PHENANTHRENE	0.05 U	0.05 UJ	0.05 U	0.05 U
PYRENE	0.06 UJ	0.06 UJ	0.06 UJ	0.06 U

LOCATION	NASB-BG-SW-15	NASB-BG-SW-15	NASB-BG-SW-16	NASB-BG-SW-16
SAMPLE ID	NASB-BG-SW15-090309-AVG	NASB-BG-SW-15-040810	NASB-BG-SW16-090309	NASB-BG-SW-16-040810
SAMPLE DATE	9/3/2009	4/8/2010	9/3/2009	4/8/2010

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LOCATION	NASB-BG-SD-01	NASB-BG-SD-01	NASB-BG-SD-02	NASB-BG-SD-02	NASB-BG-SD-03	NASB-BG-SD-03
SAMPLE ID	NASB-BG-SD01-0006	NASB-BG-SD-01-0006	NASB-BG-SD02-0006	NASB-BG-SD-02-0006	NASB-BG-SD03-0006	NASB-BG-SD-03-0006-D
SAMPLE DATE	9/8/2009	4/7/2010	9/8/2009	4/7/2010	9/8/2009	4/7/2010
HERBICIDES (UG/KG)						
2,4,5-T	25 UJ	16 U	25 U	16 U	33 U	24 U
2,4,5-TP (SILVEX)	20 UJ	13 U	62 J	13 U	26 U	19 U
2,4-D	51 UJ	33 U	50 U	33 U	66 U	49 U
2,4-DB	150 UJ	24 U	150 U	24 U	200 U	36 U
DALAPON	13 UJ	8.5 U	13 U	8.5 U	17 U	13 U
DICAMBA	17 UJ	11 U	17 U	11 U	23 U	17 U
DICHLOROPROP	30 UJ	19 U	30 U	19 U	39 U	29 U
DINOSEB	4.1 UJ	2.6 U	4.0 U	2.6 U	5.3 U	3.9 U
MCPA	3700 UJ	2400 U	29000 UJ	2400 U	4800 U	3600 U
MCPP	23000 J	2300 U	3500 U	2300 U	4600 U	3400 U
METALS (MG/KG)						
ALUMINUM	18100	18300	17600	19500	14700	18200
ANTIMONY	0.10 UJ	0.10 UJ	0.54 J	0.25 UJ	0.26 J	0.11 UJ
ARSENIC	17.3	12.5	10.8	22.1	8.3	13.8
BARIUM	182	106	220	223	58.1	116
BERYLLIUM	2.0	1.6	1.9	1.9	1.5	1.6
CADMIUM	2.6	2.6	2.5	2.4	2.2	2.6
CALCIUM	5490	5780 J	6750	5950 J	5910	5770 J
CHROMIUM	51.8	56 J	34.2	65.9 J	49.4	55.4 J
COBALT	11.1	7.4	7.1	14.6	5.5	8
COPPER	49.1	48.1	50.6	57.9	40.7	47.3
IRON	18800	14700	18300	28400	11100	16900
LEAD	134 J	139 J	62.7 J	131 J	133 J	139 J
MAGNESIUM	6320	6070	3840	7620	5420	5890
MANGANESE	233	219 J	278	543 J	156	271 J
MERCURY	0.18	0.17	0.20	0.20	0.17	0.17
NICKEL	38.0	33.4	25.5	52.8	26.2	34
POTASSIUM	2880 J	2760	3860 J	3310	2270 J	2810
SELENIUM	2.2	2.7	2.4	2.4	2.4	3
SILVER	0.19	0.19	0.28	0.20	0.16	0.19
SODIUM	343	430	551	366	282	488
THALLIUM	0.09 U	0.40 J	0.75 J	0.32 U	0.38 UJ	0.32 J
VANADIUM	59.5	58.6	36.0	69.4	44.5	57.2
ZINC	291 J	245	285 J	276	214 J	203
MISCELLANEOUS PARAMETERS						
PERCENT SOLIDS (%)	95.4	98.1	96.6	98.1	97.8	99
PERCENT COARSE SAND (%)	3	0.50	0.3	0.30	1.3	2.4
PERCENT FINE SAND (%)	7.4	6.3	5.8	13	8.9	10.2
PERCENT FINES (%)	87.3	92.3	90.1	79.5	85.5	85.1
PERCENT GRAVEL (%)	0 U	0.10	0 U	0.10	0 U	1.3
PERCENT MEDIUM SAND (%)	2.3	0.90	3.8	7.1	4.3	0.90
PERCENT SAND (%)	--	7.7	--	20.5	--	13.6
SIEVE 1" (%)	100	100	100	100	100	100
SIEVE 1-1/2" (%)	100	100	100	100	100	100
SIEVE 2" (%)	100	100	100	100	100	100
SIEVE 3" (%)	100	100	100	100	100	100
SIEVE 3/4" (%)	100	100	100	100	100	100
SIEVE 3/8" (%)	100	100	100	99.9	100	99.4
SIEVE NO. 004 (%)	100	99.9	100	99.9	100	98.7
SIEVE NO. 010 (%)	97	99.5	99.7	99.6	98.7	96.3
SIEVE NO. 020 (%)	96.1	99.5	98.1	98.6	97.5	96.3

LOCATION	NASB-BG-SD-01	NASB-BG-SD-01	NASB-BG-SD-02	NASB-BG-SD-02	NASB-BG-SD-03	NASB-BG-SD-03
SAMPLE ID	NASB-BG-SD01-0006	NASB-BG-SD-01-0006	NASB-BG-SD02-0006	NASB-BG-SD-02-0006	NASB-BG-SD03-0006	NASB-BG-SD-03-0006-D
SAMPLE DATE	9/8/2009	4/7/2010	9/8/2009	4/7/2010	9/8/2009	4/7/2010
SIEVE NO. 040 (%)	94.7	98.6	95.9	92.5	94.4	95.4
SIEVE NO. 060 (%)	93.1	97.3	94.2	88.1	91.9	93.8
SIEVE NO. 080 (%)	92.1	96.3	93.5	85.6	90.6	92.3
SIEVE NO. 100 (%)	91.5	96	93	84.6	89.7	91.9
SIEVE NO. 200 (%)	87.3	92.3	90.1	79.5	85.5	85.1
TOTAL ORGANIC CARBON (MG/KG)	190000	180000 J	200000	200000 J	160000	220000 J
POLYCYCLIC AROMATIC HYDROCARBONS (UG/KG)						
2-METHYLNAPHTHALENE	44 J	40 J	18 J	25 J	26 J	29 J
ACENAPHTHENE	170	64	43	45	32	42
ACENAPHTHYLENE	470	190 J	180	170	230	150 J
ANTHRACENE	450	260	170 J	140	150	180
BENZO(A)ANTHRACENE	5100	1900	1600	1500	1500	1400 J
BENZO(A)PYRENE	7400	3100 J	2500	2500 J	2300	2400 J
BENZO(B)FLUORANTHENE	8900	4900 J	3000	4100 J	2500	3800 J
BENZO(G,H,I)PERYLENE	5700	2800 J	2200	2400 J	2000	2400 J
BENZO(K)FLUORANTHENE	9500	1800 J	2800	1500 J	2600	1400 J
CHRYSENE	10000	3600	3200	2900	2800	2700 J
DIBENZO(A,H)ANTHRACENE	1400 J	660 J	560	580 J	530	240 J
FLUORANTHENE	15000 J	4700	4500	3600	4100	3200
FLUORENE	360	160	86	83	76	110
INDENO(1,2,3-CD)PYRENE	5300 J	3100 J	2100	2800 J	1900	2600 J
NAPHTHALENE	100 J	42	21	25	27	31
PHENANTHRENE	7000	2400	1800	1600	1600	1600
PYRENE	15000	7700	4400	5900	3900	5700 J
PESTICIDES/PCBS (UG/KG)						
4,4'-DDD	71 J	88 J	79 J	47 J	110 J	71 J
4,4'-DDE	26	28	32	15 J	36	23 J
4,4'-DDT	27 J	23 J	34 J	10 J	64 J	17 J
ALDRIN	0.29 UJ	0.28 UJ	0.35 UJ	0.28 UJ	0.43 UJ	0.28 UJ
ALPHA-BHC	0.36 UJ	0.35 UJ	0.42 UJ	0.34 UJ	0.52 UJ	0.34 UJ
ALPHA-CHLORDANE	11 J	11 J	18 J	6.8 J	14 J	8.4 J
BETA-BHC	0.34 UJ	0.34 UJ	0.41 UJ	0.33 UJ	0.51 UJ	0.33 UJ
DELTA-BHC	1.8 J	0.33 UJ	1.9 J	0.32 UJ	2.8 UJ	0.32 UJ
DIELDRIN	0.23 U	0.22 U	0.27 U	0.22 UJ	0.34 U	0.22 U
ENDOSULFAN I	0.25 U	40 UJ	0.30 U	19 UJ	0.37 U	34 UJ
ENDOSULFAN II	9.8 J	0.35 U	10 UJ	0.34 UJ	16 UJ	0.34 U
ENDOSULFAN SULFATE	0.61 UJ	0.59 UJ	0.72 UJ	0.59 UJ	0.89 UJ	0.58 UJ
ENDRIN	0.89 U	0.87 U	1.0 U	0.86 UJ	1.3 U	0.86 U
ENDRIN ALDEHYDE	0.51 U	0.50 U	0.61 U	0.50 UJ	0.75 U	0.49 U
ENDRIN KETONE	0.42 U	0.41 UJ	0.50 U	0.40 UJ	0.61 U	0.40 UJ
GAMMA-BHC (LINDANE)	0.28 UJ	0.28 UJ	0.34 UJ	0.27 UJ	0.41 UJ	0.27 UJ
GAMMA-CHLORDANE	63 J	0.23 UJ	70 UJ	0.23 UJ	110 UJ	0.23 UJ
HEPTACHLOR	0.30 UJ	0.30 UJ	0.36 UJ	0.29 UJ	0.44 UJ	0.29 UJ
HEPTACHLOR EPOXIDE	0.23 UJ	0.22 UJ	0.27 UJ	0.22 UJ	0.34 UJ	0.22 UJ
METHOXYCHLOR	0.52 UJ	0.51 UJ	0.62 UJ	0.51 UJ	0.77 UJ	0.50 UJ
TOXAPHENE	7.3 U	7.1 U	8.7 U	7.1 UJ	11 U	7.1 U

SEDIMENT Footnotes:

-- = The chemical was not analyzed or no value was available.

Data Qualifiers:

Blank (i.e., no qualifier) = the chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

R = The chemical was rejected.

LOCATION	NASB-BG-SD-03	NASB-BG-SD-03	NASB-BG-SD-04	NASB-BG-SD-04	NASB-BG-SD-05	NASB-BG-SD-05
SAMPLE ID	NASB-BG-SD-03-0006-AVG	NASB-BG-SD-03-0006	NASB-BG-SD04-0006	NASB-BG-SD-04-0006	NASB-BG-SD05-0006	NASB-BG-SD05-0006-D
SAMPLE DATE	4/7/2010	4/7/2010	9/8/2009	4/7/2010	9/8/2009	9/8/2009
HERBICIDES (UG/KG)						
2,4,5-T	20 U	16 U	25 UJ	16 U	25 U	25 U
2,4,5-TP (SILVEX)	16 U	13 U	20 UJ	13 U	20 U	20 U
2,4-D	41 U	33 U	50 UJ	33 U	50 U	51 U
2,4-DB	30 U	24 U	150 UJ	24 U	150 U	150 U
DALAPON	10.7 U	8.4 U	13 UJ	8.4 U	13 U	13 U
DICAMBA	14 U	11 U	17 UJ	11 U	17 U	17 U
DICHLOROPROP	24 U	19 U	30 UJ	19 U	29 U	30 U
DINOSEB	3.25 U	2.6 U	4.0 UJ	2.6 U	4.0 U	36 J
MCPA	3000 U	2400 U	3600 UJ	2400 U	3600 U	3700 U
MCPP	2850 U	2300 U	3500 UJ	2200 U	3400 U	3500 U
METALS (MG/KG)						
ALUMINUM	18250	18300	22800	10600	19400	17800
ANTIMONY	0.19 UJ	0.27 UJ	0.76 J	0.09 UJ	0.24 UJ	0.45 J
ARSENIC	15.6	17.4	22.6	10.6	16.0	15.2
BARIUM	104	92	290	116	110	99.1
BERYLLIUM	1.6	1.6	2.3	0.92	1.8	1.7
CADMIUM	2.55	2.5	2.8	1.4	2.6	2.4
CALCIUM	6665 J	7560 J	7510	3690 J	5660	5240
CHROMIUM	56.4 J	57.4 J	76.7	30.4 J	60.2	56.7
COBALT	8.1	8.2	17.7	8.6	9.4	9.6
COPPER	47.55	47.8	66.5	29.1	49.6	45.6
IRON	15650	14400	31400	11700	17300	16100
LEAD	154 J	169 J	147 J	87 J	169 J	157 J
MAGNESIUM	6115	6340	8490	3760	6500	6080
MANGANESE	244.5 J	218 J	500	188 J	849	735
MERCURY	0.175	0.18	0.20	0.19	0.17	0.17
NICKEL	34	34	55.5	25	33.6	32.1
POTASSIUM	2850	2890	3950 J	1750	3290 J	3170 J
SELENIUM	2.75	2.5	2.4	1.3	2.5	2.3
SILVER	0.185	0.18	0.54	0.10	0.23	0.20
SODIUM	409	330	529	260	352	330
THALLIUM	0.30 J	0.28 J	1.6 J	0.46 J	0.47 UJ	0.32 UJ
VANADIUM	55.65	54.1	78.8	34.6	56.7	53.4
ZINC	220.5	238	366 J	188	273 J	256 J
MISCELLANEOUS PARAMETERS						
PERCENT SOLIDS (%)	98.9	98.7	96.4	97.3	96.8	95.5
PERCENT COARSE SAND (%)	1.45	0.50	1.8	0.20	1.7	1.1
PERCENT FINE SAND (%)	12.05	13.9	8.4	12.1	56	55.1
PERCENT FINES (%)	82.5	79.9	85.5	81.9	25.8	28.2
PERCENT GRAVEL (%)	0.90	0.50	0 U	0.60	0 U	0 U
PERCENT MEDIUM SAND (%)	3.05	5.2	4.3	5.2	16.5	15.6
PERCENT SAND (%)	16.6	19.6	--	17.5	--	--
SIEVE 1" (%)	100	100	100	100	100	100
SIEVE 1-1/2" (%)	100	100	100	100	100	100
SIEVE 2" (%)	100	100	100	100	100	100
SIEVE 3" (%)	100	100	100	100	100	100
SIEVE 3/4" (%)	99.85	99.7	100	99.7	100	100
SIEVE 3/8" (%)	99.5	99.6	100	99.6	100	100
SIEVE NO. 004 (%)	99.1	99.5	100	99.4	100	100
SIEVE NO. 010 (%)	97.65	99	98.2	99.2	98.3	98.9
SIEVE NO. 020 (%)	97.35	98.4	97.7	98.6	96.6	97.7

LOCATION	NASB-BG-SD-03	NASB-BG-SD-03	NASB-BG-SD-04	NASB-BG-SD-04	NASB-BG-SD-05	NASB-BG-SD-05
SAMPLE ID	NASB-BG-SD-03-0006-AVG	NASB-BG-SD-03-0006	NASB-BG-SD04-0006	NASB-BG-SD-04-0006	NASB-BG-SD05-0006	NASB-BG-SD05-0006-D
SAMPLE DATE	4/7/2010	4/7/2010	9/8/2009	4/7/2010	9/8/2009	9/8/2009
SIEVE NO. 040 (%)	94.6	93.8	93.9	94	81.7	83.3
SIEVE NO. 060 (%)	91.6	89.4	90.8	90.3	51.9	54.1
SIEVE NO. 080 (%)	89.5	86.7	89.4	88.2	39.7	42.1
SIEVE NO. 100 (%)	88.8	85.7	88.7	87.5	34.1	36.5
SIEVE NO. 200 (%)	82.5	79.9	85.5	81.9	25.8	28.2
TOTAL ORGANIC CARBON (MG/KG)	195000 J	170000 J	190000 J	180000 J	180000	150000
POLYCYCLIC AROMATIC HYDROCARBONS (UG/KG)						
2-METHYLNAPHTHALENE	30.5 J	32 J	16 J	30 J	48 J	48 J
ACENAPHTHENE	40	38	31 J	44	42	47
ACENAPHTHYLENE	185 J	220	120 J	240	410 J	270 J
ANTHRACENE	175	170	99 J	170	230	220
BENZO(A)ANTHRACENE	1350 J	1300	1100 J	1500	2700	2100
BENZO(A)PYRENE	2300 J	2200 J	1600 J	2400 J	3800	2800
BENZO(B)FLUORANTHENE	3600 J	3400 J	1800 J	3800 J	4600	3500
BENZO(G,H,I)PERYLENE	2200 J	2000 J	1400 J	2400 J	3400	2300
BENZO(K)FLUORANTHENE	1300 J	1200 J	1900 J	1400 J	3000	2200
CHRYSENE	2600 J	2500	2200 J	2900	3700	2900
DIBENZO(A,H)ANTHRACENE	355 J	470 J	350 J	620 J	1100	810
FLUORANTHENE	3200	3200	3300 J	3300	6800 J	5500 J
FLUORENE	97	84	68 J	91	110	120
INDENO(1,2,3-CD)PYRENE	2400 J	2200 J	1300 J	2600 J	3500	2400
NAPHTHALENE	31.5	32	20 J	32	44	43
PHENANTHRENE	1550	1500	1400 J	1300	2300	2000
PYRENE	5500 J	5300	3100 J	5800	6200	5000
PESTICIDES/PCBS (UG/KG)						
4,4'-DDD	56 J	41 J	82 J	56 J	110 J	130 J
4,4'-DDE	18 J	13 J	30	20 J	35	42
4,4'-DDT	13.5 J	10 J	17 J	11 J	30 J	31 J
ALDRIN	0.28 UJ	0.28 UJ	0.44 UJ	0.29 UJ	0.43 UJ	0.44 UJ
ALPHA-BHC	0.34 UJ	0.34 UJ	0.53 UJ	0.35 UJ	0.53 UJ	0.53 UJ
ALPHA-CHLORDANE	6.2 J	4 J	12 J	5.9 J	13 J	14 J
BETA-BHC	0.33 UJ	0.33 UJ	0.51 UJ	0.34 UJ	0.51 UJ	0.52 UJ
DELTA-BHC	0.32 UJ	0.32 UJ	2.3 J	1.6 J	3.2 J	3.4 J
DIELDRIN	0.22 UJ	0.22 UJ	0.34 U	0.22 UJ	0.34 U	0.34 U
ENDOSULFAN I	25.5 UJ	17 UJ	0.37 U	18 UJ	0.37 U	0.38 U
ENDOSULFAN II	0.34 UJ	0.34 UJ	11 UJ	0.35 UJ	16 UJ	19 UJ
ENDOSULFAN SULFATE	0.58 UJ	0.58 UJ	0.90 UJ	0.59 UJ	0.90 UJ	0.91 UJ
ENDRIN	0.855 UJ	0.85 UJ	1.3 U	0.87 UJ	1.3 U	1.3 U
ENDRIN ALDEHYDE	0.49 UJ	0.49 UJ	0.76 U	0.50 UJ	0.76 U	0.77 U
ENDRIN KETONE	0.40 UJ	0.40 UJ	0.62 UJ	0.41 UJ	0.62 UJ	0.63 UJ
GAMMA-BHC (LINDANE)	0.27 UJ	0.27 UJ	0.42 UJ	0.28 UJ	0.42 UJ	0.42 UJ
GAMMA-CHLORDANE	1.7075 J	3.3 J	69 UJ	0.24 UJ	89 UJ	93 UJ
HEPTACHLOR	0.29 UJ	0.29 UJ	0.45 UJ	0.30 UJ	0.45 UJ	0.46 UJ
HEPTACHLOR EPOXIDE	0.22 UJ	0.22 UJ	0.34 UJ	0.22 UJ	0.34 UJ	0.34 UJ
METHOXYCHLOR	0.50 UJ	0.50 UJ	0.78 UJ	0.51 UJ	0.78 UJ	0.78 UJ
TOXAPHENE	7.05 UJ	7 UJ	11 U	7.2 UJ	11 U	11 U

SEDIMENT Footnotes:

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LOCATION	NASB-BG-SD-05	NASB-BG-SD-05	NASB-BG-SD-06	NASB-BG-SD-06	NASB-BG-SD-07	NASB-BG-SD-07
SAMPLE ID	NASB-BG-SD05-0006-AVG	NASB-BG-SD-05-0006	NASB-BG-SD06-0006	NASB-BG-SD-06-0006	NASB-BG-SD07-0006	NASB-BG-SD-07-0006
SAMPLE DATE	9/8/2009	4/7/2010	9/8/2009	4/7/2010	9/8/2009	4/7/2010
HERBICIDES (UG/KG)						
2,4,5-T	25 U	20 U	20 U	18 U	24 U	22 U
2,4,5-TP (SILVEX)	20 U	16 U	16 U	14 U	70 J	17 U
2,4-D	50.5 U	40 U	40 U	37 U	50 U	44 U
2,4-DB	150 U	29 U	120 U	27 U	150 U	32 U
DALAPON	13 U	10 U	10 U	9.6 U	13 U	11 U
DICAMBA	17 U	14 U	14 U	13 U	17 U	15 U
DICHLOROPROP	29.5 U	23 U	23 U	22 U	29 U	26 U
DINOSEB	19 J	3.2 U	3.2 U	3 U	4.0 U	3.6 U
MCPA	3650 U	2900 U	2900 U	2700 U	3600 U	3200 U
MCPP	3450 U	2700 U	32000 J	2600 U	3400 U	3100 U
METALS (MG/KG)						
ALUMINUM	18600	21100	20100	19900	18200	21300
ANTIMONY	0.285 J	0.12 UJ	0.39 UJ	0.13 UJ	0.66 J	0.14 UJ
ARSENIC	15.6	12.7	18.7	17.2	17.9	23.5
BARIUM	104.55	126	228	214	187	251
BERYLLIUM	1.75	1.6	1.9	1.6	1.4	1.9
CADMIUM	2.5	3	2.6	2.4	1.8	3.9
CALCIUM	5450	6130 J	3540	4290 J	4900	8000 J
CHROMIUM	58.45	65.8 J	60.7	58.4 J	53.7	49.1 J
COBALT	9.5	9	12.8	12.2	18.2	24.2
COPPER	47.6	53.6	55.6	51	45.4	61.6
IRON	16700	14500	24400	20400	23500	25700
LEAD	163 J	208 J	175 J	154 J	104 J	232 J
MAGNESIUM	6290	6760	6890	6750	6620	5610
MANGANESE	792	210 J	359	296 J	552	625 J
MERCURY	0.17	0.17	0.19	0.18	0.13	0.25
NICKEL	32.85	38.5	42.7	42	44.5	50.4
POTASSIUM	3230 J	3290	3640 J	3530	3070 J	2900
SELENIUM	2.4	2.5	2.2	2.1	1.7	3.5
SILVER	0.215	0.17	0.23	0.18	0.30	0.21
SODIUM	341	383	360	381	510	949
THALLIUM	0.395 UJ	0.28 J	0.77 UJ	0.31 UJ	1.5 J	0.66 J
VANADIUM	55.05	61.7	65.7	62.7	56.1	68.4
ZINC	264.5 J	308	328 J	303	268 J	442
MISCELLANEOUS PARAMETERS						
PERCENT SOLIDS (%)	96.2	81.1	97.1	78.9	98	72.3
PERCENT COARSE SAND (%)	1.4	0.10	0.6	0.40	6.7	3.4
PERCENT FINE SAND (%)	55.55	9.6	12	17.7	23.3	18.4
PERCENT FINES (%)	27	84.3	86.5	79.3	62.2	67.2
PERCENT GRAVEL (%)	0.00 U	0.00	0 U	0.30	0 U	1.9
PERCENT MEDIUM SAND (%)	16.05	6	0.9	2.3	7.8	9.1
PERCENT SAND (%)	--	15.7	--	20.4	--	30.9
SIEVE 1" (%)	100	100	100	100	100	100
SIEVE 1-1/2" (%)	100	100	100	100	100	100
SIEVE 2" (%)	100	100	100	100	100	100
SIEVE 3" (%)	100	100	100	100	100	100
SIEVE 3/4" (%)	100	100	100	99.9	100	100
SIEVE 3/8" (%)	100	100	100	99.7	100	99.1
SIEVE NO. 004 (%)	100	100	100	99.7	100	98.1
SIEVE NO. 010 (%)	98.6	99.9	99.4	99.3	93.3	94.7
SIEVE NO. 020 (%)	97.15	99.2	99.4	99.1	92.3	93.5

LOCATION	NASB-BG-SD-05	NASB-BG-SD-05	NASB-BG-SD-06	NASB-BG-SD-06	NASB-BG-SD-07	NASB-BG-SD-07
SAMPLE ID	NASB-BG-SD05-0006-AVG	NASB-BG-SD-05-0006	NASB-BG-SD06-0006	NASB-BG-SD-06-0006	NASB-BG-SD07-0006	NASB-BG-SD-07-0006
SAMPLE DATE	9/8/2009	4/7/2010	9/8/2009	4/7/2010	9/8/2009	4/7/2010
SIEVE NO. 040 (%)	82.5	94	98.5	97	85.5	85.7
SIEVE NO. 060 (%)	53	90.5	97.3	95	78.3	78.9
SIEVE NO. 080 (%)	40.9	88.6	96	93	74	75.1
SIEVE NO. 100 (%)	35.3	87.9	94.7	91.4	71.3	74
SIEVE NO. 200 (%)	27	84.3	86.5	79.3	62.2	67.2
TOTAL ORGANIC CARBON (MG/KG)	165000	160000 J	170000	140000 J	150000	300000 J
POLYCYCLIC AROMATIC HYDROCARBONS (UG/KG)						
2-METHYLNAPHTHALENE	48 J	40 J	56 J	53 J	16 J	36 J
ACENAPHTHENE	44.5	52	57	79	26	42
ACENAPHTHYLENE	340 J	220 J	470 J	320	220	240
ANTHRACENE	225	180	240	270	120	160
BENZO(A)ANTHRACENE	2400	1900	2700	1800	1100	1100
BENZO(A)PYRENE	3300	3000 J	3900	2800 J	1600	2000
BENZO(B)FLUORANTHENE	4050	4800 J	4500	4600 J	1900	3300
BENZO(G,H,I)PERYLENE	2850	2500 J	3300	2700 J	1600	1800
BENZO(K)FLUORANTHENE	2600	1800 J	3100	1700 J	1400	1000
CHRYSENE	3300	3800	3700	3800	1600	2300
DIBENZO(A,H)ANTHRACENE	955	670 J	1100	660 J	470	280
FLUORANTHENE	6150 J	5000	7600 J	5200	3000 J	3100
FLUORENE	115	120	150	230	59	98
INDENO(1,2,3-CD)PYRENE	2950	2900 J	3400	2900 J	1600	2100
NAPHTHALENE	43.5	41	50	47	19 J	39
PHENANTHRENE	2150	2600	2600	2900	990	1600
PYRENE	5600	7900	6000	8000	2500	4800
PESTICIDES/PCBS (UG/KG)						
4,4'-DDD	120 J	85 J	130 J	190 J	46 J	85 J
4,4'-DDE	38.5	25 J	45	53	20	33
4,4'-DDT	30.5 J	17 J	36 J	39 J	17 J	29 J
ALDRIN	0.435 UJ	0.34 UJ	0.35 UJ	0.35 UJ	0.43 UJ	0.39 UJ
ALPHA-BHC	0.53 UJ	0.83 J	0.42 UJ	0.43 UJ	0.52 UJ	0.47 UJ
ALPHA-CHLORDANE	13.5 J	6.2 J	16 J	15 J	10 J	6.5 J
BETA-BHC	0.515 UJ	0.40 UJ	0.41 UJ	0.42 UJ	0.50 UJ	0.46 UJ
DELTA-BHC	3.3 J	0.39 UJ	3.2 J	4.9 J	1.7 J	3.3 J
DIELDRIN	0.34 U	0.27 UJ	0.27 U	0.28 U	0.34 U	0.30 U
ENDOSULFAN I	0.375 U	31 UJ	0.30 U	57 UJ	0.37 U	33 UJ
ENDOSULFAN II	17.5 UJ	0.42 UJ	19 UJ	0.43 U	7.1 UJ	0.47 U
ENDOSULFAN SULFATE	0.905 UJ	0.71 UJ	0.72 UJ	0.73 UJ	0.89 UJ	0.80 UJ
ENDRIN	1.3 U	1 UJ	1.0 U	1.1 U	1.3 U	8.3 UJ
ENDRIN ALDEHYDE	0.765 U	0.60 UJ	0.60 U	0.62 U	0.75 U	0.68 U
ENDRIN KETONE	0.625 UJ	0.49 UJ	0.49 UJ	0.50 UJ	0.61 UJ	0.55 UJ
GAMMA-BHC (LINDANE)	0.42 UJ	0.33 UJ	0.33 UJ	0.34 UJ	0.41 UJ	0.37 UJ
GAMMA-CHLORDANE	91 UJ	0.28 UJ	86 UJ	0.29 UJ	53 UJ	0.32 UJ
HEPTACHLOR	0.455 UJ	0.36 UJ	0.36 UJ	0.36 UJ	0.44 UJ	0.40 UJ
HEPTACHLOR EPOXIDE	0.34 UJ	0.27 UJ	0.27 UJ	0.28 UJ	0.34 UJ	0.30 UJ
METHOXYCHLOR	0.78 UJ	0.61 UJ	0.62 UJ	0.63 UJ	0.76 UJ	0.69 UJ
TOXAPHENE	11 U	8.6 UJ	8.6 U	8.8 U	11 U	9.7 U

SEDIMENT Footnotes:

-- = The chemical was not analyzed or no value was available.

Data Qualifiers:

Blank (i.e., no qualifier) = the chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

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R = The chemical was rejected.

LOCATION	NASB-BG-SD-08	NASB-BG-SD-08	NASB-BG-SD-09	NASB-BG-SD-09	NASB-BG-SD-09	NASB-BG-SD-09
SAMPLE ID	NASB-BG-SD08-0006	NASB-BG-SD-08-0006	NASB-BG-SD09-0006	NASB-BG-SD-09-0006	NASB-BG-SD-09-0006-AVG	NASB-BG-SD-09-0006-D
SAMPLE DATE	9/8/2009	4/7/2010	9/3/2009	4/8/2010	4/8/2010	4/8/2010
HERBICIDES (UG/KG)						
2,4,5-T	25 U	31 UJ	14 U	20 U	20 U	20 U
2,4,5-TP (SILVEX)	20 U	24 UJ	8.4 U	16 U	16 U	16 U
2,4-D	50 U	62 UJ	8.2 U	42 U	41.5 U	41 U
2,4-DB	150 U	46 UJ	15 U	30 U	30 U	30 U
DALAPON	13 U	16 UJ	9.1 U	11 U	10.5 U	10 U
DICAMBA	17 U	21 UJ	4.5 U	14 U	14 U	14 U
DICHLOROPROP	29 U	37 UJ	11 U	24 U	24 U	24 U
DINOSEB	4.0 U	5 UJ	1.5 U	3.3 U	3.3 U	3.3 U
MCPA	3600 U	4500 UJ	1800 UJ	3000 U	3000 U	3000 U
MCPP	5900	4300 UJ	380 U	2900 U	2850 U	2800 U
METALS (MG/KG)						
ALUMINUM	15200	15100	3890	2380	2265	2150
ANTIMONY	0.36 UJ	0.11 UJ	0.11 J	0.10 UJ	0.115 UJ	0.13 UJ
ARSENIC	15.2	17.4	2.1	1.6	1.4	1.2
BARIUM	174	163	20.9	10.8	10.35	9.9
BERYLLIUM	1.5	1.4	0.26 J	0.16 J	0.10 J	0.08 UJ
CADMIUM	2.5	3.2	0.09 J	0.04 J	0.04 J	0.04 J
CALCIUM	6980	6670 J	798	753 J	701.5 J	650 J
CHROMIUM	36.4	33.2 J	7.3	4.4 J	4.1 J	3.8 J
COBALT	15.9	17.6	2.6 J	1.6 J	1.5 J	1.4 J
COPPER	42.5	47.8	3.6	1.9 UJ	2 UJ	2.1 UJ
IRON	19500	20700	4910	3440	3105	2770
LEAD	142 J	175 J	7.4 J	4.2 J	4.25 J	4.3 J
MAGNESIUM	4370	3710	1390	804	752.5	701
MANGANESE	441	346 J	129	122 J	107.4 J	92.8 J
MERCURY	0.16	0.23	0.01 U	0.01 U	0.01 U	0.01 U
NICKEL	34.1	36.5	5.6	3.6 J	3.4 J	3.2 J
POTASSIUM	2290 J	1910	464 J	300	270	240
SELENIUM	2.4	3.1	0.16 UJ	0.19 J	0.1275 J	0.13 U
SILVER	0.18	0.18	0.01 U	0.01 U	0.01 U	0.01 U
SODIUM	633	652	64.2 J	45 J	44.1 J	43.2 J
THALLIUM	0.47 UJ	0.60 J	0.14 UJ	0.15 U	0.17 U	0.19 U
VANADIUM	46.6	52	9.5	7.1	6.35	5.6
ZINC	301 J	350	28.6 J	13.9	13.6	13.3
MISCELLANEOUS PARAMETERS						
PERCENT SOLIDS (%)	97.4	86.2	73.3	73.6	74.4	75.1
PERCENT COARSE SAND (%)	1.6	5.2	0.3	0.10	0.15	0.20
PERCENT FINE SAND (%)	23.8	17.6	75.4	86.7	86.5	86.3
PERCENT FINES (%)	63.3	66.4	3.5	4.6	4.35	4.1
PERCENT GRAVEL (%)	0 U	3.5	0 U	0.10	0.15	0.20
PERCENT MEDIUM SAND (%)	11.3	7.4	20.9	8.6	8.95	9.3
PERCENT SAND (%)	--	30.2	--	95.4	95.6	95.8
SIEVE 1" (%)	100	100	100	100	100	100
SIEVE 1-1/2" (%)	100	100	100	100	100	100
SIEVE 2" (%)	100	100	100	100	100	100
SIEVE 3" (%)	100	100	100	100	100	100
SIEVE 3/4" (%)	100	100	100	100	100	100
SIEVE 3/8" (%)	100	98.3	100	100	100	100
SIEVE NO. 004 (%)	100	96.5	100	99.9	99.85	99.8
SIEVE NO. 010 (%)	98.4	91.3	99.7	99.9	99.8	99.7
SIEVE NO. 020 (%)	96.3	90.7	97.6	98.8	98.65	98.5

LOCATION	NASB-BG-SD-08	NASB-BG-SD-08	NASB-BG-SD-09	NASB-BG-SD-09	NASB-BG-SD-09	NASB-BG-SD-09
SAMPLE ID	NASB-BG-SD08-0006	NASB-BG-SD-08-0006	NASB-BG-SD09-0006	NASB-BG-SD-09-0006	NASB-BG-SD-09-0006-AVG	NASB-BG-SD-09-0006-D
SAMPLE DATE	9/8/2009	4/7/2010	9/3/2009	4/8/2010	4/8/2010	4/8/2010
SIEVE NO. 040 (%)	87.1	83.9	78.9	91.2	90.8	90.4
SIEVE NO. 060 (%)	77.9	77.6	40.3	60.3	58.95	57.6
SIEVE NO. 080 (%)	72.6	73.8	22.9	26.3	25.75	25.2
SIEVE NO. 100 (%)	69.9	72.6	14.4	18.9	18.35	17.8
SIEVE NO. 200 (%)	63.3	66.4	3.5	4.6	4.35	4.1
TOTAL ORGANIC CARBON (MG/KG)	170000	250000 J	11000	3700 J	3150 J	2600 J
POLYCYCLIC AROMATIC HYDROCARBONS (UG/KG)						
2-METHYLNAPHTHALENE	11 J	24 J	77 J	19 J	17 J	15 J
ACENAPHTHENE	12 J	28	520 J	150	145	140
ACENAPHTHYLENE	160	200	2 UJ	9 J	4.75 J	1 U
ANTHRACENE	79	110	220 J	27	24.5 J	22 J
BENZO(A)ANTHRACENE	620	690	350	110	101	92
BENZO(A)PYRENE	1000	1200	290	120 J	110 J	100 J
BENZO(B)FLUORANTHENE	1100	1900	280	180 J	165 J	150 J
BENZO(G,H,I)PERYLENE	1000	1100	170	91 J	84 J	77 J
BENZO(K)FLUORANTHENE	900	790	220	80 J	73.5 J	67 J
CHRYSENE	980	1300	350	150	140	130
DIBENZO(A,H)ANTHRACENE	290	120	62	24 J	22.5 J	21 J
FLUORANTHENE	1700 J	2300	1400 J	250	225	200
FLUORENE	35	77	590 J	130	125	120
INDENO(1,2,3-CD)PYRENE	1000	1300	190	110 J	101.5 J	93 J
NAPHTHALENE	15 J	25	130 J	58	56	54
PHENANTHRENE	520	960	2200	240	250	260
PYRENE	1500	2900	1000	370 J	325 J	280
PESTICIDES/PCBS (UG/KG)						
4,4'-DDD	34 J	53 J	3.2 J	2.2 J	2.2 J	2.2 J
4,4'-DDE	17	27 J	1.8 J	0.13 U	0.5175 J	0.97 J
4,4'-DDT	12 J	0.36 UJ	1.3 U	1.6 J	1.4 J	1.2 J
ALDRIN	0.43 UJ	0.32 UJ	0.38 U	0.19 U	0.185 U	0.18 U
ALPHA-BHC	0.52 UJ	0.39 UJ	0.46 U	0.23 U	0.225 U	0.22 U
ALPHA-CHLORDANE	3.0 J	0.24 UJ	0.29 U	0.14 U	0.14 U	0.14 U
BETA-BHC	0.51 UJ	0.38 UJ	0.45 U	0.22 U	0.215 U	0.21 U
DELTA-BHC	1.5 J	0.37 UJ	0.44 U	0.21 U	0.21 U	0.21 U
DIELDRIN	0.34 U	0.25 U	0.30 U	0.15 U	0.145 U	0.14 U
ENDOSULFAN I	0.37 U	0.28 U	0.33 U	2 UJ	1.08 UJ	0.16 UJ
ENDOSULFAN II	5.5 UJ	6.8 UJ	0.46 U	0.23 U	0.225 U	0.22 U
ENDOSULFAN SULFATE	0.89 UJ	8.1 J	0.79 U	0.92 J	1.11 J	1.3 J
ENDRIN	1.3 U	0.98 U	1.2 U	0.57 U	0.56 U	0.55 U
ENDRIN ALDEHYDE	0.75 U	0.57 U	0.67 U	0.33 U	0.325 U	0.32 U
ENDRIN KETONE	0.62 UJ	0.46 UJ	0.54 U	0.27 U	0.265 U	0.26 U
GAMMA-BHC (LINDANE)	0.42 UJ	0.31 UJ	0.37 U	0.18 U	0.18 U	0.18 U
GAMMA-CHLORDANE	34 UJ	0.26 UJ	0.31 U	0.77 J	0.77 J	0.92 UJ
HEPTACHLOR	0.45 UJ	0.34 UJ	0.40 U	0.19 U	0.19 U	0.19 U
HEPTACHLOR EPOXIDE	0.34 UJ	0.25 UJ	0.30 U	0.15 U	0.145 U	0.14 U
METHOXYCHLOR	0.77 UJ	0.58 UJ	0.68 U	0.34 UJ	0.33 UJ	0.32 UJ
TOXAPHENE	11 U	8.1 U	9.5 U	4.7 U	4.65 U	4.6 U

SEDIMENT Footnotes:

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LOCATION	NASB-BG-SD-10	NASB-BG-SD-10	NASB-BG-SD-11	NASB-BG-SD-11	NASB-BG-SD-12	NASB-BG-SD-12
SAMPLE ID	NASB-BG-SD10-0006	NASB-BG-SD-10-0006	NASB-BG-SD11-0006	NASB-BG-SD-11-0006	NASB-BG-SD12-0006	NASB-BG-SD-12-0006
SAMPLE DATE	9/3/2009	4/8/2010	9/3/2009	4/8/2010	9/3/2009	4/8/2010
HERBICIDES (UG/KG)						
2,4,5-T	15 U	28 U	13 U	22 U	13 U	23 U
2,4,5-TP (SILVEX)	9.2 U	23 U	8.1 U	18 U	8.0 U	18 U
2,4-D	8.9 U	58 U	7.8 U	46 U	7.8 U	47 U
2,4-DB	16 U	42 U	14 U	33 U	14 U	34 U
DALAPON	9.9 U	15 U	8.7 U	12 U	8.6 U	12 U
DICAMBA	5.0 U	20 U	4.4 U	16 U	4.3 U	16 U
DICHLOROPROP	12 U	34 U	11 U	27 U	11 U	28 U
DINOSEB	1.6 U	4.6 U	1.4 U	3.7 U	1.4 U	3.8 U
MCPA	1900 UJ	4200 U	1700 UJ	3300 U	1700 UJ	3400 U
MCPP	420 U	4000 U	360 U	3100 U	360 U	3200 U
METALS (MG/KG)						
ALUMINUM	4600	6400	3670	3060	3640	3170
ANTIMONY	0.12 UJ	0.16 UJ	0.09 UJ	0.14 UJ	0.10 UJ	0.12 UJ
ARSENIC	1.2 U	3	2.2	1.8	2.5	2
BARIUM	12.2	15.1	18.3	16.4	21.7	18.9
BERYLLIUM	0.27 J	0.30 J	0.24 J	0.14 UJ	0.27 J	0.14 UJ
CADMIUM	0.06 J	0.12 J	0.05 J	0.06 J	0.12	0.10 J
CALCIUM	969	1500 J	681	622 J	806	795 J
CHROMIUM	8.7	13.4 J	6.6	5.2 J	6.6	5.9 J
COBALT	1.3 J	1.5 J	2.2 J	2.1 J	2.6 J	2.3 J
COPPER	2.7 J	3.9	3.8	3.2	4.1	3.2
IRON	3610	3000	5000	3780	4660	4020
LEAD	1.7 J	2.7 J	5.7 J	6 J	8.1 J	7.2 J
MAGNESIUM	1430	1290	1300	1060	1210	1060
MANGANESE	74.2	88.4 J	105	76.6 J	164	131 J
MERCURY	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
NICKEL	4.1 J	4.7 J	5.2	4.8 J	5.6	5
POTASSIUM	343 J	328	481 J	369	446 J	365
SELENIUM	0.29 UJ	0.94	0.11 U	0.15 J	0.12 UJ	0.17 J
SILVER	0.01 U	0.01 J	0.01 U	0.01 U	0.01 U	0.01 U
SODIUM	46.6 J	61.6 J	52.0 J	52.2 J	67.0 J	63.6 J
THALLIUM	0.21 UJ	0.23 U	0.25 UJ	0.20 U	0.14 UJ	0.17 U
VANADIUM	8.5	11.5	8.7	7.3	9.3	7.8
ZINC	11.0 J	10.1	23.0 J	22	27.2 J	23.6
MISCELLANEOUS PARAMETERS						
PERCENT SOLIDS (%)	67.1	54	76.6	69.9	77.2	67.8
PERCENT COARSE SAND (%)	1.6	0.40	0.2	0.10	0.3	0.20
PERCENT FINE SAND (%)	65.8	71.9	87.2	89.3	85.4	94.3
PERCENT FINES (%)	18.7	19.4	7.8	5	7.6	3.4
PERCENT GRAVEL (%)	0 U	0.70	0 U	0.10	0 U	0.10
PERCENT MEDIUM SAND (%)	13.9	7.6	4.8	5.4	6.7	2
PERCENT SAND (%)	--	79.9	--	94.9	--	96.5
SIEVE 1" (%)	100	100	100	100	100	100
SIEVE 1-1/2" (%)	100	100	100	100	100	100
SIEVE 2" (%)	100	100	100	100	100	100
SIEVE 3" (%)	100	100	100	100	100	100
SIEVE 3/4" (%)	100	100	100	100	100	100
SIEVE 3/8" (%)	100	100	100	100	100	100
SIEVE NO. 004 (%)	100	99.3	100	99.9	100	99.9
SIEVE NO. 010 (%)	98.4	98.8	99.8	99.7	99.7	99.7
SIEVE NO. 020 (%)	93	96.2	99.5	99.4	98.7	99.5

