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Interim Report
Soil Background Study 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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INTERIM REPORT
SOIL BACKGROUND STUDY

FOR

NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE

COMPREHENSIVE LONG-TERM
ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT

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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
DoD	Department of Defense
DPT	Direct Push Technology
DQI	Data Quality Indicators
DQR	Data Quality Review
EC	Electric Conductivity
EPA	Environmental Protection Agency
FA	Factor Analysis
FFA	Federal Facilities Agreement
FT	Feet
IAS	Initial Assessment Study
ICP	Inductively Coupled Plasma
ICS	Interference Check Sample
IDW	Investigation-Derived Waste
IRP	Installation Restoration Program
LCS	Laboratory Control Sample
LCS	Laboratory Control Sample Duplicate
LTM	Long Term Monitoring Plan
MEDEP	Maine Department of Environmental Protection
MS	Matrix Spike
MSD	Matrix Spike Duplicate
MSL	Mean Sea Level
MRP	Munitions Response Program
NASB	Naval Air Station Brunswick
NEESA	Naval Engineering & Environmental Support Activity
NPL	National Priorities List
PAH	Polycyclic Aromatic Hydrocarbons
PCB	Polycholorinated Biphenyl
PID	Photo-ionization Detector

PMO NE	Program Management Office Northeast
POL	Oil Petroleum Lubricant
NAS	Naval Air Station
QC	Quality Control
QSM	Quality Systems Manual
RI	Remedial Investigation
SAP	Sampling Analysis Plan
TAL	Target analyte list
TCL	Target Compound List
TOC	Total Organic Carbon
TtNUS	Tetra Tech NUS
UPL	Upper Prediction Limits
%R	Percent Recovery

1.0 INTRODUCTION

This report presents the results of the Soil Background Study conducted at Naval Air Station (NAS) Brunswick, Maine (Base). The investigation was performed by Tetra Tech (Tt) 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 & SCOPE

The Soil Background Study at NAS Brunswick was performed primarily to gather enough data on base-wide background conditions for current and future application to environmental site investigations and cleanups at NAS Brunswick. The primary goal of the study was to establish a statistically based background data sets for selected chemical constituents for soils from predominant soil types at the base. 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.

1.2 SITE LOCATION & 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 including 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 of the base 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 U.S. 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 EPA and Maine Department of Environmental Protection (MEDEP). The Navy has been addressing various environmental sites under the Installation Restoration Program (IRP) and in accordance with MEDEP petroleum regulations. In addition, the Navy is currently conducting Site Inspections at several sites under the Department of Defense's (DoD) Military Munitions Response Program (MRP). The environmental sites are shown on Figure 10-2 in the SAP (Tt, 2009).

Samples from environmental media at the following 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, and the background study will support data analysis for IRP Sites 1 & 3, 2, 7, 9, 17, the Eastern Plume, two active oil, petroleum, 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 also 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.
- Appendix A contains the detailed statistical analyses to compare the soil subgroups.
- 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.

Appendices A-D are on a compact disk (CD).

2.0 INVESTIGATION ACTIVITIES

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

- Electric conductivity (EC) profiling at 12 locations
- Advancement of 34 soil borings
- Surface and subsurface soil sampling at 32 locations
- Monitoring well construction and development at 37 locations
- Groundwater sampling at all 37 newly installed background wells and 13 existing wells
- Surface water sampling at 8 locations from Mere Brook and 8 locations from Coffin's Ice Pond
- Sediment sampling at 8 locations from Mere Brook and 8 locations from Coffin's Ice Pond
- Sample location surveys: and
- Investigation-derived waste (IDW) disposal

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

2.1 ELECTRIC CONDUCTIVITY PROFILING

EC profiling was performed to identify the lower sand unit for groundwater sampling. EC profiling logs aided in defining zones of coarse grained/more permeable subsurface materials. The 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 that were based on the review of the Phase I EC profiles. A lower sand unit was not encountered at two of the Phase I locations. As a result, five additional EC locations were added to 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 proximity of underground utilities.

The Phase I and Phase II profile locations were staked and flagged in the field by extrapolating the distance from surrounding known points. EC profiling was performed in accordance with the Tt SAP (Tt, 2009 - SOP, S3). The EC probe was driven using direct push technology (DPT) using a track-

mounted Geoprobe rig. At each EC profiling location the EC probe was driven down into the Presumpscot Clay or 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). Each EC graph was reviewed by a professional geologist and the information was used to determine monitoring well screen intervals. EC profile graphs were generated for each profiling location and are presented in Appendix C.

2.2 SOIL CHARACTERIZATION

A total of 34 soil borings were advanced in August and November 2009 for the collection of surface and subsurface soil samples from the upper sand and transition unit characterization and laboratory analysis as required by 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 (SB33 through SB38 do not exist). A total of 34 soil borings were advanced in Areas 1, 4, 5, 6N, 6S, 7, and Bowdoin Pines as shown on Figure 4-1. Soil samples were collected at 32 of the 34 soil boring locations. 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 grounds surface (bgs)) and one 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 borings were advanced using the same DPT rig used to advance the EC probe. A Tt geologist observed the soil boring program activities and documented findings.

Surface and subsurface soil samples were collected with either a dual tube soil sampling system or a Geoprobe® Macro-Core® piston rod soil sampling system. The dual tube sampler consisted of a 1-inch

inside diameter, 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® sampler 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). PID screening results are summarized 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 was homogenized. Soil samples were homogenized in an aluminum pan and placed into appropriate laboratory-supplied containers for analysis. If additional soil was needed to fulfill volume requirements, an additional soil sample 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 logs and soil sample logs are presented in Appendix C.

Soil samples submitted for laboratory analysis were collected from the surface soil (0-1 ft bgs) and the subsurface soil (1-10 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 SIMTotal Organic Carbon (TOC) by EPA Method 9060A

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

- Target analyte list (TAL) metals by EPA Methods 6010B, 6020, and 7471A
- Polynuclear aromatic hydrocarbons (PAHs) by EPA Method 8270 SIM
- Total Organic Carbon 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 for high concentrations). A separate analytical method was used for mercury (Method 7471A).

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 are 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 ft 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 ranges from 4 to 31 ft in thickness. A thin Upper Sand Unit ranging from 0 to 6 ft 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 is completely absent with the Transition Unit beginning at ground surface.

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 referred to 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 ft in Area 6N to 25 ft in Area 4.

2.3 SAMPLE LOCATION SURVEY

A State of Maine licensed surveyor documented the horizontal locations of all sample points. Survey control was maintained by tying into the Maine State Grid coordinate NAD83 West Zone for horizontal datum and the NVGD1988 system for vertical datum. Elevations were referenced to a USGS benchmark. Surveyed features were horizontally located to within +/-0.1 foot.

2.4 INVESTIGATION-DERIVED WASTE (IDW)

Waste materials that were generated during 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 for disposal.

3.0 DATA USABILITY

Soil 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). Following is a summary of the data quality assessment findings. A DQR is provided in Appendix B that details soil data completeness, sensitivity, accuracy/bias, precision, comparability, and representativeness.

3.1 COMPLETENESS

Over 100 percent of the planned samples were collected for the Upper Sand and Transitional 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.

3.2 SENSITIVITY

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 in Note 2 of Worksheet #15a in the Background Study SAP (Tt, 2009). 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

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 is considered usable. However, the MS analyses indicate result biases as described in Appendix B.

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 is considered usable. However, the LCS analyses indicate result biases as described in Appendix B.

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 biases for associated qualified results as described in Appendix B.

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.

3.4 PRECISION

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 therefore, are considered usable but the data user should be aware of potentially exaggerated imprecision compared with 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.

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 DQR found the data collected for the Background Study to be representative of targeted soil populations.

3.7 STATISTICAL ANALYSIS

A series of statistical evaluations were conducted to determine a representative background data set for soils. The statistical conclusions of the statistical analysis are presented in Section 4 and are discussed in detail in Appendix A.

4.0 EVALUATION OF SOIL BACKGROUND

This section presents the data analysis and the results of the statistical evaluation that were 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 4-1 presents the locations of the 17 surface and subsurface samples taken from Upper Sand units and 15 surface and subsurface samples taken from the Transition Units.

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. For statistical and mathematical manipulations, non-detect values were represented by a concentration equal to one-half the sample-specific detection limit. 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 of site data. The statistical methods used to determine if any of the subgroups could be combined are discussed in detail in Appendices A.1 through A.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.5 and A.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 largest 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 that is 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. Therefore no candidate outliers were removed from the data sets. The candidate outliers were investigated but 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.2, while the graphical presentations appear in Appendix A.3.

After the shapes of the data sets were determined, statistical tests were used to determine which subgroups are similar and can be combined as one data set. The detailed statistical results are presented in Appendix A.4. 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 populations. However, for pesticides and PAHs, with the exception of one detection each of benzo(a) anthracene and fluorenthene, no pesticides/PAHs were detected in subsurface samples from either geological soil group. In the Upper Sand surface soil 61 percent of the pesticides and PAHs that were detected at least once were detected in less than 50 percent of the samples. In the Transition surface soil 66 percent of the pesticides and PAHs that were detected at least once were detected in less than 50 percent of the samples. Therefore, the Upper Sand surface soil and Upper Sand subsurface soil were combined as one data set, and the Transition surface soil and Transition subsurface soil were combined as another data set.

4.2.2 Comparison of Site to Background Data

For the comparison of future 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 the test conclusions are confident. As stated in the SAP (Tt, 2009), enough site and background samples will be collected so that using the null hypothesis that site conditions are not representative of background conditions against the alternative hypothesis that site conditions are representative of background with an alpha and beta level of 0.05, and a minimum detectable difference of two standard deviations of the background data set can be obtained. If enough site data to meet the criteria for site-wide comparisons cannot be obtained, 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, Upper Prediction Limit (UPL) or geochemical UPLs. 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 useful and feasible for 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. Once the factor analyses are computed then the FA model is used to predict background concentration levels. If a site concentration exceeds the UPL based on the FA model, then the site concentration does not represent background concentrations.

4.2.2.1 Upper Prediction Limits

The UPLs were established for each analyte in each subgroup. The UPL was based on the null hypothesis that individual site concentrations are within the background concentration range. Concentrations of a chemical from one site sample are compared to a UPL for that chemical that represents a statistically derived upper limit on the average background concentration. The 95 percent UPL was based on Student's t distribution if the data follow a normal distribution; otherwise a nonparametric 95 percent UPL was estimated (see Appendix A.5 for details). Before calculating the UPLs the data from the Upper Sand surface soil and subsurface soil were combined to form one data set and the data from the Transition Unit surface soil and subsurface soil were combined to form another data set. UPLs were also calculated using all the data to represent upper limits from mixed soils for areas where soils have been disturbed or filled. Details of the chemical specific UPLs for NAS Brunswick are presented in Appendix A.5. Tables 4-5, 4-6, and 4-7 presents the 95-percent UPLs for Upper Sand, Transition Unit, and mixed soils respectively.

4.2.2.2 Geochemical Comparisons

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

As discussed in Appendix A.4, concentrations of several metals in Upper Sand surface and subsurface soil were determined to represent the same population. 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 highly correlated. 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. 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, while 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% of the background population lying outside of the background-derived prediction envelope, or they may represent contamination.

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 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 with most rules agreeing that the sample size should be at least 50. The number of factors to keep in the FA model is determined by evaluating three criteria:

- Kaiser's Rule: Factors having eigenvalues (computed during the FA) greater than unity should be retained.

- 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 SOIL BACKGROUND VALUES

Based on the sampling results and data evaluation described above, the UPL background values for soils at NAS Brunswick are provided in Table 4.5 (Upper Sand soils) and Table 4.6 (Transition Unit soils). In addition, soils have been disturbed and/or moved (cut/fill) at a number of sites/areas at NAS Brunswick. The disturbed soils are likely are a mixture of surface/subsurface and Upper Sand/Transition soils. For sites where the soils have been disturbed, background values based on the overall combined background

TABLE 4-1

SURFACE SOIL (UPPER SAND GEOLOGICAL UNIT)
NAVAL AIR STATION, BRUNSWICK, MAINE

Parameter	Frequency of Detection	Minimum Detected Concentration	Maximum Detgected Concentration	Location of Maximum Detect	Minimum Nondetect	Maximum Nondetect	Average of Positive Results	Overall Average	Standard Deviation
Inorganics (mg/kg)									
ALUMINUM	17/17	3810	19800	SB-18	NULL	NULL	9277	9277	4421
ANTIMONY	3/17	0.03 J	0.08 J	SB-18	0.01	0.05	0.1	0.0	0.0
ARSENIC	17/17	0.77	8.8	SB-31	NULL	NULL	2.3	2.3	1.9
BARIUM	17/17	5.7	16.1	SB-30	NULL	NULL	10.3	10.3	2.3
BERYLLIUM	17/17	0.24 J	0.84	SB-21	NULL	NULL	0.4	0.4	0.1
CADMIUM	14/17	0.03 J	0.07 J	SB-18	0.01	0.02	0.0	0.0	0.0
CALCIUM	17/17	156 J	439	SB-30	NULL	NULL	300	300	79.7
CHROMIUM	17/17	3.6	18.7	SB-21	NULL	NULL	8.4	8.4	3.7
COBALT	17/17	0.55	4	SB-26	NULL	NULL	2.6	2.6	1.1
COPPER	15/17	4	5.5	SB-01	1.5	3.2	4.8	4.4	1.3
	15/17	4	5.5	SB-26	1.5	3.2	4.8	4.4	1.3
IRON	17/17	2230	16900	SB-21	NULL	NULL	8214	8214	3359
LEAD	17/17	2.7	19	SB-30	NULL	NULL	7.9	7.9	4.8
MAGNESIUM	17/17	356	1470	SB-26	NULL	NULL	1020	1020	311
MANGANESE	17/17	24.2 J	235 J	SB-32	NULL	NULL	141.2	141.2	69.2
MERCURY	13/17	0.01 J	0.09	SB-03	0.01	0.01	0.0	0.0	0.0
NICKEL	17/17	1.3 J	8.9	SB-26	NULL	NULL	5.4	5.4	2.0
POTASSIUM	17/17	194	565	SB-39	NULL	NULL	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	NULL	NULL	14.9	14.9	6.3
ZINC	17/17	3.5	16.1	SB-03	NULL	NULL	12.5	12.5	3.2
Pesticides/PCBs (ug/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 (ug/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)ANTHRACEN	3/17	5 J	6 J	SB-32	2	2	5.7	1.8	1.85
	3/17	5 J	6 J	SB-31	2	2	5.7	1.8	1.85
FLUORANTHENE	15/17	2 J	65	SB-31	2	2	16.9	15.1	21.17
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	2	3	19.9	15.5	22.12
	13/17	3 J	64	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	NULL	NULL	17406	17406	8752

TABLE 4-2

SURFACE SOIL (TRANSITION GEOLOGICAL UNIT)
NAVAL AIR STATION, BRUNSWICK, MAINE

Parameter	Frequency of Detection	Minimum Detected Concentration	Maximum Detgected Concentration	Location of Maximum Detect	Minimum Nondetect	Maximum Nondetect	Average of Positive Results	Overall Average	Standard Deviation
Inorganics (mg/kg)									
ALUMINUM	15/15	9200	33600	SB-17	NULL	NULL	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	NULL	NULL	6.65	6.65	2.01
BARIUM	15/15	24	102	SB-17	NULL	NULL	64.98	64.98	20.65
BERYLLIUM	15/15	0.3 J	1.7	SB-17	NULL	NULL	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	NULL	NULL	854.67	855	269
CHROMIUM	15/15	14.1	55	SB-17	NULL	NULL	35.63	35.63	11.02
COBALT	15/15	3.7	27.1	SB-17	NULL	NULL	11.93	11.93	5.47
COPPER	15/15	8.6	30.1 J	SB-16	NULL	NULL	17.94	17.94	5.78
IRON	15/15	10500	46800	SB-11	NULL	NULL	29113.33	29113	9364
LEAD	15/15	5.9 J	18.7	SB-11	NULL	NULL	12.41	12.41	3.76
MAGNESIUM	15/15	2080 J	9590	SB-17	NULL	NULL	5906.33	5906	2032
MANGANESE	15/15	122 J	1210	SB-17	NULL	NULL	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	NULL	NULL	26.34	26.3	8.8
POTASSIUM	15/15	1050	4560	SB-25	NULL	NULL	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	NULL	NULL	47.09	47.1	12.6
ZINC	15/15	21.7	96.6	SB-17	NULL	NULL	59.45	59.5	19.1
Pesticides/PCBs (ug/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 (ug/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
Herbicides (ug/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	NULL	NULL	16286.67	16287	7562

TABLE 4-3

SUBSURFACE SOIL (UPPER SAND GEOLOGICAL UNIT)
NAVAL AIR STATION, BRUNSWICK, MAINE

Parameter	Frequency of Detection	Minimum Detected Concentration	Maximum Detgected Concentration	Location of Maximum Detect	Minimum Nondetect	Maximum Nondetect	Average of Positive Results	Overall Average	Standard Deviation
Inorganics (mg/kg)									
ALUMINUM	17/17	3350	9040	SB-21	NULL	NULL	4875.9	4876	1370
ARSENIC	17/17	0.56	2.1	SB-18	NULL	NULL	1.3	1.3	0.4
BARIUM	17/17	8	15.9	SB-02	NULL	NULL	11.1	11.1	2.2
BERYLLIUM	17/17	0.19 J	0.69	SB-02	NULL	NULL	0.3	0.3	0.1
CADMIUM	9/17	0.03 J	0.04 J	SB-28	0.01	0.02	0.0	0.0	0.0
CALCIUM	17/17	504 J	1110 J	SB-21	NULL	NULL	715.1	715	171
CHROMIUM	17/17	5	9.6	SB-21	NULL	NULL	6.9	6.9	1.3
COBALT	17/17	2.1	4.1	SB-02	NULL	NULL	3.2	3.2	0.7
COPPER	17/17	3.4	6.8	SB-02	NULL	NULL	5.6	5.6	0.9
IRON	17/17	5060	8740	SB-18	NULL	NULL	6763.8	6764	912
LEAD	17/17	2.1	3.7 J	SB-27	NULL	NULL	2.7	2.7	0.4
MAGNESIUM	17/17	1230	1910 J	SB-02	NULL	NULL	1580.0	1580	187
MANGANESE	17/17	79 J	265 J	SB-27	NULL	NULL	165.4	165	63.3
NICKEL	17/17	4.7	9.6	SB-30	NULL	NULL	7.5	7.5	1.3
POTASSIUM	17/17	486	1230	SB-19	NULL	NULL	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	NULL	NULL	11.4	11.4	2.4
ZINC	17/17	10.6	15.3	SB-19	NULL	NULL	13.1	13.1	1.5
	17/17	10.6	15.3	SB-27	NULL	NULL	13.1	13.1	1.5
PAHs (ug/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	NULL	NULL	1524	1524	1891

TABLE 4-4

SUBSURFACE SOIIL (TRANSITION GEOLOGICAL UNIT)
NAVAL AIR STATION, BRUNSWICK, MAINE

Parameter	Frequency of Detection	Minimum Detected Concentration	Maximum Detgected Concentration	Location of Maximum Detect	Minimum Nondetect	Maximum Nondetect	Average of Positive Results	Overall Average	Standard Deviation
Inorganics (mg/kg)									
ALUMINUM	15/15	15000	29000	SB-17	NULL	NULL	22093.3	22093.3	4854.2
ANTIMONY	12/15	0.02 J	0.05 J	SB-12	0.06	0.08	0.038	0.038	0.009
	12/15	0.02 J	0.05 J	SB-14	0.06	0.08	0.038	0.038	0.009
	12/15	0.02 J	0.05 J	SB-23	0.06	0.08	0.038	0.038	0.009
	12/15	0.02 J	0.05 J	SB-25	0.06	0.08	0.038	0.038	0.009
ARSENIC	15/15	5	17.9	SB-12	NULL	NULL	10.1	10.1	3.9
BARIUM	15/15	49.4	93.3	SB-15	NULL	NULL	72.5	72.5	15.1
BERYLLIUM	15/15	0.54	1.5	SB-15	NULL	NULL	0.98	0.98	0.33
	15/15	0.54	1.5	SB-16	NULL	NULL	0.98	0.98	0.33
	15/15	0.54	1.5	SB-16	NULL	NULL	0.98	0.98	0.33
	15/15	0.54	1.5	SB-17	NULL	NULL	0.98	0.98	0.33
CADMIUM	15/15	0.03 J	0.06 J	SB-12	NULL	NULL	0.04	0.04	0.01
	15/15	0.03 J	0.06 J	SB-16	NULL	NULL	0.04	0.04	0.01
	15/15	0.03 J	0.06 J	SB-16	NULL	NULL	0.04	0.04	0.01
CALCIUM	15/15	1960 J	3260 J	SB-15	NULL	NULL	2671	2671	330
CHROMIUM	15/15	28	57.5	SB-17	NULL	NULL	43.7	43.7	10.1
COBALT	15/15	10.5	24.4	SB-23	NULL	NULL	15.9	15.9	4.1
COPPER	15/15	21.2	38.5 J	SB-15	NULL	NULL	29.4	29.4	5.8
IRON	15/15	22200	44300	SB-17	NULL	NULL	33737	33737	7330
LEAD	15/15	7.8 J	16.1	SB-15	NULL	NULL	11.9	11.9	2.9
MAGNESIUM	15/15	5720	11600	SB-15	NULL	NULL	8734	8734	1930
MANGANESE	15/15	355 J	918	SB-15	NULL	NULL	618	618	175
NICKEL	15/15	24.8	50.4	SB-15	NULL	NULL	38.1	38.1	9.2
POTASSIUM	15/15	3020	6370 J	SB-15	NULL	NULL	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	NULL	NULL	53.2	53.2	11.1
ZINC	15/15	46.6	90.4	SB-15	NULL	NULL	70.1	70.1	14.3
PAHs (ug/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	NULL	NULL	1316.0	1316.0	690.6

TABLE 4-5

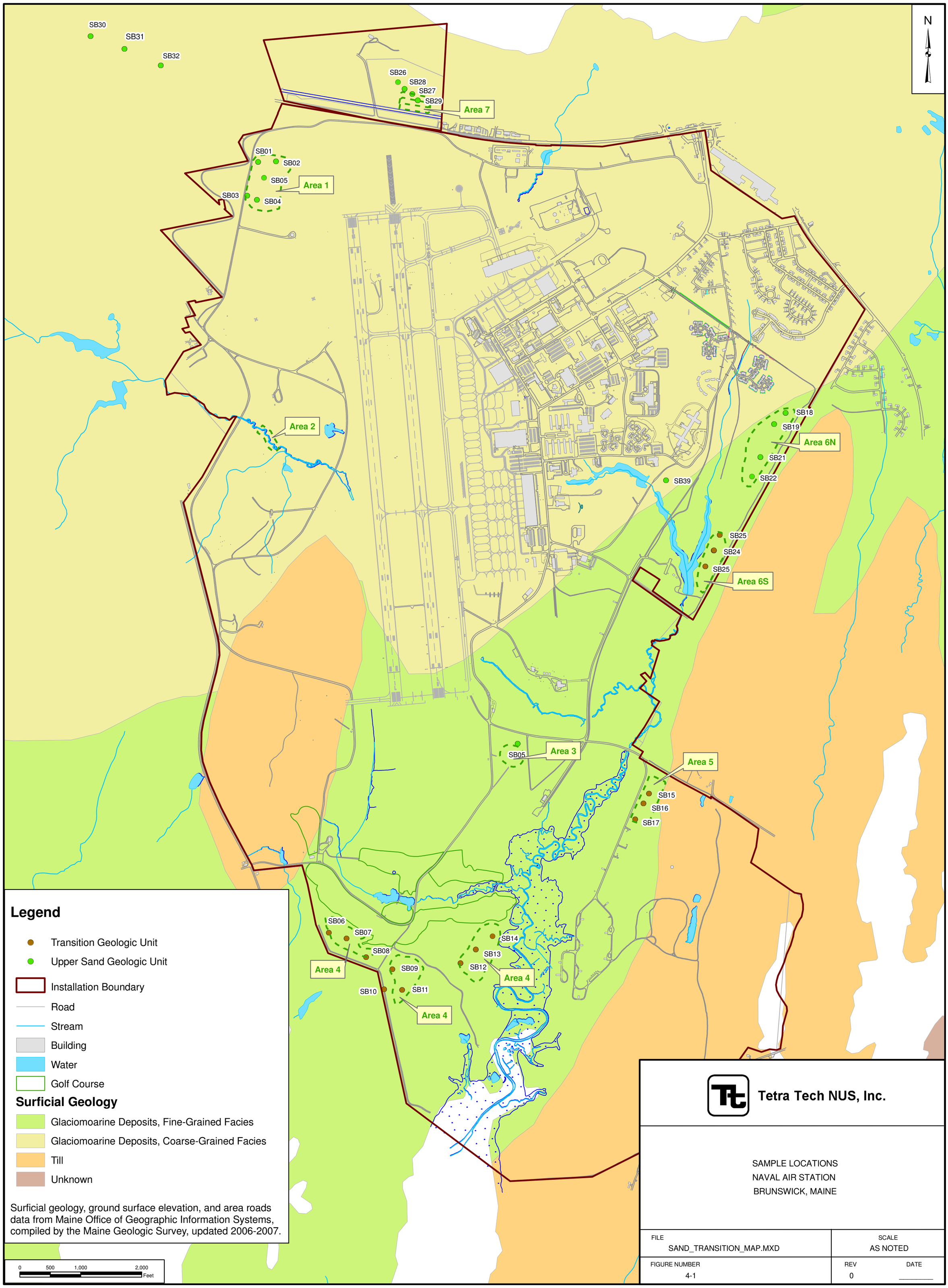
UPPER PREDICTION LIMITS UPPER SAND SOILS
NAVAL AIR STATION, BRUNSWICK, MAINE

Parameter	UPL	UPL Type
Inorganics(mg/kg)		
ALUMINUM	19400	Nonparametric
ANTIMONY	0.04	Nonparametric
ARSENIC	4.5	Nonparametric
BARIUM	15.9	Nonparametric
BERYLLIUM	0.69	Nonparametric
CADMIUM	0.05	Nonparametric
CALCIUM	1080	Nonparametric
CHROMIUM	15.3	Nonparametric
COBALT	4	Nonparametric
COPPER	6.7	Nonparametric
IRON	14400	Nonparametric
LEAD	17.5	Nonparametric
MAGNESIUM	1953.21	Normal
MANGANESE	267.41	Normal
MERCURY	0.08	Nonparametric
NICKEL	9.8	Normal
POTASSIUM	939.94	Normal
SILVER	0.21	Nonparametric
SODIUM	52.9	Nonparametric
VANADIUM	26.3	Nonparametric
ZINC	15.3	Nonparametric
PAHs (ug/kg)		
ANTHRACENE	7	Nonparametric
BENZO(A)ANTHRACENE	23	Nonparametric
BENZO(A)PYRENE	28	Nonparametric
BENZO(B)FLUORANTHENE	51	Nonparametric
BENZO(G,H,I)PERYLENE	10	Nonparametric
BENZO(K)FLUORANTHENE	12	Nonparametric
CHRYSENE	35	Nonparametric
DIBENZO(A,H)ANTHRACENE	6	Nonparametric
FLUORANTHENE	62	Nonparametric
INDENO(1,2,3-CD)PYRENE	39	Nonparametric
PHENANTHRENE	32	Nonparametric
PYRENE	64	Nonparametric
Pesticides (ug/kg)		
4,4'-DDD	1.1	Nonparametric
4,4'-DDE	3.6	Nonparametric
4,4'-DDT	3.4	Nonparametric
Miscellaneous Parameters (mg/kg)		
TOTAL ORGANIC CARBON	29000	Nonparametric

TABLE 4-6

UPPER PREDICTION LIMITS TRANSITION SOILS
NAVAL AIR STATION, BRUNSWICK, MAINE

Parameter	UPL	UPL Type
Inorganics(mg/kg)		
ALUMINUM	32328.1	Normal
ANTIMONY	0.06	Normal
ARSENIC	15.1	Nonparametric
BARIUM	100.12	Normal
BERYLLIUM	1.54	Normal
CADMIUM	0.06	Nonparametric
CALCIUM	3040	Nonparametric
CHROMIUM	58.94	Normal
COBALT	22.9	Normal
COPPER	37.73	Normal
IRON	46262.8	Normal
LEAD	17.86	Normal
MAGNESIUM	11500.9	Normal
MANGANESE	934.91	Normal
MERCURY	0.05	Nonparametric
NICKEL	50.64	Normal
POTASSIUM	6449.7	Normal
SELENIUM	1	Nonparametric
SILVER	0.74	Nonparametric
VANADIUM	71	Normal
ZINC	94.95	Normal
PAHs (ug/kg)		
BENZO(A)ANTHRACENE	5	Nonparametric
BENZO(B)FLUORANTHENE	10	Nonparametric
BENZO(G,H,I)PERYLENE	10	Nonparametric
CHRYSENE	9	Nonparametric
FLUORANTHENE	6	Nonparametric
INDENO(1,2,3-CD)PYRENE	10	Nonparametric
PHENANTHRENE	3	Nonparametric
PYRENE	6	Nonparametric
Pesticides (ug/kg)		
4,4'-DDE	1	Normal
4,4'-DDT	3.1	Nonparametric
Miscellaneous Parameters (mg/kg)		
TOTAL ORGANIC CARBON	27000	Nonparametric



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APPENDIX A

STATISTICAL ANALYSIS

A.1 OUTLIER ASSESSMENT

A.2 ASSESSMENT OF DISTRIBUTIONAL SHAPE

A.3 GRAPHICAL DATA EVALUATION

A.4 HYPOTHESIS TESTING TO COMPARE DATA GROUPS

A.5 UPPER PREDICTION LIMITS

A.6 GEOCHEMICAL UPPER PREDICITON LIMITS

APPENDIX A STATISTICAL EVALUATION

Appendix A presents the results of the statistical analyses for the soil background data sets. 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 to. The statistical methods used to determine if the soil subgroups could be combined are presented in Appendices A.1 through A.4. Appendix A.5 and A.6 present the background values that can be used for future site comparisons.

A.1 OUTLIER ASSESSMENT

APPENDIX A.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.1.1 through A.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. Sample locations SB10, SB17, SB18, SB19, SB21, SB30, SB31, and SB32 each have multiple candidate outliers. These sample locations are located 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
Outlier Tests
Upper Sand 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)	Largest Concentration (mg/kg)	Second Largest Concentration (mg/kg)	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	**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	**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	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	0.84	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**	0.05	0.05
CALCIUM	0.198	0.49	0.373	0.133	0.507	0.341	0.248	0.525	0.188	83	256	339	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	**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	Normal	Normal	Normal
COPPER	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0	1	4.1	5.1	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	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	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	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	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	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	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	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	0.29	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	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	**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	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	**3.6**	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	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	**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	**24**	**23**	18
BENZO(B)FLUORANTHENE	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0	11	1	12	**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	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	13	12	11
CHRYSENE	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0.001	8	1	9	**39**	**35**	26
FLUORANTHENE	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0.004	15	2	17	**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	**42**	**39**	**30**
PHENANTHRENE	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0.007	7	1	8	**34**	**32**	25
PYRENE	Not Normal	Not Normal	0	Not Normal	Not Normal	0	Not Normal	Not Normal	0.001	15	2	17	**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	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.1.2
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)	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	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	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	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	0.69	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	0.04	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	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	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	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	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	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	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	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	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	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	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	0.19	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	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	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	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	**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.1.3
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)	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	**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	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	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	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	**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	**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	**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	**26**	**10**	**8**
CHRYSENE	Not Normal	Not Normal	0	Not Normal	Not Normal	0.001	Not Normal	Not Normal	0.001	2	1	3	**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	**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	**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	**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	**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	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.1.4
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)	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	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	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	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	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	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	0.06	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	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	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	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	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	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	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	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	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	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	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	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	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	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.2 ASSESSMENT OF DISTRIBUTIONAL SHAPE

APPENDIX A.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 five 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.2.1 through A.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 five 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 (Tetra Tech, 2009). Data sets that were shown not to conform to a normal distribution were subsequently evaluated with non-parametric tests.

Table A.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.2.2
Distributional Shape Assessment
Upper Sand Subsurface Soil
Naval Air Station, Brunswick, Maine

	W Statistic		W Critical Value	Data Distribution
Parameter	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.2.3
Distributional Shape Assessment
Transition Surface Soil
Naval Air Station, Brunswick, Maine

	W Statistic		W Critical Value	Data Distribution
Parameter	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.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.

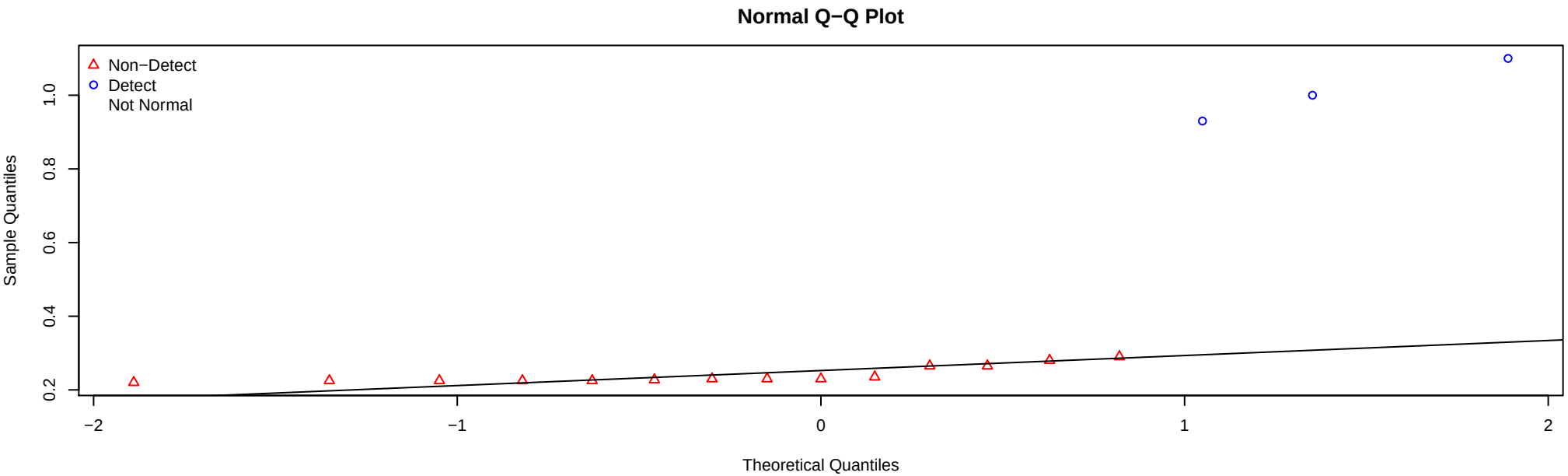
Nonparametric: W statistics for the Log transformed data and the raw data are less than the W critical value.

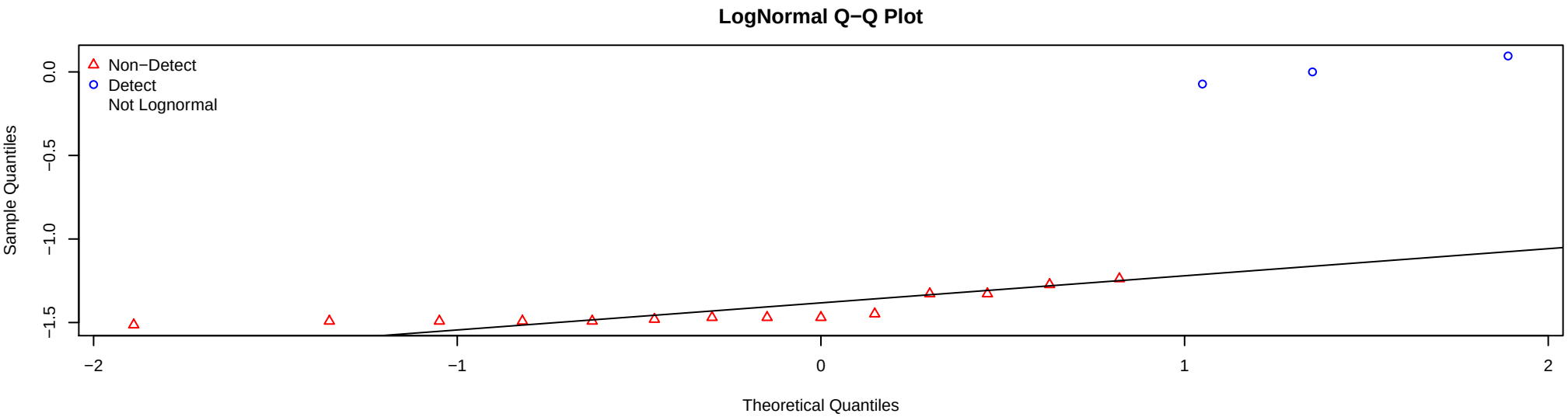
Normal: W statistic for raw data is greater than W critical value and greater than the W statistic for the log transformed data.

Chemicals only appear if detected once.