LOCATION	NASB-BG-SD-10	NASB-BG-SD-10	NASB-BG-SD-11	NASB-BG-SD-11	NASB-BG-SD-12	NASB-BG-SD-12
SAMPLE ID	NASB-BG-SD10-0006	NASB-BG-SD-10-0006	NASB-BG-SD11-0006	NASB-BG-SD-11-0006	NASB-BG-SD12-0006	NASB-BG-SD-12-0006
SAMPLE DATE	9/3/2009	4/8/2010	9/3/2009	4/8/2010	9/3/2009	4/8/2010
SIEVE NO. 040 (%)	84.5	91.3	95	94.3	93	97.7
SIEVE NO. 060 (%)	67.8	81.3	60.7	67	58.4	74
SIEVE NO. 080 (%)	53	61.2	33.5	34.5	29.7	34.6
SIEVE NO. 100 (%)	42.6	53.9	22.3	25.9	19.1	24.7
SIEVE NO. 200 (%)	18.7	19.4	7.8	5	7.6	3.4
TOTAL ORGANIC CARBON (MG/KG)	13000	42000 J	3300	9400 J	3100	12000 J
POLYCYCLIC AROMATIC HYDROCARBONS (UG/KG)						
2-METHYLNAPHTHALENE	3 UJ	4 U	3 UJ	5 J	3 UJ	5 J
ACENAPHTHENE	2 UJ	3 U	4 J	16 J	3 J	12 J
ACENAPHTHYLENE	2 UJ	2 U	22 J	11 J	18 J	12 J
ANTHRACENE	2 UJ	2 U	25 J	29	17 J	22 J
BENZO(A)ANTHRACENE	4 U	3 U	210	150	140	160 J
BENZO(A)PYRENE	5 U	6 UJ	180	170 J	150	200 J
BENZO(B)FLUORANTHENE	4 J	4 UJ	210	250 J	170	300 J
BENZO(G,H,I)PERYLENE	4 U	4 UJ	120	130 J	100	170 J
BENZO(K)FLUORANTHENE	5 U	6 UJ	140	110 J	120	130 J
CHRYSENE	4 J	3 U	200	220	170	250 J
DIBENZO(A,H)ANTHRACENE	3 U	3 UJ	44	35 J	38	43 J
FLUORANTHENE	9 J	3 U	580 J	280	420 J	310
FLUORENE	5 UJ	6 U	16 J	21 J	12 J	16 J
INDENO(1,2,3-CD)PYRENE	3 U	3 UJ	130	150 J	110	200 J
NAPHTHALENE	4 UJ	5 U	3 J	6 J	3 UJ	7 J
PHENANTHRENE	5 J	3 U	230	250	180	240
PYRENE	6 U	4 J	330	510	250	490
PESTICIDES/PCBS (UG/KG)						
4,4'-DDD	0.30 U	0.18 UJ	2.5 J	3 J	2.5 J	3.7 J
4,4'-DDE	0.28 U	0.17 U	1.3 J	1.5 J	1.2 J	1.7 J
4,4'-DDT	0.46 U	0.28 UJ	1.5 U	1.9 J	1.3 U	1.6 J
ALDRIN	0.42 U	0.26 U	0.36 U	0.19 U	0.36 U	0.20 U
ALPHA-BHC	0.51 U	0.31 U	0.44 U	0.23 U	0.44 U	0.24 U
ALPHA-CHLORDANE	0.31 U	0.19 U	0.27 U	0.14 U	0.27 U	0.15 U
BETA-BHC	0.49 U	0.30 U	0.43 U	0.23 U	0.43 U	0.24 U
DELTA-BHC	0.48 U	0.29 U	0.42 U	0.22 UJ	0.41 U	0.23 UJ
DIELDRIN	0.33 U	0.20 U	0.29 U	0.15 U	0.28 U	0.16 U
ENDOSULFAN I	0.36 U	0.22 UJ	0.31 U	0.16 UJ	0.31 U	0.17 UJ
ENDOSULFAN II	0.51 U	0.31 U	0.44 U	0.23 U	0.44 U	0.24 U
ENDOSULFAN SULFATE	0.86 U	0.53 U	0.76 U	0.40 UJ	0.75 U	0.42 UJ
ENDRIN	1.3 U	0.78 U	1.1 U	0.58 U	1.1 U	0.61 U
ENDRIN ALDEHYDE	0.73 U	0.45 U	0.64 U	0.34 U	0.63 U	0.35 U
ENDRIN KETONE	0.60 U	0.36 U	0.52 U	0.27 UJ	0.52 U	0.29 UJ
GAMMA-BHC (LINDANE)	0.40 U	0.25 U	0.35 U	0.18 U	0.35 U	0.19 U
GAMMA-CHLORDANE	0.34 U	0.21 U	0.30 U	0.70 J	0.30 U	0.77 J
HEPTACHLOR	0.43 U	0.26 U	0.38 U	0.20 U	0.38 U	0.21 U
HEPTACHLOR EPOXIDE	0.33 U	0.20 U	0.29 U	0.15 U	0.28 U	0.16 U
METHOXYCHLOR	0.74 U	0.46 UJ	0.65 U	0.34 UJ	0.65 U	0.36 UJ
TOXAPHENE	10 U	6.4 U	9.1 U	4.8 U	9.1 U	5 U

SEDIMENT Footnotes:

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Data Qualifiers:

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LOCATION	NASB-BG-SD-13	NASB-BG-SD-13	NASB-BG-SD-14	NASB-BG-SD-14	NASB-BG-SD-15	NASB-BG-SD-15
SAMPLE ID	NASB-BG-SD13-0006	NASB-BG-SD-13-0006	NASB-BG-SD14-0006	NASB-BG-SD-14-0006	NASB-BG-SD15-0006-AVG	NASB-BG-SD15-0006-D
SAMPLE DATE	9/3/2009	4/8/2010	9/3/2009	4/8/2010	9/3/2009	9/3/2009
HERBICIDES (UG/KG)						
2,4,5-T	14 U	22 U	13 U	23 U	13 U	13 U
2,4,5-TP (SILVEX)	8.4 U	17 U	8.0 U	18 U	8.05 U	7.9 U
2,4-D	8.1 U	44 U	7.7 U	46 U	7.75 U	7.6 U
2,4-DB	15 U	32 U	14 U	34 U	14 U	14 U
DALAPON	9.0 U	11 U	8.6 U	12 U	8.65 U	8.5 U
DICAMBA	4.5 U	15 U	4.3 U	16 U	4.3 U	4.2 U
DICHLOROPROP	11 U	26 U	11 U	27 U	10.5 U	10 U
DINOSEB	1.5 U	3.6 U	1.4 U	3.7 U	1.4 U	1.4 U
MCPA	1800 UJ	3200 U	1700 UJ	3400 U	1650 UJ	1600 UJ
MCPP	380 U	3000 U	360 U	3200 U	365 U	360 U
METALS (MG/KG)						
ALUMINUM	4990	3760	3450	3580	3285	2980
ANTIMONY	0.10 UJ	0.14 UJ	0.10 UJ	2.2 J	0.11 UJ	0.12 UJ
ARSENIC	1.2 U	1.1	2.8	2.3	1.325	1.3 U
BARIUM	15.6	12.2	19.3	20.9	12.85	11.0
BERYLLIUM	0.28 J	0.11 UJ	0.26 J	0.18 J	0.1675 J	0.17 UJ
CADMIUM	0.04 J	0.03 J	0.09 J	0.11	0.0375 J	0.03 UJ
CALCIUM	887	766 J	826	705 J	649	536
CHROMIUM	8.4	6.4 J	6.4	46.7 J	6.2	5.5
COBALT	1.6 J	1.4 J	2.3 J	2.8 J	1.5 J	1.3 J
COPPER	2.7	1.8 UJ	3.6	3.8	1.975 J	2.3 UJ
IRON	4280	3140	5310	4750	3655	3350
LEAD	3.5 J	2 J	6.6 J	201 J	4.2 J	3.0 J
MAGNESIUM	1460	1120	1180	1190	1050	1000
MANGANESE	112	83 J	213	151 J	88	84.6
MERCURY	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
NICKEL	4.7	3.7 J	5.2	5.3	3.65 J	3.3 J
POTASSIUM	386 J	296	435 J	412	287.5 J	264 J
SELENIUM	0.19 UJ	0.20 J	0.12 U	0.19 J	0.205 UJ	0.18 UJ
SILVER	0.01 U	0.01 U	0.01 UJ	0.01 U	0.01 U	0.01 U
SODIUM	75.1 J	63.1 J	56.6 J	61.5 J	57.7 J	51.6 J
THALLIUM	0.29 UJ	0.17 U	0.14 UJ	0.17 J	0.115 UJ	0.11 U
VANADIUM	9.4	7.6	8.6	8.7	7.45	6.4
ZINC	14.2 J	10.8	24.1 J	29.5	13 J	11.2 J
MISCELLANEOUS PARAMETERS						
PERCENT SOLIDS (%)	73.6	72.7	77.8	67.7	77.2	78.5
PERCENT COARSE SAND (%)	0.1	0.20	0.4	0.20	0.20	0.2
PERCENT FINE SAND (%)	79.5	76.1	81.7	87	91.75	88.9
PERCENT FINES (%)	16.1	12.9	2.5	6.4	2.8	5.5
PERCENT GRAVEL (%)	0 U	0.00	0 U	0.00	0.00 U	0 U
PERCENT MEDIUM SAND (%)	4.3	10.7	15.4	6.4	5.25	5.4
PERCENT SAND (%)	--	87.1	--	93.6	--	--
SIEVE 1" (%)	100	100	100	100	100	100
SIEVE 1-1/2" (%)	100	100	100	100	100	100
SIEVE 2" (%)	100	100	100	100	100	100
SIEVE 3" (%)	100	100	100	100	100	100
SIEVE 3/4" (%)	100	100	100	100	100	100
SIEVE 3/8" (%)	100	100	100	100	100	100
SIEVE NO. 004 (%)	100	100	100	100	100	100
SIEVE NO. 010 (%)	99.9	99.8	99.6	99.8	99.8	99.8
SIEVE NO. 020 (%)	99.2	98.3	97.6	99.4	99.2	99.2

LOCATION	NASB-BG-SD-13	NASB-BG-SD-13	NASB-BG-SD-14	NASB-BG-SD-14	NASB-BG-SD-15	NASB-BG-SD-15
SAMPLE ID	NASB-BG-SD13-0006	NASB-BG-SD-13-0006	NASB-BG-SD14-0006	NASB-BG-SD-14-0006	NASB-BG-SD15-0006-AVG	NASB-BG-SD15-0006-D
SAMPLE DATE	9/3/2009	4/8/2010	9/3/2009	4/8/2010	9/3/2009	9/3/2009
SIEVE NO. 040 (%)	95.6	89	84.2	93.3	94.55	94.4
SIEVE NO. 060 (%)	80.9	73	38.4	62.3	66.4	66.9
SIEVE NO. 080 (%)	62.7	52.1	15.8	32.2	38.6	40
SIEVE NO. 100 (%)	48.9	44.2	8.7	24.6	24.25	25.9
SIEVE NO. 200 (%)	16.1	12.9	2.5	6.4	2.8	5.5
TOTAL ORGANIC CARBON (MG/KG)	17000	11000 J	4400	7000 J	5200 J	3500 J
POLYCYCLIC AROMATIC HYDROCARBONS (UG/KG)						
2-METHYLNAPHTHALENE	3 UJ	3 U	3 J	90 J	3 UJ	3 UJ
ACENAPHTHENE	2 UJ	2 U	30 J	210 J	2 UJ	2 UJ
ACENAPHTHYLENE	4 J	3 J	28 J	14 J	6.5 J	4 J
ANTHRACENE	3 J	3 J	30 J	63 J	5.5 J	4 J
BENZO(A)ANTHRACENE	25 J	15 J	230	170 J	42 J	30 J
BENZO(A)PYRENE	30	19 J	200	180	46.5 J	33 J
BENZO(B)FLUORANTHENE	35	27	220	280 J	54.5 J	36 J
BENZO(G,H,I)PERYLENE	25 J	16 J	130	130	39	28
BENZO(K)FLUORANTHENE	26 J	11 J	150	92	40.5 J	28 J
CHRYSENE	34	24 J	230	240 J	53.5 J	38 J
DIBENZO(A,H)ANTHRACENE	11 J	4 J	47	37	17 J	14 J
FLUORANTHENE	74 J	38	580 J	390	121.5 J	83 J
FLUORENE	4 UJ	4 U	35 J	160 J	4 UJ	4 UJ
INDENO(1,2,3-CD)PYRENE	25 J	20 J	140	170	40 J	28 J
NAPHTHALENE	4 UJ	4 U	75 J	300 J	3 UJ	3 UJ
PHENANTHRENE	26 J	29	260	400	45.5 J	31 J
PYRENE	48	60	420	530	74.5 J	53 J
PESTICIDES/PCBS (UG/KG)						
4,4'-DDD	1.1 J	0.71 J	2.8 J	3.7 J	1.5 J	1.3 J
4,4'-DDE	0.87 J	0.39 J	1.3 J	1.6 J	1.15 J	0.90 J
4,4'-DDT	0.89 U	0.21 UJ	1.4 U	1.4 J	1.25 U	1.1 U
ALDRIN	0.38 U	0.19 U	0.36 U	0.20 UJ	0.365 U	0.36 U
ALPHA-BHC	0.46 U	0.23 U	0.44 U	0.24 U	0.44 U	0.43 U
ALPHA-CHLORDANE	0.28 U	0.14 U	0.27 U	0.15 U	0.275 U	0.27 U
BETA-BHC	0.45 U	0.23 U	0.42 U	0.24 UJ	0.43 U	0.42 U
DELTA-BHC	0.43 U	0.22 UJ	0.41 U	0.23 UJ	0.415 U	0.41 U
DIELDRIN	0.30 U	0.15 U	0.28 U	0.16 U	0.285 U	0.28 U
ENDOSULFAN I	0.32 U	0.16 UJ	0.31 U	0.17 UJ	0.31 U	0.30 U
ENDOSULFAN II	0.46 U	0.23 U	1.3 J	0.24 U	0.44 U	0.43 U
ENDOSULFAN SULFATE	0.79 U	0.40 UJ	0.74 U	0.42 UJ	0.75 U	0.74 U
ENDRIN	1.2 U	0.58 U	1.1 U	0.61 U	1.1 U	1.1 U
ENDRIN ALDEHYDE	0.66 U	0.34 U	0.63 U	0.35 U	0.635 U	0.62 U
ENDRIN KETONE	0.54 U	0.28 UJ	0.51 U	0.29 UJ	0.52 U	0.51 U
GAMMA-BHC (LINDANE)	0.37 U	0.18 U	0.35 U	0.19 UJ	0.35 U	0.34 U
GAMMA-CHLORDANE	0.31 U	0.16 U	0.30 U	0.91 J	0.295 U	0.29 U
HEPTACHLOR	0.39 U	0.20 U	0.37 U	0.21 U	0.375 U	0.37 U
HEPTACHLOR EPOXIDE	0.30 U	0.15 U	0.28 U	0.16 UJ	0.285 U	0.28 U
METHOXYCHLOR	0.68 U	0.34 UJ	0.64 U	0.36 UJ	0.65 U	0.64 U
TOXAPHENE	9.5 U	4.8 U	9.0 U	5 U	9.05 U	8.9 U

SEDIMENT Footnotes:

-- = The chemical was not analyzed or no value was available.

Data Qualifiers:

Blank (i.e., no qualifier) = the chemical was detected.

> = The chemical was detected.

J = The chemical was detected but the concentration reported is an estimated value.

U = The chemical was not detected.

< = The chemical was not detected.

R = The chemical was rejected.

LOCATION	NASB-BG-SD-15	NASB-BG-SD-15	NASB-BG-SD-16	NASB-BG-SD-16
SAMPLE ID	NASB-BG-SD15-0006	NASB-BG-SD-15-0006	NASB-BG-SD16-0006	NASB-BG-SD-16-0006
SAMPLE DATE	9/3/2009	4/8/2010	9/3/2009	4/8/2010
HERBICIDES (UG/KG)				
2,4,5-T	13 U	21 U	16 U	24 U
2,4,5-TP (SILVEX)	8.2 U	17 U	9.6 U	19 U
2,4-D	7.9 U	43 U	9.3 U	48 U
2,4-DB	14 U	32 U	17 U	35 U
DALAPON	8.8 U	11 U	10 U	12 U
DICAMBA	4.4 U	15 U	5.2 U	16 U
DICHLOROPROP	11 U	25 U	13 U	28 U
DINOSEB	1.4 U	3.5 U	1.7 U	3.8 U
MCPA	1700 UJ	3100 U	2000 UJ	3500 U
MCPP	370 U	3000 U	430 U	3300 U
METALS (MG/KG)				
ALUMINUM	3590	4190	4530	3850
ANTIMONY	0.10 UJ	0.10 UJ	0.15 UJ	0.12 UJ
ARSENIC	2.0	1	3.2	3
BARIUM	14.7	12.4	27.8	25.4
BERYLLIUM	0.25 J	0.21 J	0.34 J	0.18 J
CADMIUM	0.06 J	0.01 J	0.15 J	0.17
CALCIUM	762	722 J	1250	990 J
CHROMIUM	6.9	9.2 J	8.0	7.7 J
COBALT	1.7 J	1.4 J	3.0 J	3 J
COPPER	2.8	1.9 UJ	5.6	4.6
IRON	3960	2830	5250	4520
LEAD	5.4 J	1.9 J	14.9 J	11.3 J
MAGNESIUM	1100	1120	1370	1260
MANGANESE	91.4	67.5 J	211	153 J
MERCURY	0.01 U	0.01 U	0.02 UJ	0.01 U
NICKEL	4.0	3.4 J	6.2	6.2
POTASSIUM	311 J	300	488 J	420
SELENIUM	0.23 UJ	0.36 J	0.30 UJ	0.28 J
SILVER	0.01 U	0.01 U	0.01 UJ	0.01 U
SODIUM	63.8 J	70.5 J	70.6 J	80.8 J
THALLIUM	0.12 UJ	0.15 U	0.28 UJ	0.18 U
VANADIUM	8.5	7.8	10.9	10
ZINC	14.8 J	8.3	28.8 J	34.8
MISCELLANEOUS PARAMETERS				
PERCENT SOLIDS (%)	75.8	71.3	64.4	66.3
PERCENT COARSE SAND (%)	0.2	0.00	0.4	0.50
PERCENT FINE SAND (%)	94.6	84.4	70.1	87
PERCENT FINES (%)	0.1	7.3	18	8.6
PERCENT GRAVEL (%)	0 U	0.00	0 U	0.40
PERCENT MEDIUM SAND (%)	5.1	8.3	11.5	3.4
PERCENT SAND (%)	--	92.7	--	91
SIEVE 1" (%)	100	100	100	100
SIEVE 1-1/2" (%)	100	100	100	100
SIEVE 2" (%)	100	100	100	100
SIEVE 3" (%)	100	100	100	100
SIEVE 3/4" (%)	100	100	100	100
SIEVE 3/8" (%)	100	100	100	100
SIEVE NO. 004 (%)	100	100	100	99.6
SIEVE NO. 010 (%)	99.8	100	99.6	99.1
SIEVE NO. 020 (%)	99.2	99.7	97.3	98.5