Upper Sand
Surface Soil

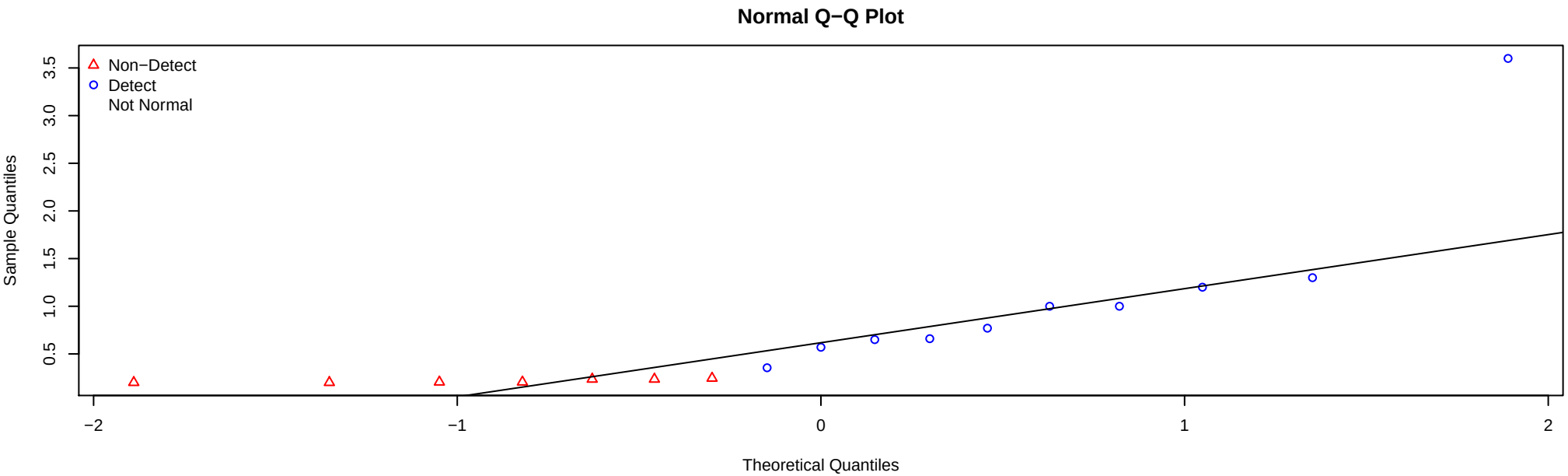
4,4'−DDD

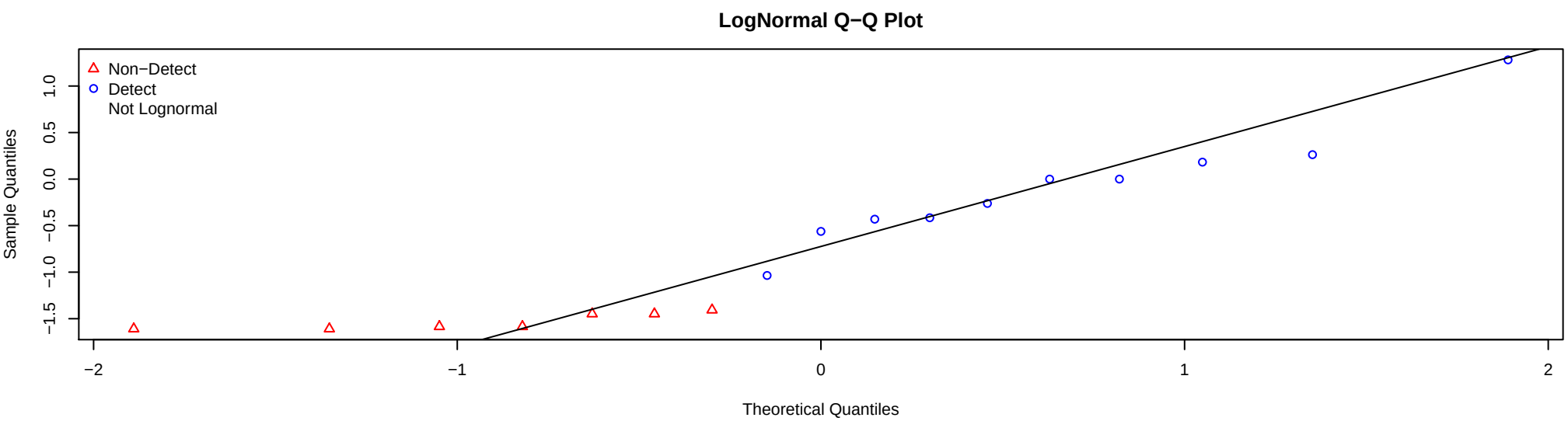




Upper Sand
Surface Soil

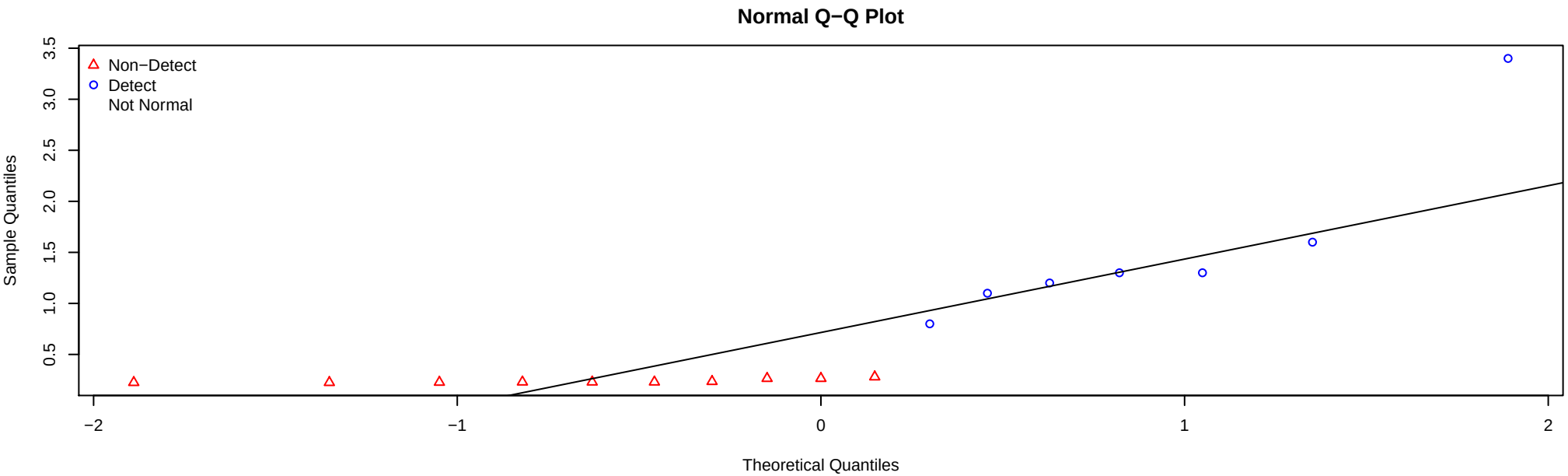
4,4'−DDE

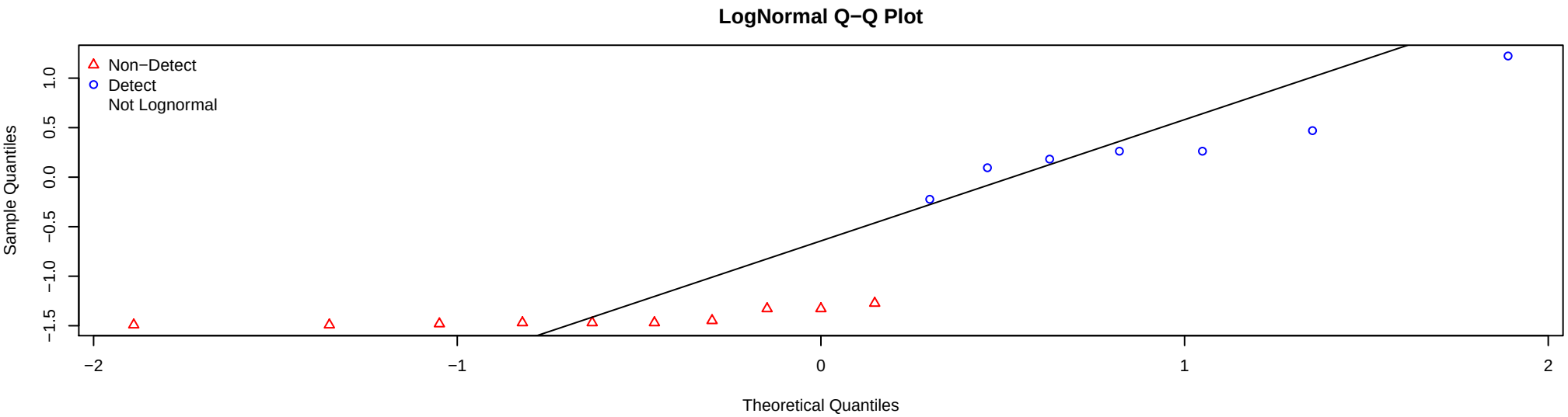




Upper Sand
Surface Soil

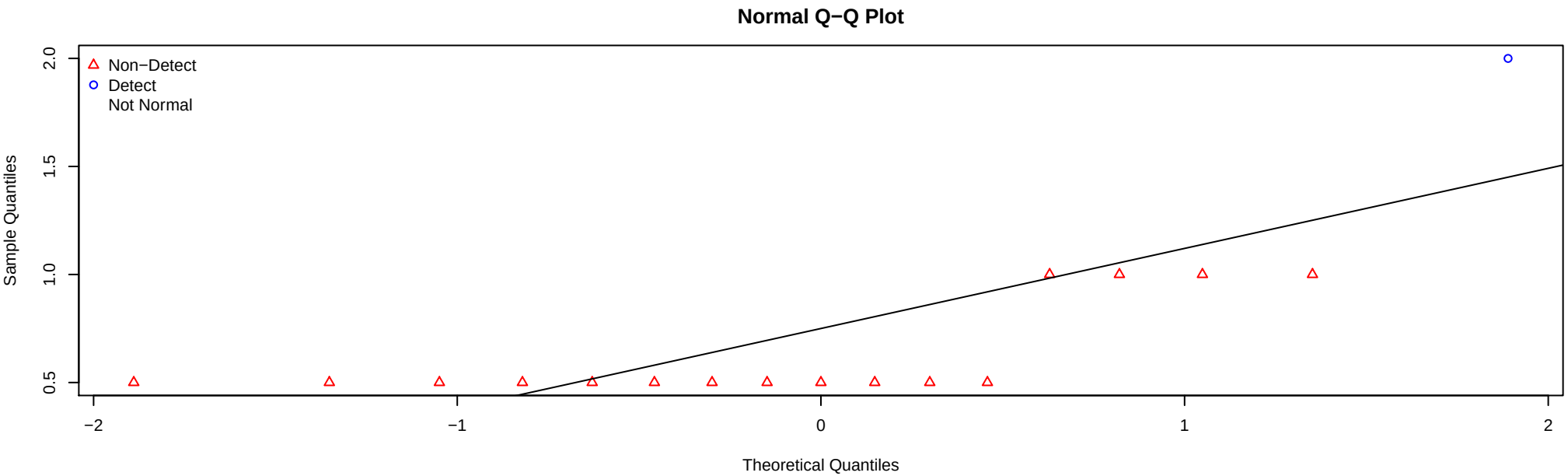
4,4'−DDT

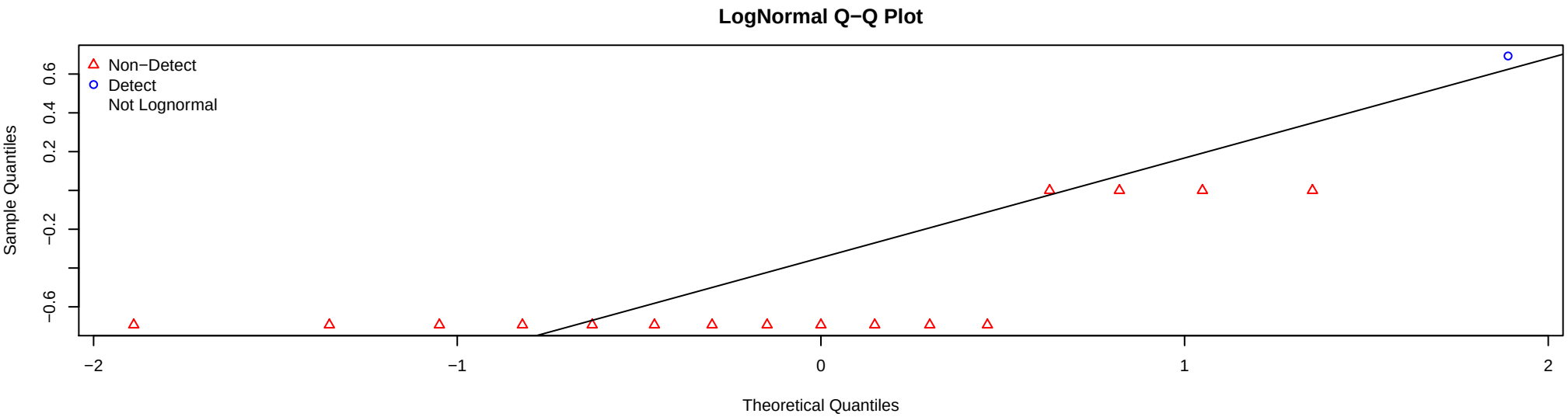




Upper Sand
Surface Soil

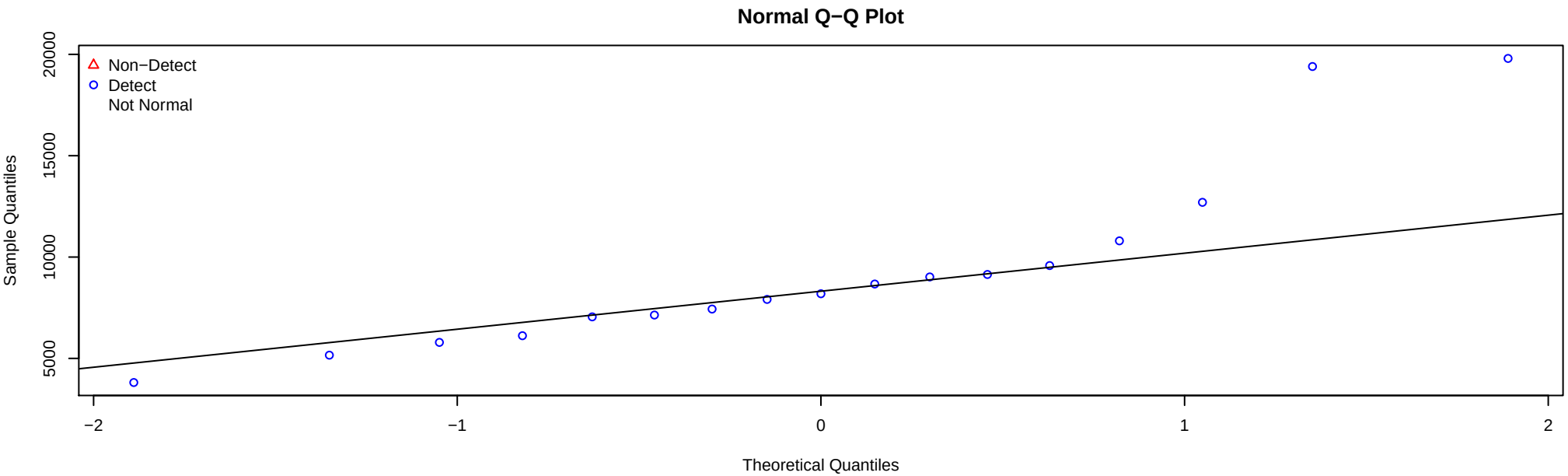
ACENAPHTHYLENE

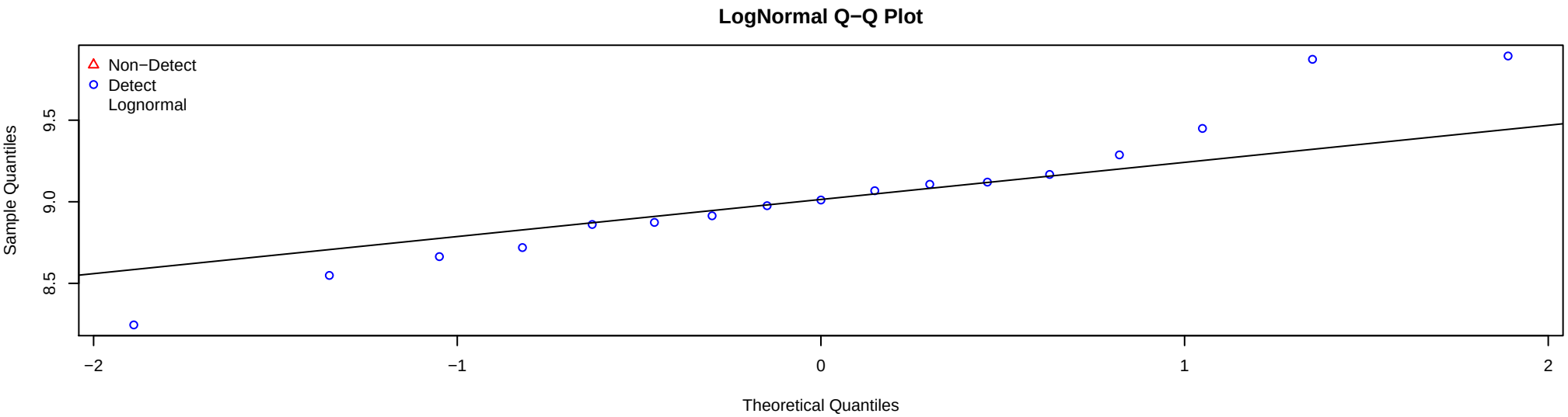




Upper Sand
Surface Soil

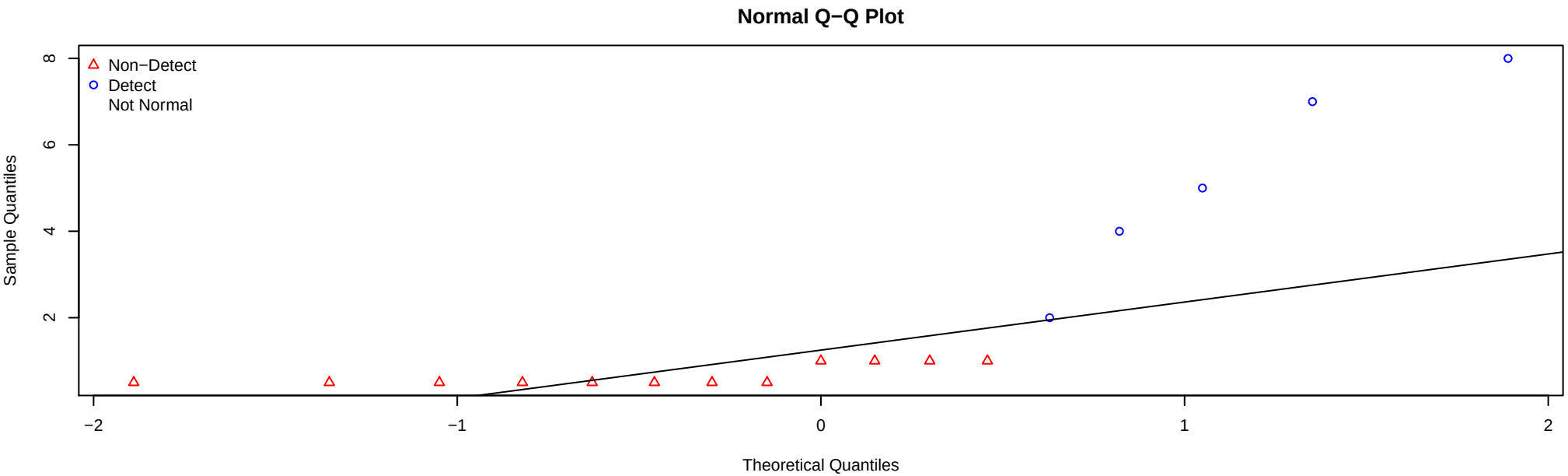
ALUMINUM

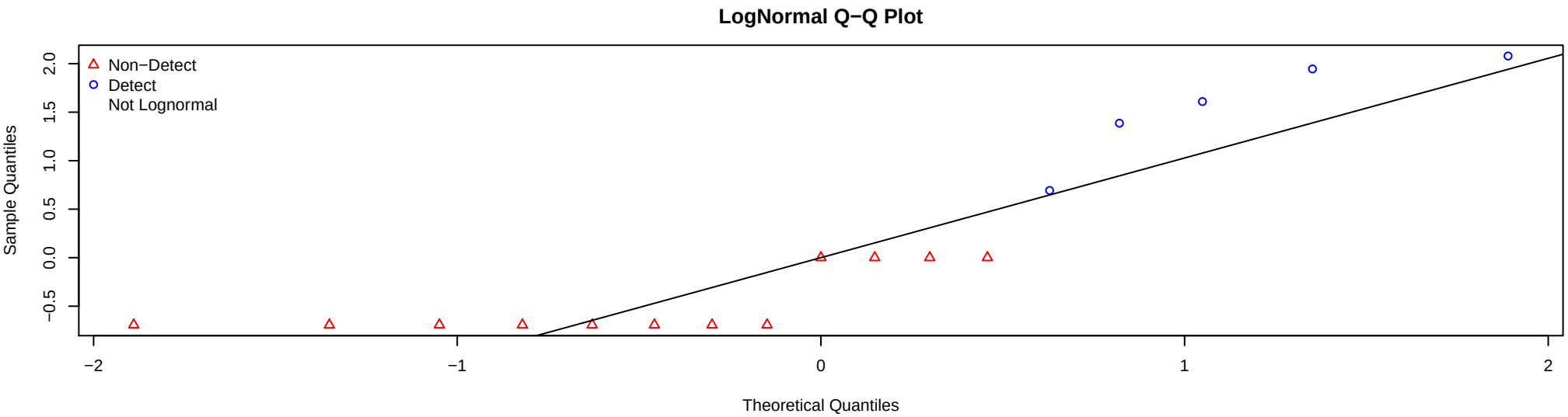




Upper Sand
Surface Soil

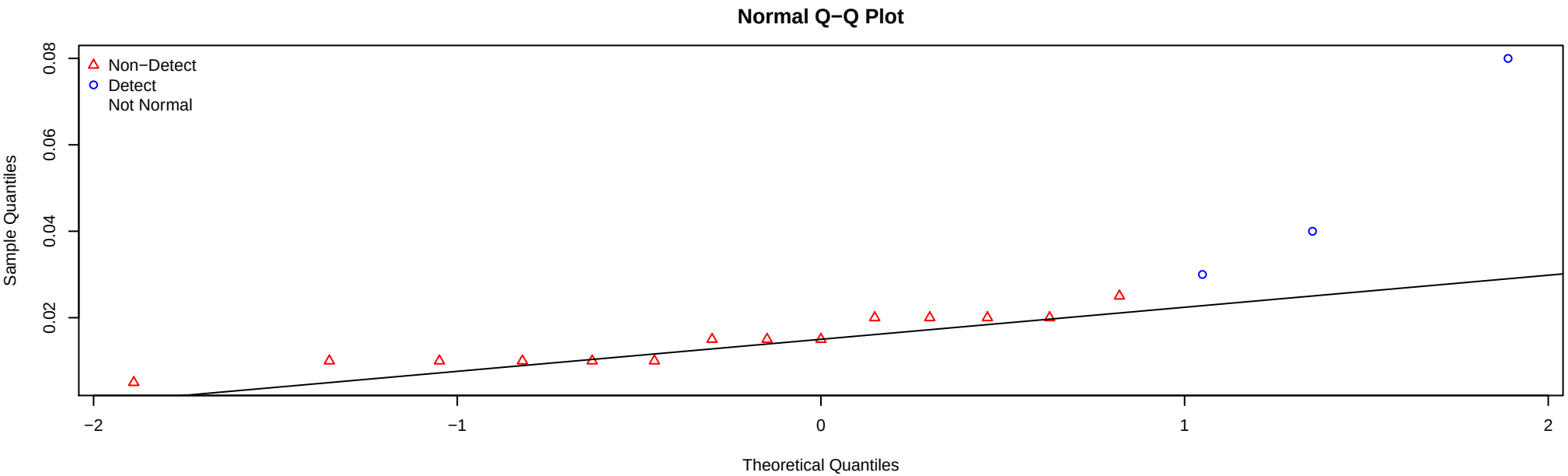
ANTHRACENE

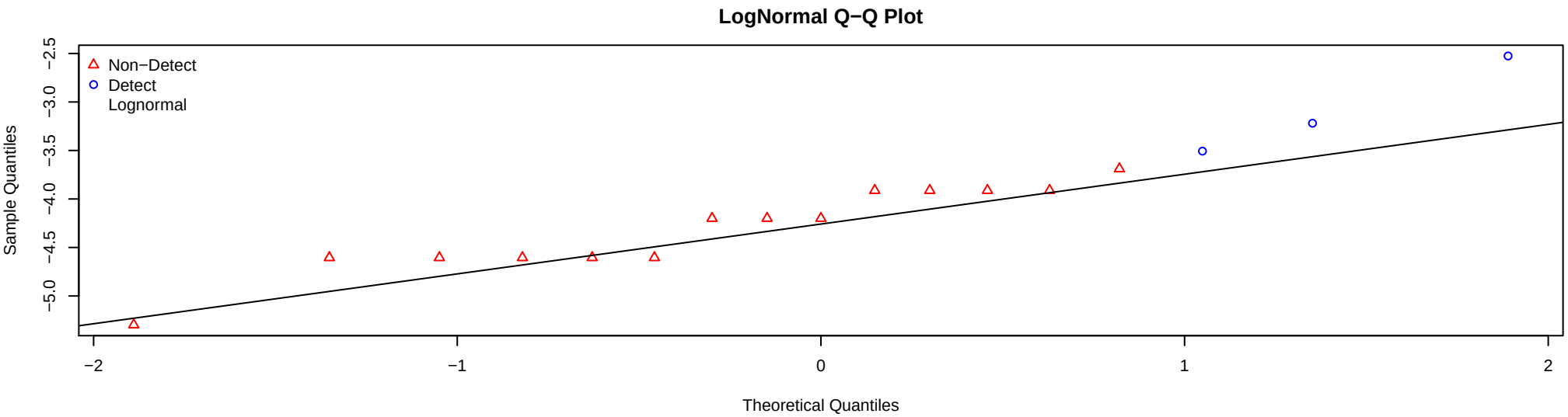




Upper Sand
Surface Soil

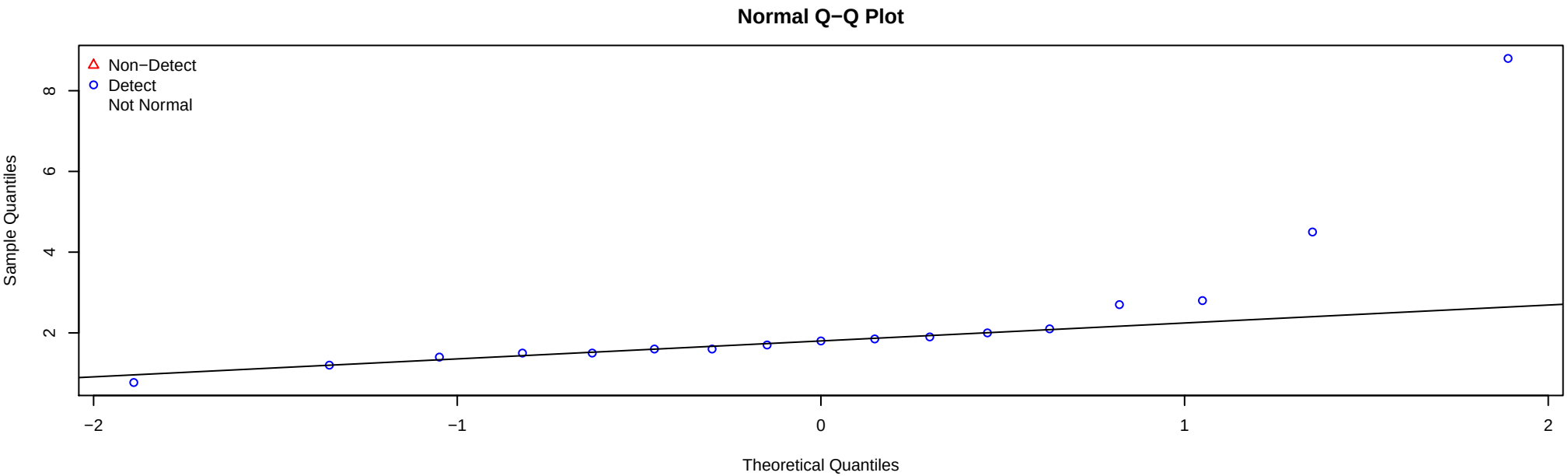
ANTIMONY

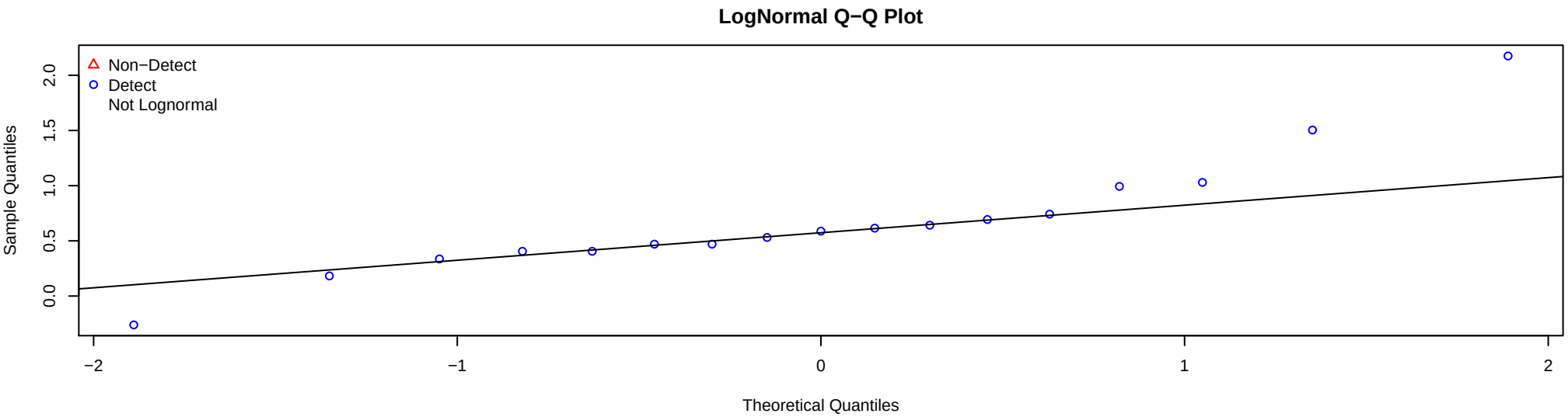




Upper Sand
Surface Soil

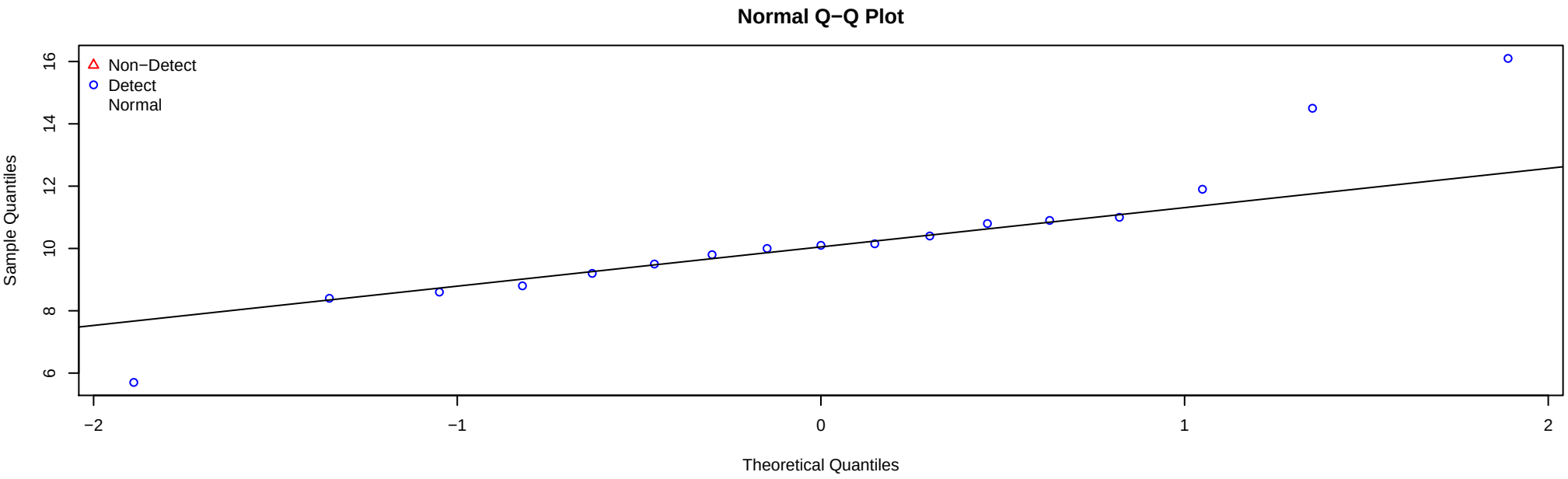
ARSENIC

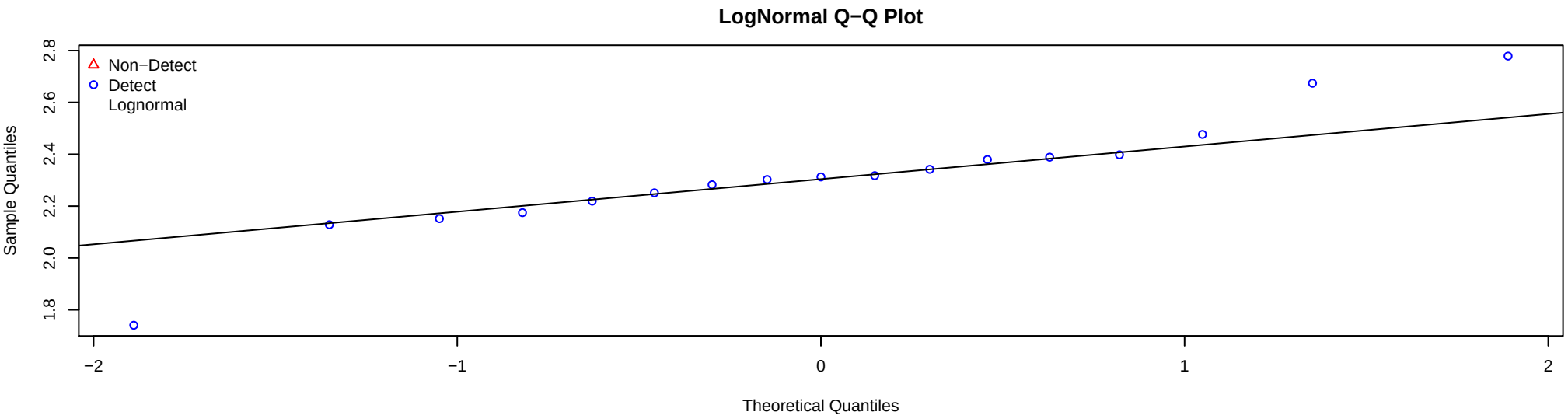




Upper Sand
Surface Soil

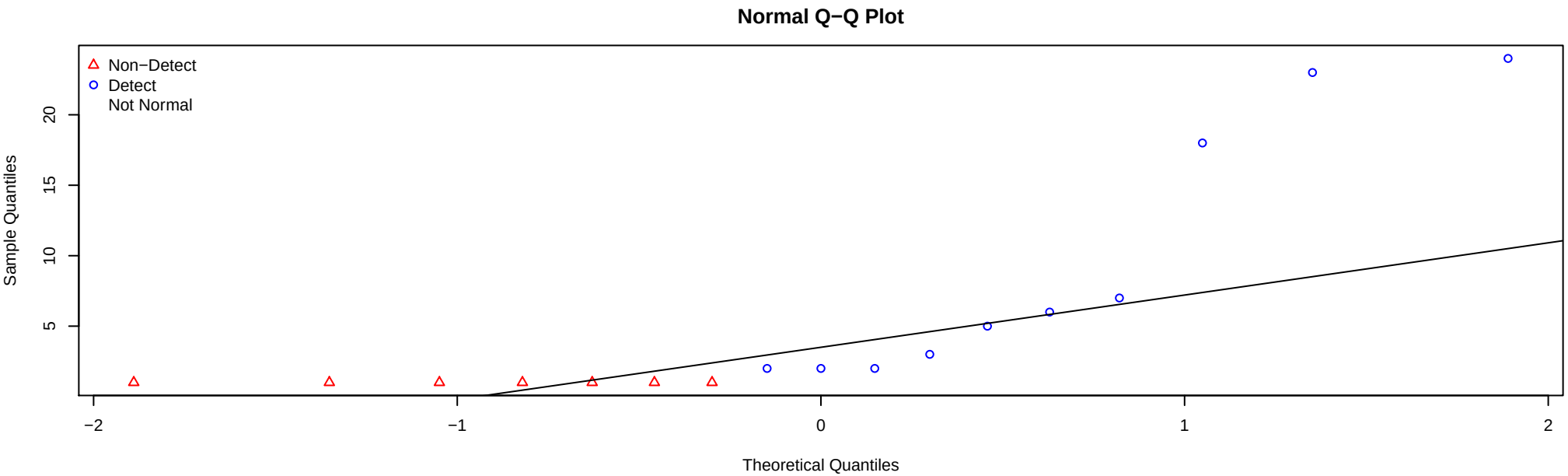