LOCATION	NASB-BG-SD-15	NASB-BG-SD-15	NASB-BG-SD-16	NASB-BG-SD-16
SAMPLE ID	NASB-BG-SD15-0006	NASB-BG-SD-15-0006	NASB-BG-SD16-0006	NASB-BG-SD-16-0006
SAMPLE DATE	9/3/2009	4/8/2010	9/3/2009	4/8/2010
SIEVE NO. 040 (%)	94.7	91.6	88.1	95.7
SIEVE NO. 060 (%)	65.9	68	59.2	78.9
SIEVE NO. 080 (%)	37.2	41.1	38.9	48.5
SIEVE NO. 100 (%)	22.6	32.8	30	37.7
SIEVE NO. 200 (%)	0.1	7.3	18	8.6
TOTAL ORGANIC CARBON (MG/KG)	6900 J	3600 J	20000	19000 J
POLYCYCLIC AROMATIC HYDROCARBONS (UG/KG)				
2-METHYLNAPHTHALENE	3 UJ	3 U	3 UJ	6 J
ACENAPHTHENE	2 UJ	2 U	5 J	14 J
ACENAPHTHYLENE	9 J	2 U	27 J	22 J
ANTHRACENE	7 J	2 U	21 J	30
BENZO(A)ANTHRACENE	54 J	4 J	170	200
BENZO(A)PYRENE	60 J	5 J	180	260
BENZO(B)FLUORANTHENE	73 J	7 J	210	420 J
BENZO(G,H,I)PERYLENE	50	4 J	140	210
BENZO(K)FLUORANTHENE	53 J	4 U	150	130
CHRYSENE	69 J	6 J	200	320
DIBENZO(A,H)ANTHRACENE	20 J	2 U	47	55
FLUORANTHENE	160 J	10 J	490 J	450
FLUORENE	4 UJ	7 J	15 J	24 J
INDENO(1,2,3-CD)PYRENE	52 J	4 J	150	250
NAPHTHALENE	3 UJ	4 U	4 UJ	6 J
PHENANTHRENE	60 J	4 J	200	280
PYRENE	96 J	12 J	320	720
PESTICIDES/PCBS (UG/KG)				
4,4'-DDD	1.7 J	0.13 UJ	4.0 J	5.7 J
4,4'-DDE	1.4 J	0.13 U	1.9 J	2.4
4,4'-DDT	1.4 U	0.21 UJ	2.6 J	2.4 J
ALDRIN	0.37 U	0.19 U	0.43 U	0.20 U
ALPHA-BHC	0.45 U	0.23 U	0.53 U	0.24 U
ALPHA-CHLORDANE	0.28 U	0.14 U	0.33 U	0.15 U
BETA-BHC	0.44 U	0.22 U	0.51 U	0.24 U
DELTA-BHC	0.42 U	0.21 UJ	0.50 U	0.23 UJ
DIELDRIN	0.29 U	0.15 U	0.34 U	0.16 U
ENDOSULFAN I	0.32 U	0.16 UJ	0.37 U	3.2 UJ
ENDOSULFAN II	0.45 U	0.23 U	0.53 U	0.24 U
ENDOSULFAN SULFATE	0.76 U	0.39 UJ	0.90 U	0.42 UJ
ENDRIN	1.1 U	0.57 U	1.3 U	0.61 U
ENDRIN ALDEHYDE	0.65 U	0.33 U	0.76 U	0.35 U
ENDRIN KETONE	0.53 U	0.27 UJ	0.62 U	0.29 UJ
GAMMA-BHC (LINDANE)	0.36 U	0.18 U	0.42 U	0.20 U
GAMMA-CHLORDANE	0.30 U	0.15 U	0.36 U	0.93 J
HEPTACHLOR	0.38 U	0.19 U	0.45 U	0.21 U
HEPTACHLOR EPOXIDE	0.29 U	0.15 U	0.34 U	0.16 U
METHOXYCHLOR	0.66 U	0.33 UJ	0.78 U	0.36 UJ
TOXAPHENE	9.2 U	4.7 U	11 U	5 U

SEDIMENT Footnotes:

-- = The chemical was not analyzed or no value was available.

Data Qualifiers:

Blank (i.e., no qualifier) = the chemical was detected.

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APPENDIX E

RESPONSES TO REGULATORY COMMENTS

RESPONSES TO MEDEP COMMENTS DATED MARCH 17, 2011
DRAFT BACKGROUND STUDY
NAVAL AIR STATION BRUNSWICK, BRUNSWICK, MAINE

1. **Comment:** The sediment data for Coffin Ice Pond and Mere Brook showed for the majority of constituents that the two populations are distinct. This is not surprising based on the difference in depositional environment in those settings, the pond is much more likely to act a sink (especially for any organics), and the data for the brook and pond needs to be considered separately.

   Response: The sediment data for Coffins Ice Pond and Mere Brook will be considered two groups Mere Brook and Coffins Ice Pond, with the exception of where there are less than three detections in one subgroup (i.e., antimony in Coffins Ice Pond). The UPLs were recalculated using ProUCL version 4.1 based on MEDEP Comment 4 and USEPA General Comment 3 and are presented in Attachment 1 of these response to comments. The UPLs in Appendix A.4 will be changed to incorporate these updated UPLs.

2. **Comment:** The pond sediments indicate a significant anthropogenic impact despite the lack of obvious point source inputs. Sediment values at the pond for Polycyclic Aromatic Hydrocarbons (PAHs) and pesticides generally exceeded the Threshold Effect Concentrations but were less likely to exceed Probable Effect Concentrations referenced by MEDEP Bureau of Land & Water Quality staff. USEPA voiced objection to use of these data in the March 10, 2011 Technical Meeting, and MEDEP is open to discussing locating an alternate source of sediment/surface water data. Collection of additional co-located surface water samples may also be warranted. Based on the long history of development in the area, however, these sediment concentrations may not be anomalous for small impoundments with adjacent roads and housing.

   Response: The Navy agrees that concentrations reflect some anthropogenic impact (which is a component of background) and may be typical of small impoundments within developed areas. As such, the data should be useable to compare against Naval Air Station Brunswick impoundments in developed areas.

3. **Comment**: The soil portion of the dataset was submitted previously and MEDEP comments appear to have been addressed in this revision.

   Response: No response is required.

4. **Comment**: USEPA indicated during discussion at the recent technical meeting that there may be issues with the version 4.00.05 of Pro UCL that was used to calculate the statistical parameters in the study. If there are concerns with the program then any impacted values need to be recalculated and if needed tables and conclusions must be revised. MEDEP will defer to USEPA and the Navy response when available.

   Response: The UPLs have been recalculated using the current version of ProUCL 4.1. The updated UPLs are presented in Attachment 1 of these response to comments. UPL values that changed based on the re-calculation are presented in red text.

5. **Comment**: Section 2.2.1, Soil Boring Advancement:
   a.) Second sentence – Please briefly note why the borings were omitted.
   b.) Final sentence - The final sentence is a repeat and can be deleted.

   Response:
   a) The following text will be added to Section 2.2.1, "Borings 33-38 is an (inadvertent) gap in the numbering sequence that resulted when additional borings were added to fulfill the number of

soil samples required by the Final SAP. This gap does not affect the results and conclusions of the background investigation."

b) The final sentence, "PID screening results were non-detect except for the sample from SB02 which was 0.8ppm." will be removed.

6. **Comment:** Section 2.6, Sample Location Survey, and Table 2-1:
a.) Please add the surveyed elevations to the table, to support comparison of the Fall/Spring groundwater elevations.
b.) Also please add a note for the date or event associated with the groundwater depths (at time of installation, from the Fall sampling round).
c.) The well inspection/water level gauging sheets for April 2010 are not in the appendix, please add them to the final version.

Response:
a) The surveyed elevations will be added to the table.
b) A note will be added for the date of the sampling event associated with the groundwater depths.
c) Well inspection was not completed in April 2010. Water levels were recorded on the groundwater sample logs.

7. **Comment:** Section 3.2, Sensitivity: Most pesticides and some selenium non-detected results exceeded detections limits." The non-detects exceeded the Project Action Limit (PAL) rather than the detection limit, please revise.

Response: The text will be updated to read, "Most pesticides and some selenium non-detected results exceeded ~~detection limits~~, project action limits (PALs).

8 **Comment:** Section 4.1, Chemicals Detected in Soil: For sodium in soils, please add a note in the text explaining why the Transition Unit has no values for Sodium, due to high non-detect limits or other quality control issues.

Response: The following text will be added as the second sentence in Section 4.1. "There are no values for sodium on Tables 4-1 because all Transition Unit sodium results were either reported or qualified as non-detected during data validation. The majority of the sodium detection limits were elevated due to laboratory blank contamination; however, none of those elevated detection limits due to laboratory blank contamination exceeded corresponding sodium screening concentration listed in the Background SAP."

9. **Comment:** Section 5.0, Groundwater Data and Appendix A.2: The field data for the Fall 2009 groundwater sampling shows that for 3 Lower Sand wells there was excessive turbidity at the time of sampling, despite purging for the 2 hours allotted in the Sampling and Analysis Plan (SAP). MW-41, MW-42 and MW-315A all had turbidities that ranged from 310 to 317 NTU in the Fall round, while in the subsequent Spring round turbidities ranged between 0 and 20.5 NTU. Not surprisingly the total inorganics values for multiple elements were flagged as possible outliers and MW-42 had the maximum detected values for 9 elements. It is also notable that MW-41 was only developed for 1 hour (turbidity was still > 100 NTU) and that MW-42 went dry during development. The much lower turbidities in the Spring round suggest the wells may not have been adequately developed initially, or that due to the fines in the formation there was a longer time required to flush the formation around the wells. Please omit the data for aluminum, chromium, copper, vanadium and possibly for other metals for these locations in the Fall 2009 round. The turbidities are atypical (historic data for MW- 315A was <25 NTU) and the candidate outliers associated with these samples are driving the UPL calculations. In addition, site data with turbidity in that range are often discounted or flagged, and these data should be treated similarly.

Response: The metals data from the Fall 2009 round at MW-41, MW-42, and MW-315A will be omitted. Statistical analyses will be rerun and UPLs recalculated. The updated statistical analysis are presented in Attachment 2 of these response to comments and the UPLs presented in Attachment 1 of these response to comments reflect the updated statistical analysis.

10. **Comment**: Section 5.2.1, Statistical Differences, Page 5-2, Paragraph #2 and Appendix A.2:
    - The fifth sentence should refer to geologic or stratigraphic units, rather than geographic units.
    - The sixth sentence appears to be missing text, please revise for clarity. Is it listing compounds that did not have more than 2 detections in every sub-group?
    - In the four groundwater categories for chemicals detected in all sub-groups, based on Table A.2.5.1, total zinc has a separate value for the Transition sub-group rather than the Upper Sand sub-group as noted. Total nickel and total barium were determined to be one group rather than two as listed. Please check and revise the bullets as needed.

    Response:
    - The fifth sentence on page 5-2 will be change to, "For most chemicals, statistical differences were not detected by season and the subgroups could be combined by geologic units."
    - The sixth sentence is missing text and will be changed to, "Total and dissolved arsenic, beryllium, cadmium, copper, lead, and vanadium and dissolved aluminum, barium, cobalt, iron, nickel, and zinc were detected in less than two samples in at least one of the eight subgroups."
    - The results of multiple comparisons testing which subgroups are statistically different are presented on Table A.2.4.3. Based on the multiple comparisons, the concentrations of total zinc in the Upper Sand are a separate group, total nickel in the Transition Unit are a separate group, and the concentrations of total barium in the Lower Sand unit are a separate group. The bullets in Section 5.2 will be updated to reflect these groupings. UPLs were recalculated for all chemicals using ProUCL version 4.1 to ensure that any issues with the previous versions of ProUCL do not impact the UPLs. The updated UPLs are presented in Attachment 1 of these response to comments.

11. **Comment:** Section 5.2.1, Statistical Differences, Page 5-3, Paragraph #1 and Appendix A.2: The data for the 4 bedrock background wells east of the Base are all screened in the Cape Elizabeth Formation, which underlies most of the central and eastern portion of the base. If comparison data are needed in the western portion of the base (underlain by the Cushing Formation) then these bedrock wells may not be appropriate as background. If bedrock wells are being evaluated then stakeholders should consider whether the bedrock data only should be used for site to background comparisons. For manganese, for example, the data were grouped with overburden data as directed by the statistical evaluation, but the concentration range for bedrock was much lower than for the Lower Sand.

    Response: If comparison data are needed in the western portion of the base (underlain by the Cushing Formation) background groundwater samples will be taken from the Cushing Formation. The groundwater samples from the Cushing Formation will then be evaluated and compared to the existing background data to determine how or if the groundwater concentrations from the Cushing Formation can be combined with any of the existing background groundwater data groups.

12. **Comment:** Table 5-4 and Appendix A.2.4: The outlier plots and the tables and database do not have consistent values for barium in the Upper Sand groundwater (214/215 vs 220), please revise.

    Response: Tables 5-4 and A.2.1.5 both list the maximum concentration for total barium in Upper Sand groundwater to be 215. The summary statistics on the graphical displays presented in Appendix A.2.3 are rounded to two significant figures. The following note will be added to the graphical displays, "Summary statistics presented using two significant figures."

13. **Comment**: Section 7.0, Surface Water: The dissolved oxygen readings that exceeded 10 mg/L are unusually high, if there was any evidence of algae growth or other factors that would contribute to the elevated readings, please note those factors in the text.

Response: Notable algae was not observed at specific surface water locations but algae/plants are abundant in both Coffins Ice Pond and Mere Brook which likely contribute to high dissolved oxygen readings.

14. **Comment:** Section 7.2.1, Statistical Differences: The small size of the pond and the short reach of brook sampled limit the geographic dispersal of the samples, so that will be less of a factor for sediment and surface water than for soils, where the locations were spread across multiple areas. (No response required.)

Response: No response required.

15. Section 7.2.2, Comparison of Site to Background Data and Table 7-3:
a.) Comment: According to the text, Gamma-Chlordane and 2-(4-Chloro-2-methyl phenoxyl) propionic acid (MCPP) had less than 15 values due to low frequency of detections, however an Upper Prediction Limit (UPL) is still listed in the table for these compounds. Please provide a justification or remove them from the table.

Response: The minimum sample size of 15 for each data set specified in the SAP is based on the hypothesis tests (Wilcoxon Rank Sum test). The text in Section 7.2.2 will be changed to, "The SAP stated that at least 15 samples were needed for each background data set to compute a hypothesis test comparing means/medians." UPLs were calculated using ProUCL version 4.1 which can calculate UPLs for datasets with non-detected concentrations based on nonparametric statistics.

b.) **Comment**: Chromium and lead were detected in all samples at Mere Brook, but the UPL is set to the maximum detection of 46.7 and 201 mg/kg, respectively, well over the respective averages of 9.8 and 18 mg/kg, and these values were both noted as candidate outliers. Please explain the basis for defaulting to the maximum value rather than a calculated value, or revise the data omitting outlier values.

Response: The 95 percent UPLs were calculated using EPA's ProUCL software. The UPLs of 46.7 and 201 mg/kg for Chromium and lead respectively were the nonparametric UPLs recommended by ProUCL. The ProUCL outputs will be added to the UPL sections of Appendices A.1, A.2, A.3, and A.4.

16. **Comment:** Section 8.0, Recommendations and Conclusions:
MEDEP concurs with the majority of the conclusions presented, and supports the use of this dataset to evaluate site conditions relative to conditions in the vicinity of the Base. Although the use of combined values for both soil types and depths is reasonable for some applications, in most cases the cut and fill operations would still be within the same soil type (probably the Upper Sand), unless the sand unit was very thin, or there was a reason to use lower permeability soils over the sandy soils, as might happen at a landfill. This situation might also have occurred in the boundary areas where the two soil units are present in close proximity at the surface, or near areas like the Old Fuel Farm where the sand unit was less than 10 feet thick over the Transition or clay. It is true the level of activity in the "industrial" portion of the base is higher than at the fringes where the background samples were collected, however it is notable that locations in Areas 1 and 7 and Bowdoin Pines are in close proximity to heavily trafficked roads, rail lines, and lay in the Base's flight path since the 1957 construction. The fact that these locations had relatively low concentrations of PAHs (for example) indicates that the airborne impact of anthropogenic activites is low at even relatively small distances from the source. The difficulty at the base will be in defining boundaries between sources that may be regulated such as the Test Cell, former Fire Training Area, former incinerators at Sites 2 and 9, and the operational activities

such as the power plant and paving that are present in the central portion of the base. The importation of fill is an unpredictable factor, although with the multitude of borrow sources in close proximity it is unclear whether there would be significant variation from the data from this study. Stakeholders will need to consider the planned use for the property before evaluating other areas offbase for an "urban" background value.

Response: The use of combined values for soil will be considered on a case by case basis and applied only when/where site conditions and/or site history indicate that it would be appropriate to do so.

17. **Comment:** Appendix A.1.3: The plots for soil Total Organic Carbon (TOC) are missing; please restore them in the final version.

    Response: The soil plots for TOC will be added to the draft final version of the Background Report.

18. **Comment:** Appendix A.2.3: The labels on the Q-Q plots for the groundwater data are not colored to match the box plots, please revise in the final draft.

    Response: The Q-Q plots in Appendix A.2.3 will be updated so that the groundwater data are colored to match the box plots.

19. **Comment**: Appendix A.2.5, final paragraph: The last sentence refers to surface water rather than groundwater, please revise the text.

    Response: The text will be changed to reference groundwater.

Response to USEPA Comments Dated March 25, 2011
DRAFT BACKGROUND STUDY
NAVAL AIR STATION BRUNSWICK, BRUNSWICK, MAINE

1. **Comment**: EPA Region 1 guidance (Risk Update) states that background concentrations are not to be used to screen out COCs in site risk assessments. The COC screening should be effects-based so total site risks are reported in the risk characterization. That not to say an appropriate background dataset cannot be used to "refine" the list of COCs after total site risks are reported.

   Response: Per the Site 17 Risk Assessment Conference Call, June 17, 2010 (EPA: Chau Vu, Maine CDC: Diane Silverman, Navy: Dave Barclift, Tetra Tech: Matt Kraus): Consistent with the methodology used at other Federal Facility Sites in EPA Region I, all COPCs, including site-related and background, will be carried through the human health risk assessment process and documented in the RAGS Part D tables. RAGS Part D Table 10 will include a footnote identifying those chemicals which are considered background or not site-related. The footnote will reference the specific sections of the RI that discuss the background analysis and site-related and total risk characterizations. Total risk and site-related risk will be discussed in the Risk Characterization section of human health risk assessment text in the Final RI. Only site-related risks and COCs will be discussed in the Conclusion section of the Final RI.

2. **Comment:** Because the concentrations of metals in ground water are particularly sensitive to pH and oxidation-reduction potential (ORP), it is extremely important to ensure that the samples in the background data sets cover the full ranges of these parameters. As an independent verification that Navy has accomplished this, the water quality parameters that accompanied the ground water sampling were examined for the general distribution of values and possible extreme outliers. Attached Figure 1, a histogram of pH values, suggests that the pH data for the Upper Sand (US), Lower Sand (LS), and Transition Unit (TR) ground water follow approximately normal distributions. The mean of the US values is the lowest of the three groups, as would be expected for ground water "seeing" infiltration of low-pH meteoric water due to relatively fast travel times through a sandy matrix. The LS data have the highest pH, reflecting a longer travel time, and the TR pHs are intermediate. There is some overlap of all three groups. (Bedrock wells are not shown.) The distribution of ORPs (attached Fig. 2) is similar: the highest values are found in the US wells, where the most highly oxygenated water is expected. The lowest ORPs are in LS ground water, due to greater time for reactions resulting in oxygen depletion; and the TR ground water is intermediate. Again, there is overlap among the three groups. GF is satisfied that there has been no bias toward a particular set of conditions among the background ground water wells.

   Response: No response required.

3. **Comment:** The report and appendices raise concerns (see specific comments below). For example, "outliers were investigated and were retained in the analysis" without any further discussion (e.g., page 6-1, §6.2.1), the 15 sample minimum requirement in the SAP not achieved with some of the data sets used, and discussion of the hypothesis test results is unclear and p-values not reported in the Report narrative or Appendix. Overall, it is unclear if the draft background study can support all the statistics presented in the report.

   It is unclear if EPA guidance is followed or if ½ DL is always assigned to NDs. The ProUCL v.4.00.05 software that is used generates datasets with "missing values" represented as "blanks" when ProUCL calculates UCLs. And unless the user knows to delete the blanks before running calculations, they will generate spurious results. The problem is corrected in the newly released version 4.1.00 ProUCL software online at http://www.epa.gov/osp/hstl/tsc/software.htm.

   Response: Additional text will be added to the outlier discussion in Section 6.2.1 and Section 7.2.1. The 15 sample minimum requirement of the SAP was set to meet the data quality objectives for a hypothesis test comparing site to background concentrations and the alternative would be to compare individual concentrations to a background threshold value. No minimum

sample size was set in the SAP for calculating a background threshold value. 95-percent UPLs were calculated using USEPA's ProUCL software. The full detection limit was assigned to non-detected concentrations and the appropriate indicator variable of "0" was used to identify non-detected concentrations. The text in Section 4.1, 5.1, 6.1, and 7.1 will be updated to clearly indicate that the detection limit was entered into the ProUCL software. ProUCL version 4.00.05 was the most current version of ProUCL when the background report was submitted. To make sure that the error with the ProUCL version 4.00.05 software does not impact the background threshold values, the UPLs were recalculated using version 4.1.00 and the updated UPL Tables are presented in Attachment 1 of these response to comments. UPLs that changed based on change in ProUCL version and other response to comments are presented in red. Test statistics and critical values corresponding to the appropriate significance level or p-values are presented for all tests in Appendix A please see the Navy's response to USEPA comment 24.