BARIUM

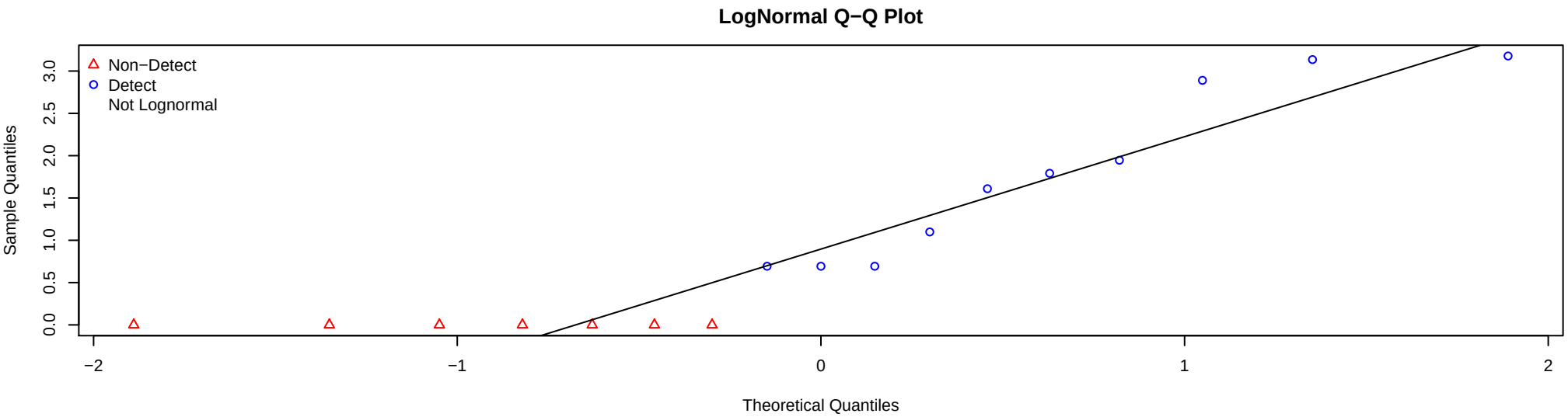




Upper Sand
Surface Soil

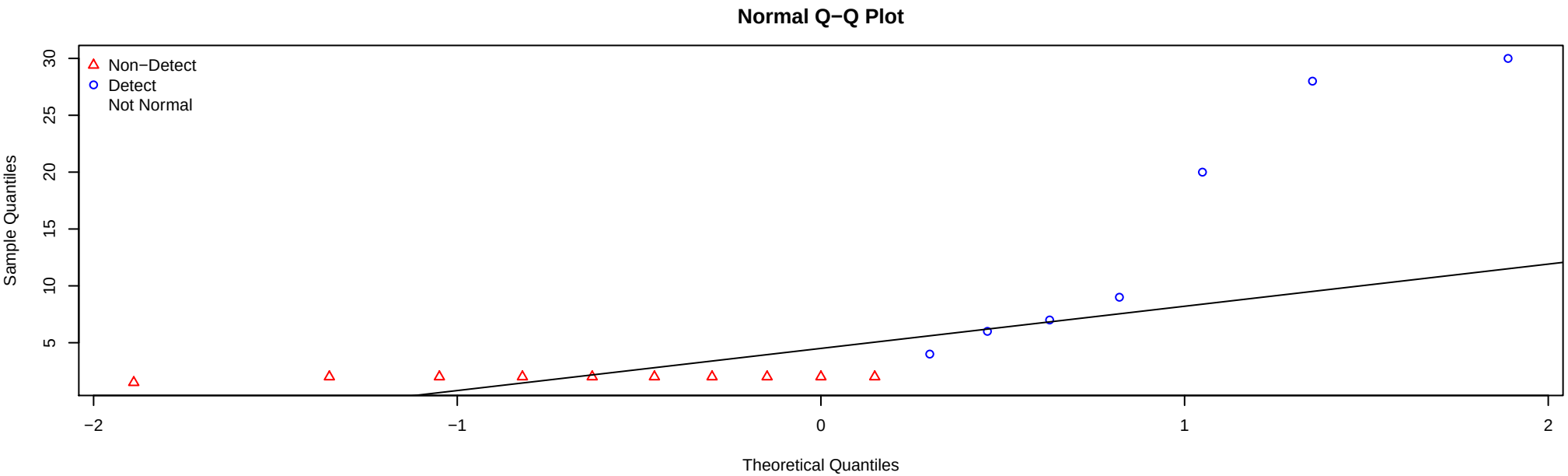
BENZO(A)ANTHRACENE

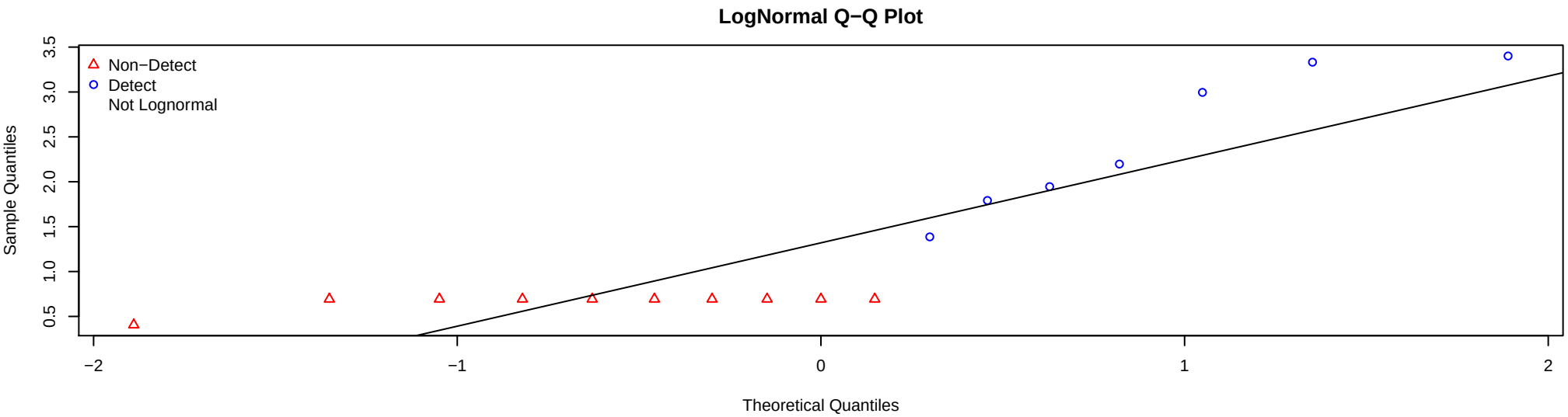




Upper Sand
Surface Soil

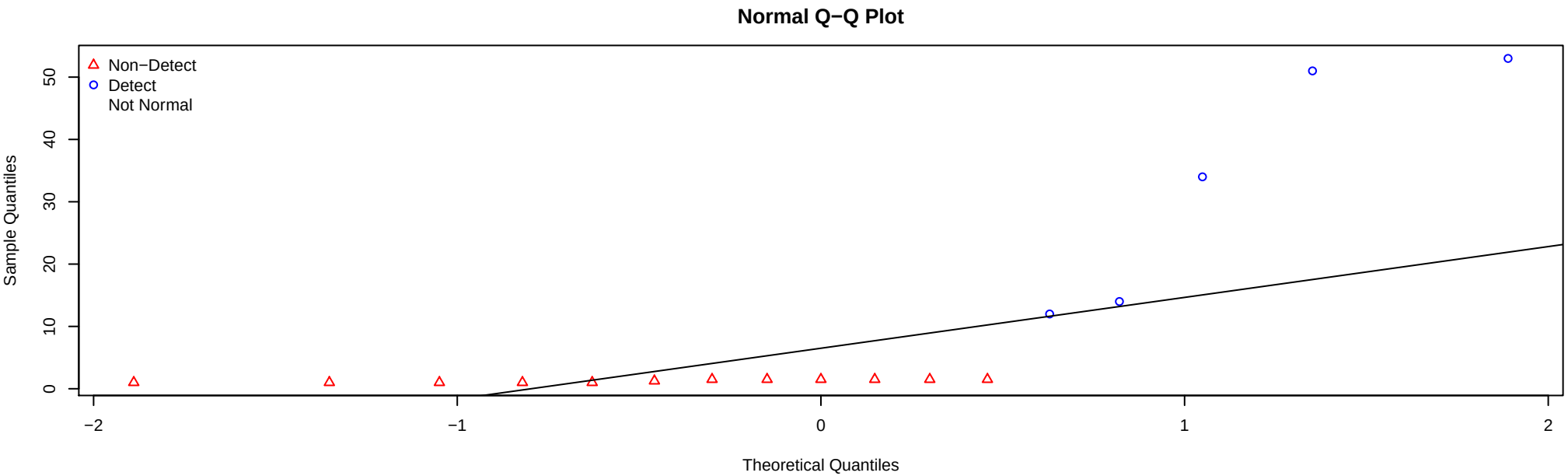
BENZO(A)PYRENE

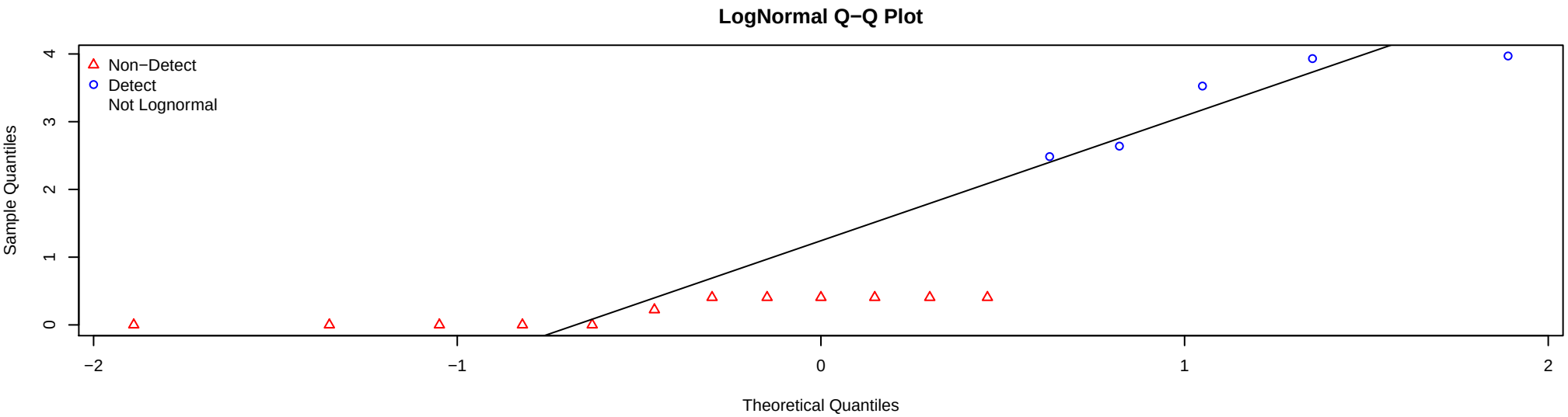




Upper Sand
Surface Soil

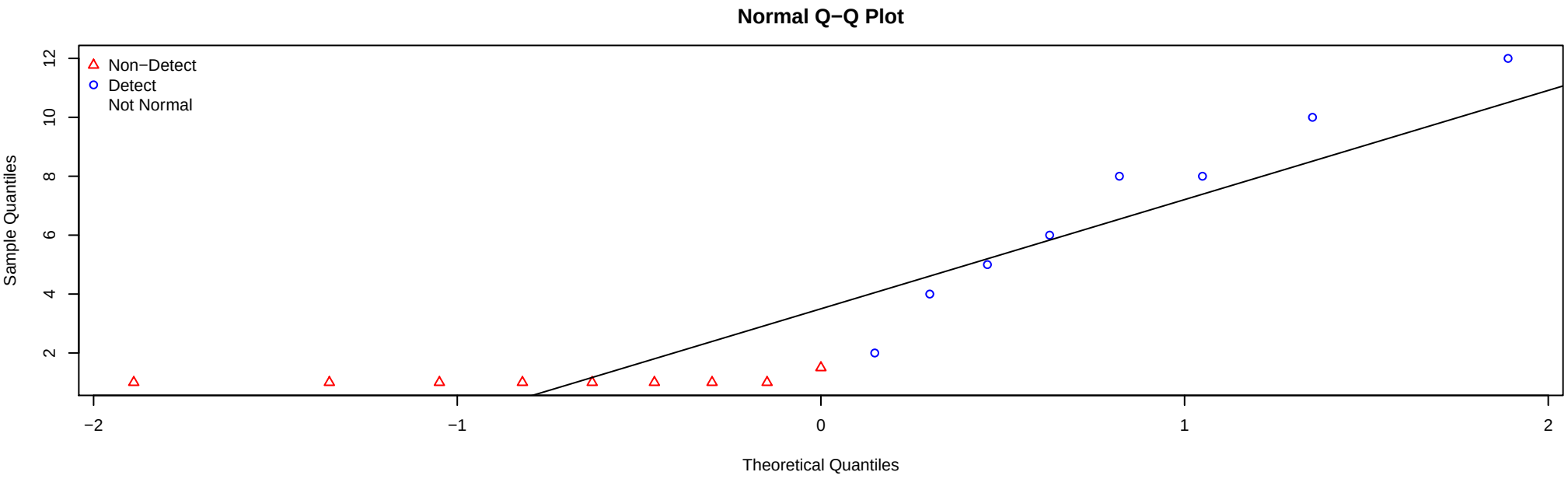
BENZO(B)FLUORANTHENE

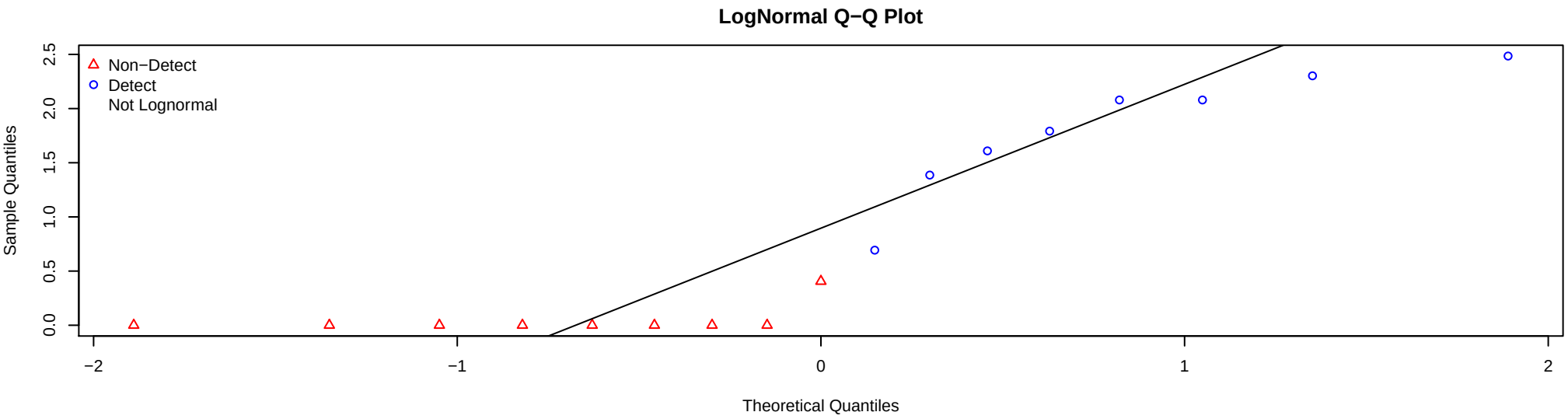




Upper Sand
Surface Soil

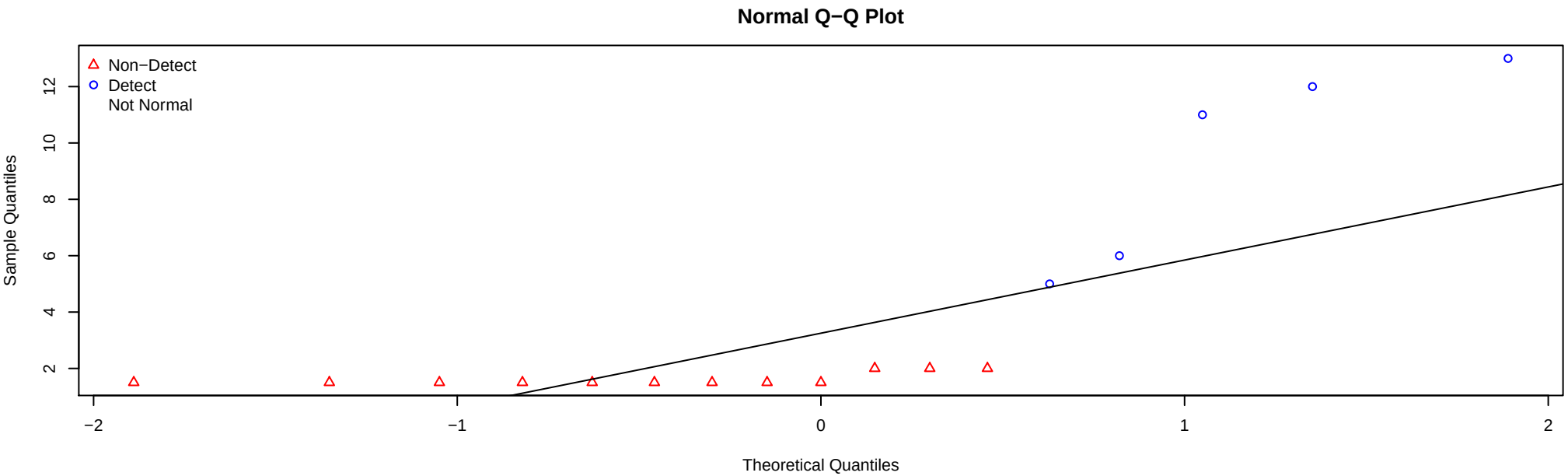
BENZO(G,H,I)PERYLENE

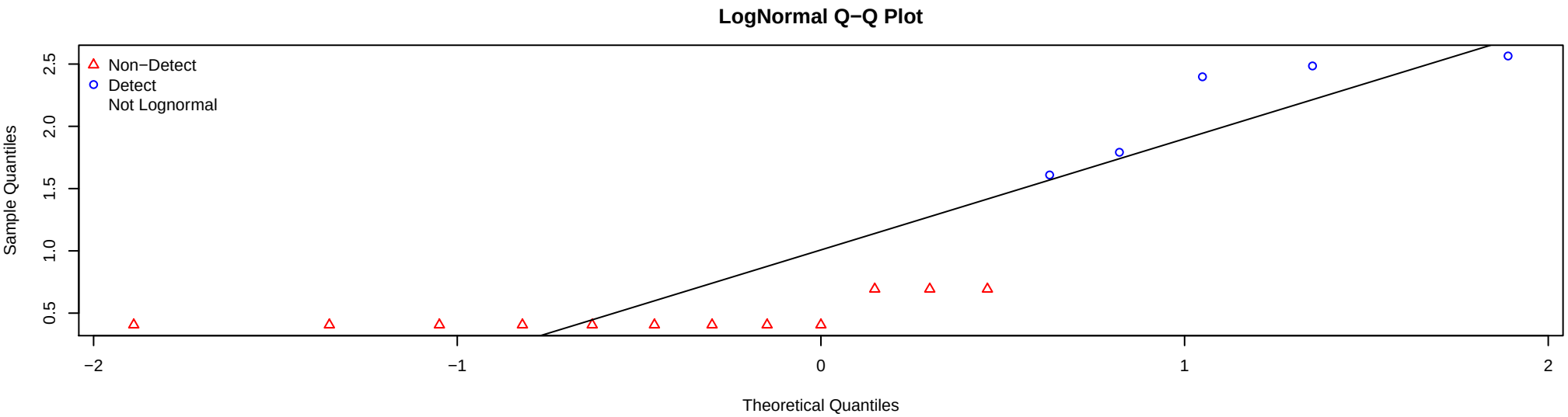




Upper Sand
Surface Soil

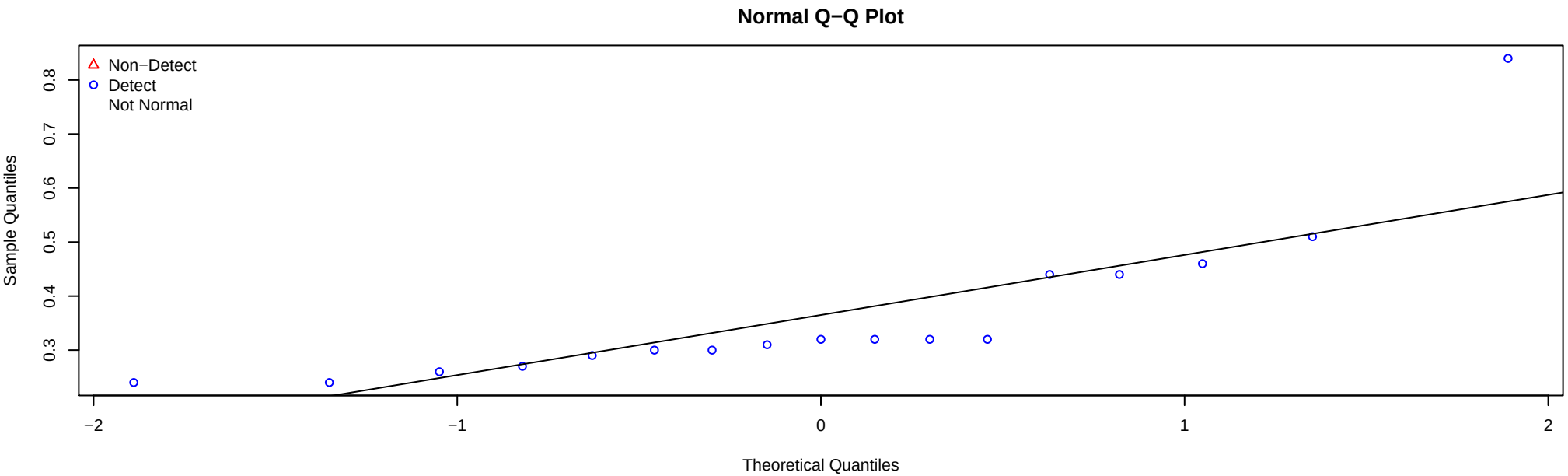
BENZO(K)FLUORANTHENE

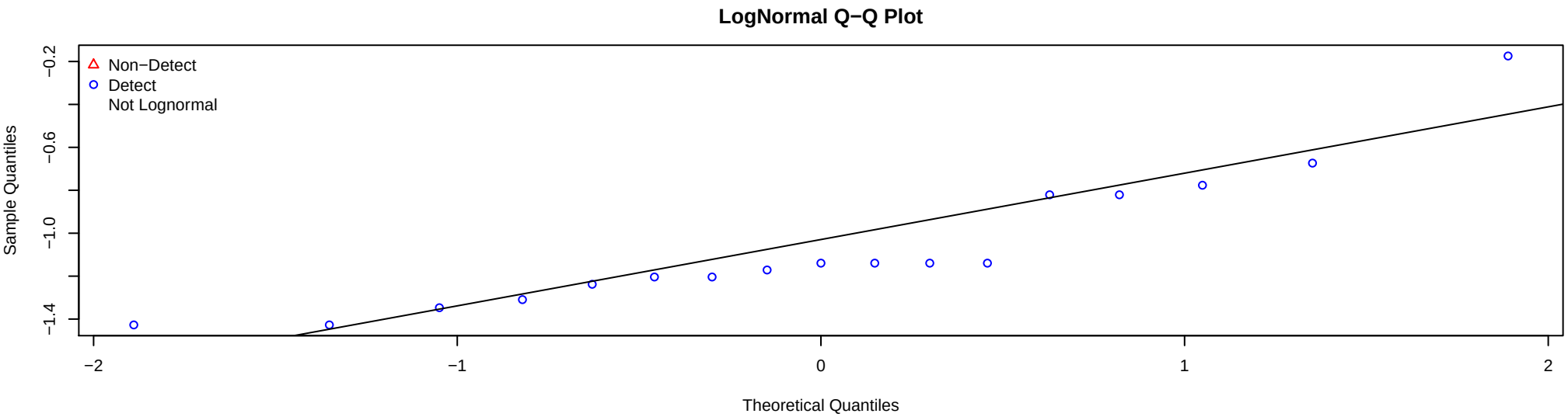




Upper Sand
Surface Soil

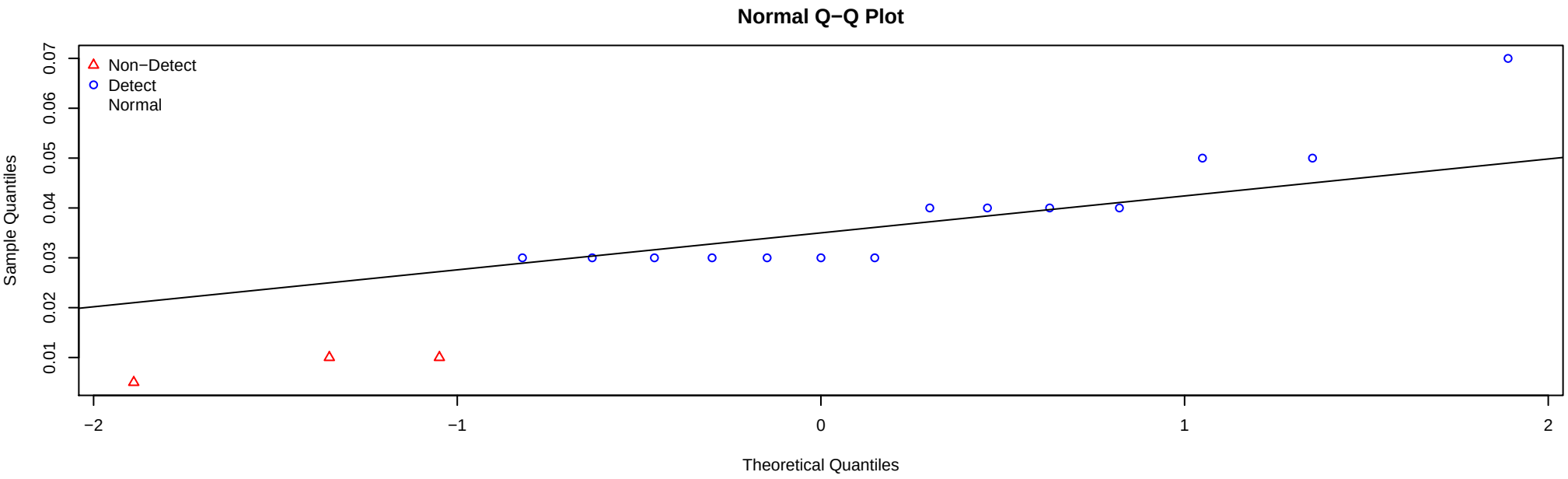
BERYLLIUM

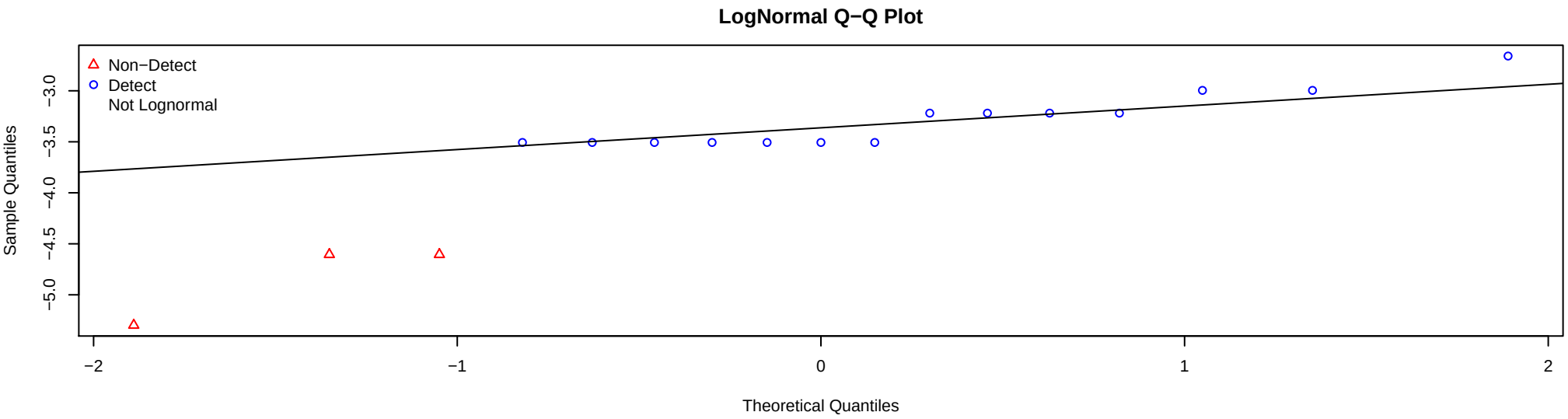




Upper Sand
Surface Soil

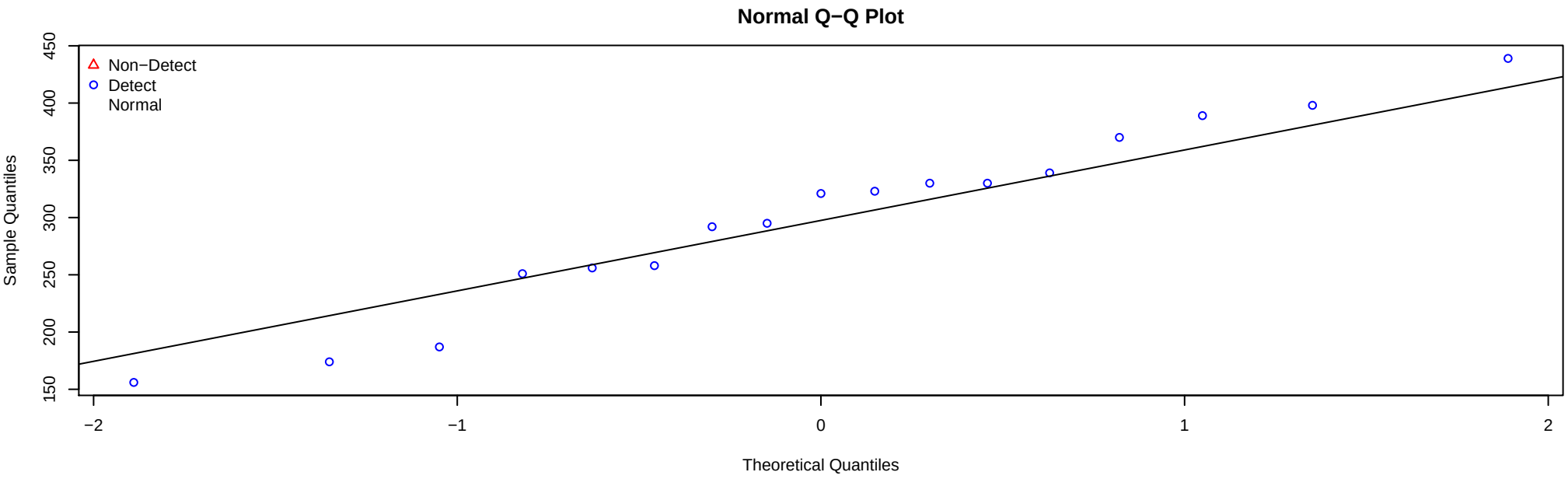
CADMIUM

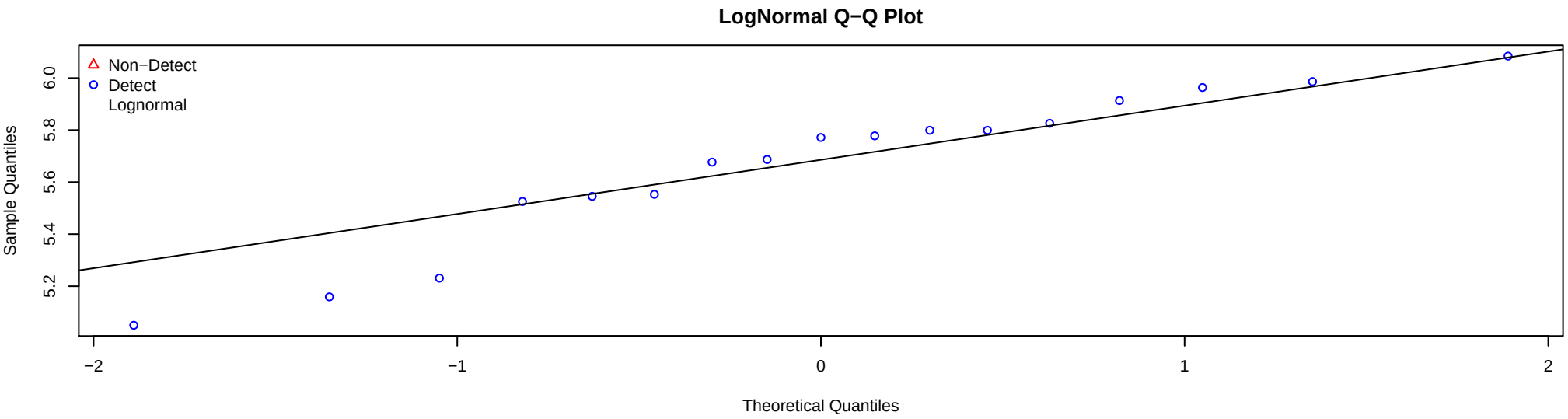




Upper Sand
Surface Soil

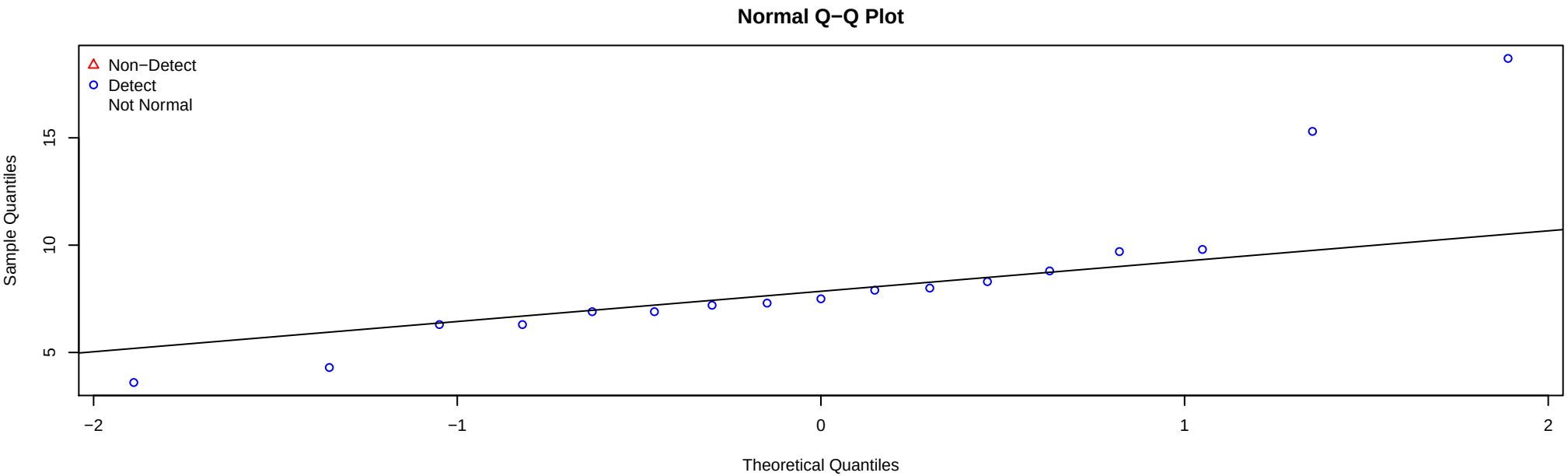
CALCIUM

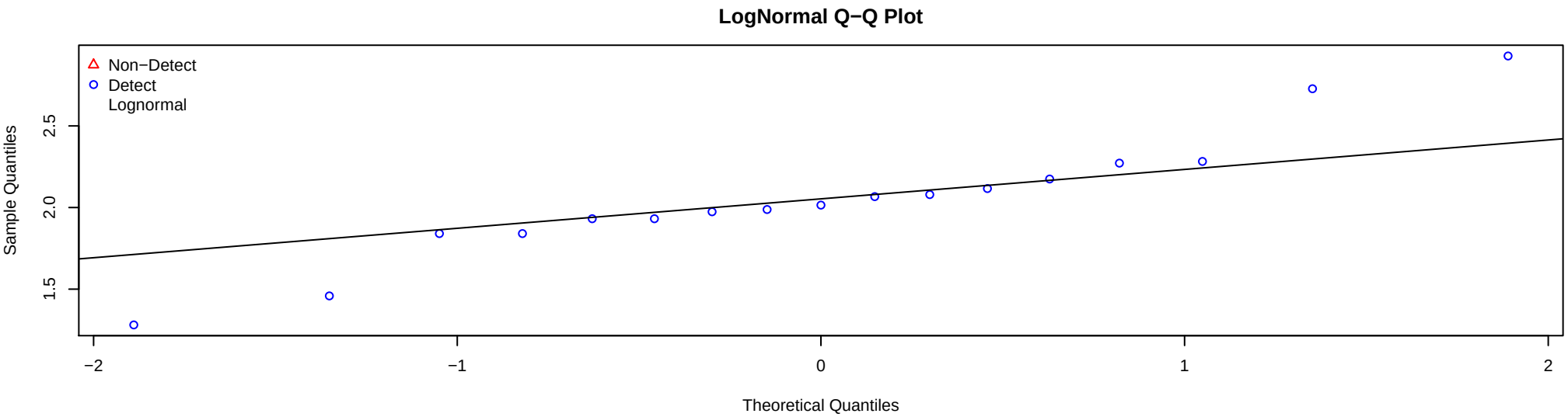




Upper Sand
Surface Soil

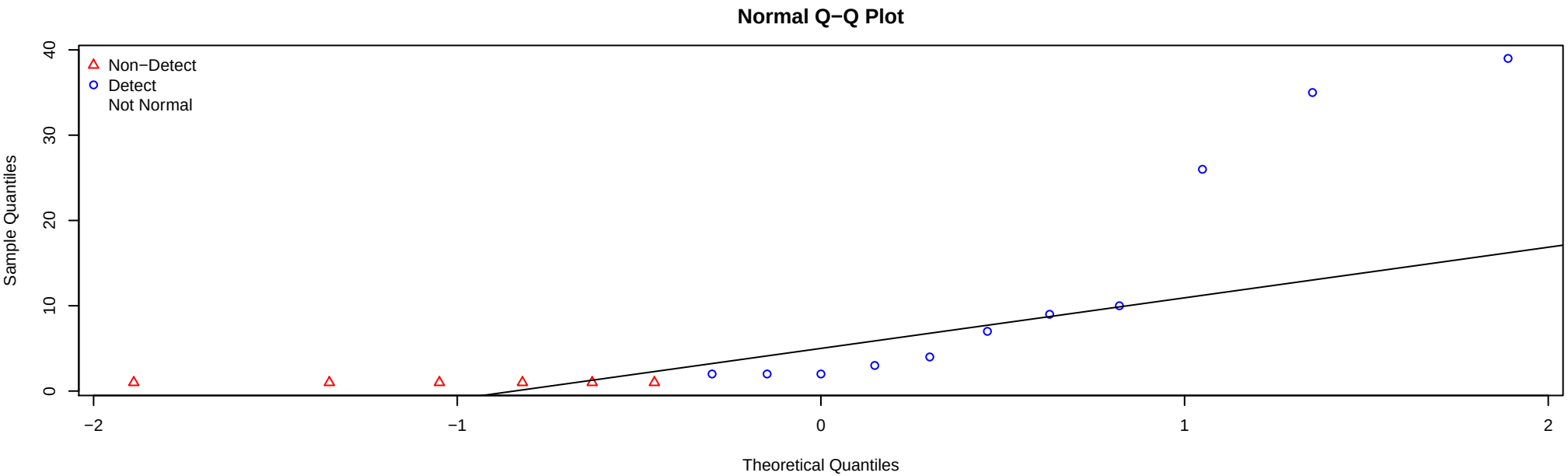
CHROMIUM

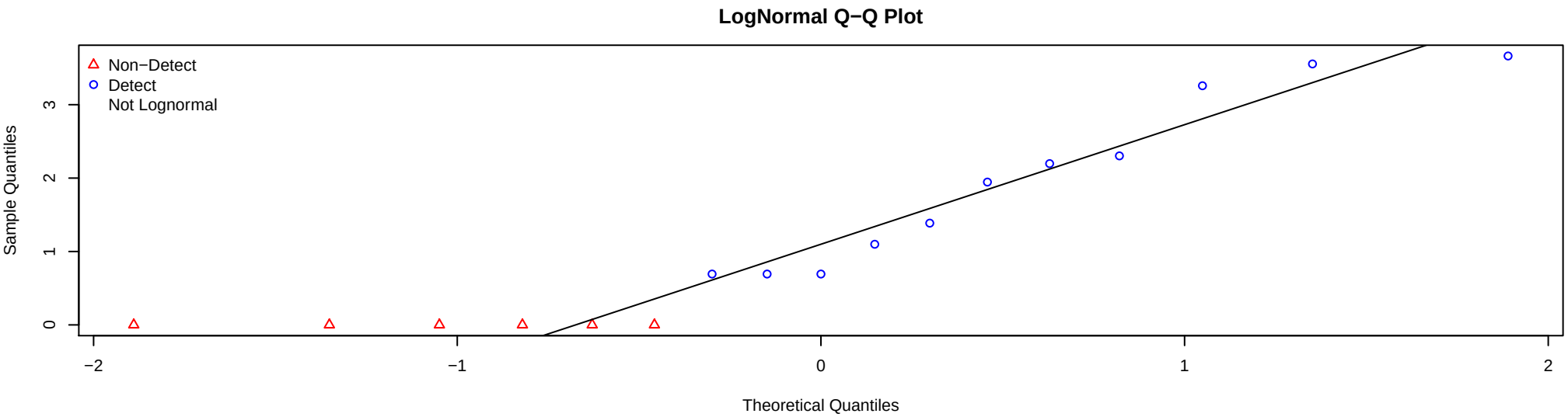




Upper Sand
Surface Soil

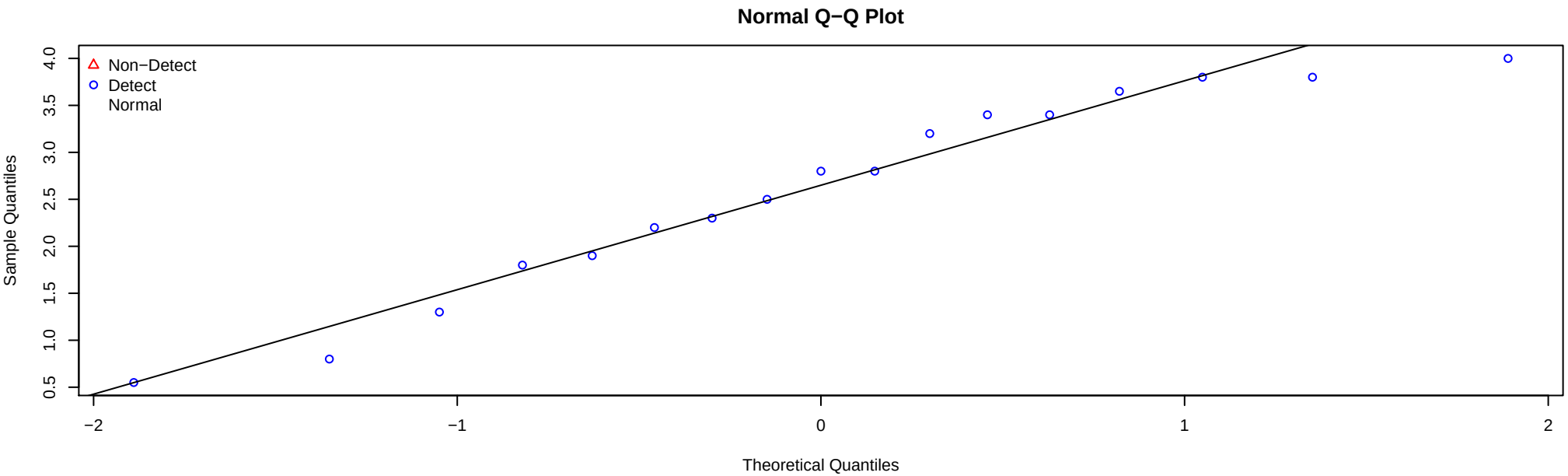
CHRYSENE

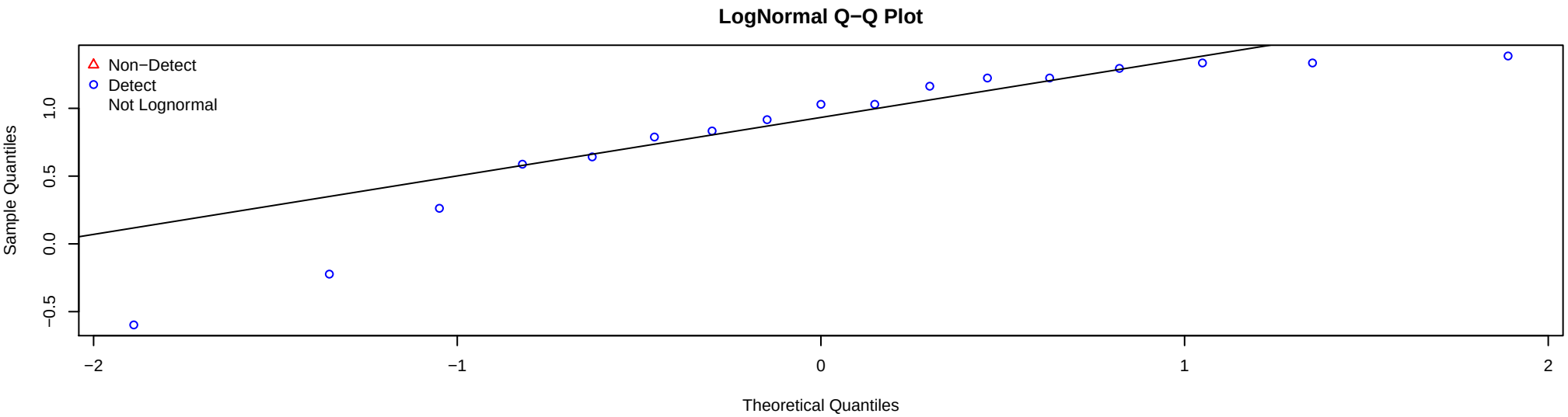




Upper Sand
Surface Soil

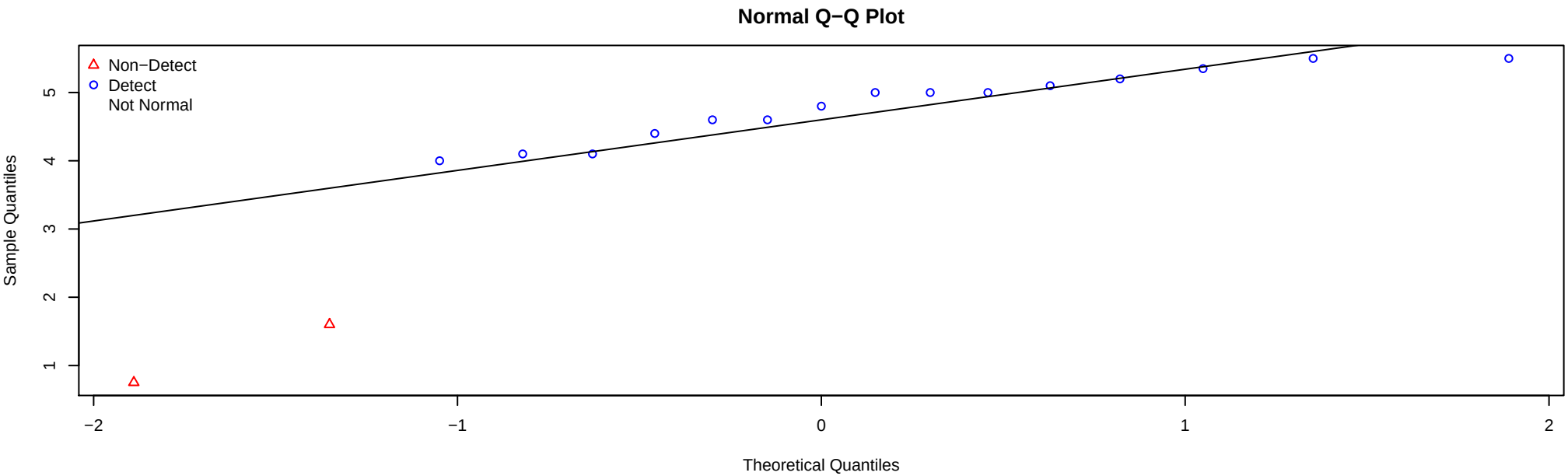
COBALT

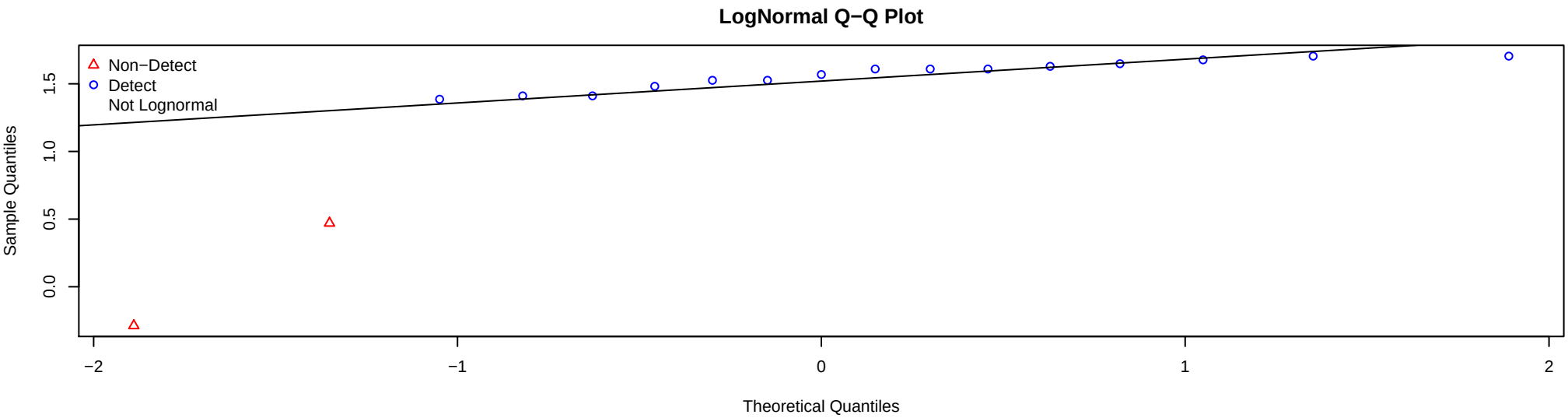




Upper Sand
Surface Soil

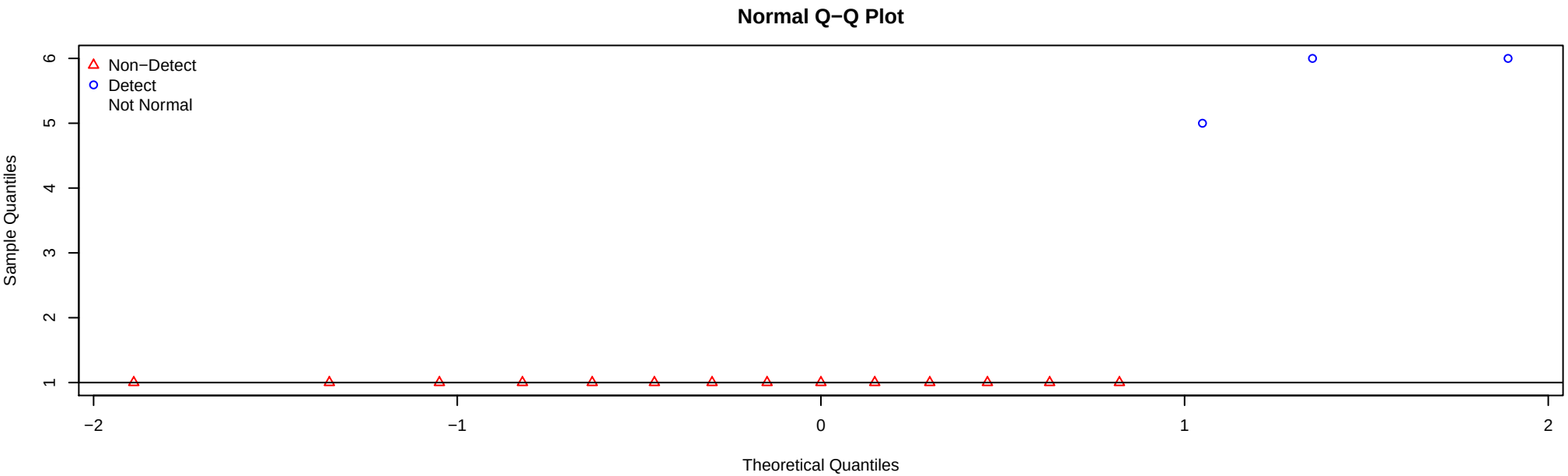
COPPER

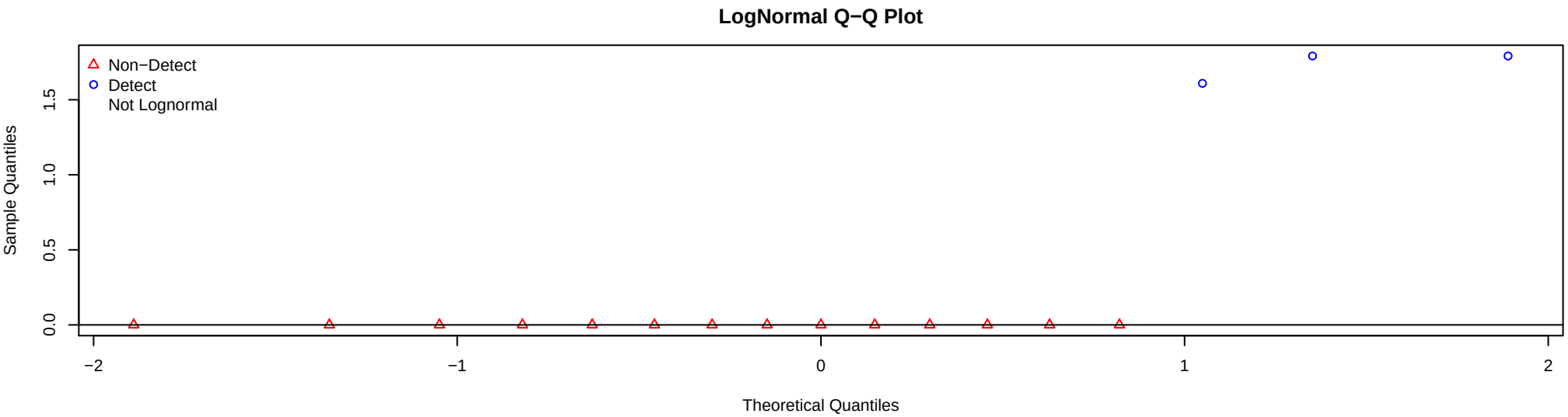




Upper Sand
Surface Soil

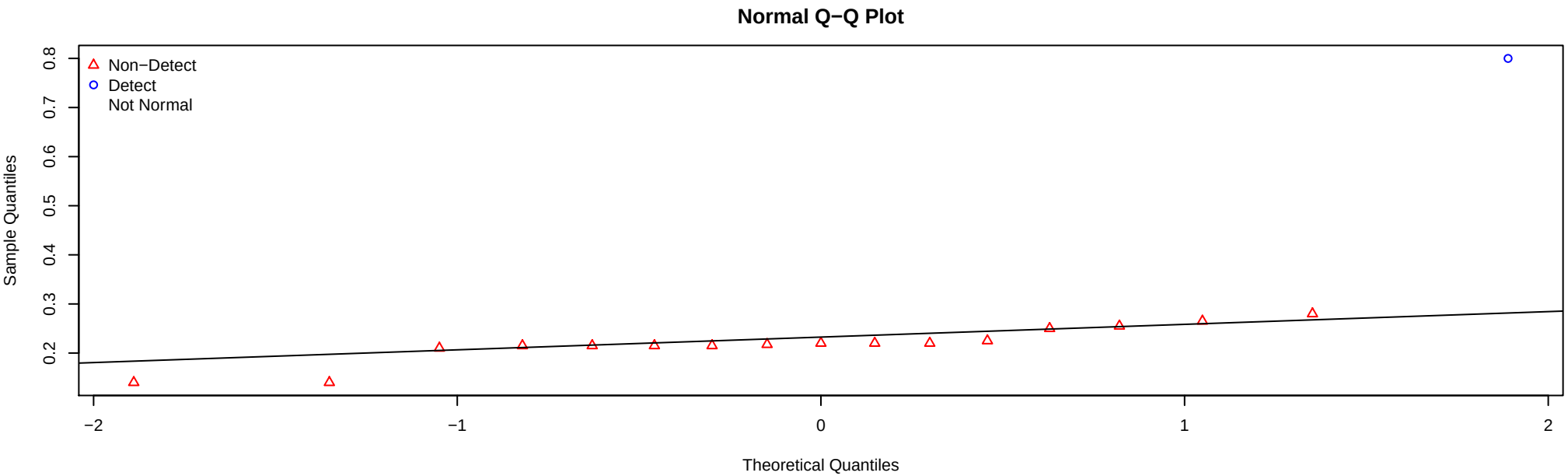
DIBENZO(A,H)ANTHRACENE

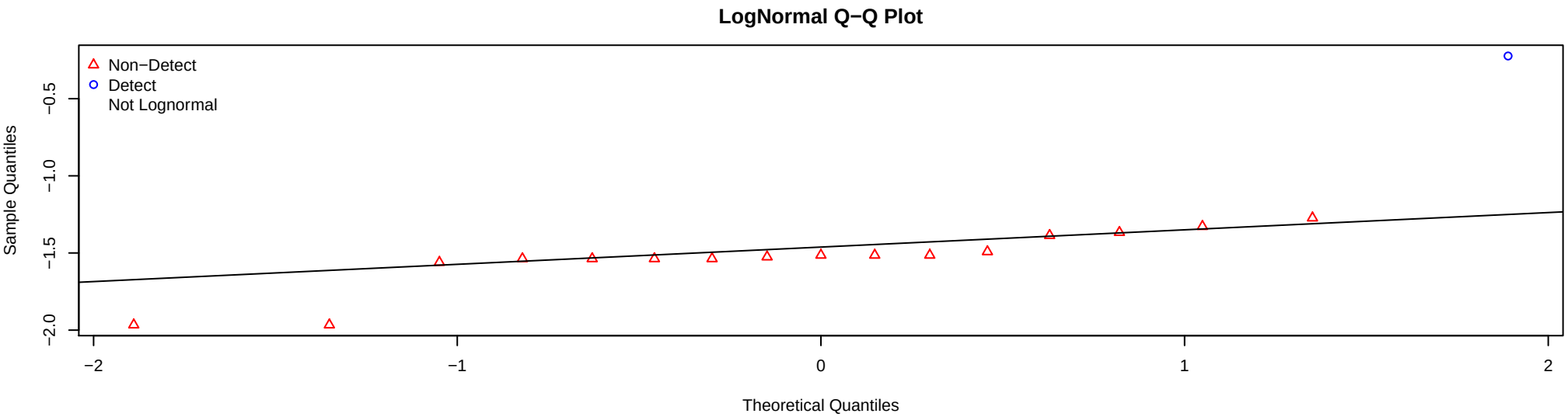




Upper Sand
Surface Soil

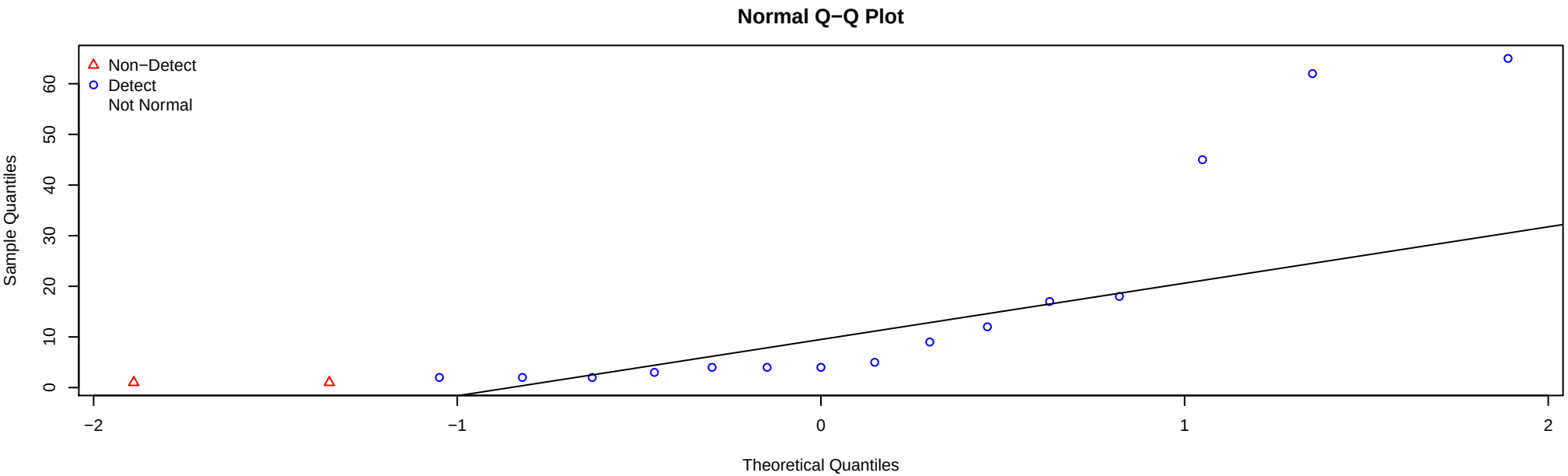
ENDOSULFAN I

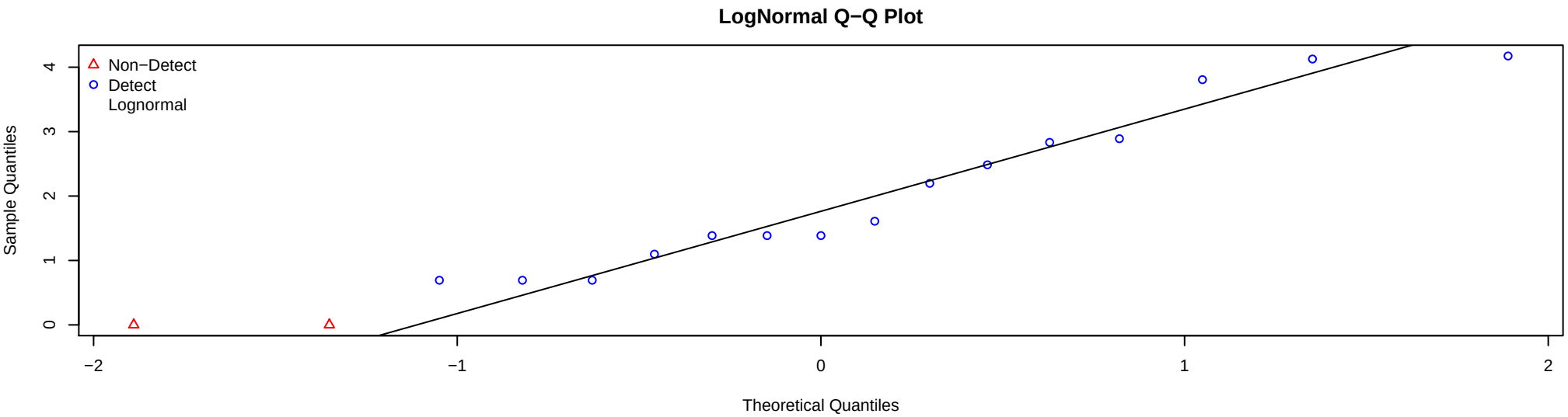




Upper Sand
Surface Soil

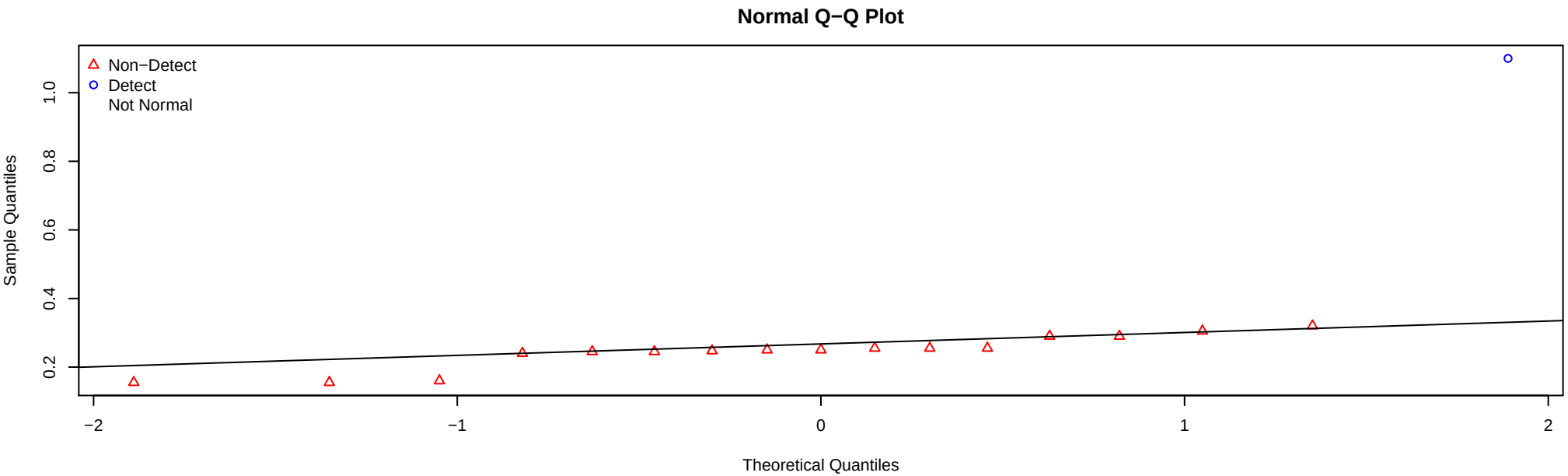
FLUORANTHENE

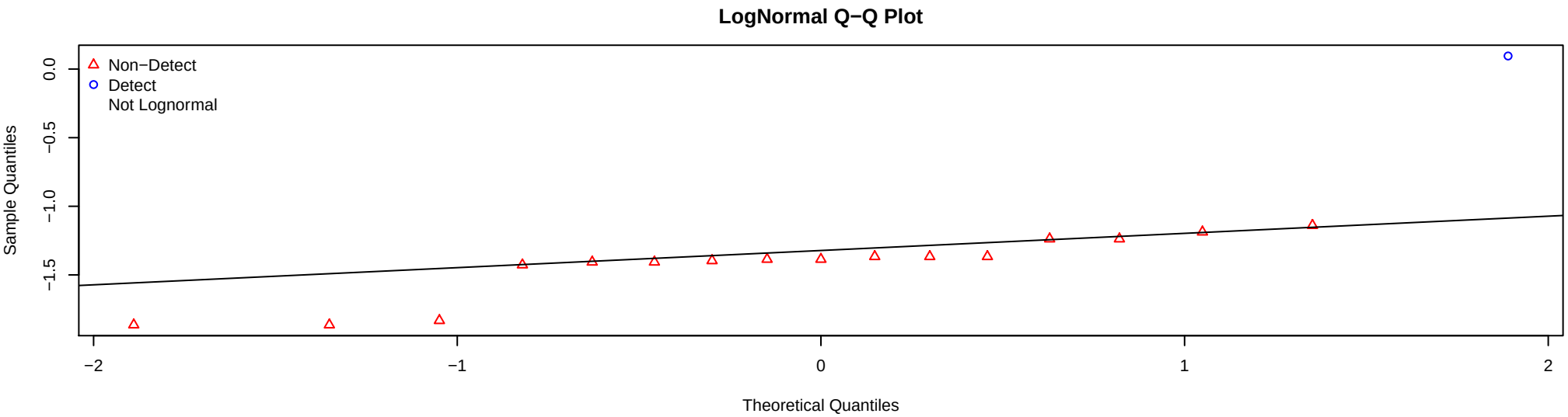




Upper Sand
Surface Soil

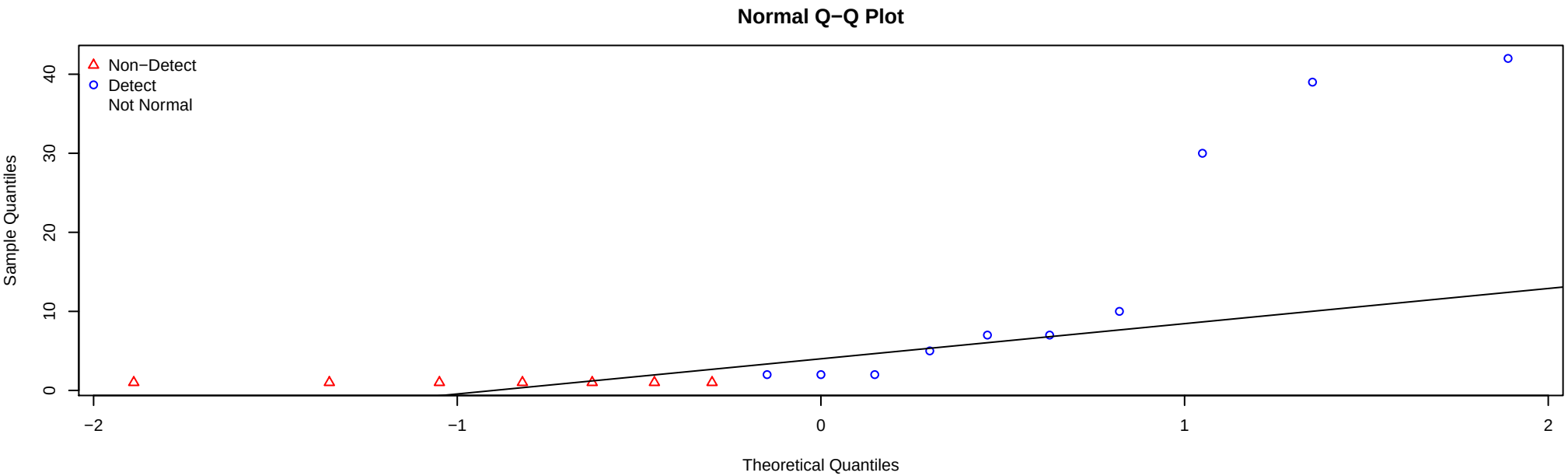
GAMMA−BHC (LINDANE)