4. **Comment:** Coffins Ice Pond sediment and surface water concentrations are excessively high and suggest an unacceptable ecological risk to aquatic life populations. In fact, average concentrations for some contaminants detected in Coffins Ice Pond exceed average concentrations for the same contaminants detected in Picnic Pond by 1½ to 2 times. EPA believes Coffins Ice Pond should not be used to represent background as it is overly contaminated by unidentified point or non-point sources. These unknown sources are not associated with NAS Brunswick which is downstream of Coffins Ice Pond. If the Navy chooses, it could locate another background pond in the area to collect surface water and sediment samples to replace data lost from removing Coffins Ice Pond from the background data set. EPA is willing to work with the Navy to locate another pond for background sampling.

   Response: The Navy agrees that the concentrations reflect some anthropogenic impact (which is a component of background) and may be typical of small impoundments within developed areas. As such, the data should be useable to compare against NASB impoundments in developed areas.

5. **Comment:** Because the concentrations of metals in ground water are particularly sensitive to pH and oxidation-reduction potential (ORP), it is extremely important to ensure that the ground water samples in the background data sets cover the full ranges of these parameters. As an independent verification that Navy has accomplished this, the water quality parameters that accompanied the ground water sampling were examined by EPA. Figure 1, a histogram of pH values, suggests that the pH data for the Upper Sand (US), Lower Sand (LS), and Transition Unit (TR) ground water follow approximately normal distributions. The mean of the US values is the lowest of the three groups, as would be expected for ground water "seeing" infiltration of low-pH meteoric water due to relatively fast travel times through a sandy matrix. The LS data have the highest pH, reflecting a longer travel time, and the TR pHs are intermediate. There is some overlap of all three groups. (Bedrock wells are not shown.) The distribution of ORPs (Fig. 2) is similar: the highest values are found in the US wells, where the most highly oxygenated water is expected. The lowest ORPs are in LS ground water, due to greater time for reactions resulting in oxygen depletion; and the TR ground water is intermediate. Again, there is overlap among the three groups. EPA is satisfied that there has been no bias toward a particular set of conditions among the background ground water wells.

   Response: No response required.

6. **Comment:** Background soils also appear to cover the range of un-impacted conditions present across NASB. Attached Figure 3 shows an example of the distribution of chromium and iron in the background soil data sets. It can be seen that the data from both the US and TR units and surface and subsurface samples follow a linear trend, due to sorption and/or co-precipitation of Cr with naturally occurring hydrous ferric oxide (HFO). Many other trace elements in the NASB soil background database (e.g., V, As, Al, Ni) exhibit the same linear trend. Data that deviates significantly from this trend, especially those lying above it, signal possible contamination because those data have a higher trace metal/reference element ratio than the rest of the

background population. EPA is satisfied that the background soil data do not contain suspect samples.

Response: No response required.

7. **Comment**: Page 1-1, §1.1 Objectives and Scope: Background should not be used upfront in the risk assessment to screen out COCs. The COC screening can be effects-based only so total site risks are reported in the risk characterization. Within that section however, after reporting total site risk, an appropriate background dataset can be used in a COC refinement step to "refine" the list of COCs prior to the conclusions section.

   Response: Please see the Navy's response to USEPA's Comment 1.

8. **Comment:** Page 2-2, Section 2.2.1, Soil Boring Advancement: This section describes the collection of soil samples and states that one surface soil (0-1 ft bgs) and one subsurface soil (1-10 ft bgs) sample was taken at each location. Were the subsurface samples discrete or composite? If the 1-10 ft depth was homogenized, please state this clearly in the text.

   Response: The sample from 1-10ft was homogenized. The text will be updated to, "One surface soil [(0-1 ft below ground surface (bgs)] and one **homogenized** subsurface soil (1-10 ft bgs) sample was collected at each of the 32 soil sample locations."

9. **Comment:** Page 2-3, §2.2.2 Soil Sampling Procedures: The Report states that "Soil samples were homogenized in an aluminum pan and placed into appropriate laboratory-supplied containers for Laboratory analysis." Why was an aluminum pan used instead of stainless-steel that was specified in the approved background study work plan? The soil aluminum analysis most certainly was affected by its use. If this deviation to the work plan also applied to other media samples as well, then those aluminum data results too should not be used.

   Response: Aluminum pans were used to collect soil and sediment samples. Rinsate blanks were collected off of the pans and aluminum results were non-detect. Therefore the aluminum data results are not affected. To clarify that the aluminum results were not affected the following text will be added as the fourth sentence of the first paragraph in Section 2.2.2, "**Rinsate blanks were collected off of the aluminum pans and aluminum results were non-detect.**" The text in 2.5 Sediment Characterization will be updated as follows, "Samples were homogenized **in an aluminum pan,** decanted if necessary, and transferred into appropriate bottle ware. **Rinsate blanks were collected off of the aluminum pans and aluminum results were non-detect.**"

10. **Comment:** Page 2-7, Section 2.3.4, Ground Water Sampling: The last paragraph in this section indicates that ground water samples were analyzed for total and dissolved TAL metals. Please verify if these samples, as well as the surface water samples, were filtered in the field (presumably with a 0.45-micron filter?).

    Response: Groundwater and surface water samples were filtered in the field using a 0.45-micron filter. The following text will be added as the last sentence of Section 2.3.4 Groundwater Sampling, "Groundwater samples were filtered in the field using a 0.45-micron filter. The following text will be added as the next to last sentence of Section 2.4 Surface Water Characterization, "Surface water samples were filtered in the field using a 0.45-micron filter.

11. **Comment:** Page 2-9, Section 2.4, Surface Water Characterization: The first sentence of the last paragraph in this section states that ORP of surface water was measured. These data are not included in Table 2-3 nor do they appear to be recorded on the surface water sample log sheets in Appendix C. Please review and edit as necessary.

    Response: ORP was not measured for surface water. The text in Section 2.4 will be updated as follows, "After collection of surface water samples, the pH, temperature, specific conductivity, DO,

salinity, ~~ORP,~~ and turbidity of surface water was measure in-situ and recorded on sample log sheets (Appendix C).

12. **Comment:** Page 2-9, §2.5 Sediment Characterization: Missing from the data in the section and appendices are percent solids data for each sediment sample. That data is needed for data validation. EPA guidance requires a minimum of 30% solids in sediment otherwise all detects are flagged "J" (estimated) or all data re "R" (rejected) when <10% solids. If % solids analyses were not performed, then estimate using % moisture data generated by the lab in calculations of mass concentration.

    When sediment is <30% solids, sample quantitation limits are unacceptably large and the method detection limit is not met. It is suspected that many of the sediment samples had low % solids (or other analytical problem) because Appendix B states many are measured "near the detection limit" at tens of a ppm.

    Response: Percent solids for each sample will be calculated based on the percent moisture. The percent solids data for each sample will be added to the sediment table in Appendix D.

13. **Comment:** Figure 2-1: On this map of sample locations, SB05 is shown in Area 1 and in Area 3. Please check and revise as appropriate.

    Response: SB05 is in Area 1 while EC01/MW05 is located in Area 3. Figure 2-1 will be updated to remove the SB05 soil location from Area 3.

14. **Comment:** Page 3-3, §3.6 Representativeness: The section only discusses soil as useable data "representative of targeted soil populations." Ground water, surface water and sediment data are not mentioned. Is this a typo, or is the study not representative of background for these other media? Otherwise, include an assessment by DQR of the representativeness of ground water, surface water or sediment as well.

    Response: The text in Section 3.6 will be revised to read as follows, "The DQRs **(Appendix B.1 for Soil and Appendix B.2 for groundwater, surface water, and sediment)** found the data collected for the Background Study to be representative of targeted ~~soil~~ populations."

    Text in the Representativeness portion of Appendix B.2 will be updated as follows, "The DQR found the data collected for the Background Study to be representative of targeted soil, **groundwater, surface water, and sediment** populations."

15. **Comment:** Table 4-1: Why is selenium not listed among the inorganics in this table summarizing data from the Upper Sand surface soil? It appears from Table 4-5 that selenium was ND (for all samples?). Please clarify.

    Response: Table 4-1 lists only chemicals that were detected in at least one sample. Selenium was not detected in any of the Upper Sand surface samples. A note will be added to all the Summary Tables stating that, "Only chemicals that were detected in at least one sample are listed."

16. **Comment:** Table 4-2: In this table of surface soil data from the Transition Unit, more than half the data for antimony, selenium, and silver are ND. This is also true for silver and sodium in the Transition Unit subsurface soil (Table 4-4). Please explain (e.g., in Sec. 4.2.2) how the data for these low-frequency-of-detection (low-FOD) elements can be used to generate a meaningful UPL for future site-to-background comparisons.

    Response: The following text will be added to Section 4.2 to indicate that UPLs with non-detected concentrations, "UPLs were calculated using USEPA's ProUCL 4.1.00 software which can calculate UPLs for chemicals with non-detected concentrations."

17. **Comment:** Table 4-5: In the columns labeled Upper Sand Surface Soil and Subsurface Soil, the UPL types given for chromium are "chromium." Please replace this with the appropriate UPL type, e.g. normal, lognormal, nonparametric, etc.

    Response: UPLs were recalculated using ProUCL version 4.1 in response to USEPAs Comment 3. An updated Table 4-5 is presented as Attachment 1 of these response to comments. The UPL type for chromium was changed to nonparametric.

18. **Comment:** Page 6-1, §6.1 Chemicals Detected in Surface Water: EPA guidance and the ProUCL software does not recommend the assignment of ½ DL to all non-detects. There is a protocol for doing so. ProUCL v.4.00.05 is known to generate datasets with "missing values" that are represented as "blanks" when calculating UCLs and unless the user knows to delete such blanks before running the software, the blanks will generate spurious results. This problem is corrected in new v.4.1.00 ProUCL software online at http://www.epa.gov/osp/hstl/tsc/software.htm

    Response: One half the method detection limit was only used for non-detects in the graphical displays and soil correlation coefficient analysis. The full detection limit was entered into ProUCL and the appropriate indicator variable, "0", was used for all non-detect samples. All UPLs were re-calculated using the new version 4.1.00 to ensure that UPLs were not affected by potential spurious results generated by the software. Updated UPLs for all media are presented in Attachment 1 of these response to comments. UPLs that were changed are presented in red text. The text in Sections 4.1, 5.1, 6.1, and 7.1 will be updated to read as follows, "One-half the method detection limit was used for the graphical displays while the full method detection limit was used in ProUCL and denoted as a non-detect for the hypothesis tests and UPLs."

19. **Comment:** Page 6-1, §6.2.1 Statistical Differences: This section should provide further discussion as to why "candidate outliers…retained in the analysis". This discussion should also include how retaining the outliers will skew the results.

    Response: The outlier discussion in Section 6.2.1 will be updated as follows to provide further discussion as to why candidate outliers were retained in the analysis and discussion as to how retaining the outliers could skew the results.

    Candidate outliers were located on a site map to check for any pattern of localized anthropogenic contamination not representative of the background area as a whole. **Outliers were identified at both Coffins Ice Pond and Mere Brook**. For Coffins Ice Pond, candidate outliers were identified at SW01, SW03, SW04, SW05, and SW08. For Mere Brook, candidate outliers were identified at SW09, SW10, SW14, and SW16. **Candidate outliers at both Coffins Ice Pond and Mere Brook were not isolated to one location. For both areas at least 50 percent of the samples were identified as containing at least one outlier. Because candidate outliers were identified at more than 50 percent of the samples it does not appear that there is an isolated spot at either Mere Brook or Coffins Ice Pond that is not reflective of background.**

20. **Comment**: Page 6-3, §6.3 Surface Water Background Values and Table 6-3: Dissolved calcium concentrations exceed total calcium concentrations in Table 6-3.

    Response: The total metals concentration for Coffins Ice Pond was incorrectly listed as 1,190µg/L instead of 11,900µg/L. The value of 11,900µg/L will be used for the 95-percent UPL for Coffins Ice Pond. For Mere Brook, the average and median concentrations for dissolved calcium are greater than the average and median concentration for total calcium. Therefore, it would be expected that the UPL for dissolved calcium would be greater than the UPL for total calcium. However, the UPL for the total calcium concentrations will also be used as the UPL for dissolved calcium concentrations. **A footnote will be added to Table 6-3 stating, "Dissolved**

Calcium UPL calculated by ProUCL was greater than the Total Calcium UPL, the Total Calcium UPL will be used for both Total and Dissolved Calcium."

21. **Comment:** Page 7-1, §7.0 Evaluation of Sediment Background Concentrations: EPA guidance and the ProUCL software does not recommend the assignment of ½ DL to all non-detects. (See the specific comments on Page 6-1, §6.1 Chemicals Detected in Surface Water.)

    Response: One-half the detection limit was only used in the graphical displays for sediment. The text in Section 7.1 will be updated as follows, "One-half the method detection limit was used for the graphical displays while the full method detection limit was used in ProUCL and denoted as a non-detect for the hypothesis tests and UPLs."

22. **Comment:** Page 7-1, §7.2.1 Statistical Differences: Why were "candidate outliers" identified at all stations except three and "retained in the analysis" without further discussion or explanation in the report? It is not acceptable to retain outliers without evaluating how it or they will skew the statistics.

    Response: Candidate outliers were located on a site map to check for any pattern of localized anthropogenic contamination not representative of the background area as a whole. **Outliers were identified at both Coffins Ice Pond and Mere Brook**. For Coffins Ice Pond, candidate outliers were identified at all sampling locations. For Mere Brook, candidate outliers were identified at all locations except SD11, SD12, and SD13. **Candidate outliers at both Coffins Ice Pond and Mere Brook were not isolated to one location. For both areas at least 50 percent of the samples were identified as containing at least one outlier. Because candidate outliers were identified at more than 50 percent of the samples it does not appear that there is an isolated spot at either Mere Brook or Coffins Ice Pond that is not reflective of background.**

23. **Comment:** Page 7-3, §6.3 Sediment Background Values and Table 7-3: Comparatively speaking, Coffins Ice Pond UPLs are not representative of surface water or sediment background. Coffins Ice Pond sediment metals and PAHs are significantly higher than in Mere Brook. In fact, Coffins Ice Pond sediment poses unacceptable ecological risk to aquatic life. This statement is based on the magnitude of their exceedance of consensus-based probable effect concentrations (PECs) by MacDonald et al. (2001) which represent probable effects and are not even protective levels. Coffins Ice Pond sediment exceeds PECs by a factor of two to greater-than-five for sediment PAHs, and up to a factor of two for sediment metals. Average sediment concentrations in Coffins Ice Pond pose unacceptable risk because they too exceed PECs by a factor of two or more. Coffins Ice Pond does not represent background and should be dropped from the study.

    Response: Background is not defined by risk level. Anthropogenic (non site-related) impacts are present in many developed areas. The Navy feels that the Coffins Ice Pond data is a useful point of comparison to surface water bodies in developed areas.

24. **Comment:** Appendix A.4.4 and A.4.5: *P*-values are missing from Tables A.4.4.1 and A.4.4.2 in Appendix A. The last sentence in the appendix more often identifies Coffins Ice Pond sediment datasets as not meeting the 15 sample minimum required in the Sampling and Analysis Plan.

    Response: Table 4.4.1 lists the frequency of detection and the distribution conclusion for chemicals detected in sediment at Mere Brook and Coffins Ice Pond and which hypothesis test should be conducted to compare the sediment concentrations at Mere Brook and Coffins Ice Pond. The W-statistic and corresponding critical value based on a 5 percent significance level are listed on Tables A.4.2.1 through A.4.2.4. As stated in Appendix A.4.2, if the W statistic is less than the critical value the data do not follow the assumed distribution. Listing the p-values on

Tables A.4.4.1 is not necessary because the same information statistically significant at the 5-percent level can be obtained from the statistics listed on Table A.4.2.1 through A.4.2.4.

Table A.4.4.2 presents the p-values for the Kruskall Wallis test in the third column of the table. P-values are listed out to four decimal places.

25. **Comment**: Appendix A.6, Geochemical Analysis: Please indicate on these plots which data are ND, and please clarify if NDs, at half the MDL, were used in the correlation matrices and in the calculations of the linear regressions and the prediction limits. It is not clear that this is an appropriate surrogate for the NDs in this application, as the use of "half the detection limit" for non-detects originated in risk calculations. If reportable soil data show a correlation between trace element and reference element concentrations, that association is likely to be present even when the trace element occurs at low concentrations (below the detection limit). Two modifications to the interpretation for these data might be considered:

    a. Plot only detected data for the geochemical correlations and compute the linear regressions and prediction intervals from those data. This may reduce the sum of the squared residuals and thus reduce the width of the prediction interval, yielding a smaller Upper Prediction Limit. This approach should only be considered with data sets reporting a reasonably small number of NDs and a strong correlation (R2 > 0.70) among the detected data.

    b. Plot only detected data for the geochemical correlations; for element pairs with strong correlations, use the linear regression equation and the reported values for the reference elements to compute values for the trace element NDs. Use the full trace-element data set (reported values plus computed NDs) to calculate BTVs.

    Response: Correlations were computed using one-half the method detection limit for non-detected concentrations. However, Upper Prediction Limits were presented for chemicals in the Upper Sand and Transition Units that were all detected and had a correlation coefficient at least 0.70. The second sentence of A.1.6.1 will be updated to read as follows, "Prediction limits were calculated for trace metals **that were detected in every sample** and that were highly correlated with aluminum and iron because aluminum and iron commonly appear in high concentrations in soil and are chemically associated with trace metals through chemical sequestration and other mechanism."

26. **Comment:** Appendix D, 02 – Ground Water: This file does not appear to have data from the bedrock wells or the existing Lower Sand monitoring wells near Area 3. Please review and add these data.

    Response: The Lower Sand monitoring wells near Area 3 and the bedrock well data will be included in the Ground Water data base file for the draft final version of the Background Study.

ATTACHMENT 1

TABLE 4-5

SOIL UPPER PREDICTION LIMITS
NAVAL AIR STATION, BRUNSWICK, MAINE

Parameter	Upper Prediction Limits							
	Upper Sand Surface Soil		Upper Sand Subsurface Soil		Transition Surface Soil		Transition Subsurface Soil	
	UPL	UPL Type	UPL	UPL Type	UPL	UPL Type	UPL	UPL Type
Inorganics (mg/kg)								
ALUMINUM	13600	Gamma WH	13600	Gamma WH	32300	Normal	32300	Normal
ANTIMONY	0.054	Normal	ND	ND	0.054	Normal	0.06	Normal
ARSENIC	5.6	Nonparametric	5.6	Nonparametric	15	Gamma WH	15	Gamma WH
BARIUM	15	Lognormal	15	Lognormal	100	Normal	100	Normal
BERYLLIUM	0.57	Lognormal	0.57	Lognormal	1.5	Normal	1.5	Normal
CADMIUM	0.048	Nonparametric	0.048	Nonparametric	0.06	Nonparametric	0.06	Nonparametric
CALCIUM	444	Normal	1180	Lognormal	1180	Lognormal	3270	Normal
CHROMIUM	16.2	Nonparametric	16.2	Nonparametric	58.9	Normal	58.9	Normal
COBALT	5.2	Gamma WH	5.2	Gamma WH	22.9	Normal	22.9	Normal
COPPER	6.8	Normal	6.8	Normal	37.7	Normal	37.7	Normal
IRON	15000	Nonparametric	15000	Nonparametric	46300	Normal	46300	Normal
LEAD	18	Normal	3.4	Normal	18	Normal	18	Normal
MAGNESIUM	1950	Normal	1950	Normal	11500	Normal	11500	Normal
MANGANESE	267	Normal	267	Normal	935	Normal	935	Normal
MERCURY	0.12	Gamma WH	ND	ND	0.12	Gamma WH	ND	ND
NICKEL	9.8	Normal	9.8	Normal	50.6	Normal	50.6	Normal
POTASSIUM	940	Normal	940	Normal	6450	Normal	6450	Normal
SELENIUM	ND	ND	ND	ND	1.4	Normal	ND	ND
SILVER	0.43	Lognormal	0.43	Lognormal	0.43	Lognormal	0.43	Lognormal
SODIUM	54.1	Normal	54.1	Normal	ND	ND	NA	NA
VANADIUM	27.9	Nonparametric	27.9	Nonparametric	71	Normal	71	Normal
ZINC	15.5	Nonparametric	15.5	Nonparametric	95	Normal	95	Normal
Pesticides/PCBs (µg/kg)								
4,4'-DDD	1.4	Normal	NA	NA	ND	ND	NA	NA
4,4'-DDE	1.7	Nonparametric	NA	NA	1.7	Nonparametric	NA	NA
4,4'-DDT	3.4	Gamma WH	NA	NA	NA	NA	NA	NA
PAHs (µg/kg)								
ANTHRACENE	6.1	Normal	ND	ND	6.1	Normal	ND	ND
BENZO(A)ANTHRACENE	16.9	Gamma WH	ND	ND	16.9	Gamma WH	NA	NA
BENZO(A)PYRENE	23.5	Normal	ND	ND	23.5	Normal	ND	ND
BENZO(B)FLUORANTHENE	40.4	Normal	ND	ND	40.4	Normal	ND	ND
BENZO(G,H,I)PERYLENE	15.1	Gamma WH	ND	ND	15.1	Gamma WH	ND	ND
BENZO(K)FLUORANTHENE	13.6	Normal	ND	ND	13.6	Normal	ND	ND
CHRYSENE	22.6	Nonparametric	ND	ND	22.6	Nonparametric	ND	ND
DIBENZO(A,H)ANTHRACENE	10.6	Normal	ND	ND	10.6	Normal	ND	ND
FLUORANTHENE	86.9	Lognormal	NA	NA	16.7	Nonparametric	ND	ND
INDENO(1,2,3-CD)PYRENE	28.2	Gamma WH	ND	ND	28.2	Gamma WH	ND	ND
PHENANTHRENE	40.8	Gamma WH	ND	ND	8.9	Nonparametric	ND	ND
PYRENE	73.9	Gamma WH	ND	ND	15.4	Nonparametric	ND	ND
Miscellaneous Parameters (mg/kg)								
TOTAL ORGANIC CARBON	30800	Normal	3840	Gamma WH	30800	Normal	3840	Gamma WH

UPLs were calculated using Pro UCL version 4.1.00.
Chemicals are listed only if there are enough detected samples in one soil group to calculate a UPL.