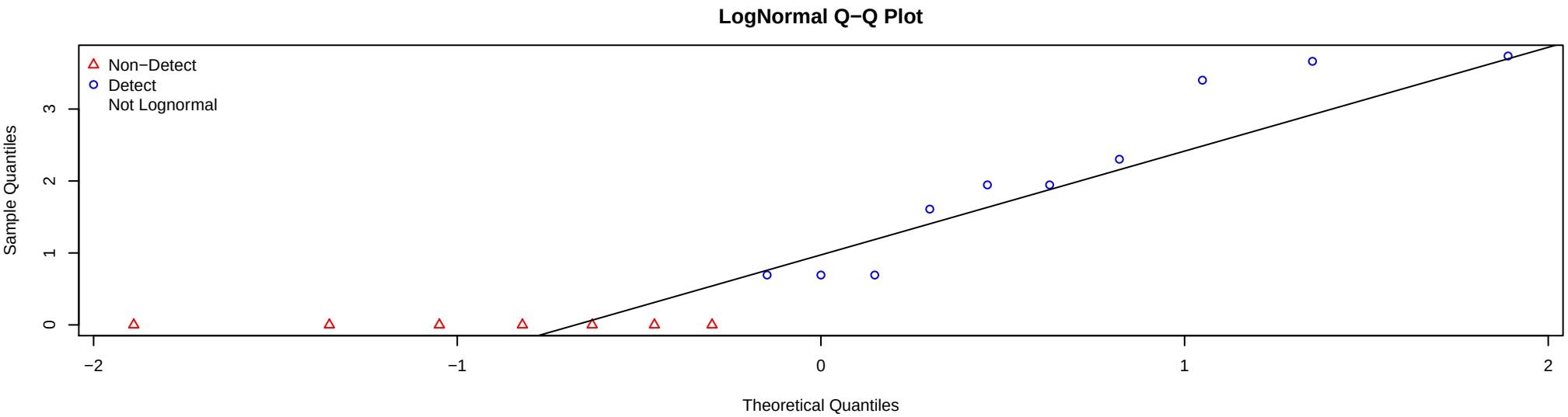




Upper Sand
Surface Soil

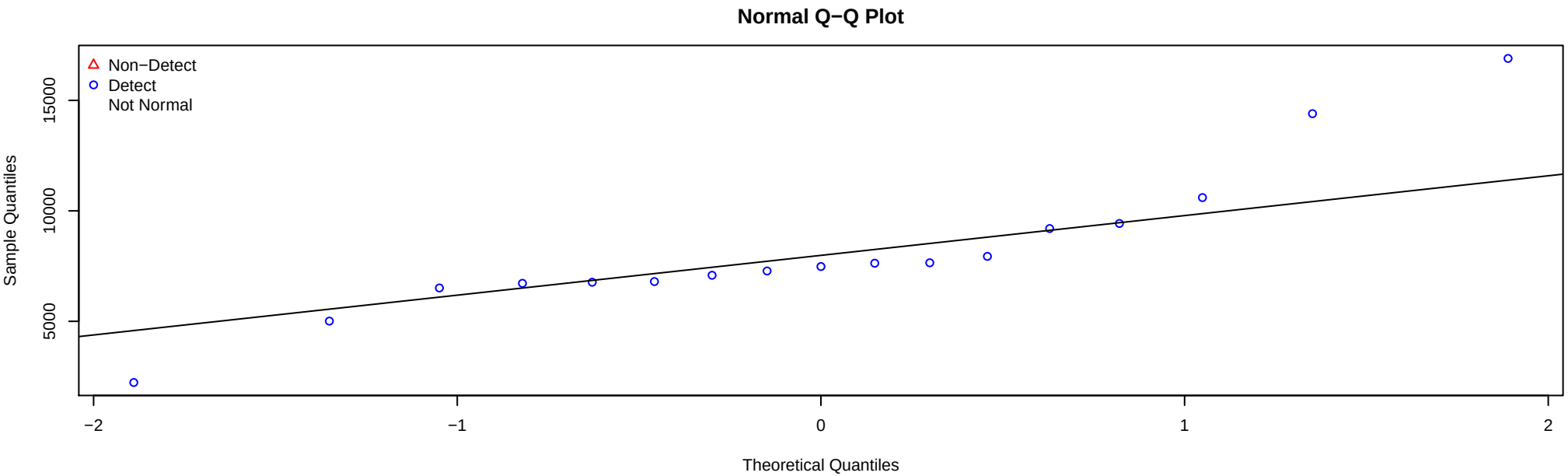
INDENO(1,2,3−CD)PYRENE

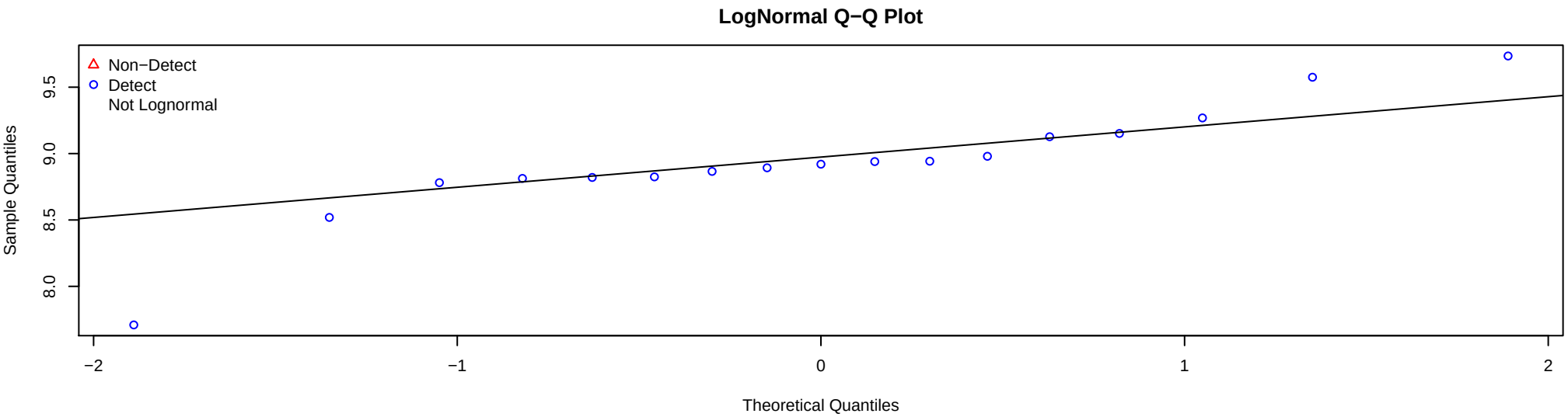




Upper Sand
Surface Soil

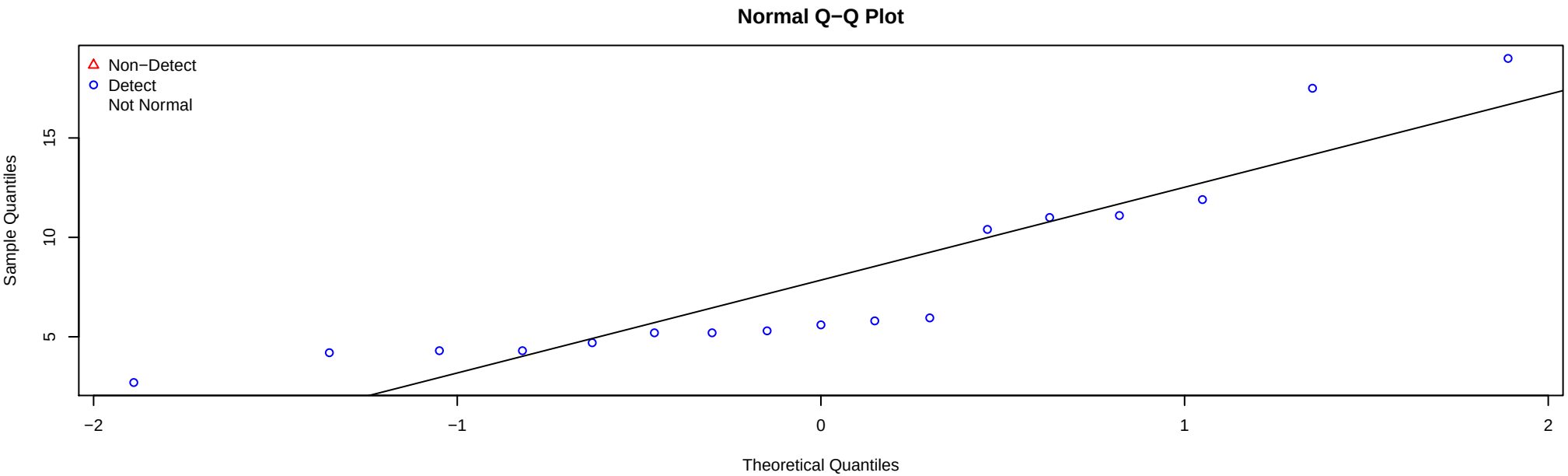
IRON

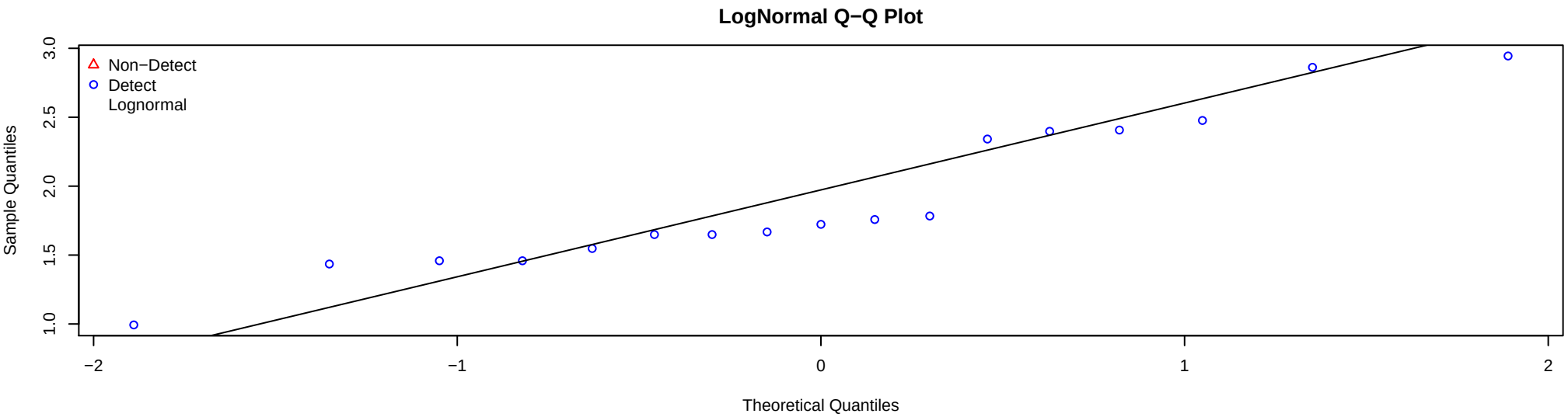




Upper Sand
Surface Soil

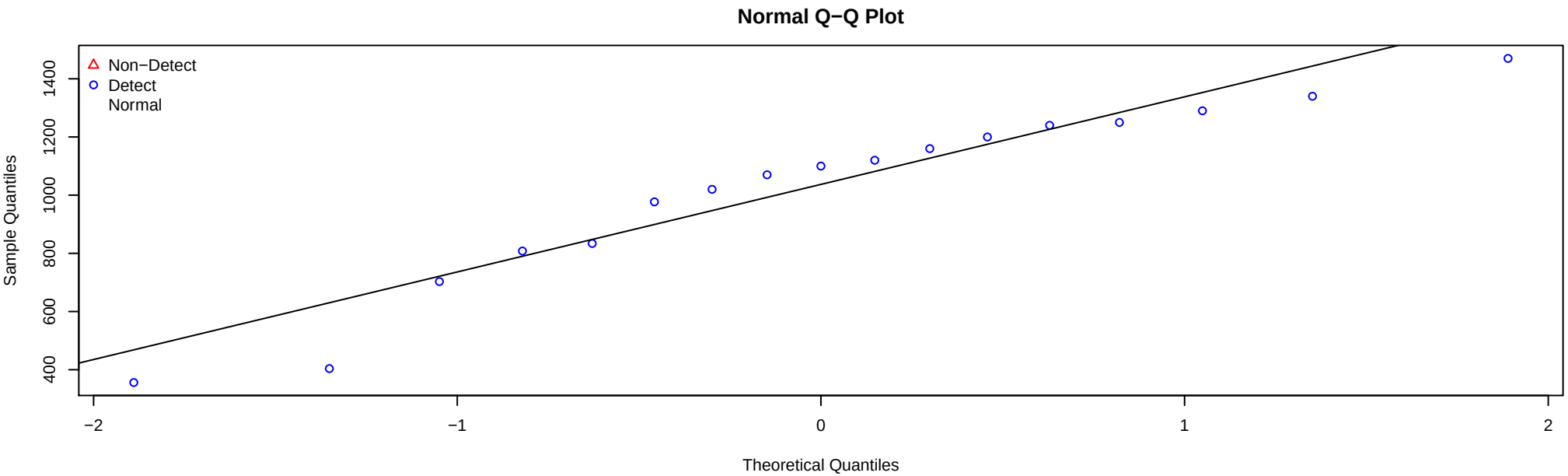
LEAD

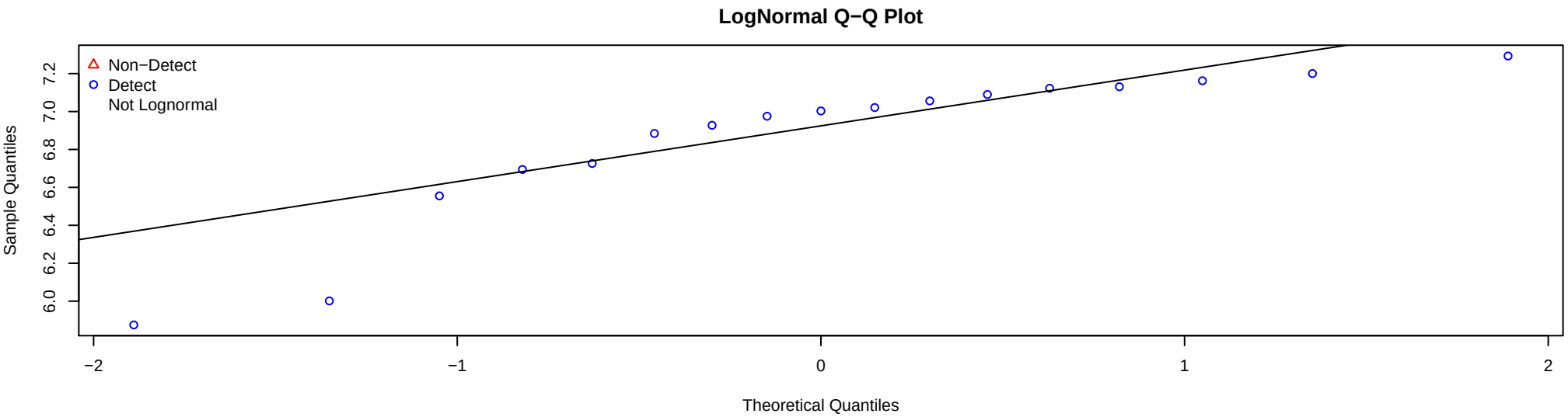




Upper Sand
Surface Soil

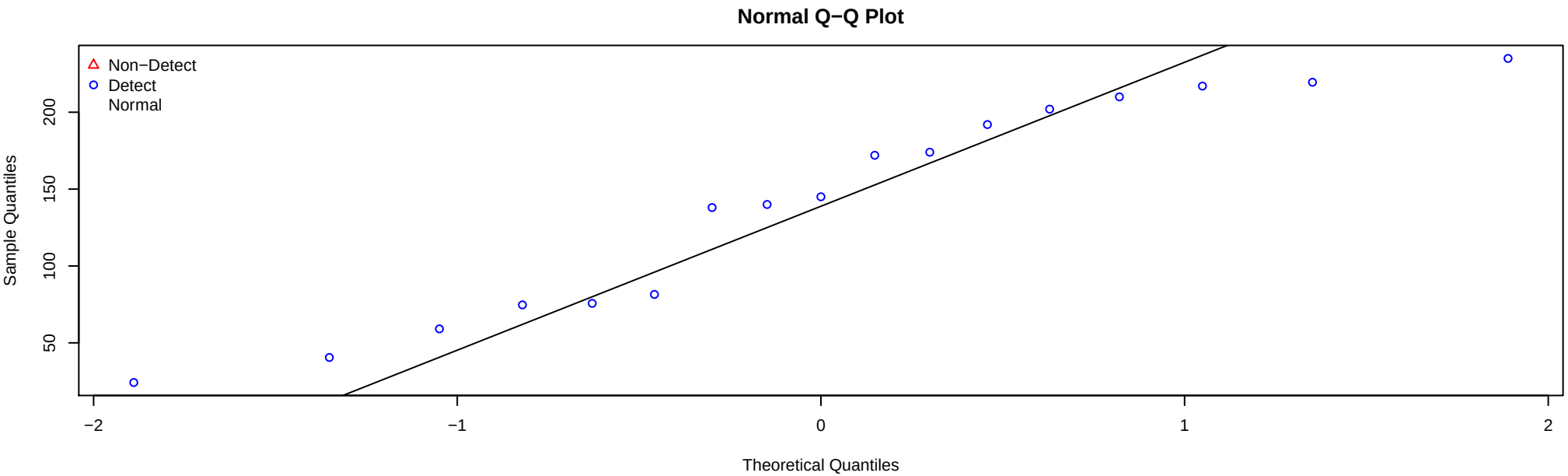
MAGNESIUM

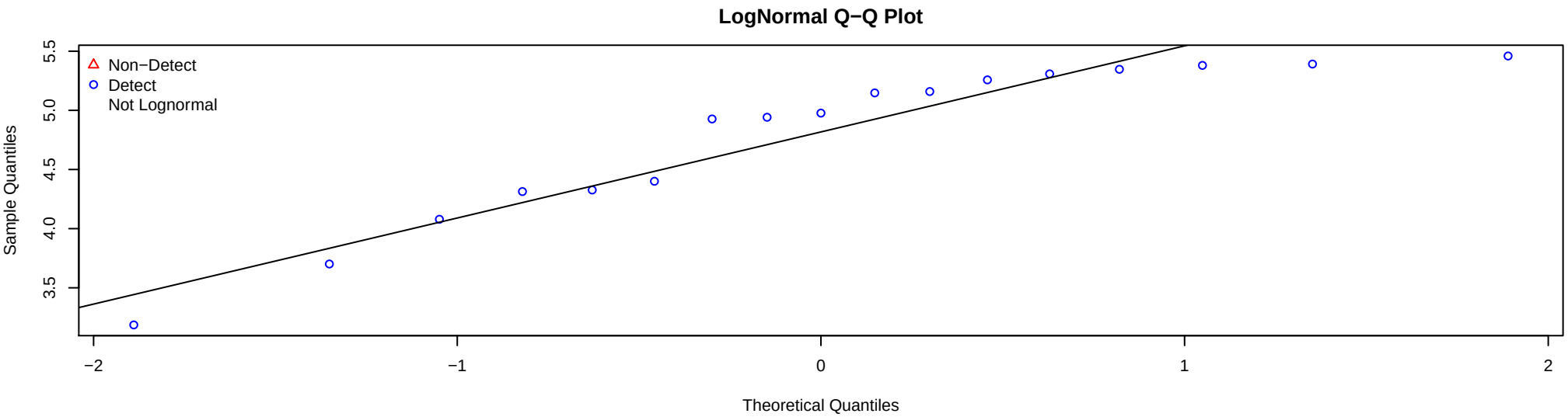




Upper Sand
Surface Soil

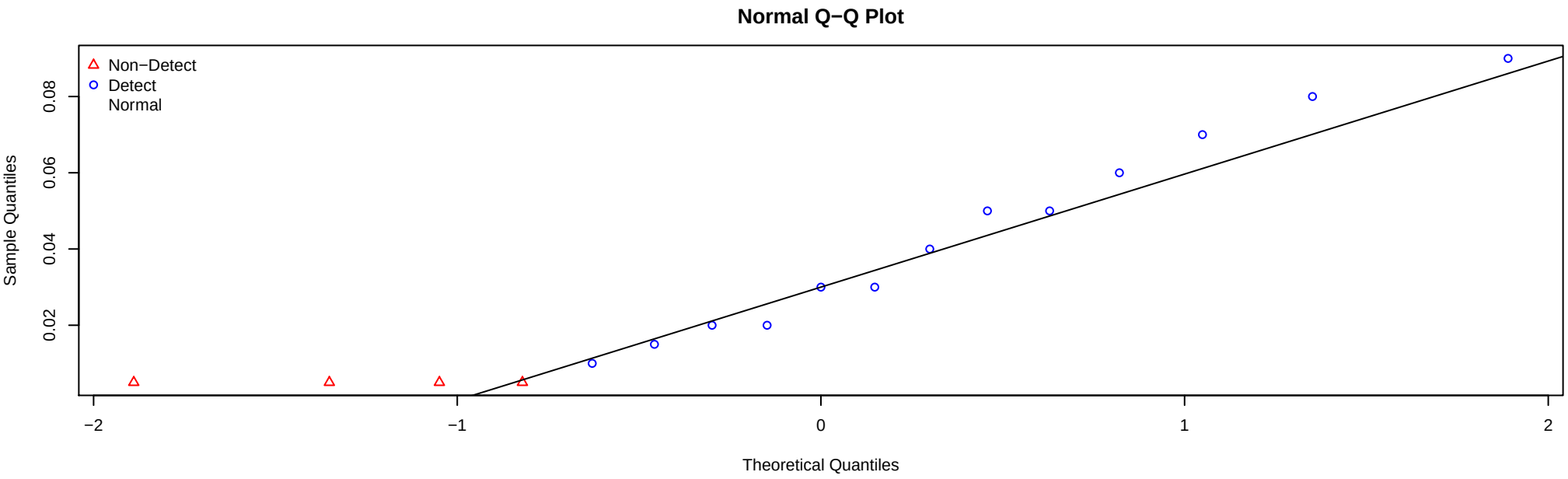
MANGANESE

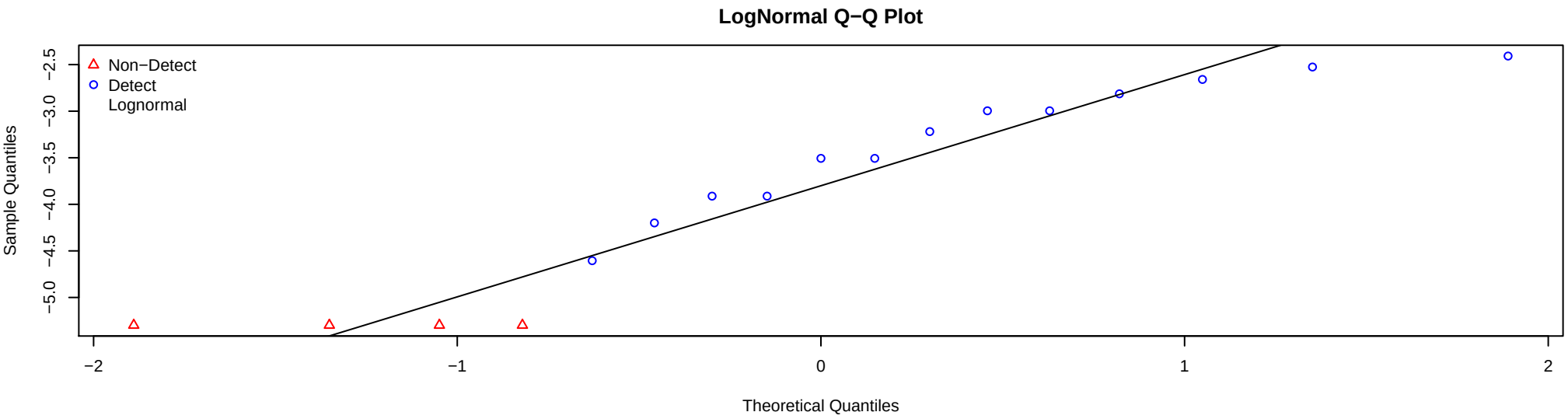




Upper Sand
Surface Soil

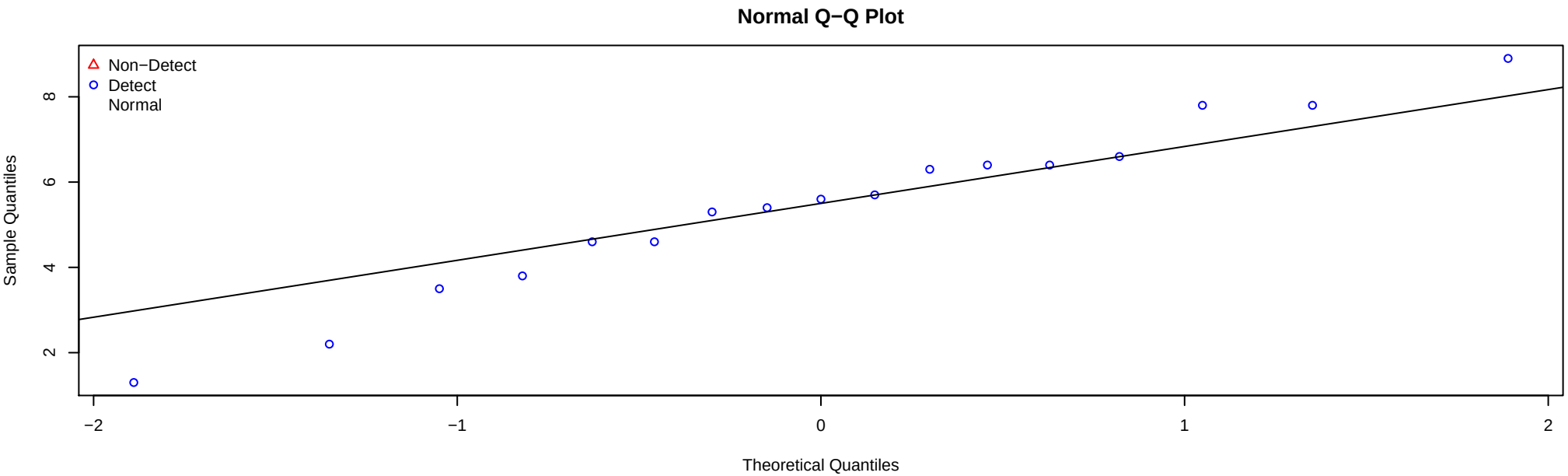
MERCURY

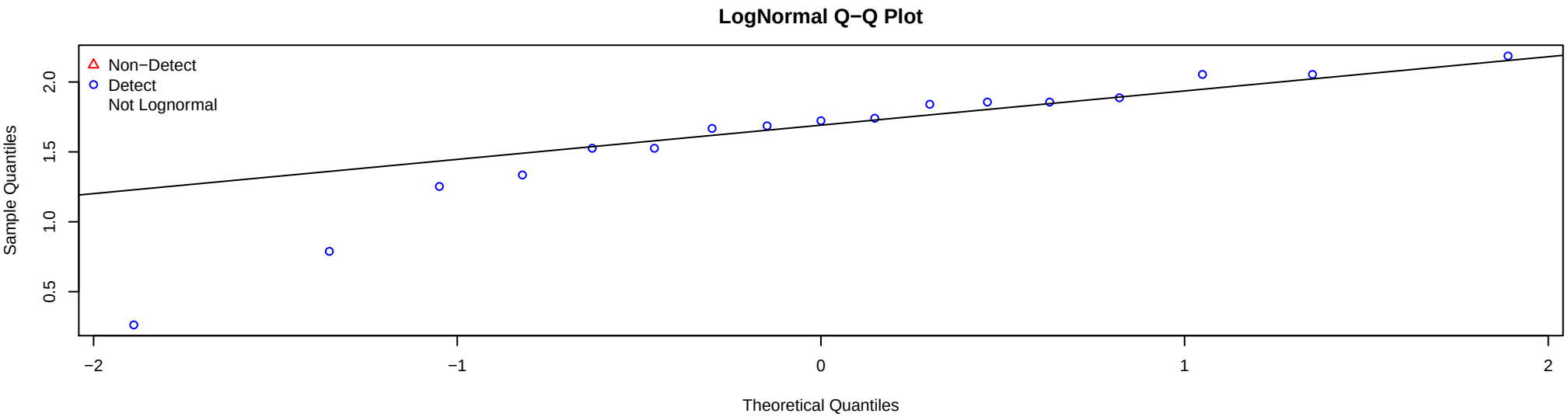




Upper Sand
Surface Soil

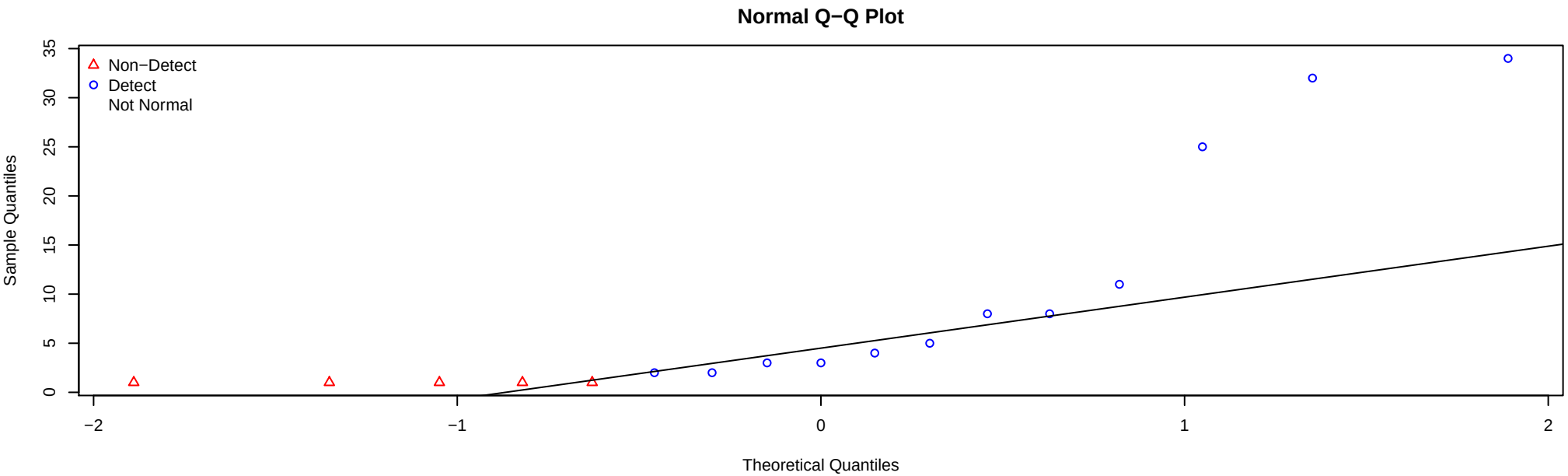
NICKEL

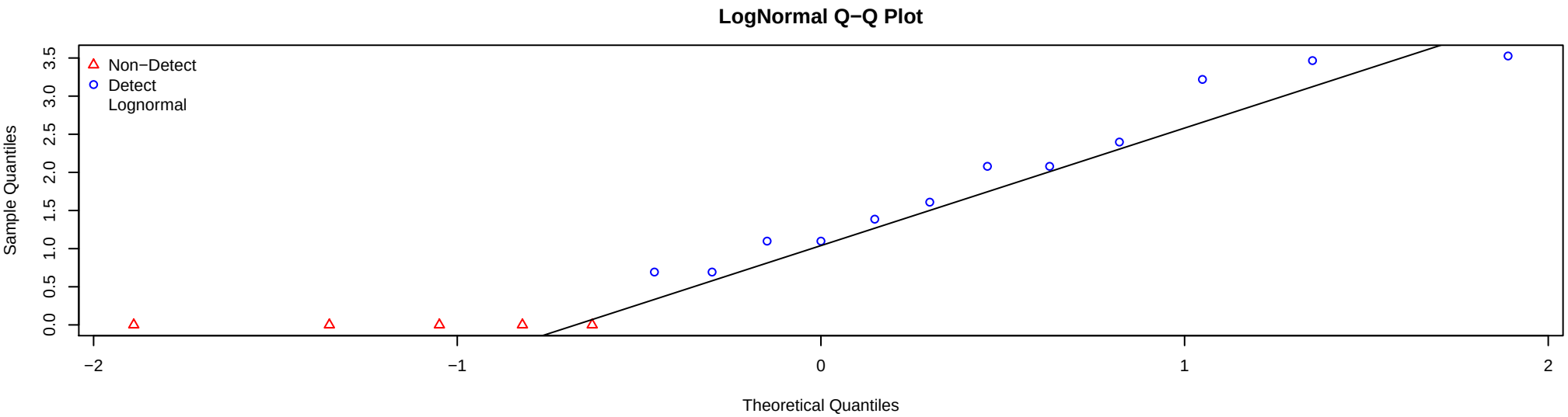




Upper Sand
Surface Soil

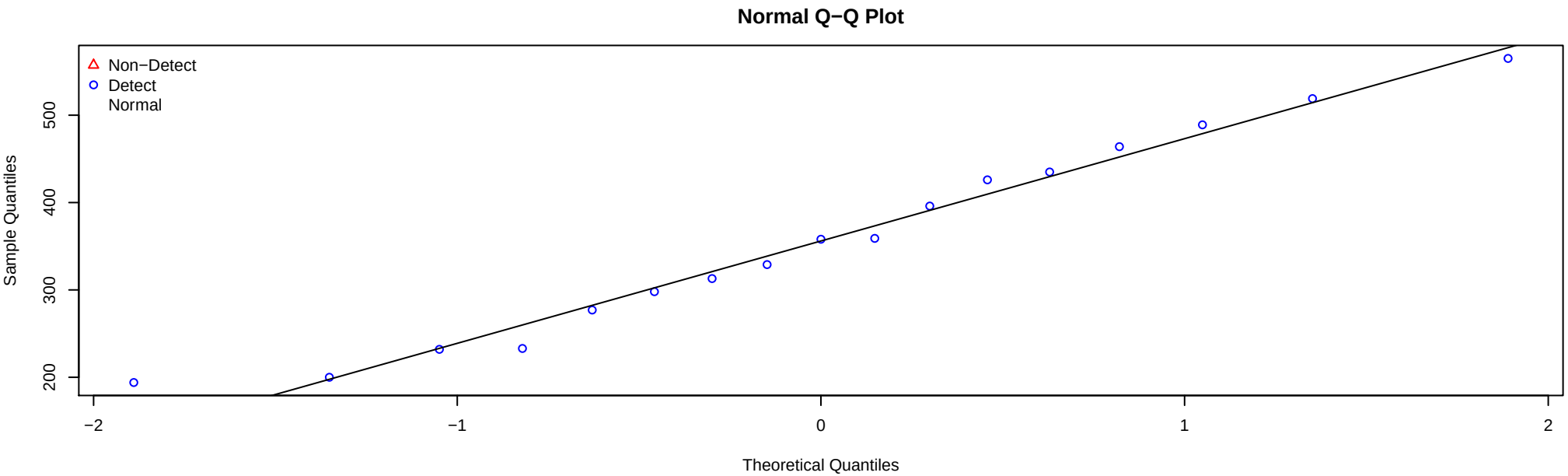
PHENANTHRENE

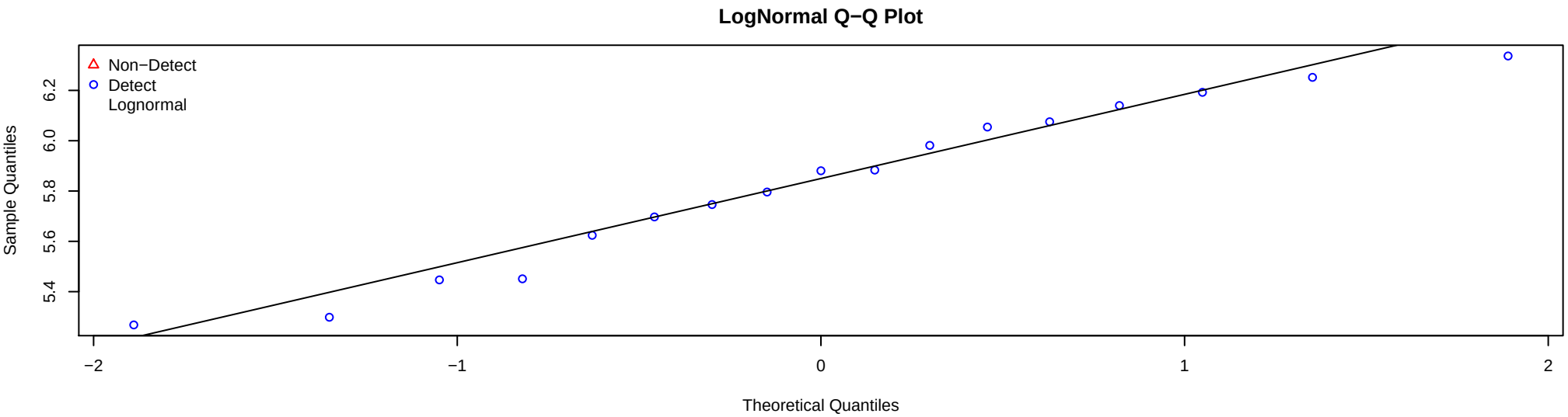




Upper Sand
Surface Soil

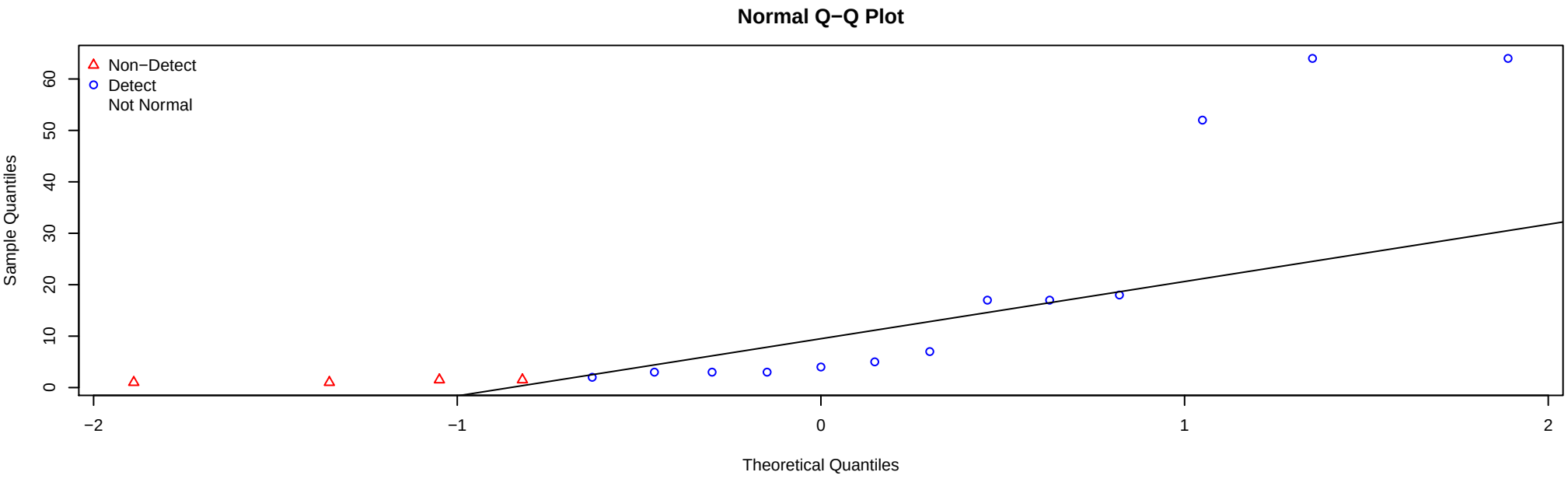
POTASSIUM

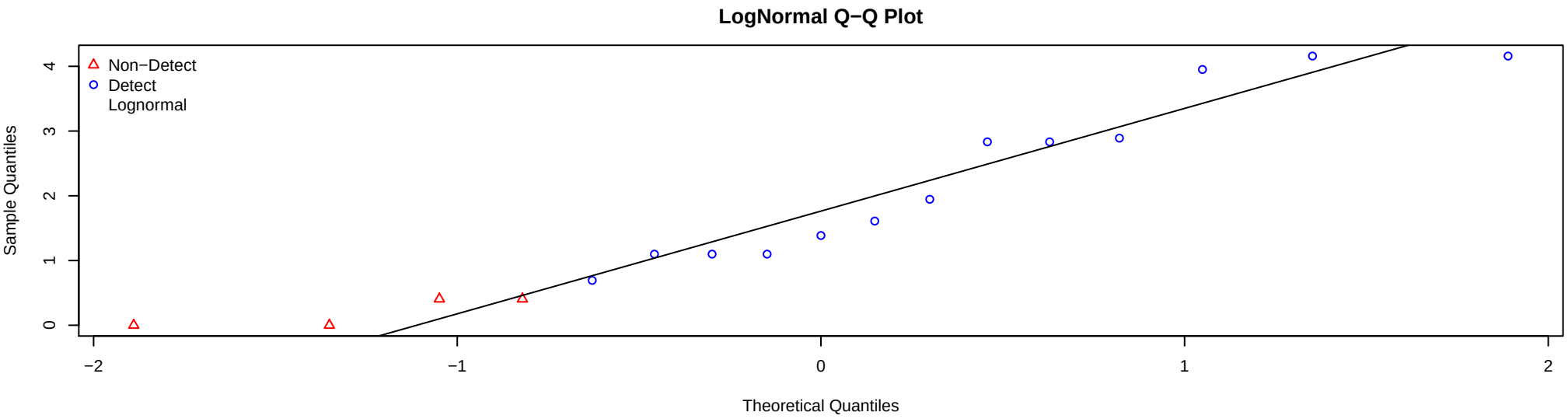




Upper Sand
Surface Soil

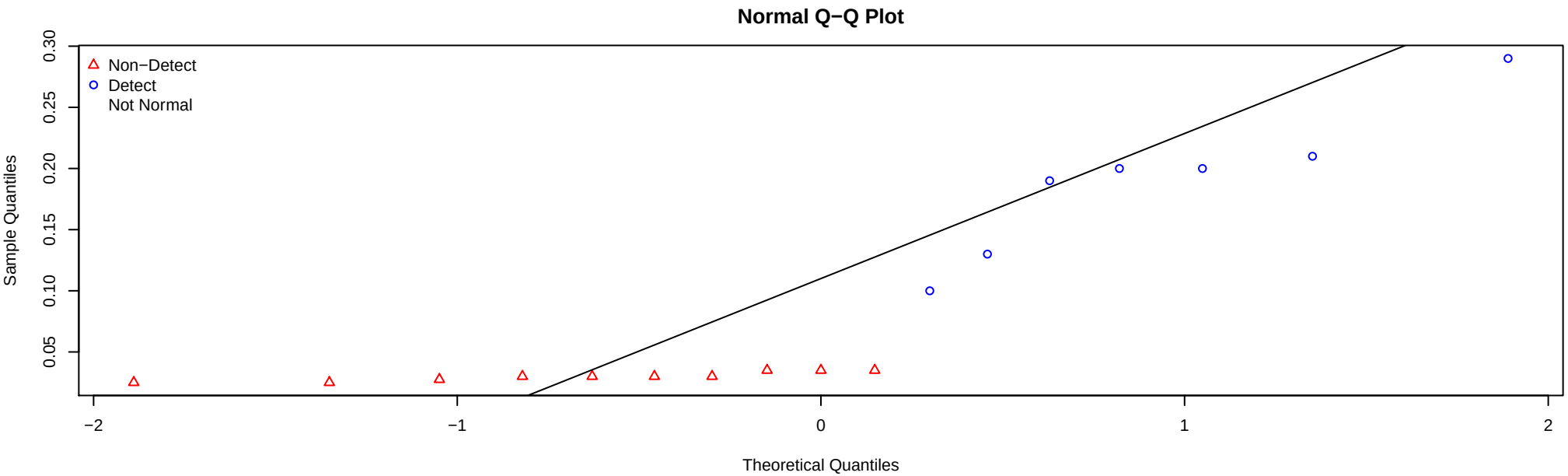
PYRENE

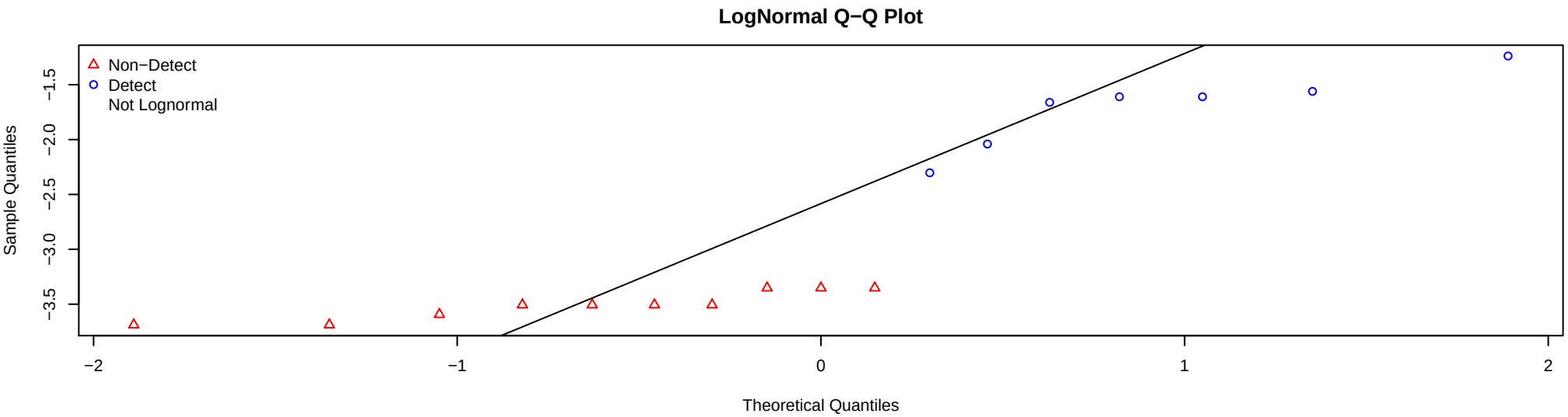