ND = Non-Detect
NA = Not enough detected samples to calculate a meaningful UPL.
UPL = 95% Upper Prediction
WH = Wilson Hilferty

TABLE 4-6

UPPER PREDICTION LIMITS - ALL SOILS (MIXED SOILS)
NAVAL AIR STATION, BRUNSWICK, MAINE

Parameter	UPL	UPL Type
Inorganics (mg/kg)		
ALUMINUM	29000	Nonparametric
ANTIMONY	0.072	Gamma WH
ARSENIC	14.2	Nonparametric
BARIUM	89.8	Nonparametric
BERYLLIUM	1.5	Nonparametric
CADMIUM	0.055	Nonparametric
CALCIUM	2920	Nonparametric
CHROMIUM	54.7	Nonparametric
COBALT	20.8	Nonparametric
COPPER	31.9	Nonparametric
IRON	43900	Nonparametric
LEAD	17.5	Nonparametric
MAGNESIUM	10400	Nonparametric
MANGANESE	819	Gamma WH
MERCURY	0.067	Gamma WH
NICKEL	47.5	Nonparametric
POTASSIUM	5920	Nonparametric
SELENIUM	0.61	Normal
SILVER	0.43	Lognormal
SODIUM	96.3	Nonparametric
VANADIUM	63	Nonparametric
ZINC	85.7	Nonparametric
Miscellaneous (mg/kg)		
TOTAL ORGANIC CARBON	28800	Nonparametric
PAHs (µg/kg)		
ANTHRACENE	4.1	Normal
BENZO(A)ANTHRACENE	6.2	Gamma WH
BENZO(A)PYRENE	16.2	Normal
BENZO(B)FLUORANTHENE	25.9	Normal
BENZO(G,H,I)PERYLENE	5.1	Gamma WH
BENZO(K)FLUORANTHENE	10	Normal
CHRYSENE	15.9	Nonparametric
DIBENZO(A,H)ANTHRACENE	6.3	Normal
FLUORANTHENE	26.9	Nonparametric
INDENO(1,2,3-CD)PYRENE	9.9	Gamma WH
PHENANTHRENE	14.6	Nonparametric
PYRENE	27.7	Nonparametric
Pesticides/PCBs (µg/kg)		
4,4'-DDD	0.82	Normal
4,4'-DDE	1.7	Nonparametric
4,4'-DDT	1.7	Gamma WH

UPLs were calculated using Pro UCL version 4.1.00.
Chemicals are listed only if there are enough detected samples to calculate a UPL.

UPL = 95% Upper Prediction
WH = Wilson Hilferty

TABLE 5-5

GROUNDWATER UPPER PREDICTION LIMITS
NAVAL AIR STATION, BRUNSWICK, MAINE

Parameter	Upper Prediction Limits															
	BEDROCK FALL		BEDROCK SPRING		LOWER SAND FALL		LOWER SAND SPRING		TRANSITION FALL		TRANSITION SPRING		UPPER SAND FALL		UPPER SAND SPRING	
	UPL	UPL TYPE	UPL	UPL TYPE	UPL	UPL TYPE	UPL	UPL TYPE	UPL	UPL TYPE	UPL	UPL TYPE	UPL	UPL TYPE	UPL	UPL TYPE
Inorganics (ug/L)																
ALUMINUM	1930	Lognormal	1930	Lognormal	1930	Lognormal	1930	Lognormal	3660	Gamma WH	3660	Gamma WH	1930	Lognormal	1930	Lognormal
ANTIMONY	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND
ARSENIC	NA	NA	13.8	Nonparametric	13.8	Nonparametric	13.8	Nonparametric	13.8	Nonparametric	13.8	Nonparametric	13.8	Nonparametric	ND	ND
BARIUM	43.3	Lognormal	43.3	Lognormal	9.8	Gamma WH	9.8	Gamma WH	43.3	Lognormal	43.3	Lognormal	43.3	Lognormal	43.3	Lognormal
BERYLLIUM	NA	NA	NA	NA	NA	NA	0.27	Nonparametric	ND	ND	0.27	Nonparametric	0.27	Nonparametric	0.27	Nonparametric
CADMIUM	NA	NA	0.61	Nonparametric	ND	ND	0.61	Nonparametric	ND	ND	NA	NA	ND	ND	NA	NA
CALCIUM	21800	Lognormal	21800	Lognormal	21800	Lognormal	21800	Lognormal	21800	Lognormal	21800	Lognormal	9640	Gamma WH	9640	Gamma WH
CHROMIUM	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
COBALT	12.1	Nonparametric	12.1	Nonparametric	12.1	Nonparametric	12.1	Nonparametric	2.4	Gamma WH	2.4	Gamma WH	12.1	Nonparametric	12.1	Nonparametric
COPPER	13.9	Nonparametric	13.9	Nonparametric	13.9	Nonparametric	13.9	Nonparametric	13.9	Nonparametric	13.9	Nonparametric	1.5	Gamma WH	1.5	Gamma WH
IRON	5090	Lognormal	5090	Lognormal	5090	Lognormal	5090	Lognormal	5090	Lognormal	5090	Lognormal	2100	Gamma WH	2100	Gamma WH
LEAD	2.2	Gamma WH	2.2	Gamma WH	2.2	Gamma WH	NA	NA	2.2	Gamma WH	2.2	Gamma WH	0.66	Lognormal	0.66	Lognormal
MAGNESIUM	13600	Nonparametric	13600	Nonparametric	13600	Nonparametric	13600	Nonparametric	13600	Nonparametric	13600	Nonparametric	2270	Gamma WH	2270	Gamma WH
MANGANESE	547	Gamma WH	547	Gamma WH	547	Gamma WH	547	Gamma WH	547	Gamma WH	547	Gamma WH	173	Gamma WH	173	Gamma WH
MERCURY	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND
NICKEL	4.1	Gamma WH	4.1	Gamma WH	4.1	Gamma WH	4.1	Gamma WH	7.1	Normal	7.1	Normal	4.1	Gamma WH	4.1	Gamma WH
POTASSIUM	3340	Normal	3340	Normal	3340	Normal	3340	Normal	3340	Normal	3340	Normal	1790	Normal	1790	Normal
SELENIUM	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	0.77	Normal
SILVER	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND
SODIUM	31600	Lognormal	31600	Lognormal	31600	Lognormal	31600	Lognormal	31600	Lognormal	31600	Lognormal	67800	Nonparametric	67800	Nonparametric
THALLIUM	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	NA	NA
VANADIUM	ND	ND	ND	ND	4.6	Gamma WH	ND	ND	NA	NA	4.6	Gamma WH	4.6	Gamma WH	NA	NA
ZINC	18.5	Lognormal	18.5	Lognormal	18.5	Lognormal	18.5	Lognormal	18.5	Lognormal	18.5	Lognormal	6.1	Normal	6.1	Normal
Dissolved Inorganics (ug/L)																
ALUMINUM	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	736	Normal	736	Normal	736	Normal
ANTIMONY	ND	ND	NA	NA	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND
ARSENIC	NA	NA	14.6	Nonparametric	14.6	Nonparametric	14.6	Nonparametric	14.6	Nonparametric	14.6	Nonparametric	14.6	Nonparametric	ND	ND
BARIUM	ND	ND	36.6	Lognormal	9.5	Gamma WH	9.5	Gamma WH	36.6	Lognormal	36.6	Lognormal	36.6	Lognormal	36.6	Lognormal
BERYLLIUM	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	0.4	Normal	0.4	Normal
CADMIUM	ND	ND	NA(1)	NA	ND	ND	0.8	Normal	ND	ND	ND	ND	ND	ND	NA	NA
CALCIUM	23800	Gamma WH	23800	Gamma WH	23800	Gamma WH	23800	Gamma WH	23800	Gamma WH	23800	Gamma WH	11700	Gamma WH	11700	Gamma WH
COBALT	NA	NA	9.1	Nonparametric	9.1	Nonparametric	9.1	Nonparametric	1.8	Gamma WH	1.8	Gamma WH	9.1	Nonparametric	9.1	Nonparametric
COPPER	ND	ND	NA	NA	NA	NA	1.8	Gamma WH	NA	NA	1.8	Gamma WH	1.8	Gamma WH	1.8	Gamma WH
IRON	NA	NA	1240	Lognormal	1240	Lognormal	1240	Lognormal	1240	Lognormal	1240	Lognormal	526	Gamma WH	526	Gamma WH
LEAD	ND	ND	NA	NA	0.20	Lognormal	ND	ND	NA	NA	0.20	Lognormal	0.20	Lognormal	0.20	Lognormal
MAGNESIUM	12000	Lognormal	12000	Lognormal	12000	Lognormal	12000	Lognormal	12000	Lognormal	12000	Lognormal	2250	Gamma WH	2250	Gamma WH
MANGANESE	432	Gamma WH	432	Gamma WH	432	Gamma WH	432	Gamma WH	432	Gamma WH	432	Gamma WH	432	Gamma WH	432	Gamma WH
NICKEL	ND	ND	2.7	Gamma WH	NA	NA	2.7	Gamma WH	5.4	Normal	5.4	Normal	2.7	Gamma WH	2.7	Gamma WH
POTASSIUM	3230	Normal	3230	Normal	3230	Normal	3230	Normal	3230	Normal	3230	Normal	1790	Normal	1790	Normal
SELENIUM	ND	ND	ND	ND	ND	ND	0.72	Normal	ND	ND	0.72	Normal	ND	ND	0.72	Normal
SODIUM	31200	Nonparametric	31200	Nonparametric	31200	Nonparametric	31200	Nonparametric	31200	Nonparametric	31200	Nonparametric	68200	Nonparametric	68200	Nonparametric
VANADIUM	ND	ND	ND	ND	1.7	Nonparametric	ND	ND	ND	ND	ND	ND	1.7	Nonparametric	ND	ND
ZINC	ND	ND	16.2	Nonparametric	NA	NA	16.2	Nonparametric	16.2	Nonparametric	16.2	Nonparametric	16.2	Nonparametric	16.2	Nonparametric
Miscellaneous (mg/L)																
BROMIDE	ND	ND	--	--	0.32	Normal	--	--	ND	ND	--	--	ND	ND	--	--
CHLORIDE	91.2	Nonparametric	--	--	91.2	Nonparametric	--	--	91.2	Nonparametric	--	--	91.2	Nonparametric	--	--

(1) Four samples is not enough to calculate a UPL.
UPLs were calculated using Pro UCL version 4.1.00.
Chemicals are listed only if there are enough detected samples to calculate a UPL.

ND = Non-Detect
NA = Not enough detected samples to calculate a meaningful UPL.
UPL = 95% Upper Prediction
WH = Wilson Hilferty
-- Chemcial was not analyzed for

TABLE 6-3

SURFACE WATER UPPER PREDICTION LIMITS
NAVAL AIR STATION, BRUNSWICK, MAINE

Parameter	Upper Prediction Limits							
	Coffins Ice Pond Fall		Coffins Ice Pond Spring		Mere Brook Fall		Mere Brook Spring	
	UPL	UPL Type	UPL	UPL Type	UPL	UPL Type	UPL	UPL Type
Inorganics (µg/L)								
ALUMINUM	762	Nonparametric	762	Nonparametric	762	Nonparametric	762	Nonparametric
ARSENIC	6.1	Gamma WH	ND	ND	6.1	Gamma WH	ND	ND
BARIUM	58.7	Gamma WH	58.7	Gamma WH	29.5	Gamma WH	29.5	Gamma WH
CADMIUM	ND	ND	ND	ND	ND	ND	NA	NA
CALCIUM	11900	Normal	11900	Normal	9770	Normal	9770	Normal
CHROMIUM	7.8	Nonparametric	ND	ND	7.8	Nonparametric	ND	ND
COBALT	1.7	Nonparametric	ND	ND	0.2	Normal	ND	ND
COPPER	NA	NA	NA	NA	ND	ND	ND	ND
IRON	3060	Nonparametric	362	Nonparametric	3060	Nonparametric	362	Nonparametric
LEAD	4.8	Nonparametric	4.8	Nonparametric	4.8	Nonparametric	4.8	Nonparametric
MAGNESIUM	2770	Gamma WH	2670	Nonparametric	2770	Gamma WH	2670	Nonparametric
MANGANESE	191	Gamma WH	105	Nonparametric	191	Gamma WH	105	Nonparametric
NICKEL	4.6	Gamma WH	4.6	GammaWH	2	Normal	2	Normal
POTASSIUM	3050	Normal	3050	Normal	2490	Nonparametric	2490	Nonparametric
SELENIUM	ND	ND	NA	NA	ND	ND	ND	ND
SODIUM	42400	Normal	42400	Normal	28300	Normal	28300	Normal
VANADIUM	NA	NA	ND	ND	ND	ND	ND	ND
ZINC	24.2	Nonparametric	24.2	Nonparametric	24.2	Nonparametric	ND	ND
Dissolved Inorganics (µg/L)								
ALUMINUM	ND	ND	85.6	Normal	24.2	Nonparametric	ND	ND
ARSENIC	NA	NA	ND	ND	2.7	Normal	ND	ND
BARIUM	42.6	Normal	42.6	Normal	26.4	Normal	26.4	Normal
CADMIUM	ND	ND	ND	ND	ND	ND	NA	NA
CALCIUM	11300	Normal	11300	Normal	9770(1)	Normal	9770(1)	Normal
CHROMIUM	1.5	Normal	ND	ND	1.6	Normal	ND	ND
COBALT	0.39	Normal	ND	ND	0.12	Nonparametric	ND	ND
COPPER	ND	ND	NA	NA	ND	ND	ND	ND
IRON	ND	ND	122	Normal	ND	ND	93.3	Normal
LEAD	ND	ND	0.33	Normal	ND	ND	ND	ND
MAGNESIUM	2520	Gamma WH	2510	Nonparametric	2520	Gamma WH	2510	Nonparametric
MANGANESE	160	Normal	160	Normal	77.2	Nonparametric	77.2	Nonparametric
NICKEL	3.1	Gamma WH	2.7	Normal	ND	ND	2.7	Normal
POTASSIUM	2890	Normal	2890	Normal	2390	Normal	2390	Normal
SELENIUM	ND	ND	NA	NA	ND	ND	ND	ND
SILVER	ND	ND	NA	NA	ND	ND	ND	ND
SODIUM	40400	Normal	40400	Normal	28400	Normal	28400	Normal
ZINC	6.6	Normal	12.7	Normal	ND	ND	ND	ND

UPLs were calculated using Pro UCL version 4.1.00.
Chemicals are listed only if there are enough detected samples in one group to calculate a UPL.
(1) Dissolved Calcium UPL calculated by ProUCL was greater than the Total Calcium UPL, the Total Calcium UPL will be used for both Total and Dissolved Calcium.
ND = Non-Detect
NA = Not enough detected samples to calculate a meaningful UPL.
UPL = 95% Upper Prediction
WH = Wilson Hilferty

TABLE 7-3

SEDIMENT UPPER PREDICTION LIMITS
NAVAL AIR STATION, BRUNSWICK, MAINE

Parameter	UPPER PREDICTION LIMITS							
	Coffins Ice Pond Fall		Coffins Ice Pond Spring		Mere Brook Fall		Mere Brook Spring	
	UPL	UPL TYPE	UPL	UPL TYPE	UPL	UPL TYPE	UPL	UPL TYPE
PAHs (ug/kg)								
2-METHYLNAPHTHALENE	57.1	Normal	57.1	Normal	60	Gamma WH	60	Gamma WH
ACENAPHTHENE	113	Gamma WH	113	Gamma WH	279	Gamma WH	292	Gamma WH
ACENAPHTHYLENE	442	Gamma WH	442	Gamma WH	30.4	Normal	30.4	Normal
ANTHRACENE	358	Gamma WH	358	Gamma WH	186	Lognormal	186	Lognormal
BENZO(A)ANTHRACENE	3660	Gamma WH	3660	Gamma WH	314	Normal	314	Normal
BENZO(A)PYRENE	5400	Gamma WH	5400	Gamma WH	316	Normal	316	Normal
BENZO(B)FLUORANTHENE	7480	Gamma WH	7480	Gamma WH	398	Normal	398	Normal
BENZO(G,H,I)PERYLENE	4480	Gamma WH	4480	Gamma WH	221	Normal	221	Normal
BENZO(K)FLUORANTHENE	5400	Gamma WH	5400	Gamma WH	218	Normal	218	Normal
CHRYSENE	6770	Gamma WH	6770	Gamma WH	365	Normal	365	Normal
DIBENZO(A,H)ANTHRACENE	1190	Normal	1190	Normal	69.5	Normal	69.5	Normal
FLUORANTHENE	10060	Gamma WH	10060	Gamma WH	1380	Gamma WH	1380	Gamma WH
FLUORENE	263	Gamma WH	263	Gamma WH	396	Lognormal	396	Lognormal
INDENO(1,2,3-CD)PYRENE	4360	Normal	4360	Normal	257	Normal	257	Normal
NAPHTHALENE	72.9	Gamma WH	72.9	Gamma WH	174	Gamma WH	174	Gamma WH
PHENANTHRENE	4650	Gamma WH	4650	Gamma WH	1210	Gamma WH	1210	Gamma WH
PYRENE	12030	Gamma WH	12030	Gamma WH	858	Normal	858	Normal
Pesticides/PCBs (ug/kg)								
4,4'-DDD	155	Normal	155	Normal	5.4	Normal	5.4	Normal
4,4'-DDE	47.9	Normal	47.9	Normal	2.5	Normal	2.5	Normal
4,4'-DDT	76.3	Gamma WH	76.3	Gamma WH	2.6	Normal	2.6	Normal
ALPHA-CHLORDANE	18.8	Normal	18.8	Normal	ND	ND	ND	ND
DELTA-BHC	4.5	Normal	4.5	Normal	ND	ND	ND	ND
GAMMA-CHLORDANE	NA	NA	NA	NA	ND	ND	1.4	Normal
Herbicides (ug/kg)								
MCPP	41471	Normal	ND	ND	ND	ND	ND	ND
Inorganics (mg/kg)								
ALUMINUM	23500	Normal	23500	Normal	5590	Normal	5590	Normal
ANTIMONY	0.94	Normal	ND	ND	NA	NA	NA	NA
ARSENIC	24.1	Normal	24.1	Normal	3.5	Normal	3.5	Normal
BARIUM	288	Normal	288	Normal	26.6	Normal	26.6	Normal
BERYLLIUM	2.2	Normal	2.2	Normal	0.36	Normal	0.36	Normal
CADMIUM	3.6	Normal	3.6	Normal	0.16	Normal	0.16	Normal
CALCIUM	8170	Normal	8170	Normal	1270	Gamma WH	1270	Gamma WH
CHROMIUM	76	Normal	76	Normal	46.7	Nonparametric	46.7	Nonparametric
COBALT	21.8	Normal	21.8	Normal	3.3	Gamma WH	3.3	Gamma WH
COPPER	65.4	Normal	65.4	Normal	5.4	Normal	5.4	Normal

TABLE 7-3

SEDIMENT UPPER PREDICTION LIMITS
NAVAL AIR STATION, BRUNSWICK, MAINE

Parameter	UPPER PREDICTION LIMITS							
	Coffins Ice Pond Fall		Coffins Ice Pond Spring		Mere Brook Fall		Mere Brook Spring	
	UPL	UPL TYPE	UPL	UPL TYPE	UPL	UPL TYPE	UPL	UPL TYPE
IRON	30200	Normal	30200	Normal	5620	Normal	5620	Normal
LEAD	222	Normal	222	Normal	201	Nonparametric	201	Nonparametric
MAGNESIUM	8440	Normal	8440	Normal	1530	Normal	1530	Normal
MANGANESE	705	Normal	705	Normal	205	Normal	205	Normal
MERCURY	0.24	Normal	0.24	Normal	ND	ND	ND	ND
NICKEL	55.1	Normal	55.1	Normal	6.5	Normal	6.5	Normal
POTASSIUM	4150	Normal	4150	Normal	511	Normal	511	Normal
SELENIUM	3.3	Normal	3.3	Normal	ND	ND	0.86	Gamma WH
SILVER	0.54	Nonparametric	0.54	Nonparametric	ND	ND	NA	NA
SODIUM	787	Gamma WH	787	Gamma WH	79.8	Normal	79.8	Normal
THALLIUM	2.3	Gamma WH	2.3	Gamma WH	ND	ND	NA	NA
VANADIUM	78.1	Normal	78.1	Normal	11.2	Normal	11.2	Normal
ZINC	404	Normal	404	Normal	35.5	Normal	35.5	Normal
Miscellaneous (mg/kg)								
TOTAL ORGANIC CARBON	259000	Gamma WH	259000	Gamma WH	31020	Gamma WH	31020	Gamma WH

UPLs were calculated using Pro UCL version 4.1.00.
Chemicals are listed only if there are enough detected samples in one sediment group to calculate a UPL.