Upper Sand
Surface Soil

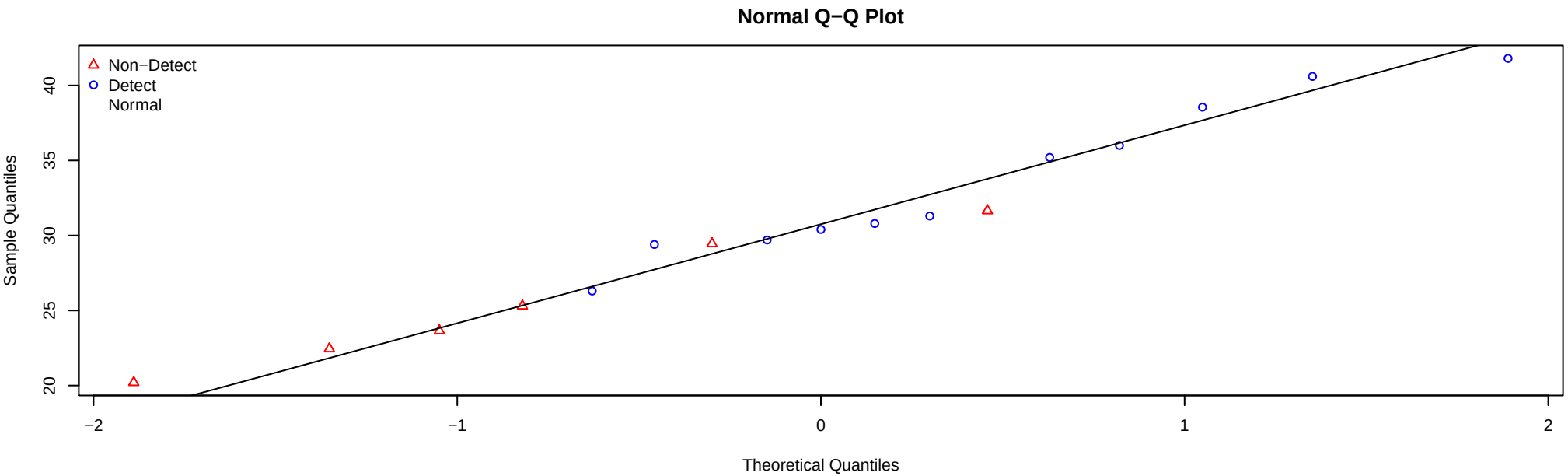
SILVER

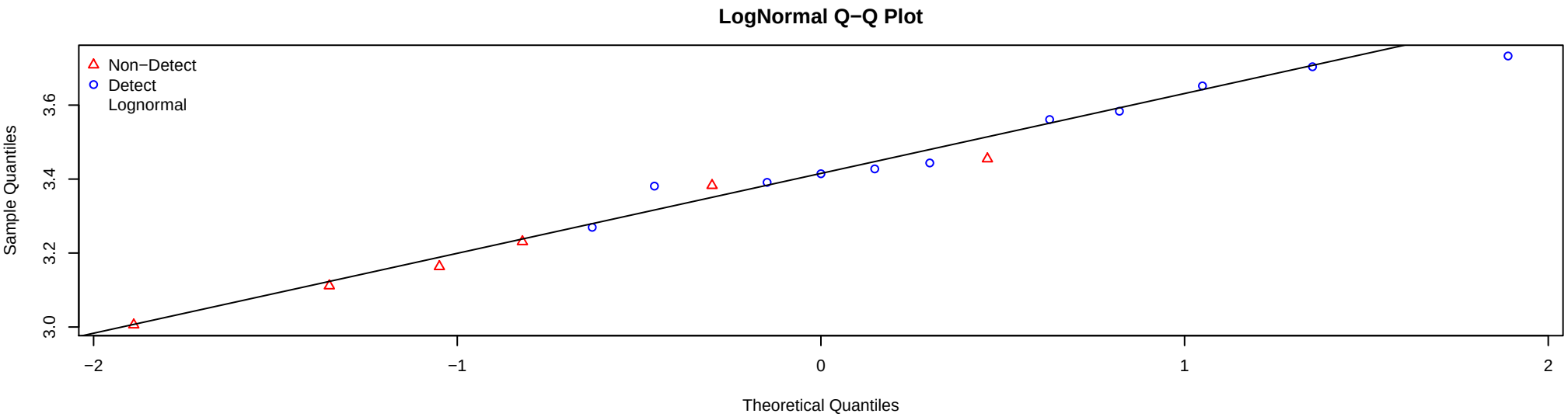




Upper Sand
Surface Soil

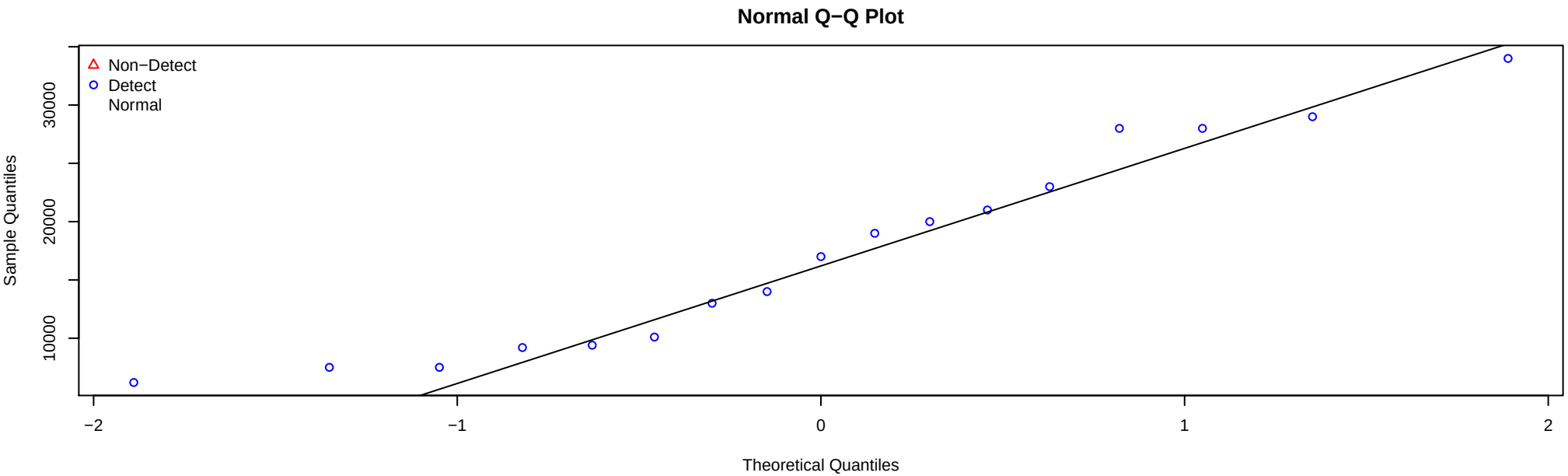
SODIUM

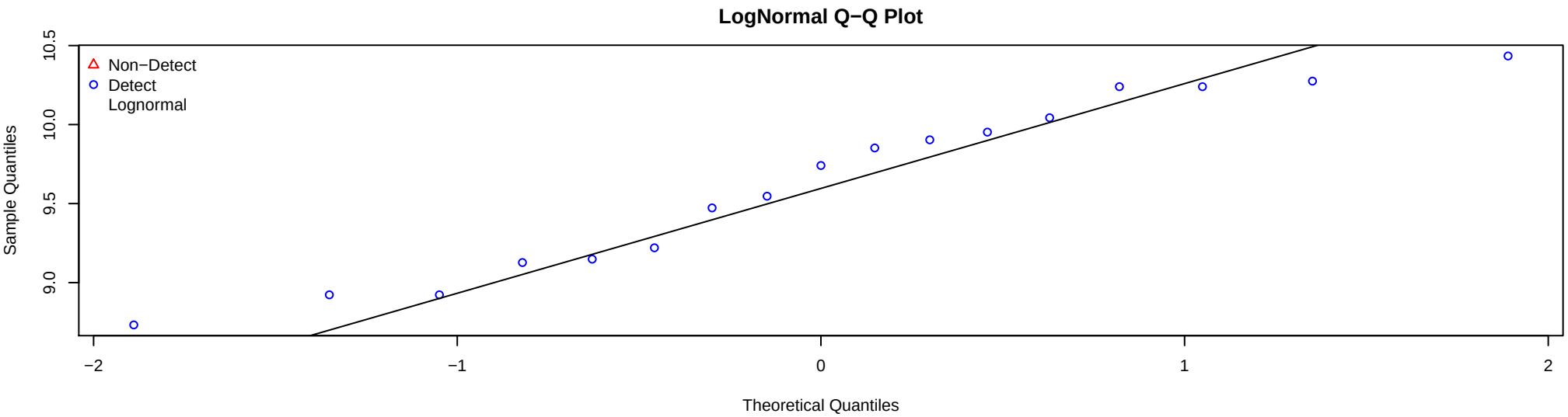




Upper Sand
Surface Soil

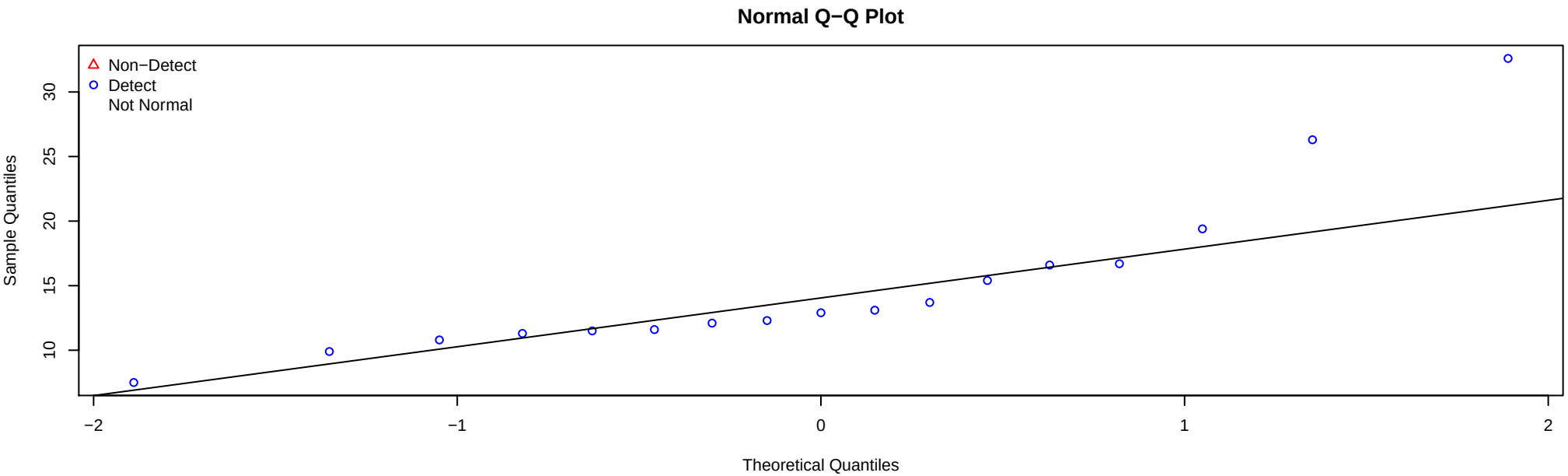
TOTAL ORGANIC CARBON

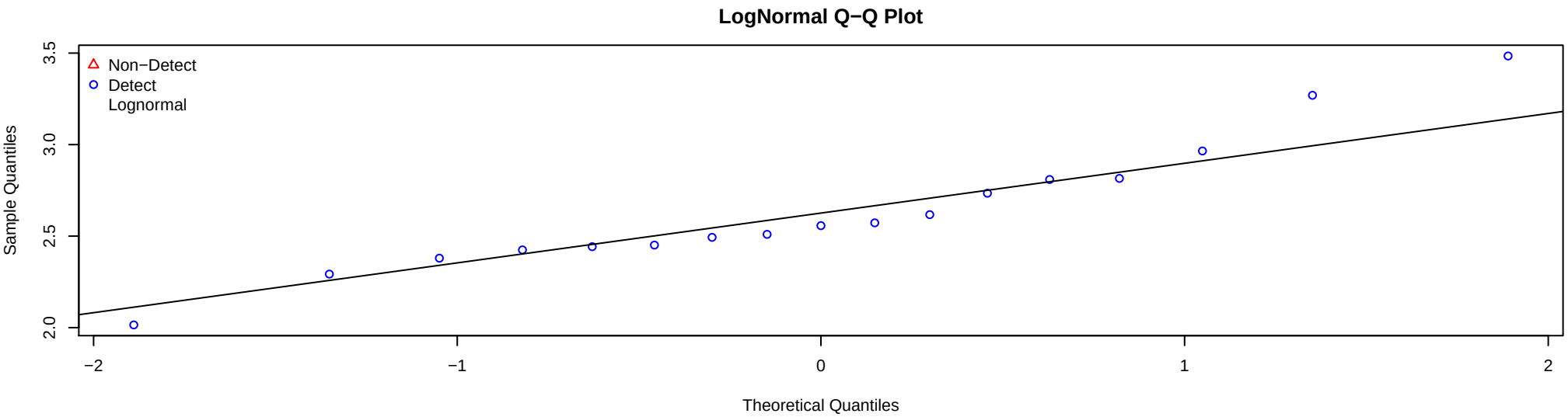




Upper Sand
Surface Soil

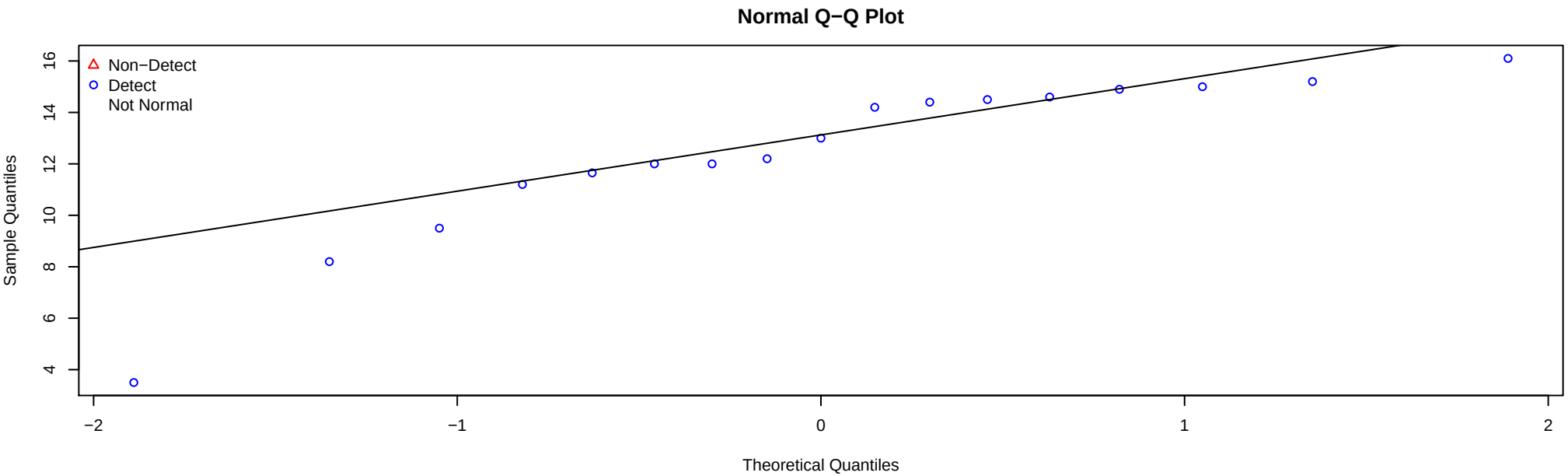
VANADIUM

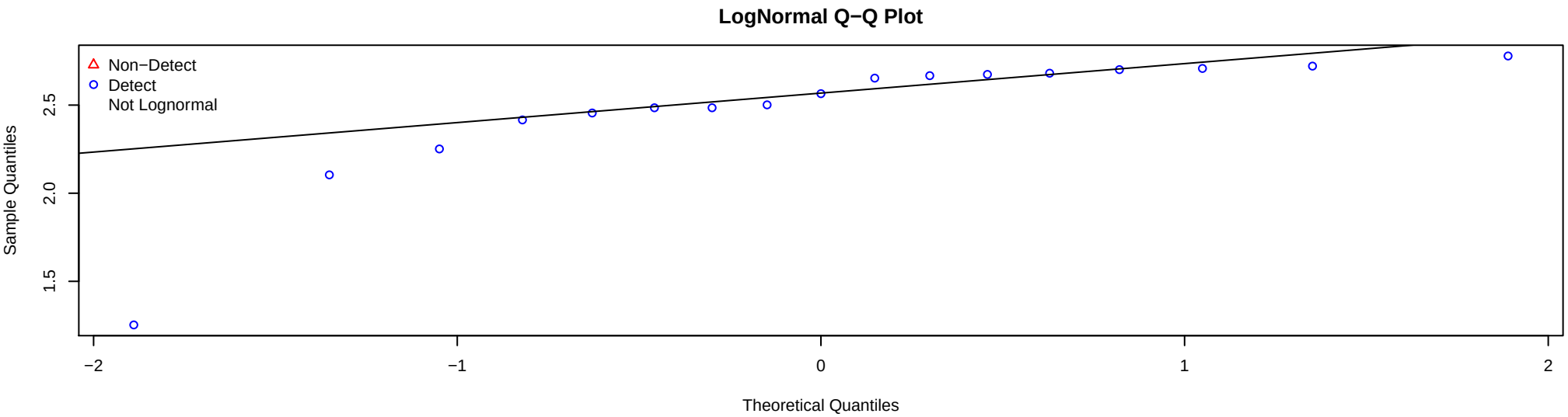




Upper Sand
Surface Soil

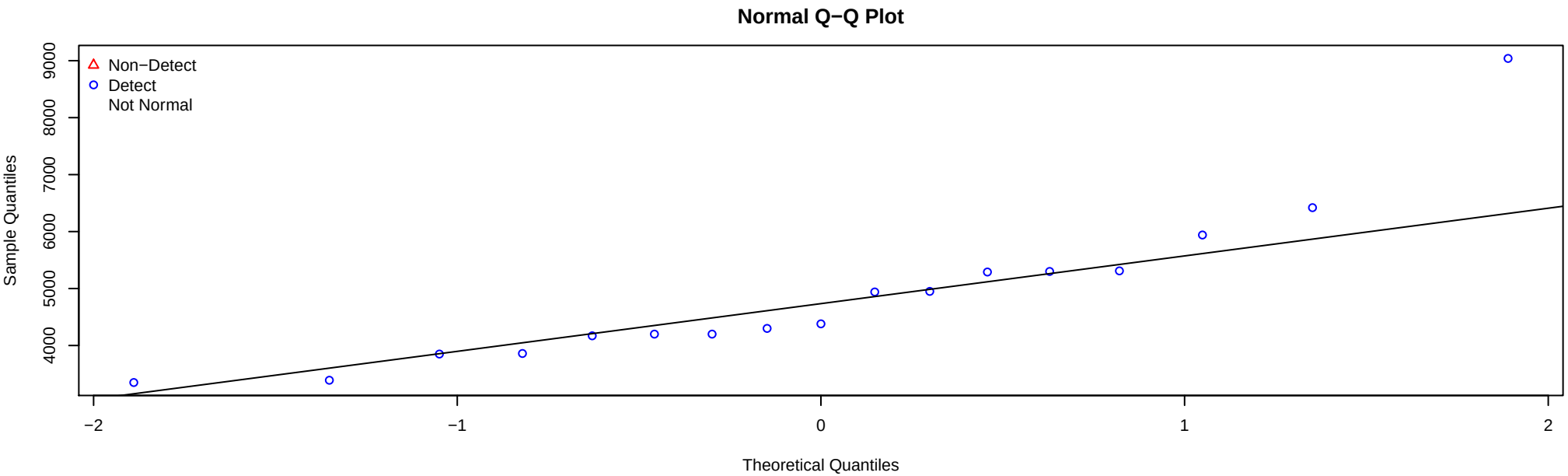
ZINC

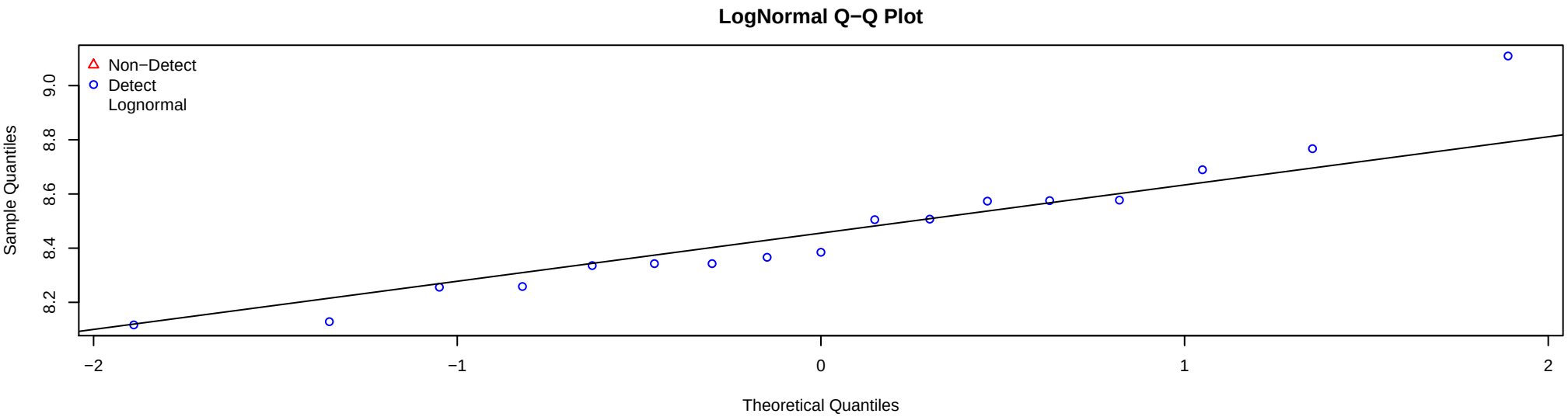




Upper Sand
Subsurface Soil

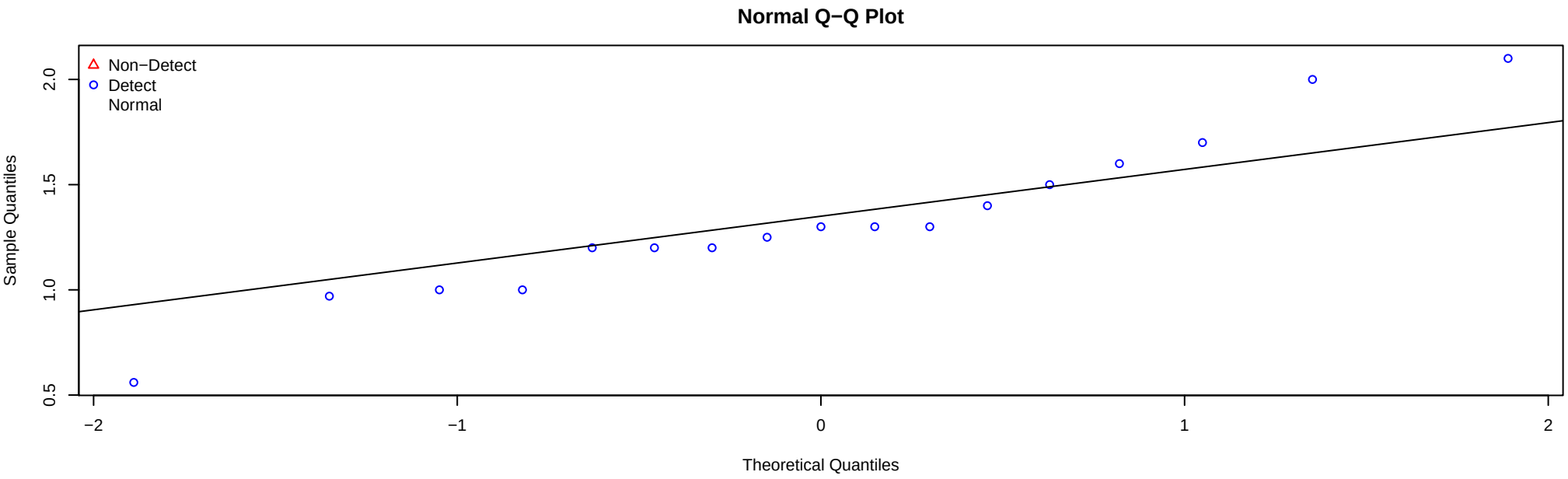
ALUMINUM

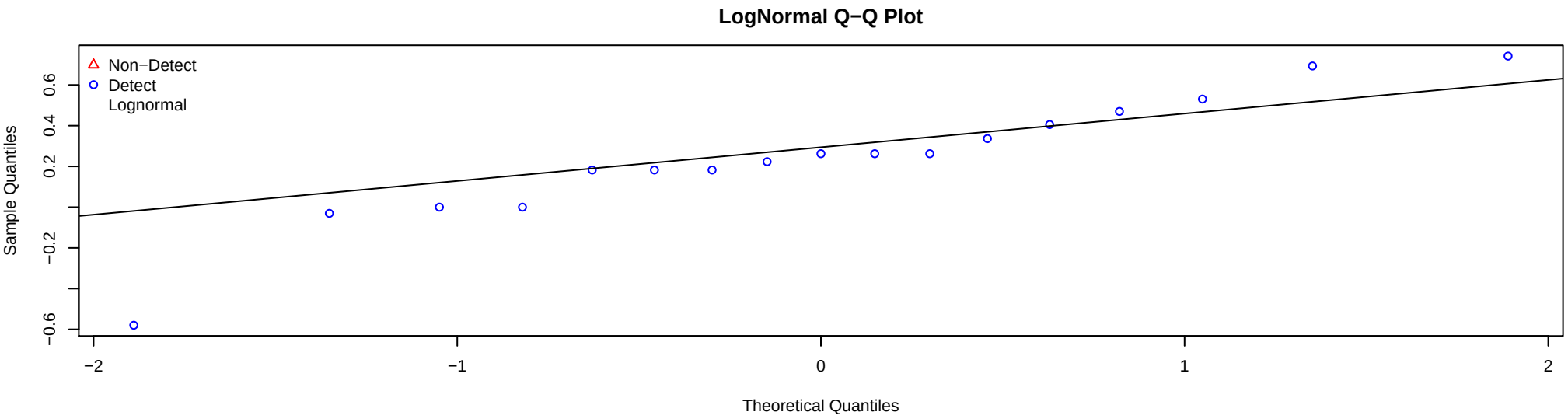




Upper Sand
Subsurface Soil

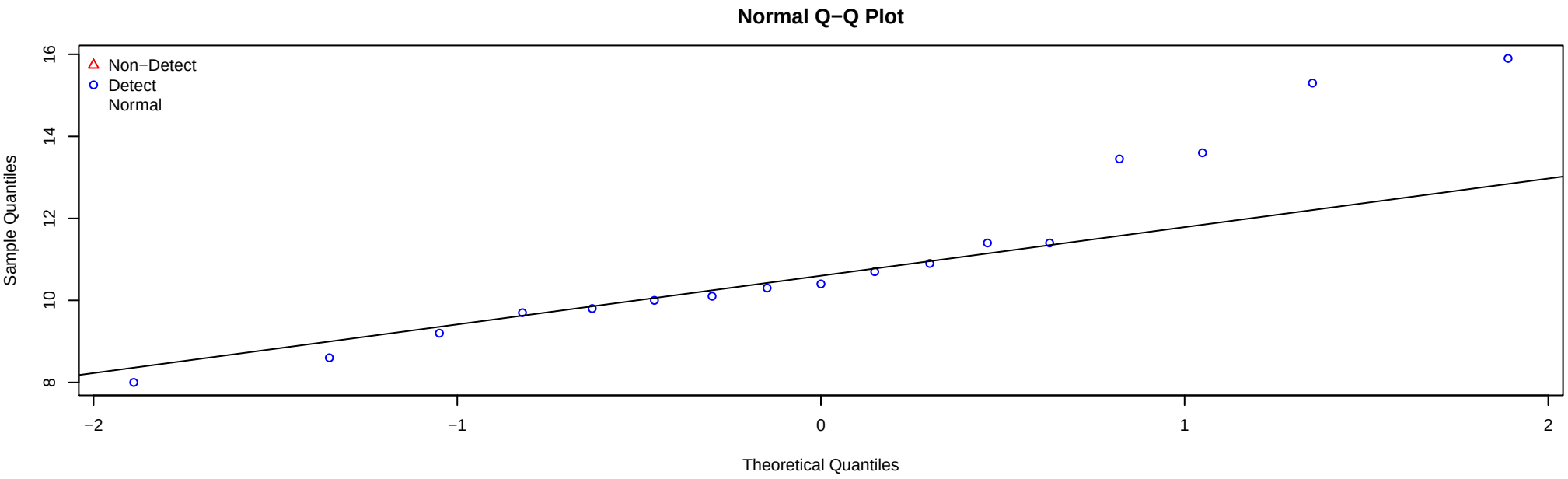
ARSENIC

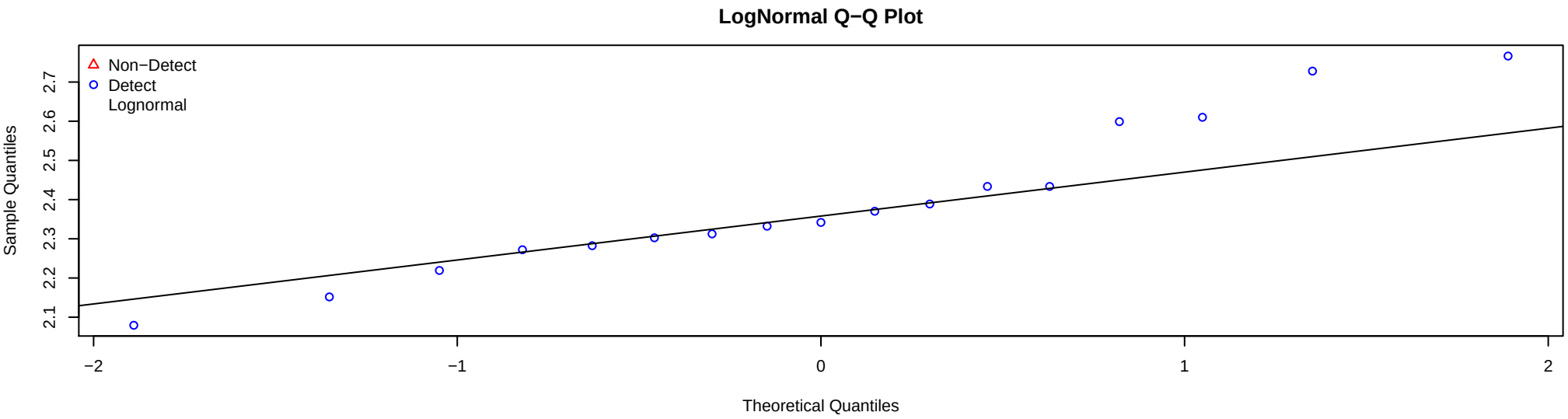




Upper Sand
Subsurface Soil

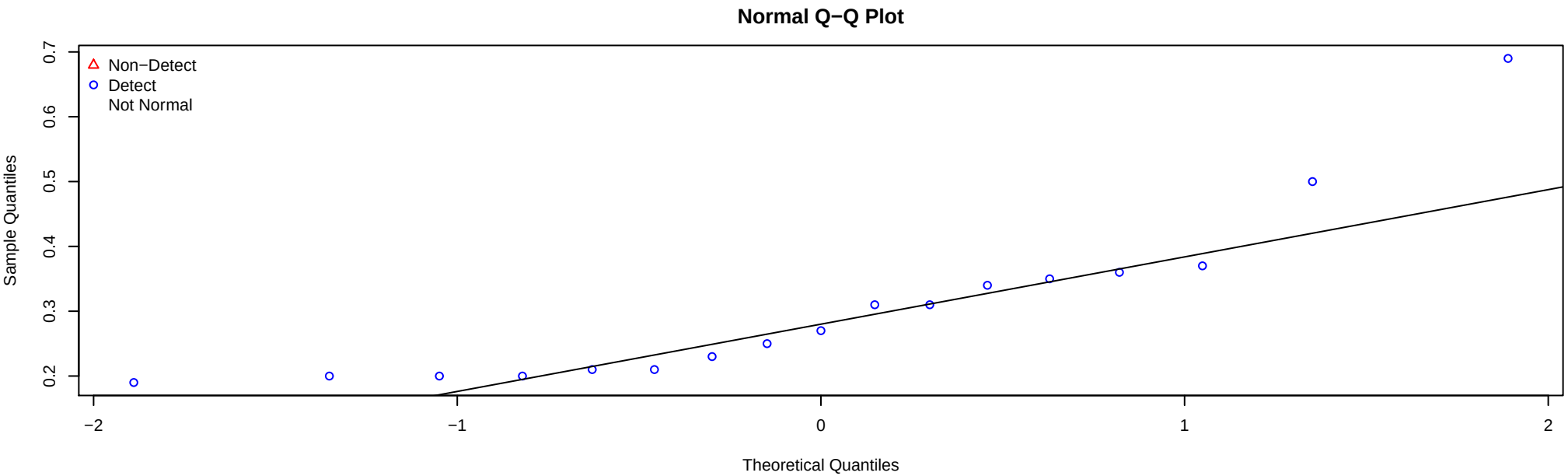
BARIUM

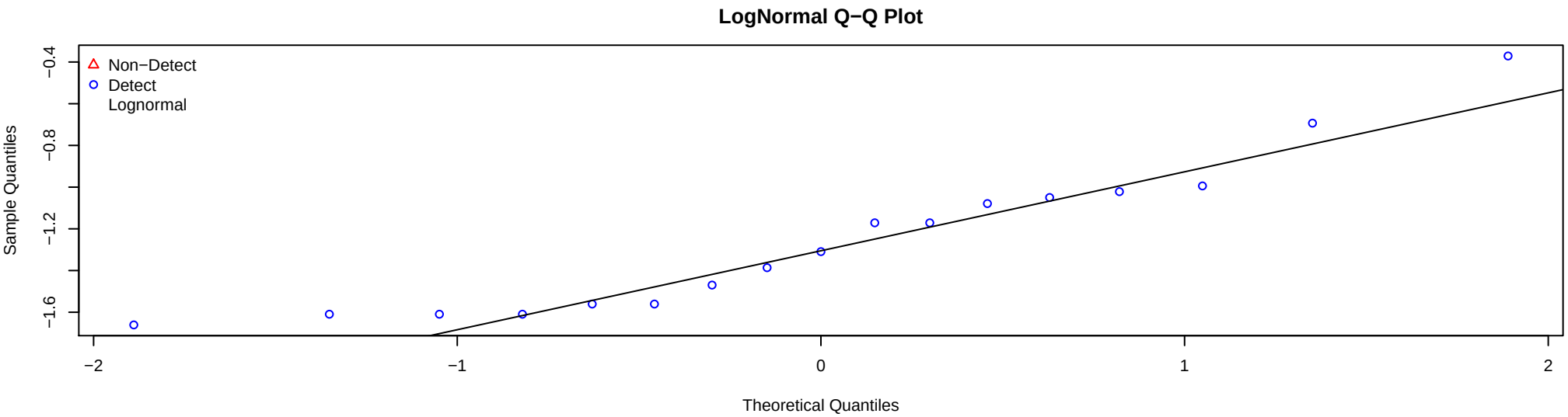




Upper Sand
Subsurface Soil

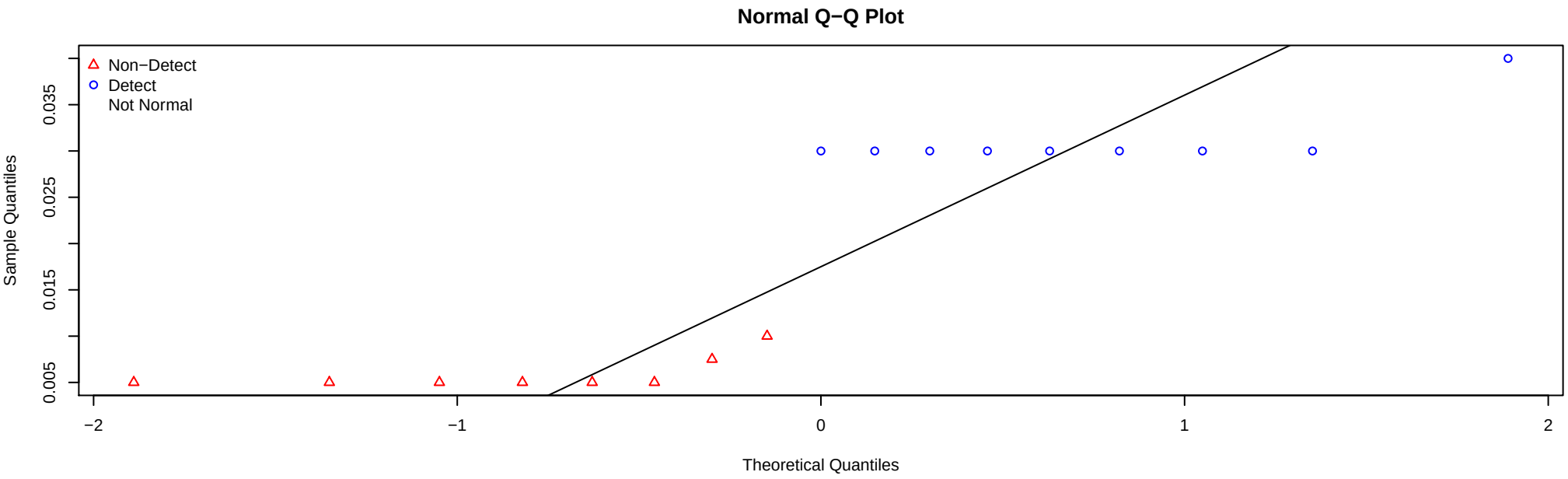
BERYLLIUM

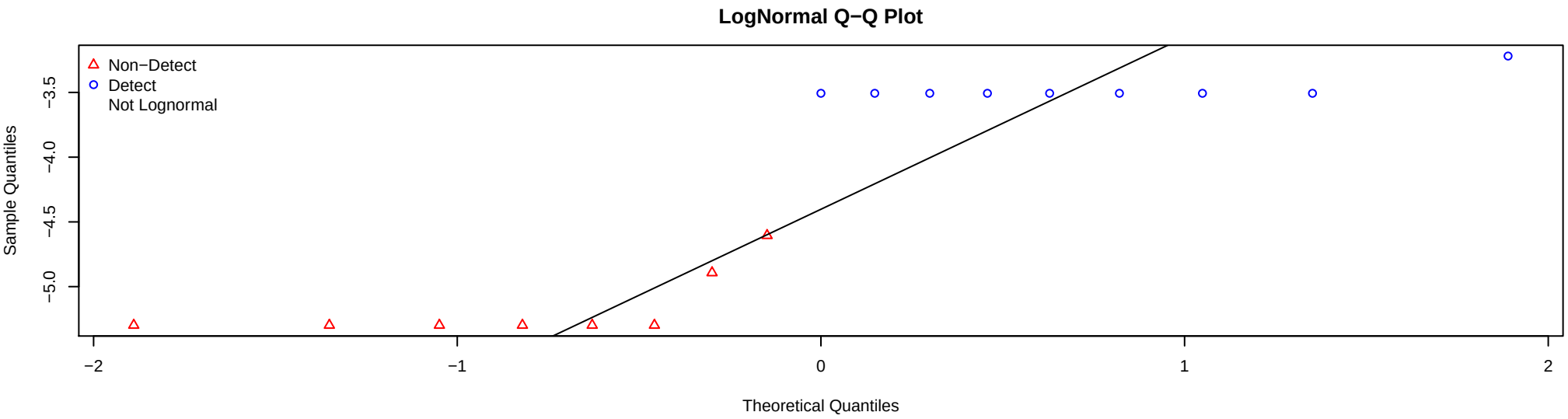




Upper Sand
Subsurface Soil

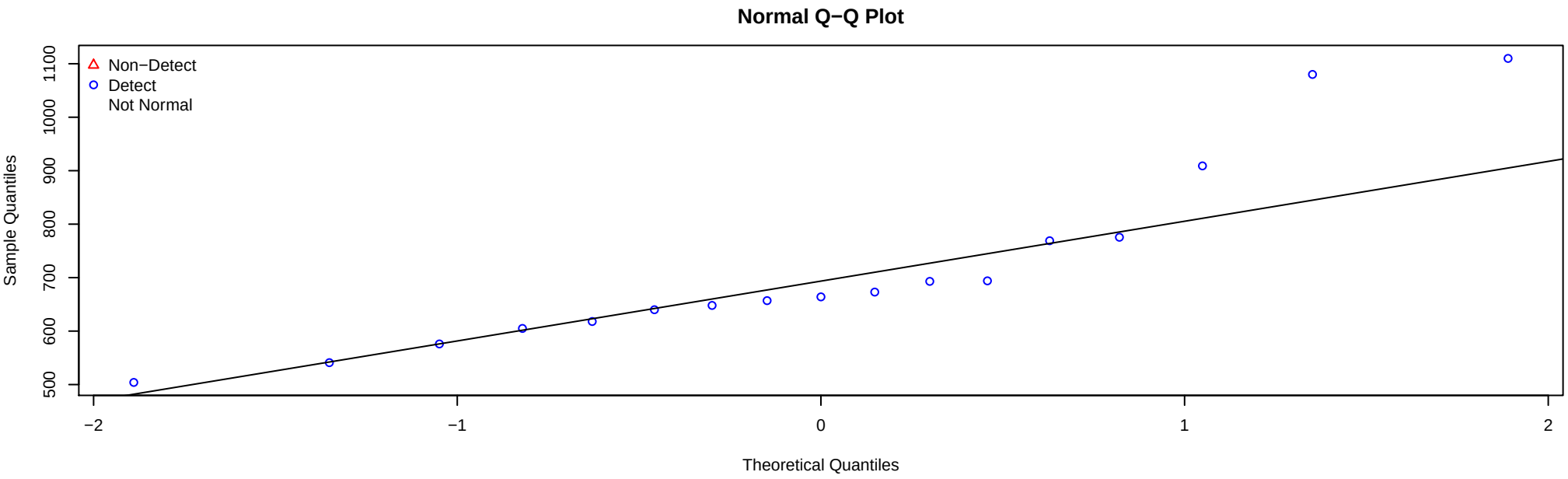
CADMIUM

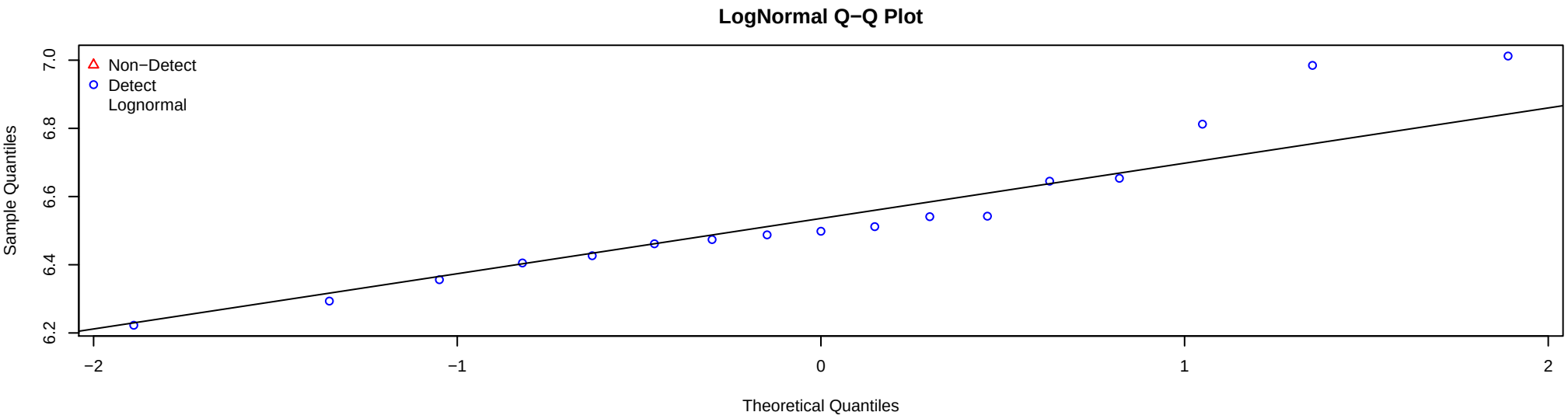