ND = Non-Detect
NA = Not enough detected samples to calculate a meaningful UPL.
UPL = 95% Upper Prediction
WH = Wilson Hilferty

ATTACHMENT 2

Table A.2.1
Distributional Shape Assessment
Lower Sand Fall Groundwater
Naval Air Station, Brunswick, Maine

Parameter	W Statistic		W Critical Value	Data Distribution
	Normal	LogNormal		
Inorganics				
ALUMINUM	>50%	>50%	0.887	Assumed Nonparametric
ARSENIC	>50%	>50%	0.887	Assumed Nonparametric
BARIUM	0.754	0.916	0.887	LogNormal
BERYLLIUM	>50%	>50%	0.887	Assumed Nonparametric
CALCIUM	0.914	0.929	0.887	LogNormal
CHROMIUM	>50%	>50%	0.887	Assumed Nonparametric
COBALT	>50%	>50%	0.887	Assumed Nonparametric
COPPER	>50%	>50%	0.887	Assumed Nonparametric
IRON	0.664	0.896	0.887	LogNormal
LEAD	>50%	>50%	0.887	Assumed Nonparametric
MAGNESIUM	0.951	0.897	0.887	Normal
MANGANESE	0.861	0.754	0.887	Normal
NICKEL	>50%	>50%	0.887	Assumed Nonparametric
POTASSIUM	0.962	0.892	0.887	Normal
SODIUM	0.886	0.935	0.887	LogNormal
VANADIUM	>50%	>50%	0.887	Assumed Nonparametric
ZINC	>50%	>50%	0.887	Assumed Nonparametric
Dissolved Inorganics				
ARSENIC	>50%	>50%	0.887	Assumed Nonparametric
BARIUM	0.679	0.97	0.887	LogNormal
CALCIUM	0.921	0.937	0.887	LogNormal
COBALT	>50%	>50%	0.887	Assumed Nonparametric
COPPER	>50%	>50%	0.887	Assumed Nonparametric
IRON	0.491	0.924	0.887	LogNormal
LEAD	>50%	>50%	0.887	Assumed Nonparametric
MAGNESIUM	0.951	0.889	0.887	Normal
MANGANESE	0.848	0.805	0.887	Nonparametric
NICKEL	>50%	>50%	0.887	Assumed Nonparametric
POTASSIUM	0.947	0.883	0.887	Normal
SODIUM	0.878	0.931	0.887	LogNormal
VANADIUM	>50%	>50%	0.887	Assumed Nonparametric
ZINC	>50%	>50%	0.887	Assumed Nonparametric
Miscellaneous				
BROMIDE	>50%	>50%	0.887	Assumed Nonparametric
CHLORIDE	0.768	0.941	0.887	LogNormal

> 50% ND = More than 50 percent of the data values are non-detect.
Assumed Nonparametric: More than 50 percent of the data is non-detect, data are assumed to be nonparametric.
Lognormal: W statistic for the Log tranformed data is greater than W critical value and the W statistic for the raw data.
Nonparametric: W statistics for the Log transformed data and the raw data are less than the W critical value.
Normal: W statistic for raw data is greater than W critical value and greater than the W statistic for the log transformed data.
Chemicals only appear if detected once.

Table A.2.4.1
Groundwater Hypothesis Tests
Naval Air Station, Brunswick, Maine

	Frequency of Detection								Data Distribution								Test
Parameter	BEDROCK FALL	BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITIO N FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING	BEDROCK FALL	BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING	
Inorganics																	
ALUMINUM	2/4	2/4	2/13	5/16	8/15	13/15	6/15	12/15	NA	NA	Nonparametric	Nonparametric	LogNormal	LogNormal	Nonparametric	LogNormal	KRUSKAL WALLIS
ANTIMONY	0/4	0/4	0/13	1/16	1/15	0/15	0/15	0/15	NA	NA	NA	NA	NA	NA	NA	NA	NA ONLY DETECTED ONCE IN TWO GROUPS
ARSENIC	1/4	2/4	5/13	11/16	2/15	11/15	3/15	0/15	NA	NA	Nonparametric	Nonparametric	Nonparametric	Normal	Nonparametric	NA	KRUSKAL WALLIS
BARIUM	3/4	4/4	11/13	16/16	15/15	15/15	14/15	15/15	NA	NA	LogNormal	LogNormal	LogNormal	Normal	LogNormal	LogNormal	KRUSKAL WALLIS
BERYLLIUM	1/4	1/4	1/13	2/16	0/15	3/15	3/15	8/15	NA	NA	Nonparametric	Nonparametric	NA	Nonparametric	Nonparametric	Nonparametric	KRUSKAL WALLIS
CADMIUM	1/4	4/4	0/13	4/16	0/15	2/15	0/15	1/15	NA	NA	NA	Nonparametric	NA	Nonparametric		Nonparametric	KRUSKAL WALLIS
CALCIUM	4/4	4/4	13/13	16/16	15/15	15/15	15/15	15/15	NA	NA	LogNormal	LogNormal	LogNormal	LogNormal	LogNormal	Nonparametric	KRUSKAL WALLIS
CHROMIUM	0/4	0/4	2/13	0/16	0/15	0/15	0/15	0/15	NA	NA	Nonparametric	NA	NA	NA	NA	NA	NA ONLY DETECTED IN ONE GROUP
COBALT	4/4	2/4	6/13	8/16	15/15	14/15	9/15	12/15	NA	NA	Nonparametric	LogNormal	LogNormal	Normal	LogNormal	LogNormal	KRUSKAL WALLIS
COPPER	3/4	1/4	2/13	5/16	7/15	9/15	3/15	6/15	NA	NA	Nonparametric	Nonparametric	Nonparametric	Nonparametric	Nonparametric	LogNormal	KRUSKAL WALLIS
IRON	4/4	4/4	10/13	15/16	14/15	15/15	12/15	7/15	NA	NA	LogNormal	LogNormal	LogNormal	LogNormal	LogNormal	LogNormal	KRUSKAL WALLIS
LEAD	2/4	2/4	4/13	1/16	6/15	4/15	4/15	11/15	NA	NA	Nonparametric	Nonparametric	Nonparametric	Nonparametric	Nonparametric	Nonparametric	KRUSKAL WALLIS
MAGNESIUM	4/4	4/4	13/13	16/16	15/15	15/15	15/15	15/15	NA	NA	Normal	Normal	LogNormal	LogNormal	LogNormal	Nonparametric	KRUSKAL WALLIS
MANGANESE	4/4	3/4	10/13	15/16	15/15	15/15	15/15	13/15	NA	NA	Normal	Normal	LogNormal	Normal	LogNormal	LogNormal	KRUSKAL WALLIS
MERCURY	1/4	0/4	0/13	0/16	0/15	1/15	0/15	0/15	NA	NA	NA	NA	NA	Nonparametric	NA	LogNormal	NA ONLY DETECTED ONCE IN TWO GROUPS
NICKEL	2/4	2/4	3/13	6/16	12/15	8/15	7/15	7/15	NA	NA	Nonparametric	Nonparametric	Normal	LogNormal	Nonparametric	LogNormal	KRUSKAL WALLIS
POTASSIUM	3/4	4/4	12/13	16/16	15/15	15/15	7/15	15/15	NA	NA	Normal	Normal	LogNormal	LogNormal	Nonparametric	Nonparametric	KRUSKAL WALLIS
SELENIUM	0/4	0/4	0/13	0/16	0/15	2/15	0/15	7/15	NA	NA	NA	NA	NA	Nonparametric	NA	LogNormal	NA ONLY DETECTED IN ONE GROUP
SILVER	0/4	0/4	0/13	1/16	0/15	0/15	0/15	0/15	NA	NA	NA	Nonparametric	NA	NA	NA	NA	NA ONLY DETECTED IN ONE GROUP
SODIUM	4/4	4/4	13/13	16/16	15/15	15/15	15/15	15/15	NA	NA	LogNormal	LogNormal	LogNormal	LogNormal	Nonparametric	Nonparametric	KRUSKAL WALLIS
THALLIUM	0/4	0/4	0/13	1/16	0/15	0/15	0/15	2/15	NA	NA	NA	Nonparametric	NA	NA	NA	Nonparametric	NA LOW FREQUENCY OF DETECTIONS
VANADIUM	0/4	0/4	6/13	0/16	1/15	2/15	7/15	1/15	NA	NA	Nonparametric	NA	Nonparametric	Nonparametric	Nonparametric	Nonparametric	KRUSKAL WALLIS
ZINC	3/4	2/4	5/13	3/16	13/15	3/15	3/15	6/15	NA	NA	Nonparametric	Nonparametric	Normal	Nonparametric	Nonparametric	Nonparametric	KRUSKAL WALLIS
Dissolved Inorganics																	
ALUMINUM	0/4	1/4	0/13	0/16	0/15	2/15	3/15	7/15	NA	NA	NA	NA	NA	Nonparametric	Nonparametric	Nonparametric	KRUSKAL WALLIS
ANTIMONY	0/4	1/4	0/13	1/16	0/15	0/15	0/15	0/15	NA	NA	NA	Nonparametric	NA	NA	NA	NA	NA ONLY DETECTED TWICE IN TWO GROUPS
ARSENIC	1/4	3/4	5/13	12/16	2/15	10/15	2/15	0/15	NA	NA	Nonparametric	Nonparametric	Nonparametric	Normal	Nonparametric	NA	KRUSKAL WALLIS
BARIUM	1/4	4/4	9/13	16/16	14/15	15/15	13/15	15/15	NA	NA	LogNormal	LogNormal	LogNormal	LogNormal	LogNormal	Nonparametric	KRUSKAL WALLIS
BERYLLIUM	0/4	1/4	0/13	0/16	0/15	0/15	3/15	6/15	NA	NA	NA	NA	NA	NA	Nonparametric	Nonparametric	GEHAN
CADMIUM	0/4	3/4	0/13	4/16	0/15	0/15	0/15	1/15	NA	NA	NA	Nonparametric	NA	NA	NA	Nonparametric	GEHAN
CALCIUM	4/4	4/4	13/13	16/16	15/15	15/15	15/15	15/15	NA	NA	LogNormal	LogNormal	LogNormal	LogNormal	LogNormal	LogNormal	KRUSKAL WALLIS
COBALT	1/4	2/4	2/13	3/16	14/15	13/15	7/15	11/15	NA	NA	Nonparametric	Nonparametric	Normal	LogNormal	Nonparametric	LogNormal	KRUSKAL WALLIS
COPPER	0/4	1/4	1/13	5/16	1/15	7/15	2/15	6/15	NA	NA	Nonparametric	Nonparametric	Nonparametric	Nonparametric	Nonparametric	Nonparametric	KRUSKAL WALLIS
IRON	1/4	2/4	9/13	10/16	8/15	9/15	7/15	2/15	NA	NA	LogNormal	Nonparametric	LogNormal	LogNormal	Nonparametric	Nonparametric	KRUSKAL WALLIS
LEAD	0/4	1/4	2/13	0/16	1/15	2/15	2/15	8/15	NA	NA	Nonparametric	NA	Nonparametric	Nonparametric	Nonparametric	Nonparametric	KRUSKAL WALLIS
MAGNESIUM	4/4	4/4	13/13	16/16	15/15	15/15	15/15	15/15	NA	NA	Normal	Normal	LogNormal	LogNormal	Nonparametric	LogNormal	KRUSKAL WALLIS
MANGANESE	3/4	3/4	9/13	13/16	14/15	15/15	15/15	12/15	NA	NA	Nonparametric	Normal	Normal	LogNormal	LogNormal	LogNormal	KRUSKAL WALLIS
NICKEL	0/4	2/4	1/13	3/16	9/15	7/15	5/15	9/15	NA	NA	Nonparametric	Nonparametric	Normal	Nonparametric	Nonparametric	LogNormal	KRUSKAL WALLIS
POTASSIUM	3/4	4/4	12/13	16/16	15/15	15/15	8/15	15/15	NA	NA	Normal	Normal	Normal	Normal	LogNormal	LogNormal	KRUSKAL WALLIS
SELENIUM	0/4	0/4	0/13	2/16	0/15	2/15	0/15	3/15	NA	NA	NA	Nonparametric	NA	Nonparametric	NA	Nonparametric	KRUSKAL WALLIS
SODIUM	4/4	4/4	13/13	16/16	15/15	15/15	15/15	15/15	NA	NA	LogNormal	LogNormal	LogNormal	LogNormal	Nonparametric	Nonparametric	KRUSKAL WALLIS
VANADIUM	0/4	0/4	5/13	0/16	0/15	0/15	5/15	0/15	NA	NA	Nonparametric	NA	NA	NA	Nonparametric	NA	GEHAN
ZINC	0/4	2/4	3/13	1/16	7/15	2/15	2/15	10/15	NA	NA	Nonparametric	Nonparametric	Nonparametric	Nonparametric	Nonparametric	LogNormal	KRUSKAL WALLIS
Miscellaneous																	
BROMIDE	0/4	NA	3/13	NA	0/15	NA	0/15	NA	NA	NA	Nonparametric	NA	NA	NA	NA	NA	NA ONLY DETECTED IN ONE GROUP
CHLORIDE	4/4	NA	13/13	NA	15/15	NA	15/15	NA	NA	NA	LogNormal	NA	LogNormal	NA	Nonparametric	NA	KRUSKAL WALLIS

NA = Not Applicable

Table A.2.4.2
Groundwater Kruskal Wallis Test Results
Naval Air Station, Brunswick, Maine

Parameter	TEST	P-VALUE	CONCLUSION
Inorganics			
ALUMINUM	KRUSKAL WALLIS	0.0045	At Least One Group is Different
ARSENIC	KRUSKAL WALLIS	0.4567	All Groups are Similar
BARIUM	KRUSKAL WALLIS	0.0000	At Least One Group is Different
BERYLLIUM	KRUSKAL WALLIS	0.0218	At Least One Group is Different
CADMIUM	KRUSKAL WALLIS	0.0052	At Least One Group is Different
CALCIUM	KRUSKAL WALLIS	0.0000	At Least One Group is Different
COBALT	KRUSKAL WALLIS	0.0000	At Least One Group is Different
COPPER	KRUSKAL WALLIS	0.0001	At Least One Group is Different
IRON	KRUSKAL WALLIS	0.0041	At Least One Group is Different
LEAD	KRUSKAL WALLIS	0.0043	At Least One Group is Different
MAGNESIUM	KRUSKAL WALLIS	0.0000	At Least One Group is Different
MANGANESE	KRUSKAL WALLIS	0.0110	At Least One Group is Different
NICKEL	KRUSKAL WALLIS	0.0000	At Least One Group is Different
POTASSIUM	KRUSKAL WALLIS	0.0000	At Least One Group is Different
SODIUM	KRUSKAL WALLIS	0.0033	At Least One Group is Different
VANADIUM	KRUSKAL WALLIS	0.1891	All Groups are Similar
ZINC	KRUSKAL WALLIS	0.0006	At Least One Group is Different
Dissolved Inorganics			
ALUMINUM	KRUSKAL WALLIS	0.2206	All Groups are Similar
ARSENIC	KRUSKAL WALLIS	0.0918	All Groups are Similar
BARIUM	KRUSKAL WALLIS	0.0000	At Least One Group is Different
CALCIUM	KRUSKAL WALLIS	0.0000	At Least One Group is Different
COBALT	KRUSKAL WALLIS	0.0000	At Least One Group is Different
COPPER	KRUSKAL WALLIS	0.5457	All Groups are Similar
IRON	KRUSKAL WALLIS	0.0129	At Least One Group is Different
LEAD	KRUSKAL WALLIS	0.0036	At Least One Group is Different
MAGNESIUM	KRUSKAL WALLIS	0.0000	At Least One Group is Different
MANGANESE	KRUSKAL WALLIS	0.0224	At Least One Group is Different
NICKEL	KRUSKAL WALLIS	0.0012	At Least One Group is Different
POTASSIUM	KRUSKAL WALLIS	0.0000	At Least One Group is Different
SELENIUM	KRUSKAL WALLIS	0.8035	All Groups are Similar
SODIUM	KRUSKAL WALLIS	0.0038	At Least One Group is Different
ZINC	KRUSKAL WALLIS	0.1433	All Groups are Similar
Miscellaneous			
CHLORIDE	KRUSKAL WALLIS	0.1993	All Groups are Similar

5 percent Significance Level was used.

Table A.2.4.3
Groundwater Nonparametric Multiple Comparison Test Results
Naval Air Station, Brunswick, Maine

Parameter	P-Values for Nonparametric Multiple Comparisons									Conclusions[1]
Inorganics										
ALUMINUM		BEDROCK FALL	BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING	Bedrock Fall, Bedrock Spring, Lower Sand Fall, Lower Sand Spring, Upper Sand Fall and Upper Sand Spring are Similar. Transition Fall and Transition Spring are Similar.
	BEDROCK FALL		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	
	BEDROCK SPRING	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	
	LOWER SAND FALL	1.000000	1.000000		1.000000	0.117188	0.067883	1.000000	1.000000	
	LOWER SAND SPRING	1.000000	1.000000	1.000000		0.074185	0.040717	1.000000	1.000000	
	TRANSITION FALL	1.000000	1.000000	0.117188	0.074185		1.000000	1.000000	1.000000	
	TRANSITION SPRING	1.000000	1.000000	0.067883	0.040717	1.000000		0.767703	1.000000	
	UPPER SAND FALL	1.000000	1.000000	1.000000	1.000000	1.000000	0.767703		1.000000	
	UPPER SAND SPRING	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		
BARIUM		BEDROCK FALL	BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING	Bedrock Fall, Bedrock Spring, Transition Fall, Transition Spring, Upper Sand Fall and Upper Sand Spring are similar. Lower Sand Fall and Lower Sand Spring are similar.
	BEDROCK FALL		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	
	BEDROCK SPRING	1.000000		1.000000	1.000000	0.191289	1.000000	0.977641	1.000000	
	LOWER SAND FALL	1.000000	1.000000		1.000000	0.001410	0.700425	0.042768	0.188403	
	LOWER SAND SPRING	1.000000	1.000000	1.000000		0.000108	0.190052	0.006384	0.038295	
	TRANSITION FALL	1.000000	0.191289	0.001410	0.000108		1.000000	1.000000	1.000000	
	TRANSITION SPRING	1.000000	1.000000	0.700425	0.190052	1.000000		1.000000	1.000000	
	UPPER SAND FALL	1.000000	0.977641	0.042768	0.006384	1.000000	1.000000		1.000000	
	UPPER SAND SPRING	1.000000	1.000000	0.188403	0.038295	1.000000	1.000000	1.000000		
BERYLLIUM		LOWER SAND SPRING	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING					Lower Sand Spring, Transition Spring, Upper Sand Fall, and Upper Sand Spring are similar.
	LOWER SAND SPRING		1.000000	0.629448	0.128459					
	TRANSITION SPRING	1.000000		1.000000	0.384887					
	UPPER SAND FALL	0.629448	1.000000		1.000000					
	UPPER SAND SPRING	0.128459	0.384887	1.000000						
CADMIUM		BEDROCK SPRING	LOWER SAND SPRING	TRANSITION SPRING						Lower Sand Spring and Bedrock Spring are Similar.
	BEDROCK SPRING		0.175058	0.024321						
	LOWER SAND SPRING	0.175058		0.689267						
	TRANSITION SPRING	0.024321	0.689267							
	BEDROCK SPRING		0.175058	0.024321						
CALCIUM		BEDROCK FALL	BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING	Bedrock Fall, Bedrock Spring, Lower Sand Fall, Lower Sand Spring, Transition Fall, and Transition Spring are Similar. Upper Sand Fall and Upper Sand Spring are Similar.
	BEDROCK FALL		1.000000	1.000000	1.000000	1.000000	1.000000	0.004338	0.001251	
	BEDROCK SPRING	1.000000		1.000000	1.000000	0.747089	0.784171	0.001631	0.000440	
	LOWER SAND FALL	1.000000	1.000000		1.000000	1.000000	1.000000	0.080717	0.017292	
	LOWER SAND SPRING	1.000000	1.000000	1.000000		1.000000	1.000000	0.055394	0.010329	
	TRANSITION FALL	1.000000	0.747089	1.000000	1.000000		1.000000	0.152394	0.033449	
	TRANSITION SPRING	1.000000	0.784171	1.000000	1.000000	1.000000		0.139239	0.030182	
	UPPER SAND FALL	0.004338	0.001631	0.080717	0.055394	0.152394	0.139239		1.000000	
	UPPER SAND SPRING	0.001251	0.000440	0.017292	0.010329	0.033449	0.030182	1.000000		

Table A.2.4.3
Groundwater Nonparametric Multiple Comparison Test Results
Naval Air Station, Brunswick, Maine