Upper Sand
Subsurface Soil

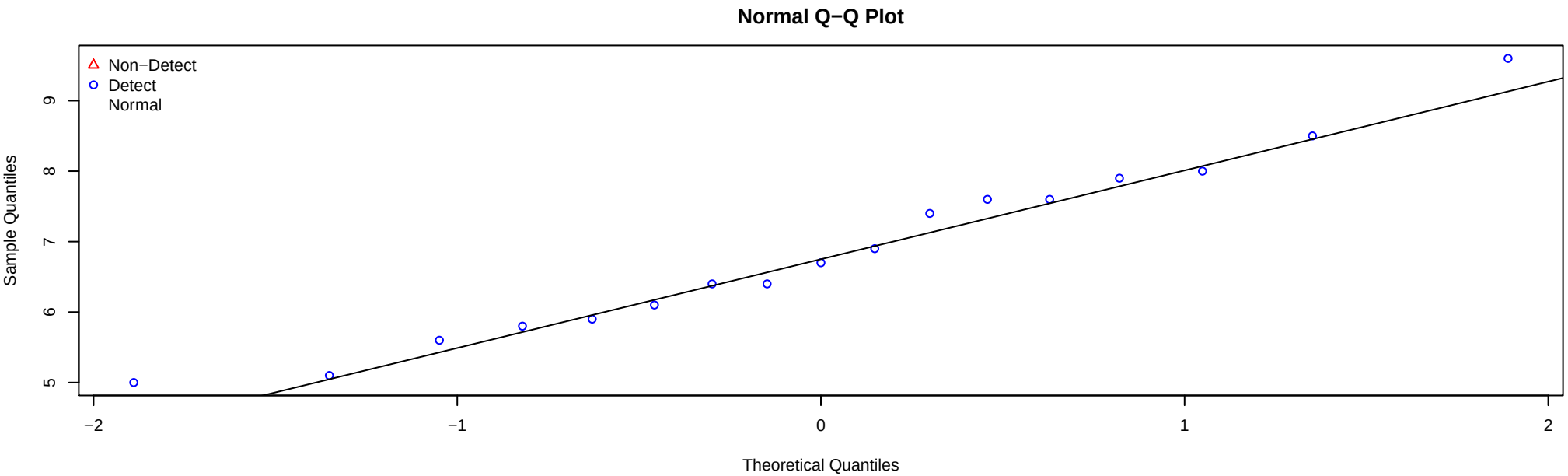
CALCIUM

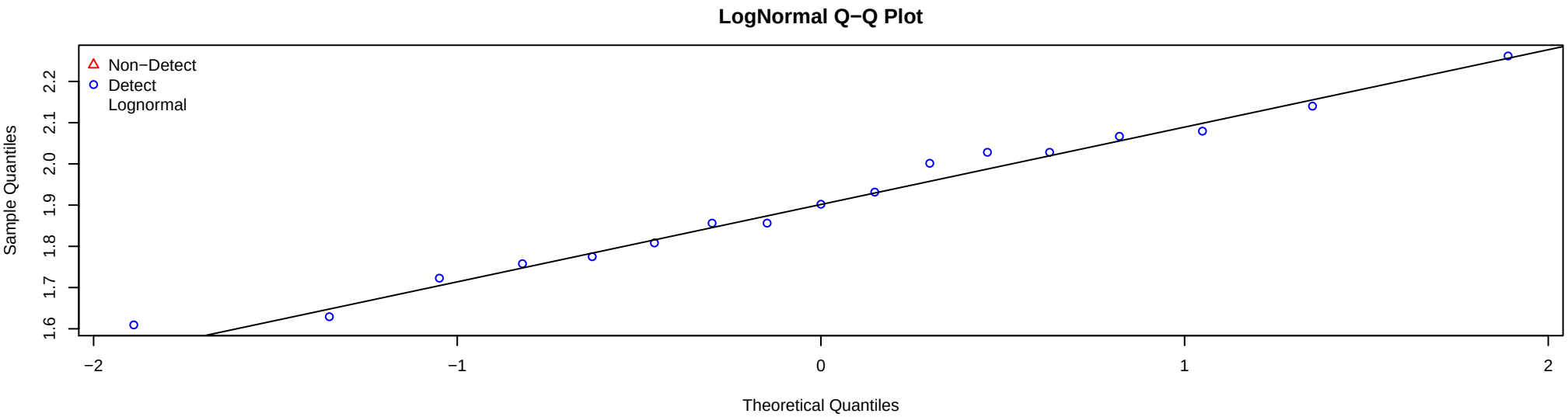




Upper Sand
Subsurface Soil

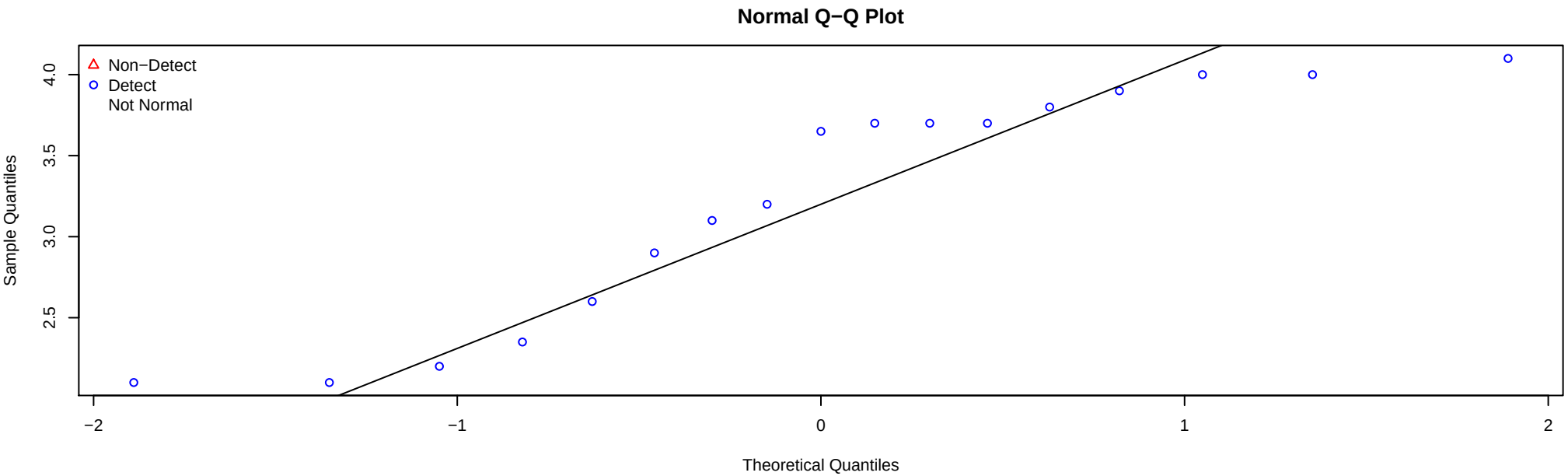
CHROMIUM

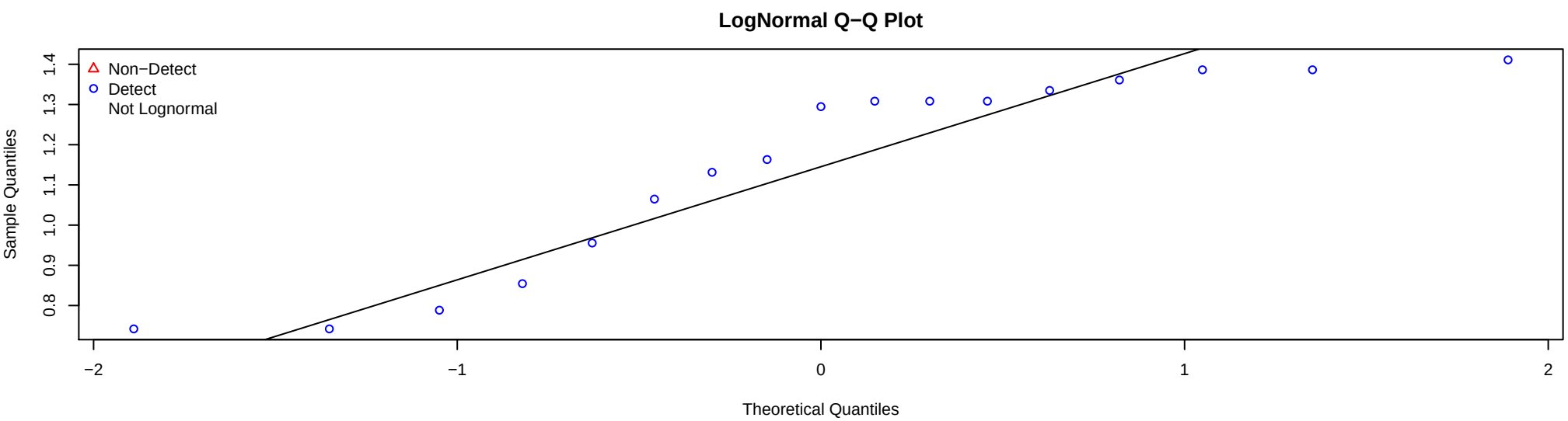




Upper Sand
Subsurface Soil

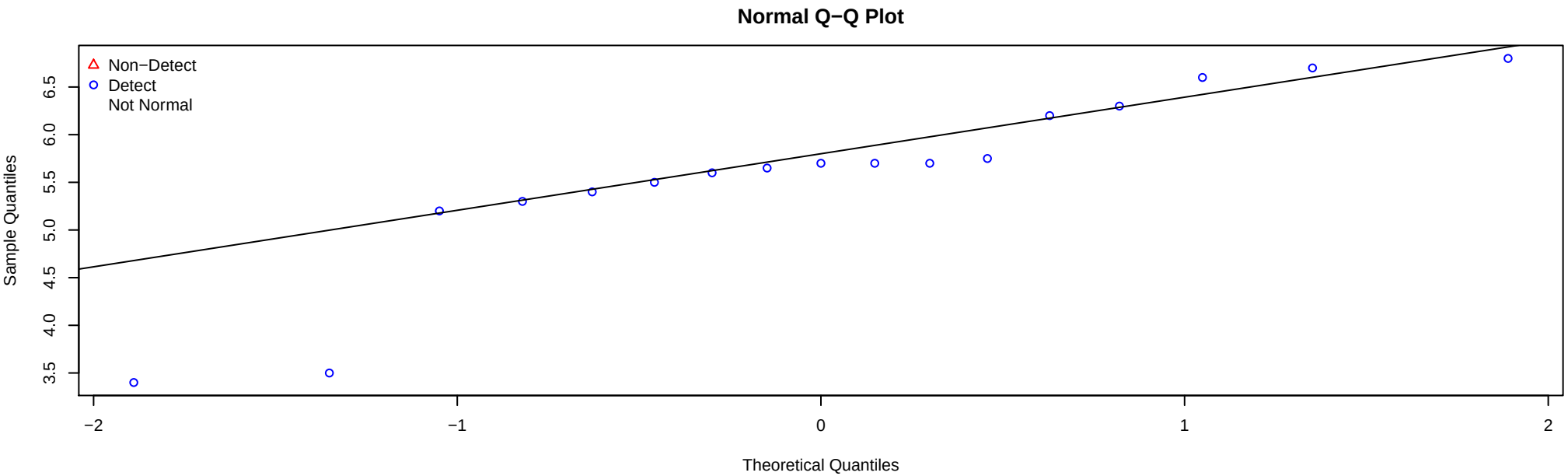
COBALT

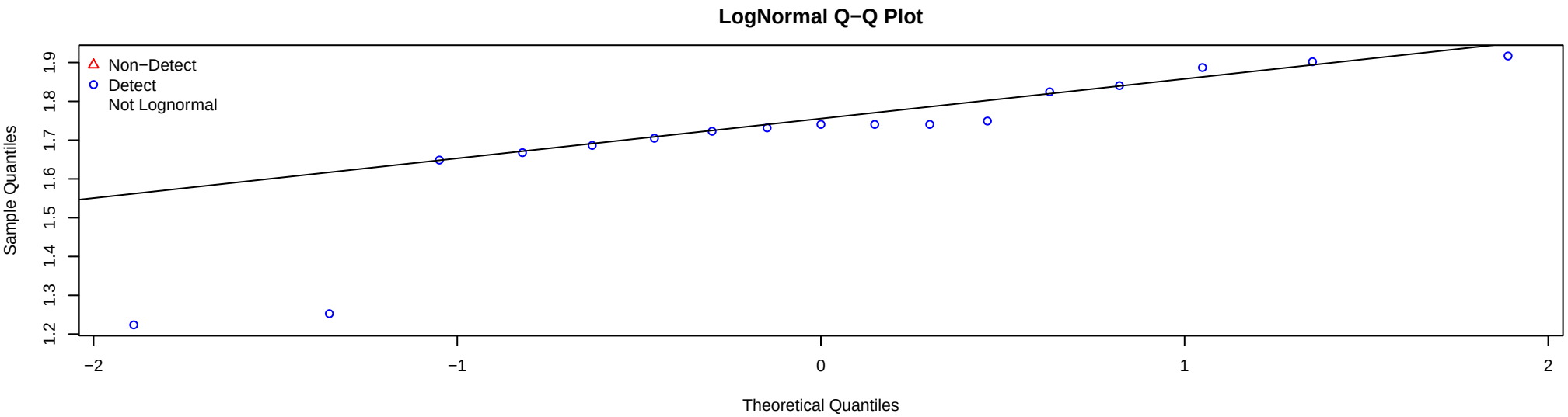




Upper Sand
Subsurface Soil

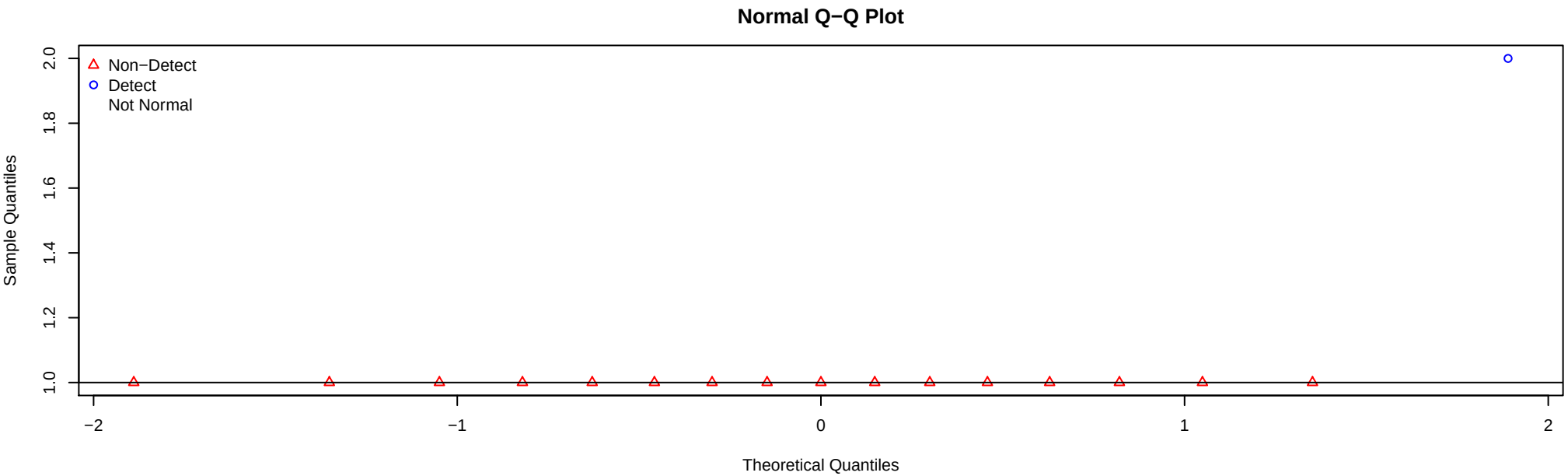
COPPER

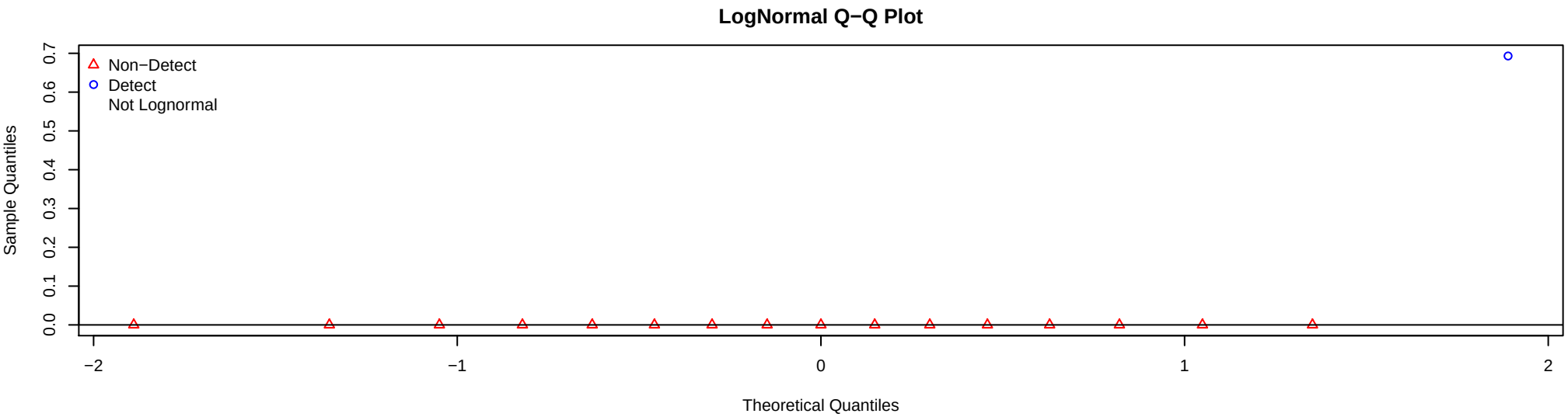




Upper Sand
Subsurface Soil

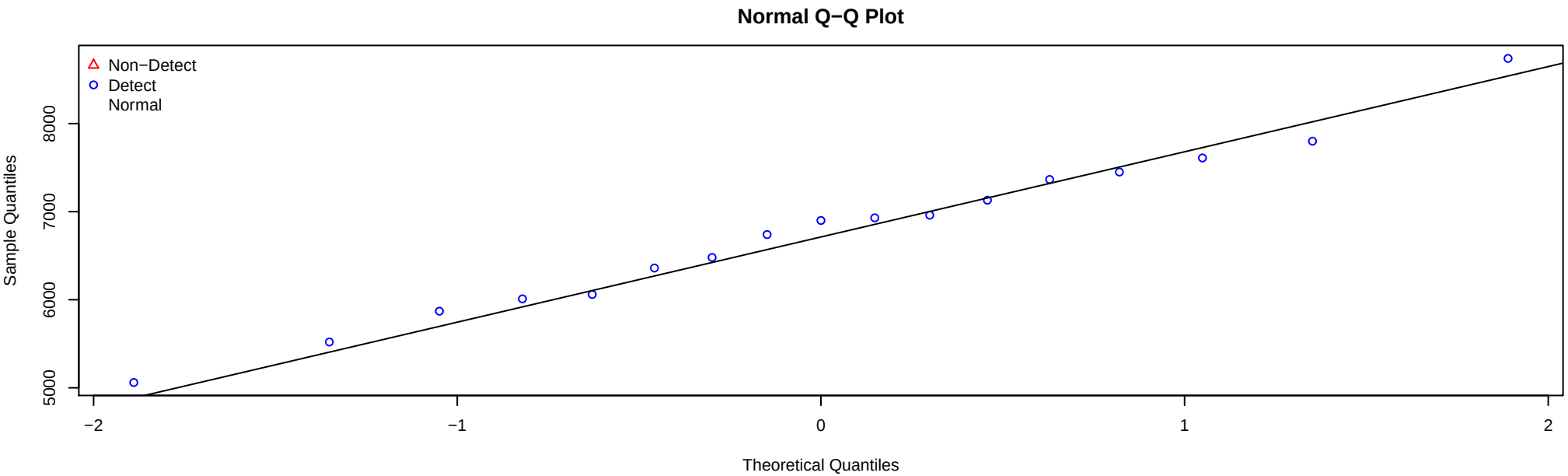
FLUORANTHENE

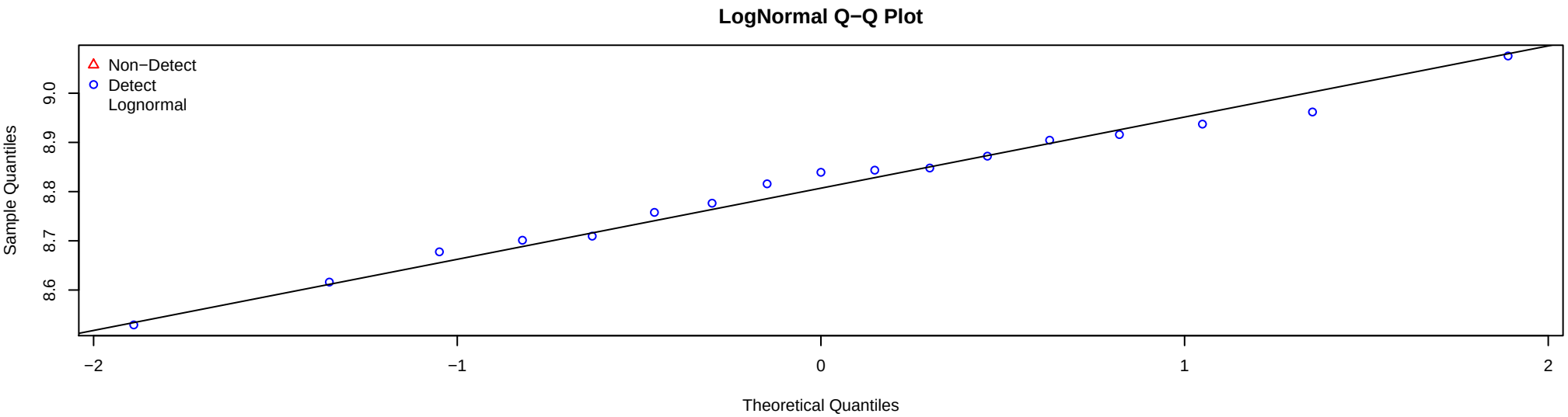




Upper Sand
Subsurface Soil

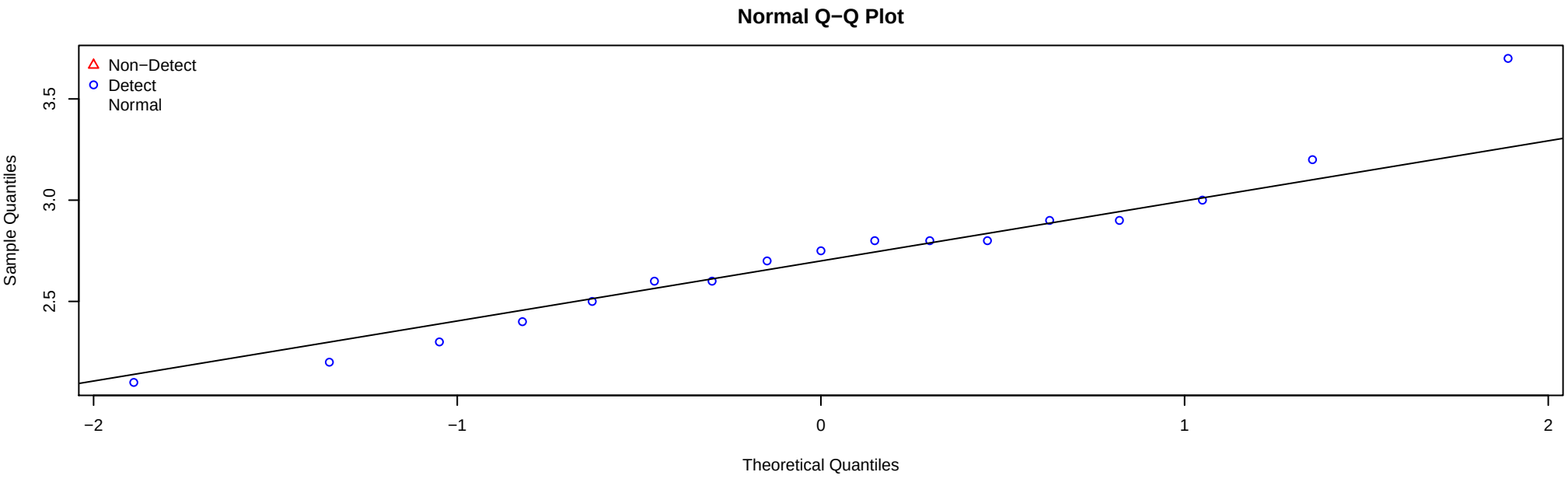
IRON

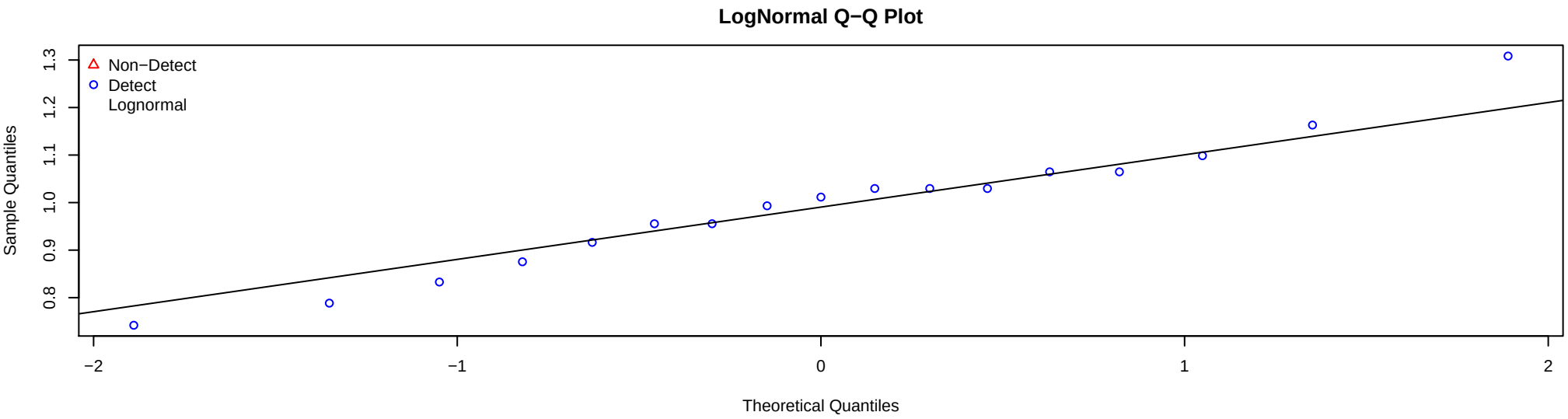




Upper Sand
Subsurface Soil

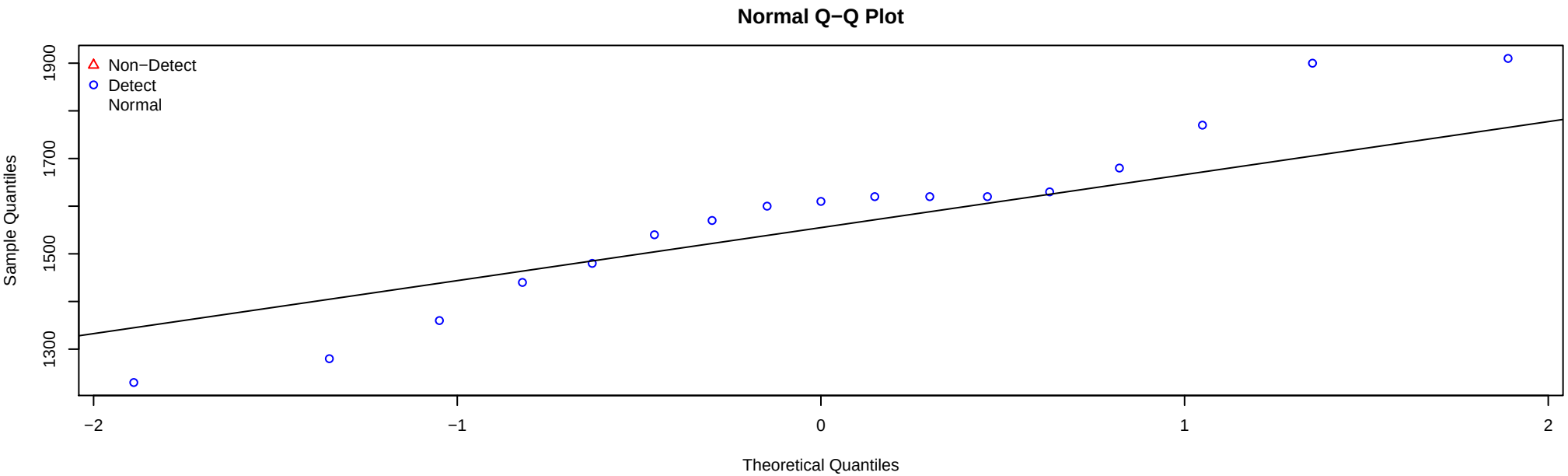
LEAD

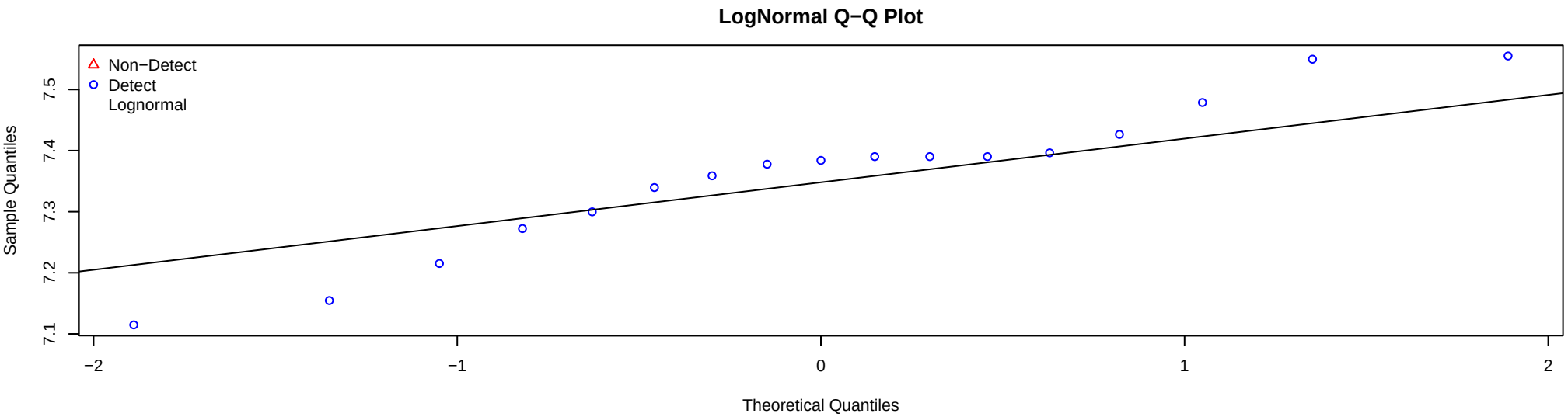




Upper Sand
Subsurface Soil

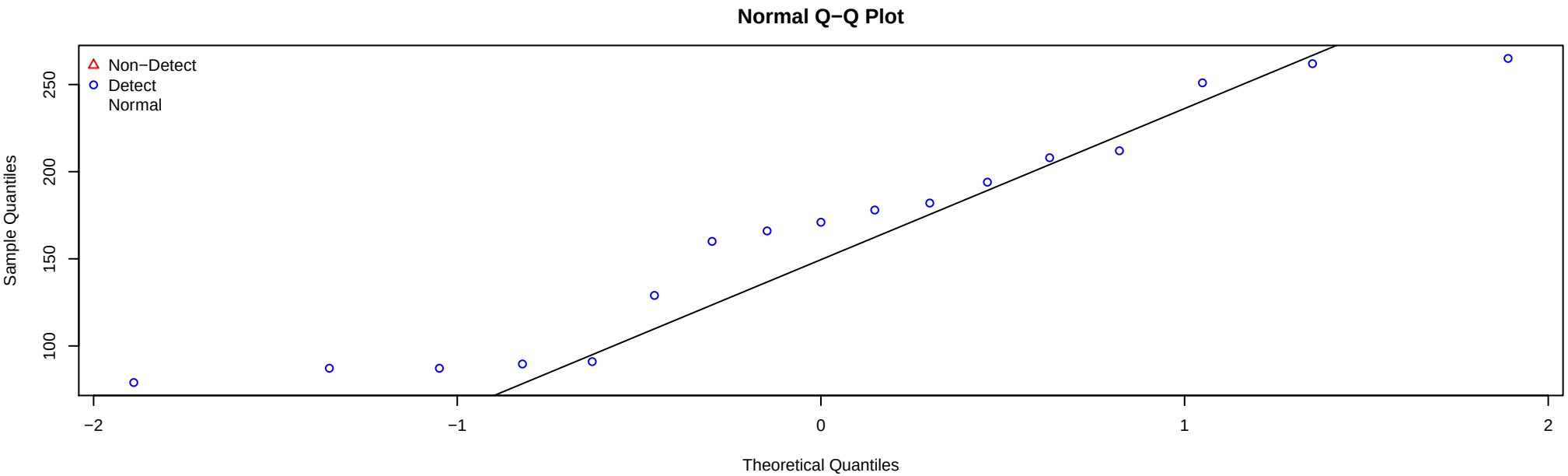
MAGNESIUM

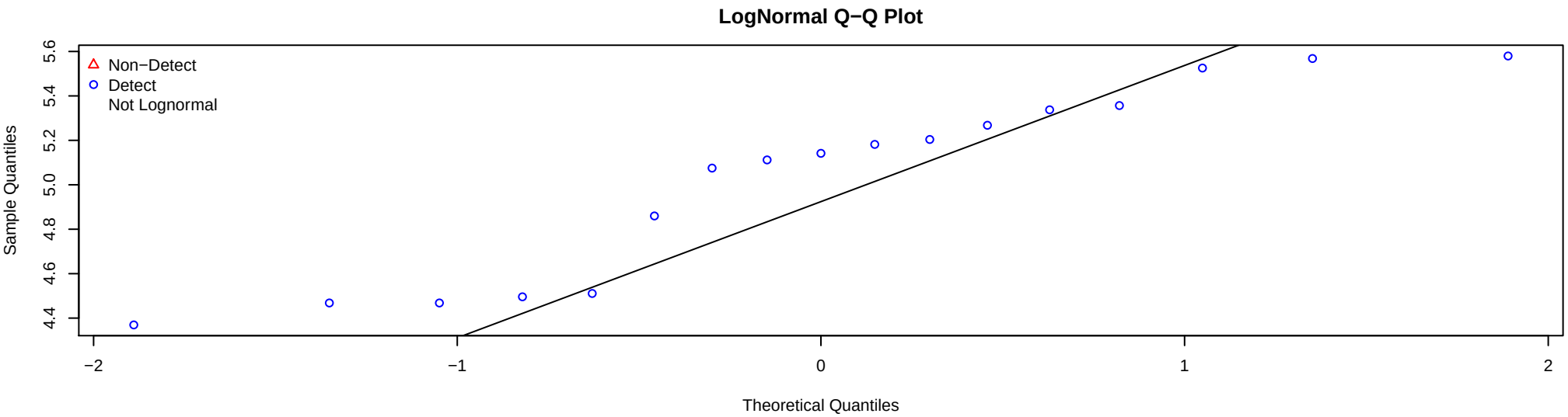




Upper Sand
Subsurface Soil

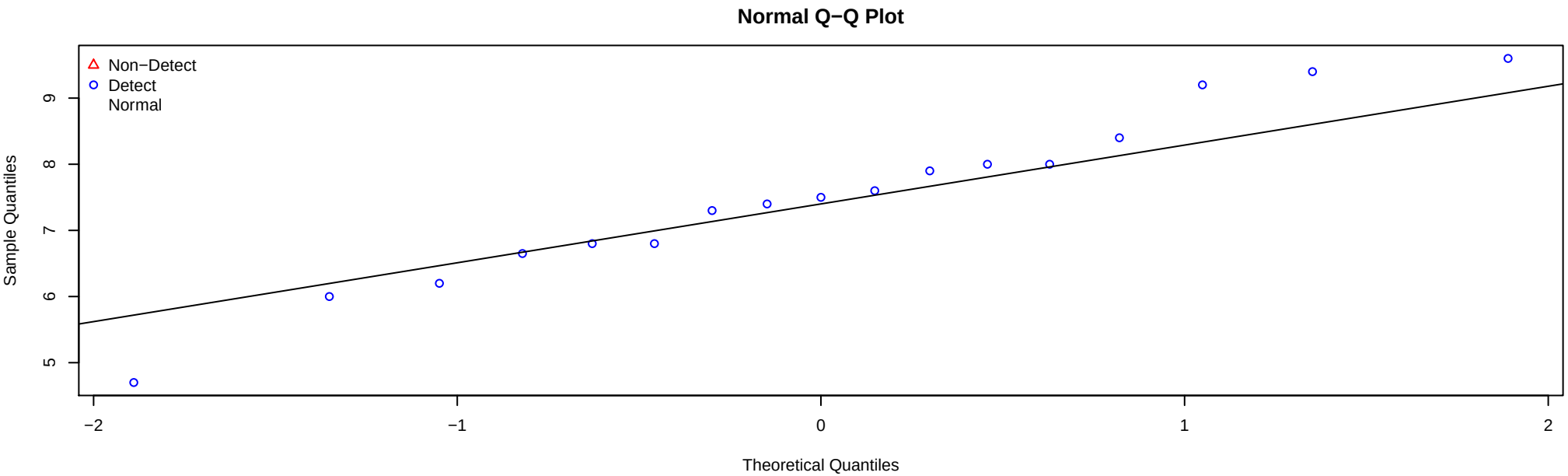
MANGANESE

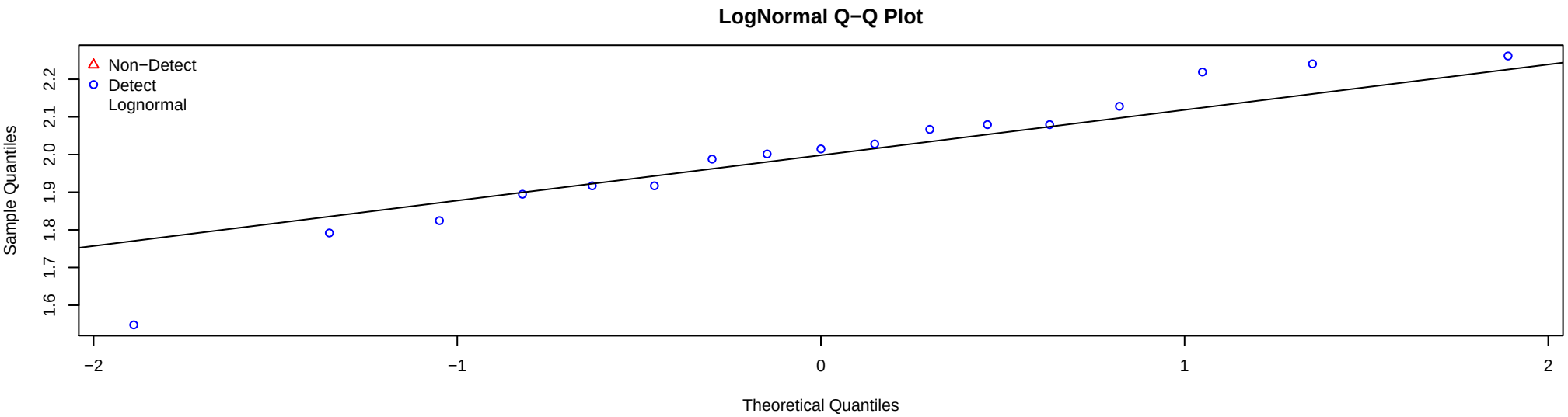




Upper Sand
Subsurface Soil

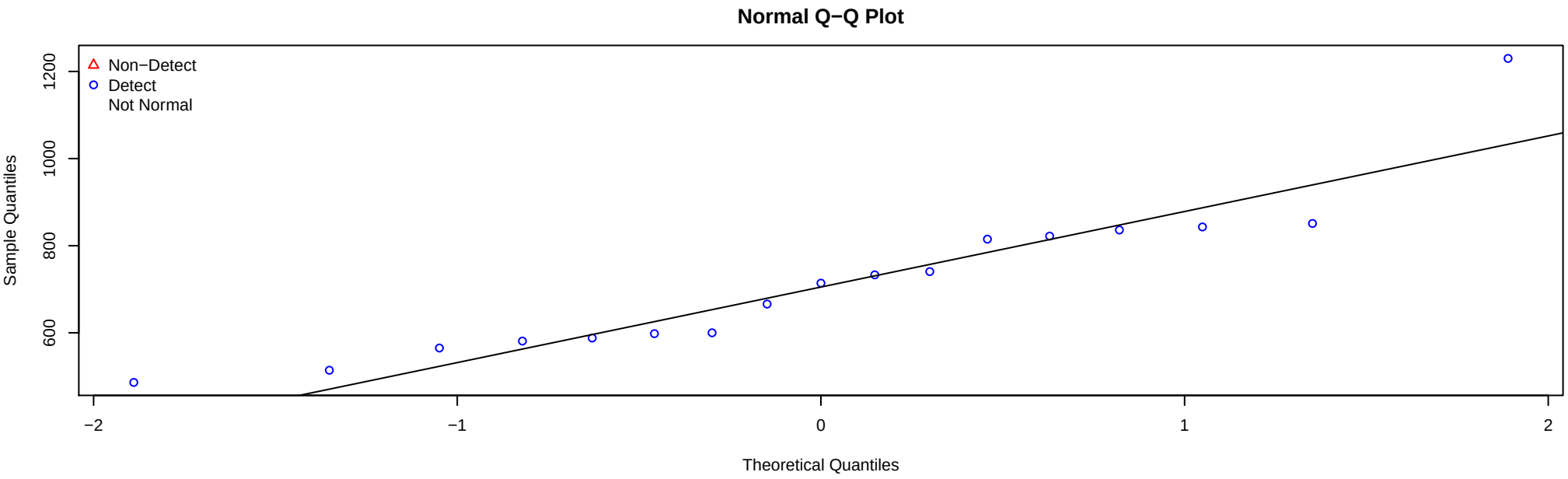
NICKEL

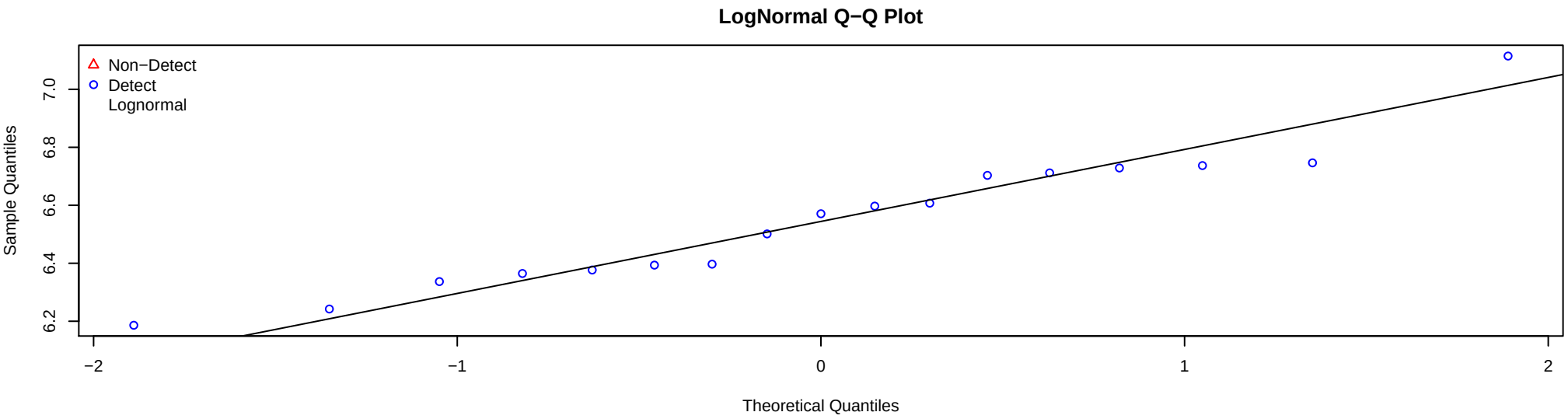




Upper Sand