Parameter	P-Values for Nonparametric Multiple Comparisons									Conclusions[1]
COBALT		BEDROCK FALL	BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING	Bedrock Fall, Bedrock Spring, Lower Sand Fall, Lower Sand Spring, Upper Sand Fall and Upper Sand Spring are Similar. Transition Fall and Transition Spring are Similar.
	BEDROCK FALL		1.000000	1.000000	0.613290	1.000000	1.000000	1.000000	1.000000	
	BEDROCK SPRING	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	
	LOWER SAND FALL	1.000000	1.000000		1.000000	0.000936	0.058575	1.000000	1.000000	
	LOWER SAND SPRING	0.613290	1.000000	1.000000		0.000005	0.001265	1.000000	1.000000	
	TRANSITION FALL	1.000000	1.000000	0.000936	0.000005		1.000000	0.015828	0.017212	
	TRANSITION SPRING	1.000000	1.000000	0.058575	0.001265	1.000000		0.546849	0.580931	
	UPPER SAND FALL	1.000000	1.000000	1.000000	1.000000	0.015828	0.546849		1.000000	
	UPPER SAND SPRING	1.000000	1.000000	1.000000	1.000000	0.017212	0.580931	1.000000		
COPPER		BEDROCK FALL	BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING	Combine Bedrock Fall, Bedrock Spring, Lower Sand Fall, Lower Sand Spring, Transition Fall and Transition Spring. Combine Upper Sand Fall and Upper Sand Spring.
	BEDROCK FALL		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	0.326884	
	BEDROCK SPRING	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	
	LOWER SAND FALL	1.000000	1.000000		1.000000	0.443515	0.372963	1.000000	1.000000	
	LOWER SAND SPRING	1.000000	1.000000	1.000000		0.062941	0.050421	1.000000	1.000000	
	TRANSITION FALL	1.000000	1.000000	0.443515	0.062941		1.000000	0.250434	0.004900	
	TRANSITION SPRING	1.000000	1.000000	0.372963	0.050421	1.000000		0.206727	0.003775	
	UPPER SAND FALL	1.000000	1.000000	1.000000	1.000000	0.250434	0.206727		1.000000	
	UPPER SAND SPRING	0.326884	1.000000	1.000000	1.000000	0.004900	0.003775	1.000000		
IRON		BEDROCK FALL	BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING	Combine Bedrock Fall, Bedrock Spring, Lower Sand Fall, Lower Sand Spring, Transition Fall and Transition Spring. Combine Upper Sand Fall and Upper Sand Spring.
	BEDROCK FALL		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	
	BEDROCK SPRING	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	
	LOWER SAND FALL	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	
	LOWER SAND SPRING	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	
	TRANSITION FALL	1.000000	1.000000	1.000000	1.000000		1.000000	0.063641	0.050612	
	TRANSITION SPRING	1.000000	1.000000	1.000000	1.000000	1.000000		0.061608	0.048965	
	UPPER SAND FALL	1.000000	1.000000	1.000000	1.000000	0.063641	0.061608		1.000000	
	UPPER SAND SPRING	1.000000	1.000000	1.000000	1.000000	0.050612	0.048965	1.000000		
LEAD		BEDROCK FALL	BEDROCK SPRING	LOWER SAND FALL	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING		Bedrock Fall, Bedrock Spring, Lower Sand Fall, Transition Fall, and Transition Spring are Similar. Upper Sand Fall and Upper Sand Spring are Similar.
	BEDROCK FALL		1.000000	0.810190	1.000000	1.000000	0.444459	1.000000		
	BEDROCK SPRING	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000		
	LOWER SAND FALL	0.810190	1.000000		0.108002	0.541242	1.000000	1.000000		
	TRANSITION FALL	1.000000	1.000000	0.108002		1.000000	0.027235	0.716660		
	TRANSITION SPRING	1.000000	1.000000	0.541242	1.000000		0.180964	1.000000		
	UPPER SAND FALL	0.444459	1.000000	1.000000	0.027235	0.180964		1.000000		
	UPPER SAND SPRING	1.000000	1.000000	1.000000	0.716660	1.000000	1.000000			
MAGNESIUM		BEDROCK FALL	BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING	Bedrock Fall, Bedrock Spring. Lower Sand Fall, Lower Sand Spring, Transition Fall, and Transition Spring are Similar. Upper Sand Fall and Upper Sand Spring are Similar.
	BEDROCK FALL		1.000000	1.000000	1.000000	1.000000	1.000000	0.230909	0.123167	
	BEDROCK SPRING	1.000000		1.000000	1.000000	1.000000	1.000000	0.794749	0.461337	
	LOWER SAND FALL	1.000000	1.000000		1.000000	1.000000	1.000000	0.008926	0.002629	
	LOWER SAND SPRING	1.000000	1.000000	1.000000		1.000000	1.000000	0.011595	0.003256	
	TRANSITION FALL	1.000000	1.000000	1.000000	1.000000		1.000000	0.000020	0.000004	
	TRANSITION SPRING	1.000000	1.000000	1.000000	1.000000	1.000000		0.000019	0.000003	
	UPPER SAND FALL	0.230909	0.794749	0.008926	0.011595	0.000020	0.000019		1.000000	
	UPPER SAND SPRING	0.123167	0.461337	0.002629	0.003256	0.000004	0.000003	1.000000		

Table A.2.4.3
Groundwater Nonparametric Multiple Comparison Test Results
Naval Air Station, Brunswick, Maine

Parameter	P-Values for Nonparametric Multiple Comparisons									Conclusions[1]
MANGANESE		BEDROCK FALL	BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING	Bedrock Fall, Bedrock Spring. Lower Sand Fall, Lower Sand Spring, Transition Fall, and Transition Spring are Similar. Upper Sand Fall and Upper Sand Spring are Similar.
	BEDROCK FALL		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	
	BEDROCK SPRING	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	
	LOWER SAND FALL	1.000000	1.000000		1.000000	1.000000	1.000000	0.898991	0.082186	
	LOWER SAND SPRING	1.000000	1.000000	1.000000		1.000000	1.000000	0.792559	0.060022	
	TRANSITION FALL	1.000000	1.000000	1.000000	1.000000		1.000000	0.479644	0.032696	
	TRANSITION SPRING	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	
	UPPER SAND FALL	1.000000	1.000000	0.898991	0.792559	0.479644	1.000000		1.000000	
	UPPER SAND SPRING	1.000000	1.000000	0.082186	0.060022	0.032696	1.000000	1.000000		
NICKEL		BEDROCK FALL	BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING	Bedrock Fall, Bedrock Spring, Lower Sand Fall, Lower Sand Spring, Upper Sand Fall and Upper Sand Spring are Similar. Transition Fall and Transition Spring are Similar.
	BEDROCK FALL		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	
	BEDROCK SPRING	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	
	LOWER SAND FALL	1.000000	1.000000		1.000000	0.000286	0.059001	1.000000	1.000000	
	LOWER SAND SPRING	1.000000	1.000000	1.000000		0.000466	0.106051	1.000000	1.000000	
	TRANSITION FALL	1.000000	1.000000	0.000286	0.000466		1.000000	0.031596	0.008904	
	TRANSITION SPRING	1.000000	1.000000	0.059001	0.106051	1.000000		1.000000	0.755063	
	UPPER SAND FALL	1.000000	1.000000	1.000000	1.000000	0.031596	1.000000		1.000000	
	UPPER SAND SPRING	1.000000	1.000000	1.000000	1.000000	0.008904	0.755063	1.000000		
POTASSIUM		BEDROCK FALL	BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING	Bedrock Fall, Bedrock Spring, Lower Sand Fall, Lower Sand Spring, Transition Fall, and Transition Spring are Similar. Upper Sand Fall and Upper Sand Spring are Similar.
	BEDROCK FALL		1.000000	1.000000	1.000000	1.000000	1.000000	0.152617	0.135726	
	BEDROCK SPRING	1.000000		1.000000	1.000000	1.000000	1.000000	0.385318	0.346452	
	LOWER SAND FALL	1.000000	1.000000		1.000000	1.000000	1.000000	0.002168	0.001711	
	LOWER SAND SPRING	1.000000	1.000000	1.000000		1.000000	1.000000	0.001151	0.000889	
	TRANSITION FALL	1.000000	1.000000	1.000000	1.000000		1.000000	0.001296	0.001007	
	TRANSITION SPRING	1.000000	1.000000	1.000000	1.000000	1.000000		0.049508	0.040528	
	UPPER SAND FALL	0.152617	0.385318	0.002168	0.001151	0.001296	0.049508		1.000000	
	UPPER SAND SPRING	0.135726	0.346452	0.001711	0.000889	0.001007	0.040528	1.000000		
SODIUM		BEDROCK FALL	BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING	Bedrock Fall, Bedrock Spring, Lower Sand Fall, Lower Sand Spring, Transition Fall, and Transition Spring are Similar. Upper Sand Fall and Upper Sand Spring are Similar.
	BEDROCK FALL		1.000000	1.000000	1.000000	0.945075	0.617771	0.063832	0.019273	
	BEDROCK SPRING	1.000000		1.000000	1.000000	1.000000	1.000000	0.312036	0.110928	
	LOWER SAND FALL	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	0.326307	
	LOWER SAND SPRING	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	0.668499	
	TRANSITION FALL	0.945075	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	
	TRANSITION SPRING	0.617771	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	
	UPPER SAND FALL	0.063832	0.312036	1.000000	1.000000	1.000000	1.000000		1.000000	
	UPPER SAND SPRING	0.019273	0.110928	0.326307	0.668499	1.000000	1.000000	1.000000		
ZINC		BEDROCK FALL	BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING	Transition Fall and Spring are Similar. Bedrock Fall, Bedrock Spring, Lower Sand Fall, Lower Sand Spring, Upper Sand Fall and Upper Sand Spring are Similar.
	BEDROCK FALL		1.000000	1.000000	0.676956	1.000000	1.000000	1.000000	0.259653	
	BEDROCK SPRING	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	
	LOWER SAND FALL	1.000000	1.000000		1.000000	0.789047	1.000000	1.000000	1.000000	
	LOWER SAND SPRING	0.676956	1.000000	1.000000		0.006609	1.000000	1.000000	1.000000	
	TRANSITION FALL	1.000000	1.000000	0.789047	0.006609		0.275242	0.022328	0.000825	
	TRANSITION SPRING	1.000000	1.000000	1.000000	1.000000	0.275242		1.000000	1.000000	
	UPPER SAND FALL	1.000000	1.000000	1.000000	1.000000	0.022328	1.000000		1.000000	
	UPPER SAND SPRING	0.259653	1.000000	1.000000	1.000000	0.000825	1.000000	1.000000		

Table A.2.4.3
Groundwater Nonparametric Multiple Comparison Test Results
Naval Air Station, Brunswick, Maine

Parameter	P-Values for Nonparametric Multiple Comparisons									Conclusions[1]
Dissolved Inorganics										
BARIUM		BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING		Bedrock Spring, Tranisition Fall, Transition Spring, Upper Sand Fall, and Upper Sand Spring are Similar. Lower Sand Fall and Lower Sand Spring are Similar.
	BEDROCK SPRING		1.000000	1.000000	1.000000	1.000000	0.409707	0.736740		
	LOWER SAND FALL	1.000000		1.000000	0.056853	1.000000	0.002004	0.007700		
	LOWER SAND SPRING	1.000000	1.000000		0.033936	1.000000	0.000850	0.003751		
	TRANSITION FALL	1.000000	0.056853	0.033936		1.000000	1.000000	1.000000		
	TRANSITION SPRING	1.000000	1.000000	1.000000	1.000000		0.209164	0.547053		
	UPPER SAND FALL	0.409707	0.002004	0.000850	1.000000	0.209164		1.000000		
	UPPER SAND SPRING	0.736740	0.007700	0.003751	1.000000	0.547053	1.000000			
CALCIUM		BEDROCK FALL	BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING	Bedrock Fall, Bedrock Spring, Lower Sand Fall, Lower Sand Spring, Transition Fall, and Transition Spring are Similar. Upper Sand Fall and Upper Sand Spring are Similar.
	BEDROCK FALL		1.000000	1.000000	1.000000	1.000000	1.000000	0.003723	0.001005	
	BEDROCK SPRING	1.000000		1.000000	1.000000	1.000000	0.841646	0.002609	0.000686	
	LOWER SAND FALL	1.000000	1.000000		1.000000	1.000000	1.000000	0.084008	0.016883	
	LOWER SAND SPRING	1.000000	1.000000	1.000000		1.000000	1.000000	0.068655	0.012225	
	TRANSITION FALL	1.000000	1.000000	1.000000	1.000000		1.000000	0.149377	0.030530	
	TRANSITION SPRING	1.000000	0.841646	1.000000	1.000000	1.000000		0.206727	0.044316	
	UPPER SAND FALL	0.003723	0.002609	0.084008	0.068655	0.149377	0.206727		1.000000	
	UPPER SAND SPRING	0.001005	0.000686	0.016883	0.012225	0.030530	0.044316	1.000000		
COBALT		BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING		Bedrock Fall, Bedrock Spring, Lower Sand Fall, Lower Sand Spring, Upper Sand Fall and Upper Sand Spring are Similar. Transition Fall and Transition Spring are Similar.
	BEDROCK SPRING		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		
	LOWER SAND FALL	1.000000		1.000000	0.001103	0.055283	1.000000	1.000000		
	LOWER SAND SPRING	1.000000	1.000000		0.000001	0.000297	0.196274	0.658682		
	TRANSITION FALL	1.000000	0.001103	0.000001		1.000000	0.110590	0.025999		
	TRANSITION SPRING	1.000000	0.055283	0.000297	1.000000		1.000000	0.655322		
	UPPER SAND FALL	1.000000	1.000000	0.196274	0.110590	1.000000		1.000000		
	UPPER SAND SPRING	1.000000	1.000000	0.658682	0.025999	0.655322	1.000000			
IRON		BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING		Bedrock Spring, Lower Sand Fall, Lower Sand Spring, Transition Fall, and Transition Spring are Similar, Upper Sand Fall and Upper Sand Spring are Similar.
	BEDROCK SPRING		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		
	LOWER SAND FALL	1.000000		1.000000	1.000000	1.000000	0.789816	0.093272		
	LOWER SAND SPRING	1.000000	1.000000		1.000000	1.000000	1.000000	0.114397		
	TRANSITION FALL	1.000000	1.000000	1.000000		1.000000	1.000000	0.150581		
	TRANSITION SPRING	1.000000	1.000000	1.000000	1.000000		0.898241	0.100622		
	UPPER SAND FALL	1.000000	0.789816	1.000000	1.000000	0.898241		1.000000		
	UPPER SAND SPRING	1.000000	0.093272	0.114397	0.150581	0.100622	1.000000			
LEAD		LOWER SAND FALL	UPPER SAND FALL	UPPER SAND SPRING	TRANSITION SPRING					Lower Sand Fall and Upper Sand Fall are Similar, Upper Sand Spring and Transition Spring are Similar.
	LOWER SAND FALL		1.000000	0.032406	0.112722					
	UPPER SAND FALL	1.000000		0.039920	0.141065					
	UPPER SAND SPRING	0.032406	0.039920		1.000000					
	TRANSITION SPRING	0.112722	0.141065	1.000000						

Table A.2.4.3
Groundwater Nonparametric Multiple Comparison Test Results
Naval Air Station, Brunswick, Maine

Parameter	P-Values for Nonparametric Multiple Comparisons									Conclusions[1]
MAGNESIUM		BEDROCK FALL	BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING	Bedrock Fall, Bedrock Spring, Lower Sand Fall, Lower Sand Spring, Transition Fall and Transition Spring are Similar. Upper Sand Fall and Upper Sand Spring are Similar.
	BEDROCK FALL		1.000000	1.000000	1.000000	1.000000	1.000000	0.476120	0.217293	
	BEDROCK SPRING	1.000000		1.000000	1.000000	1.000000	1.000000	0.784171	0.375257	
	LOWER SAND FALL	1.000000	1.000000		1.000000	1.000000	1.000000	0.009610	0.001852	
	LOWER SAND SPRING	1.000000	1.000000	1.000000		1.000000	1.000000	0.010353	0.001831	
	TRANSITION FALL	1.000000	1.000000	1.000000	1.000000		1.000000	0.000030	0.000003	
	TRANSITION SPRING	1.000000	1.000000	1.000000	1.000000	1.000000		0.000040	0.000004	
	UPPER SAND FALL	0.476120	0.784171	0.009610	0.010353	0.000030	0.000040		1.000000	
	UPPER SAND SPRING	0.217293	0.375257	0.001852	0.001831	0.000003	0.000004	1.000000		
MANGANESE		BEDROCK FALL	BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING	All Groups are Similar.
	BEDROCK FALL		1.000000	0.924494	0.616507	0.484358	1.000000	1.000000	1.000000	
	BEDROCK SPRING	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	
	LOWER SAND FALL	0.924494	1.000000		1.000000	1.000000	1.000000	1.000000	0.420092	
	LOWER SAND SPRING	0.616507	1.000000	1.000000		1.000000	1.000000	1.000000	0.174721	
	TRANSITION FALL	0.484358	1.000000	1.000000	1.000000		1.000000	1.000000	0.120809	
	TRANSITION SPRING	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	
	UPPER SAND FALL	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	
	UPPER SAND SPRING	1.000000	1.000000	0.420092	0.174721	0.120809	1.000000	1.000000		
NICKEL		BEDROCK SPRING	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING			Bedrock Fall, Lower Sand Spring, Upper Sand Fall, and Upper Sand Spring are Similar. Transition Fall and Transition Spring are Similar.
	BEDROCK SPRING		1.000000	1.000000	1.000000	1.000000	1.000000			
	LOWER SAND SPRING	1.000000		0.000245	0.060235	1.000000	0.150972			
	TRANSITION FALL	1.000000	0.000245		1.000000	0.197737	1.000000			
	TRANSITION SPRING	1.000000	0.060235	1.000000		1.000000	1.000000			
	UPPER SAND FALL	1.000000	1.000000	0.197737	1.000000		1.000000			
	UPPER SAND SPRING	1.000000	0.150972	1.000000	1.000000	1.000000				
POTASSIUM		BEDROCK FALL	BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING	Bedrock Fall, Bedrock Spring, Lower Sand Fall, Lower Sand Spring, Transition Fall, and Transition Spring are Similar. Upper Sand Fall and Upper Sand Spring are Similar.
	BEDROCK FALL		1.000000	1.000000	1.000000	1.000000	1.000000	0.321545	0.205368	
	BEDROCK SPRING	1.000000		1.000000	1.000000	1.000000	1.000000	0.307376	0.195883	
	LOWER SAND FALL	1.000000	1.000000		1.000000	1.000000	1.000000	0.001837	0.000685	
	LOWER SAND SPRING	1.000000	1.000000	1.000000		1.000000	1.000000	0.000656	0.000219	
	TRANSITION FALL	1.000000	1.000000	1.000000	1.000000		1.000000	0.003927	0.001468	
	TRANSITION SPRING	1.000000	1.000000	1.000000	1.000000	1.000000		0.196929	0.094289	
	UPPER SAND FALL	0.321545	0.307376	0.001837	0.000656	0.003927	0.196929		1.000000	
	UPPER SAND SPRING	0.205368	0.195883	0.000685	0.000219	0.001468	0.094289	1.000000		
SODIUM		BEDROCK FALL	BEDROCK SPRING	LOWER SAND FALL	LOWER SAND SPRING	TRANSITION FALL	TRANSITION SPRING	UPPER SAND FALL	UPPER SAND SPRING	Bedrock Fall, Bedrock Spring, Lower Sand Fall, Lower Sand Spring, Transition Fall and Transition Spring are Similar. Upper Sand Fall and Upper Sand Spring are Similar.
	BEDROCK FALL		1.000000	1.000000	1.000000	1.000000	0.661852	0.080542	0.021866	
	BEDROCK SPRING	1.000000		1.000000	1.000000	1.000000	1.000000	0.364351	0.117779	
	LOWER SAND FALL	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	0.306140	
	LOWER SAND SPRING	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	0.575663	
	TRANSITION FALL	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	
	TRANSITION SPRING	0.661852	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	
	UPPER SAND FALL	0.080542	0.364351	1.000000	1.000000	1.000000	1.000000		1.000000	
	UPPER SAND SPRING	0.021866	0.117779	0.306140	0.575663	1.000000	1.000000	1.000000		

5 Percent Significance Level was used.

(1) Conclusion based on statistical hypothesis tests, and combining subgroups across hydrogeologic units.

Table A.2.4.4
Two Sample Hypothesis Tests
Groundwater
Naval Air Station, Brunswick, Maine

Parameter	Mann Whitney	Gehan Test	Quantile Test			Proportion Test	Conclusion
	P-Value	P-Value	Test Statistic	Critical Value	Conclusion	P-Value	
Dissolved Inorganics							
BERYLLIUM	NA	0.308	4	7	EQUAL	NA	Groundwater concentrations in the Upper Sand Fall wells are similar to concentrations in the Upper Sand Spring wells.
CADMIUM	NA	0.223	4	3	NOT EQUAL	NA	Groundwater concentrations in the Bedrock Spring wells are Not Similar to Lower Sand Spring wells.
VANADIUM	NA	0.643	6	7	EQUAL	NA	Groundwater concentrations in Lower Sand Fall wells are Similar to Upper Sand Fall wells.

NA = Not Applicable
5 percent Significance Level was used.