Subsurface Soil

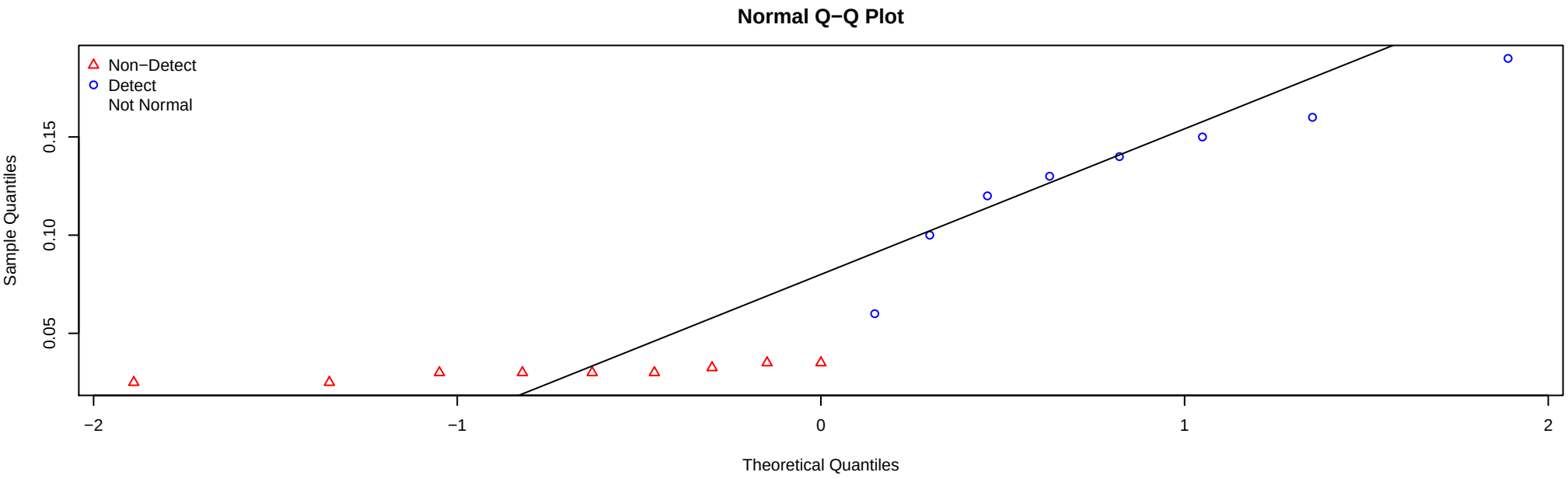
POTASSIUM

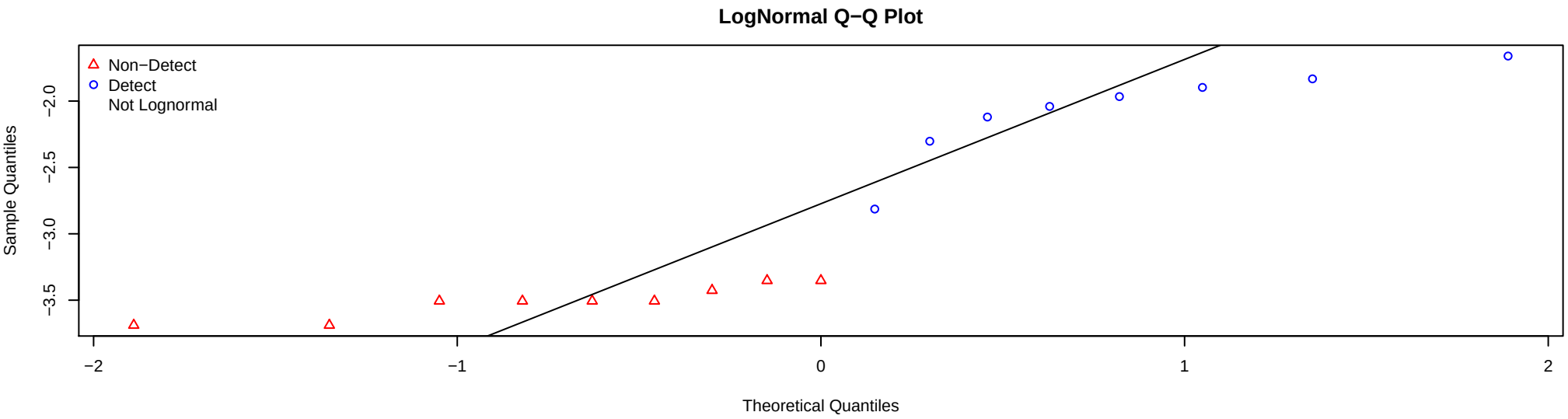




Upper Sand
Subsurface Soil

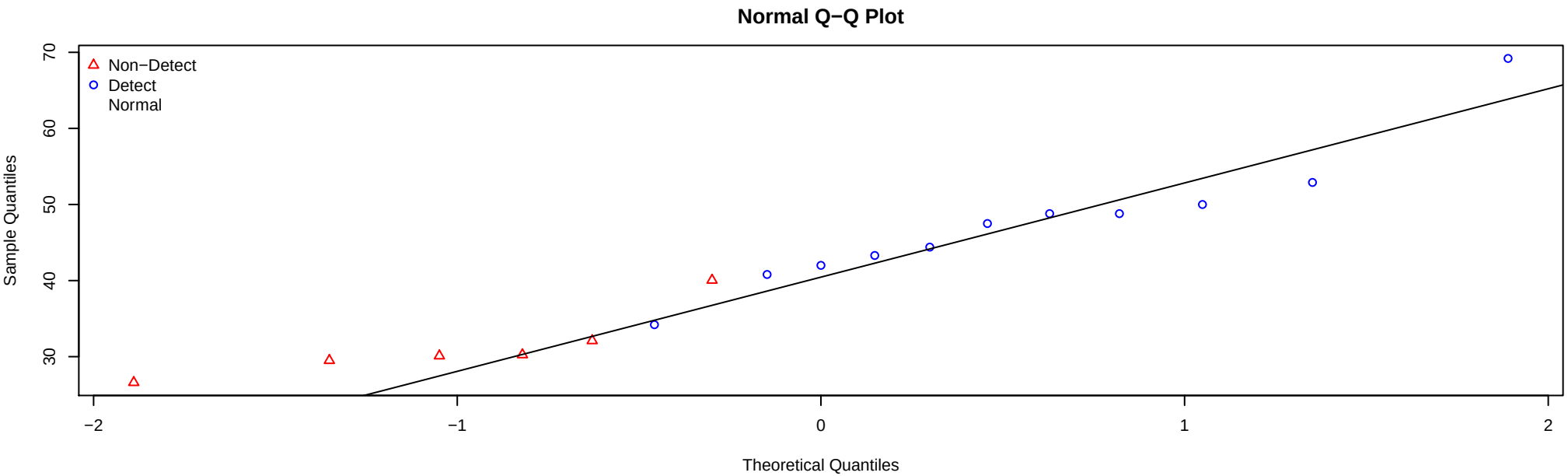
SILVER

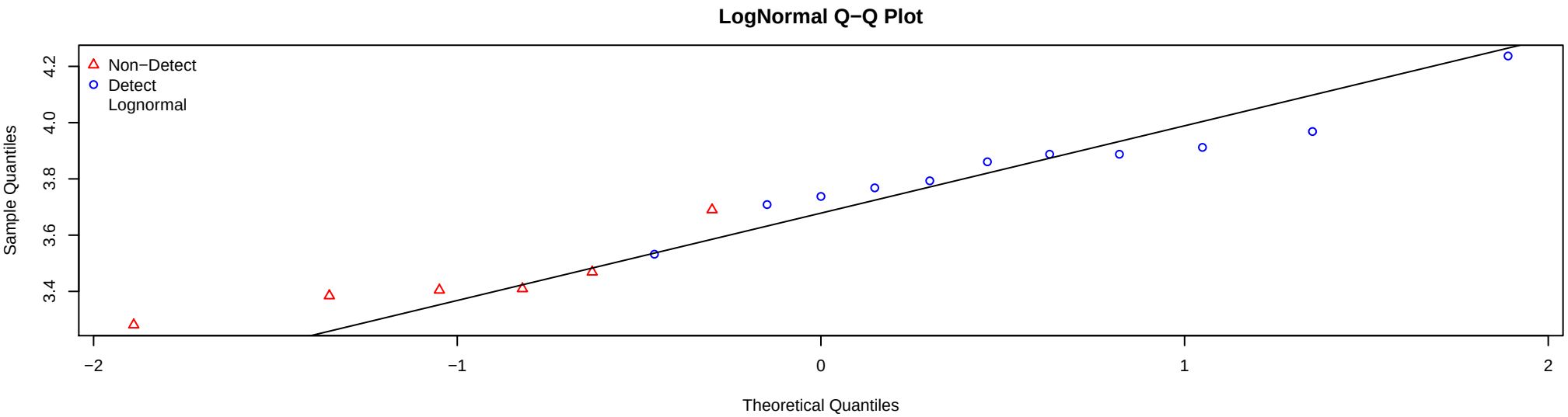




Upper Sand
Subsurface Soil

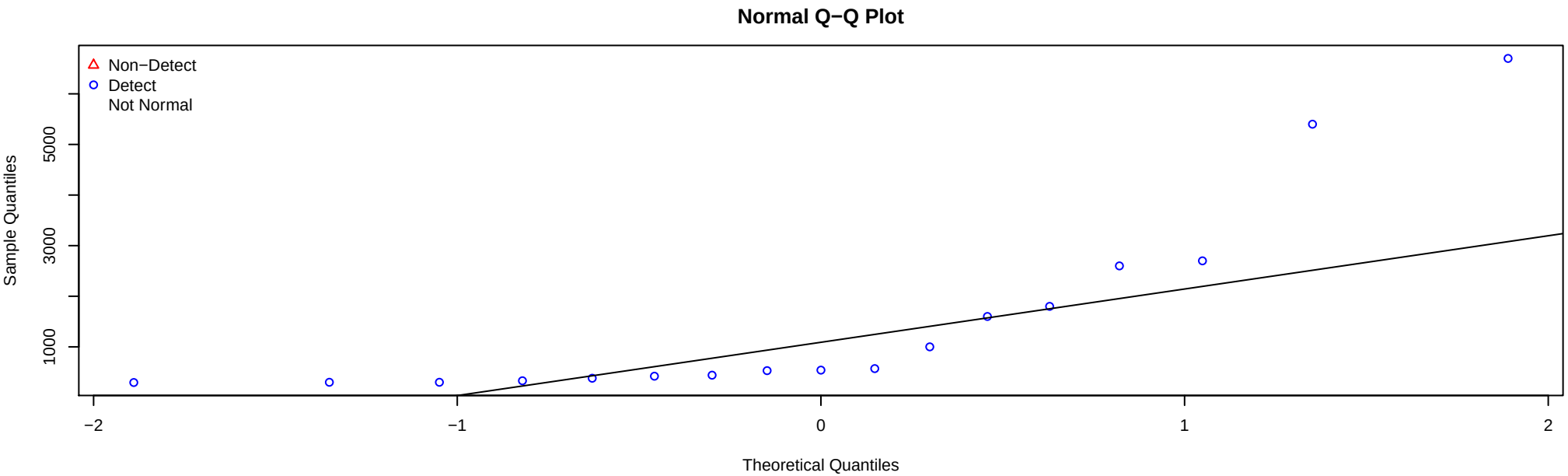
SODIUM

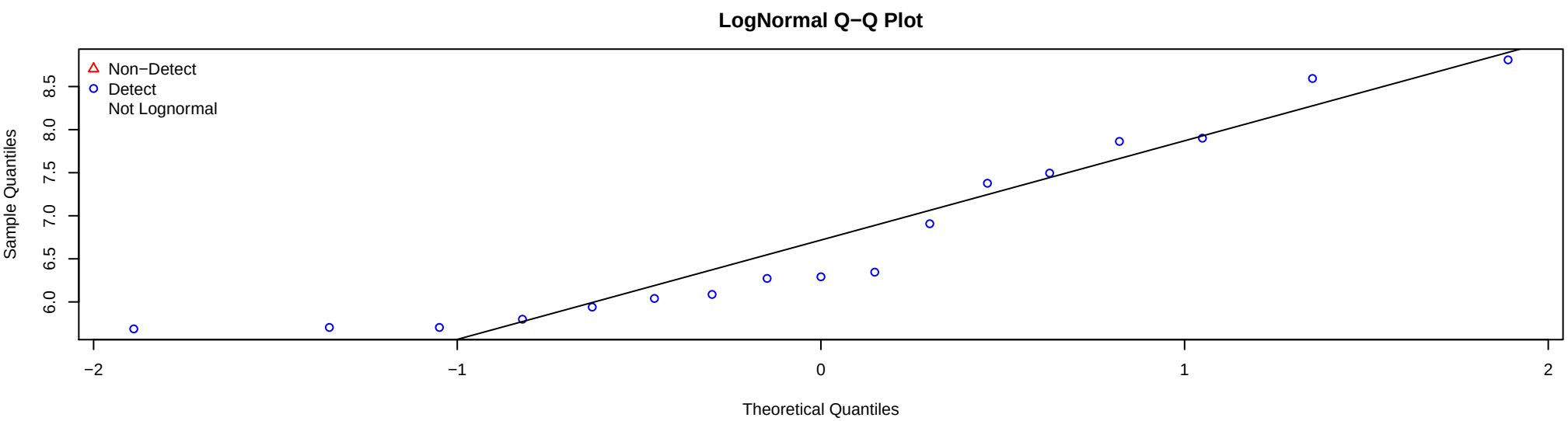




Upper Sand
Subsurface Soil

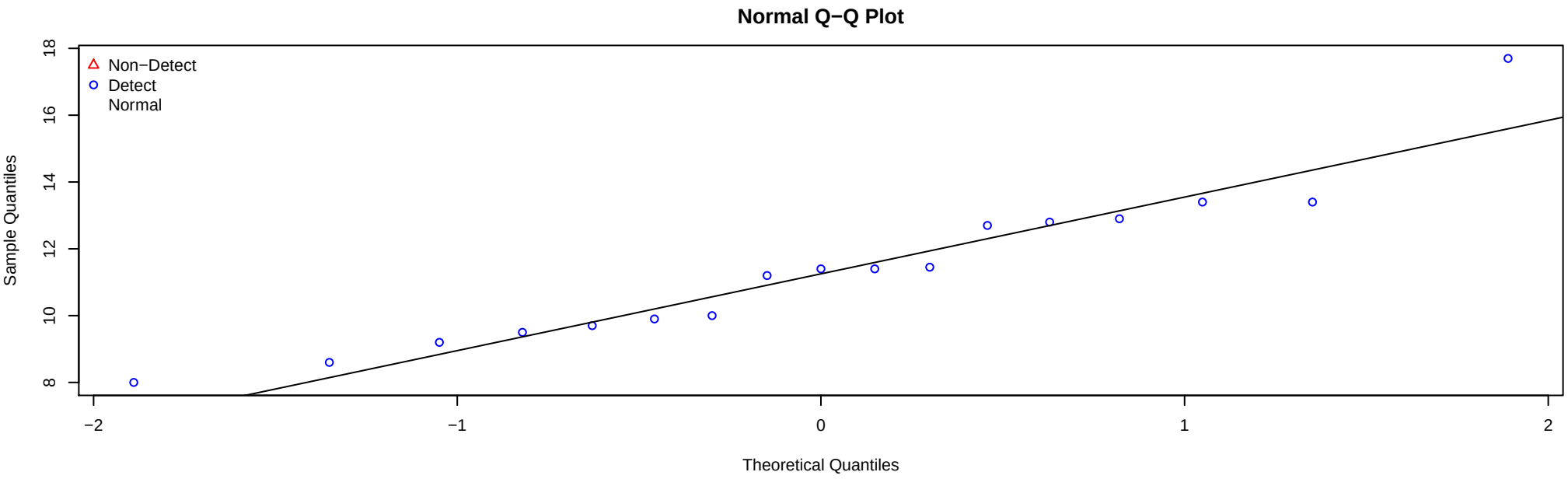
TOTAL ORGANIC CARBON

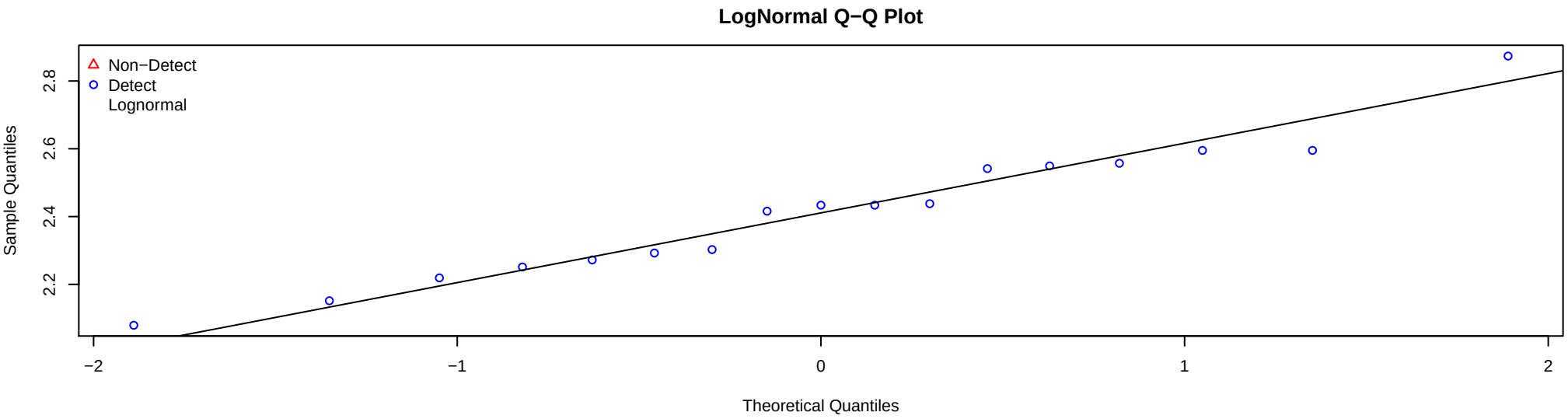




Upper Sand
Subsurface Soil

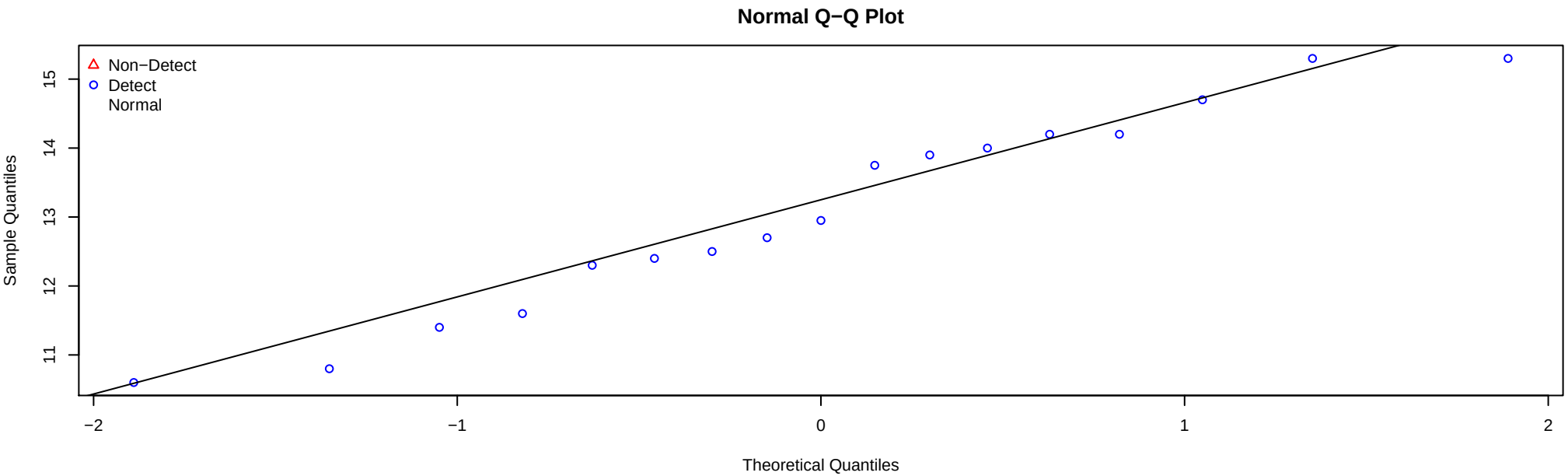
VANADIUM

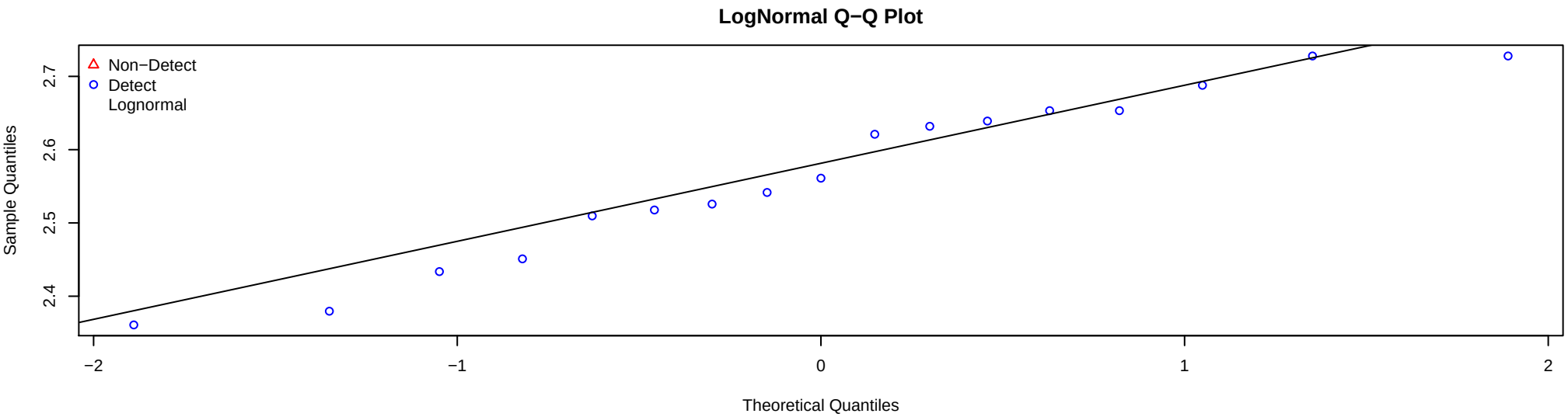




Upper Sand
Subsurface Soil

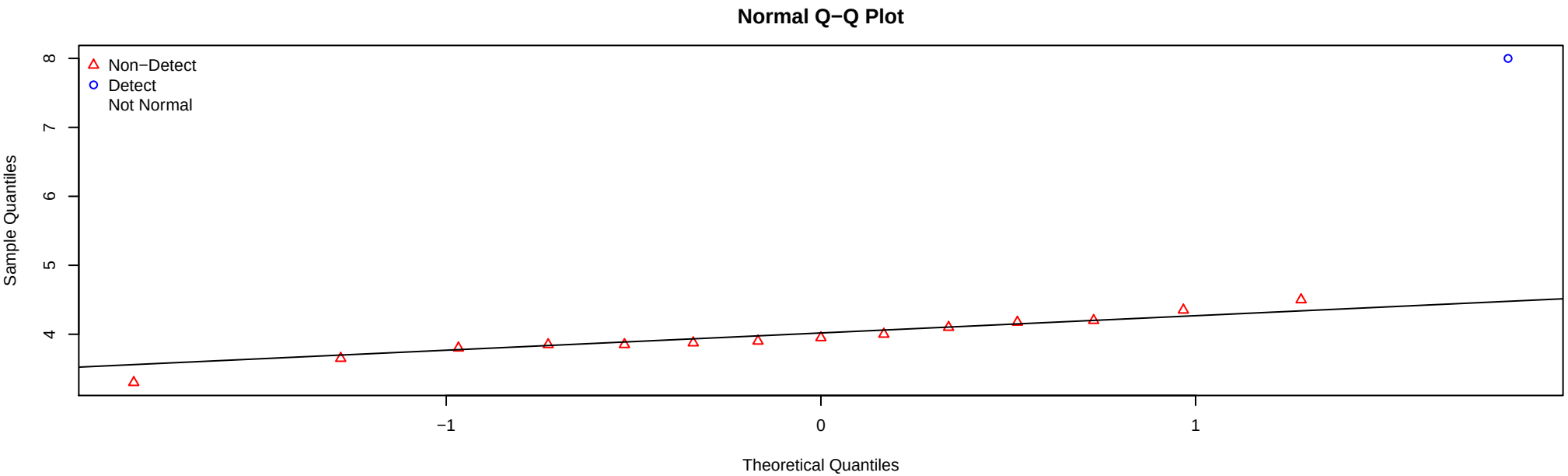
ZINC

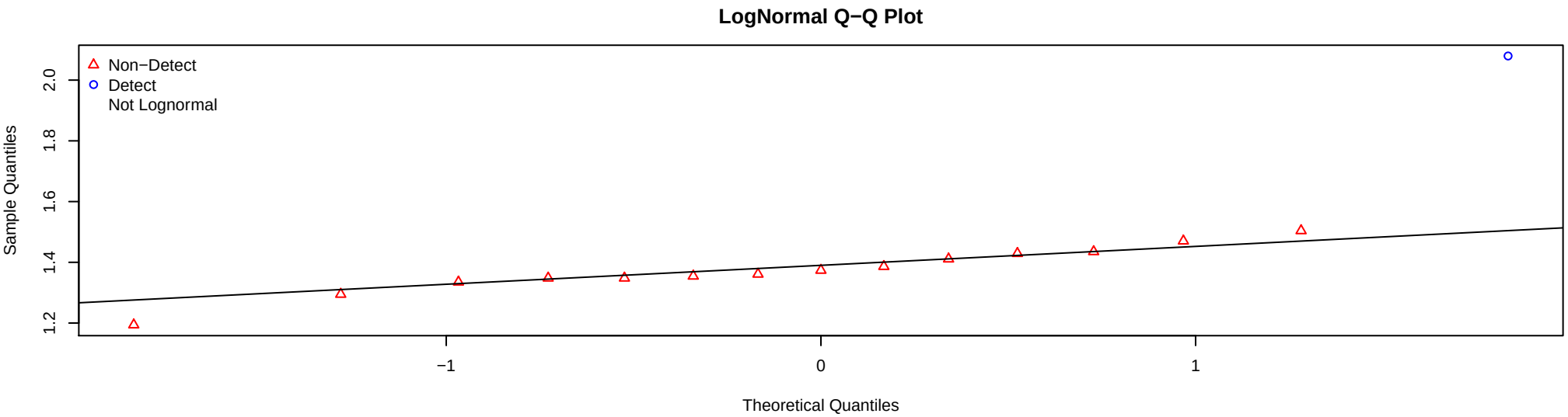




Transition
Surface Soil

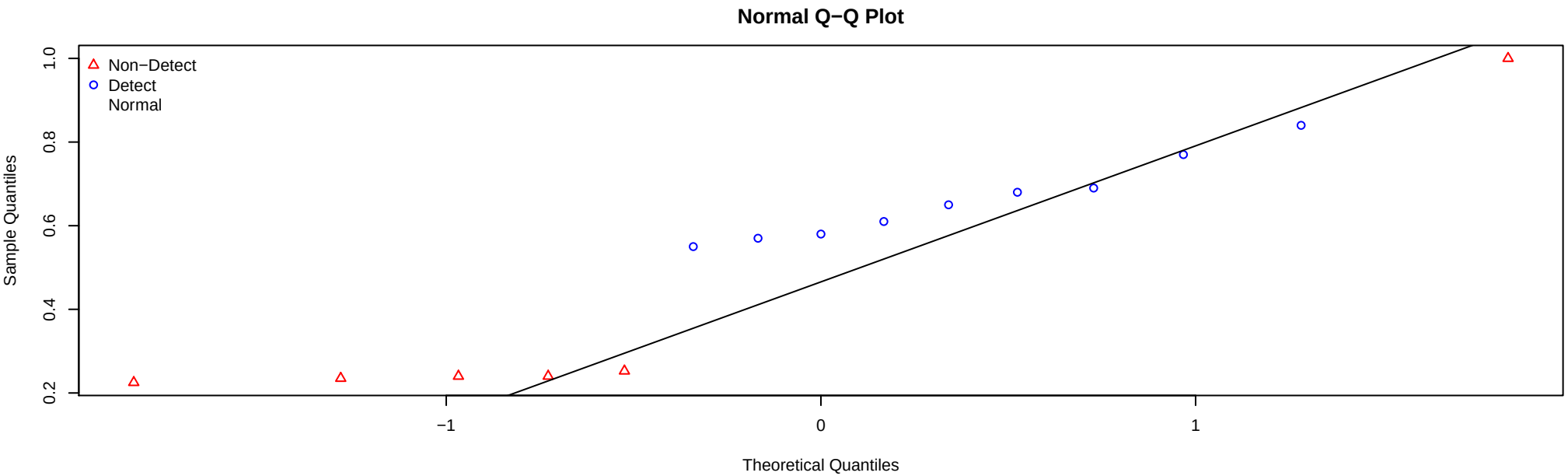
2,4−D

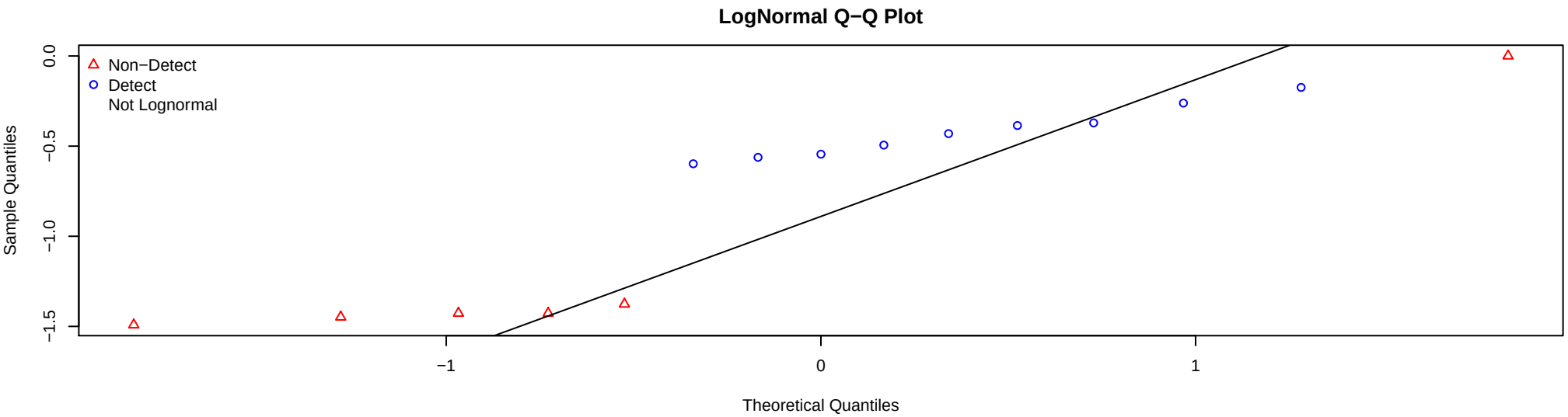




Transition
Surface Soil

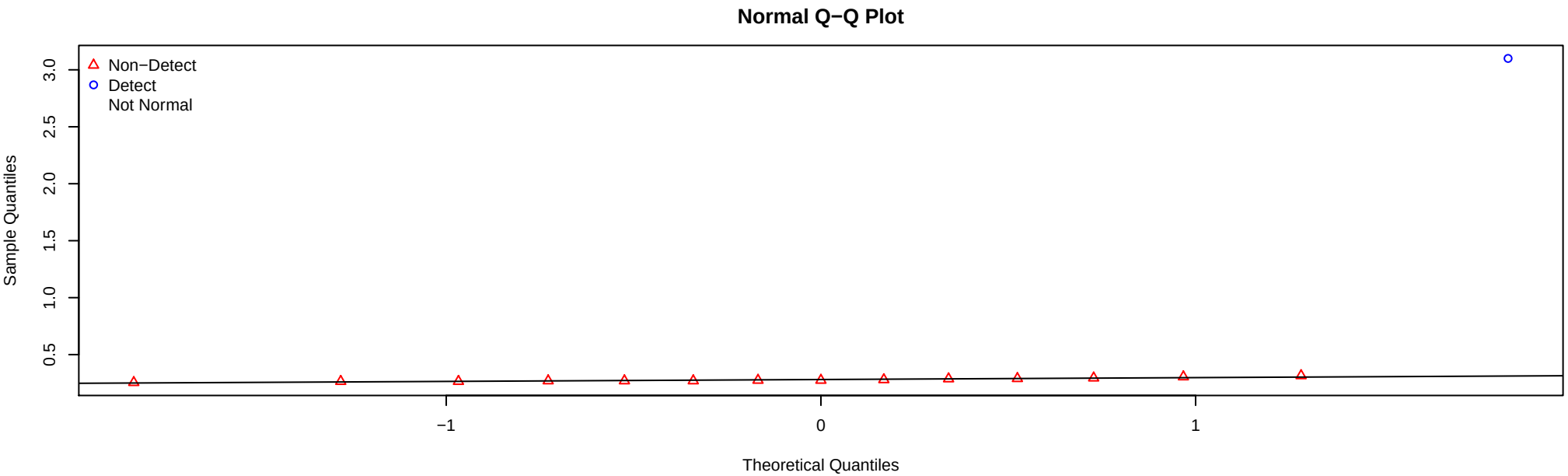
4,4'−DDE

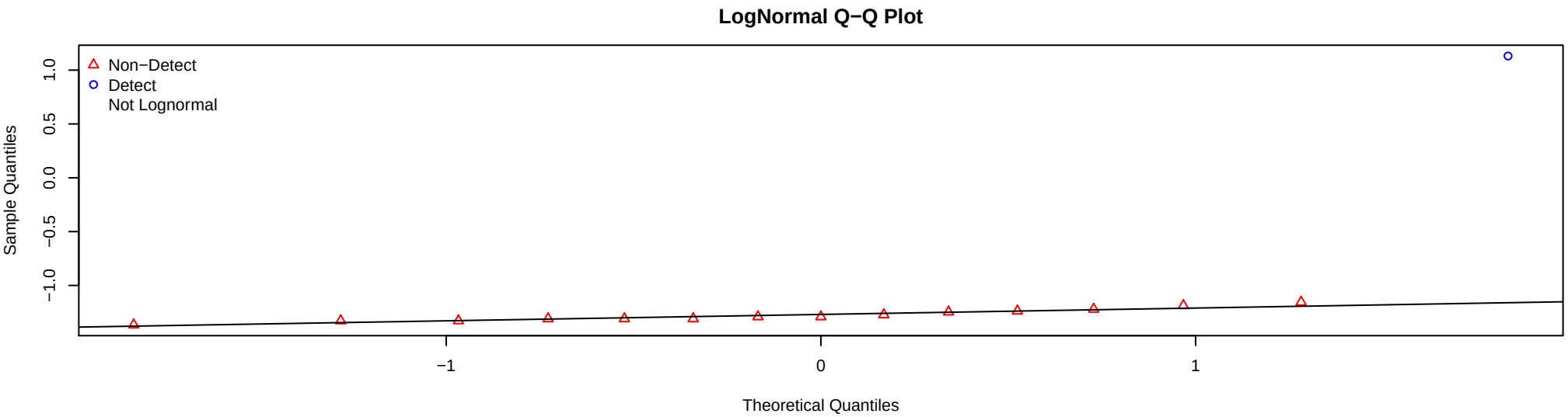




Transition
Surface Soil

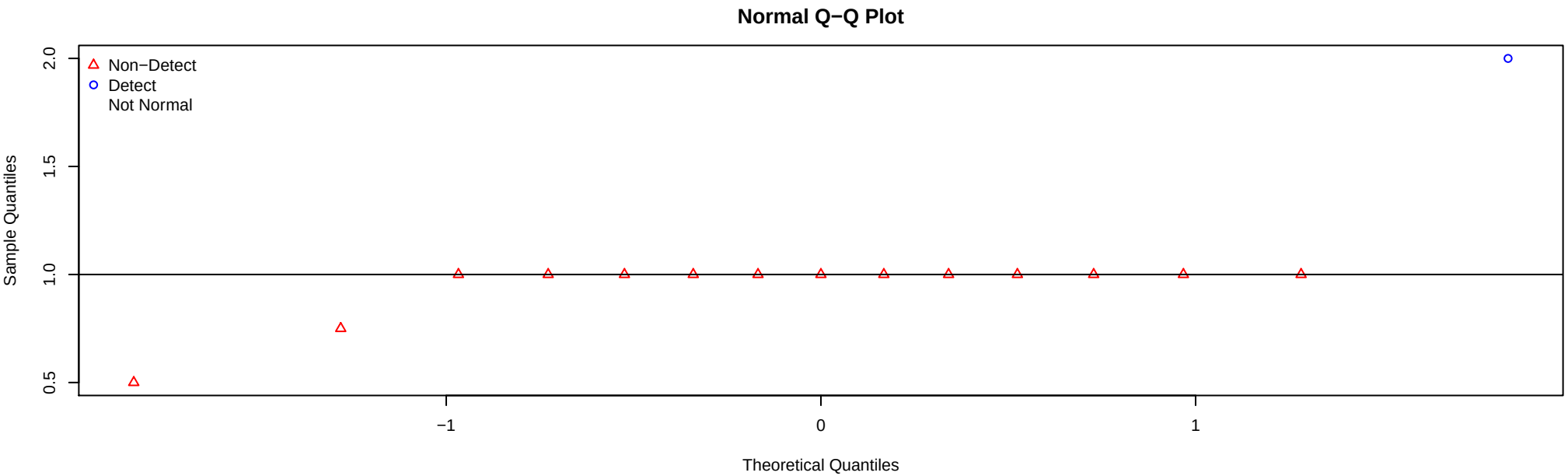
4,4'−DDT

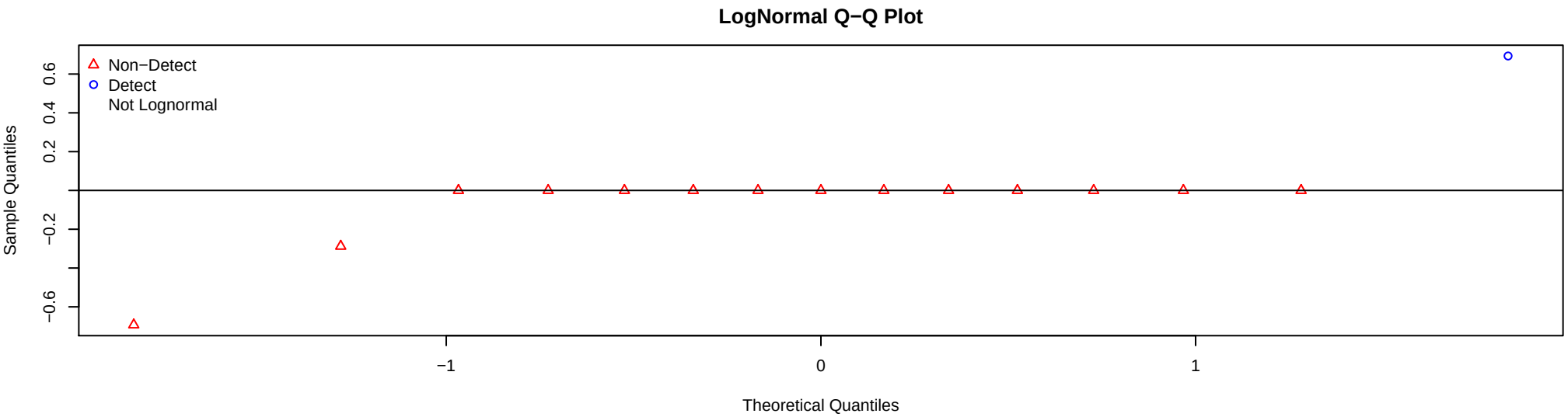




Transition
Surface Soil

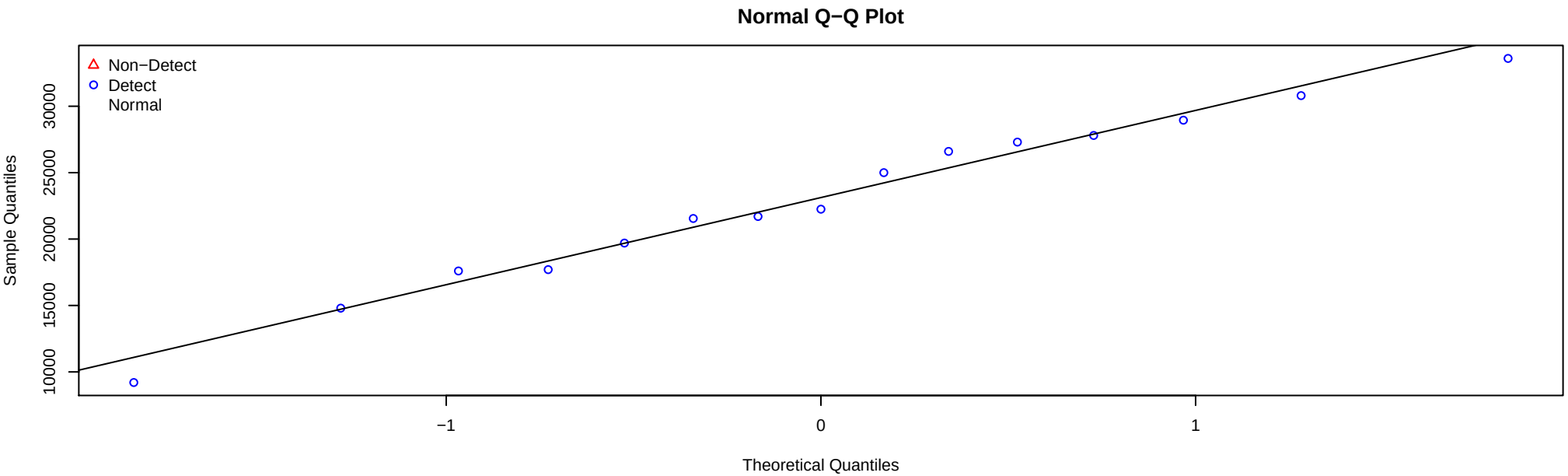
ACENAPHTHYLENE

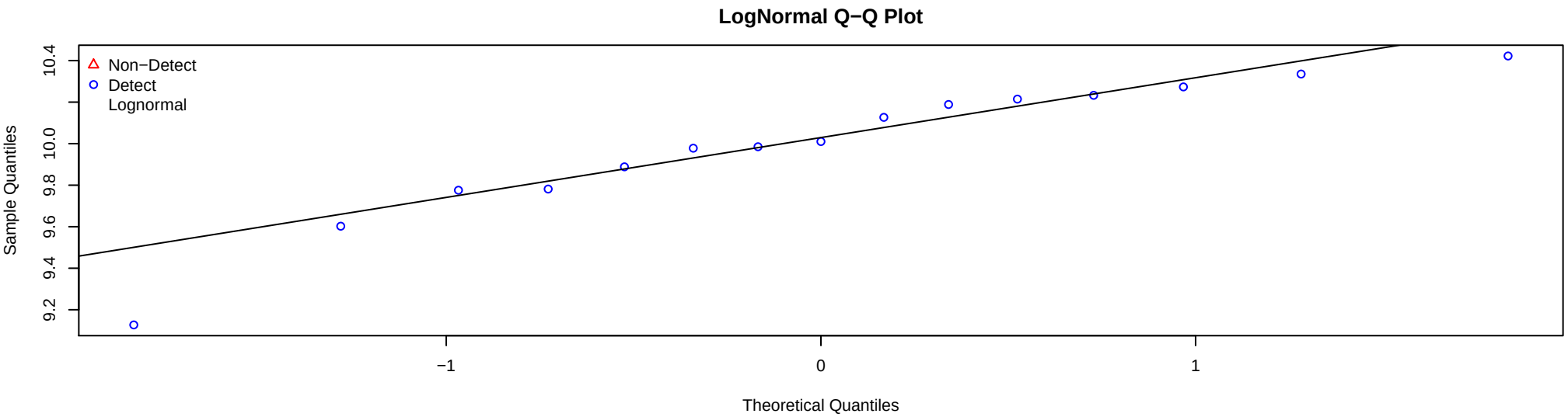




Transition
Surface Soil

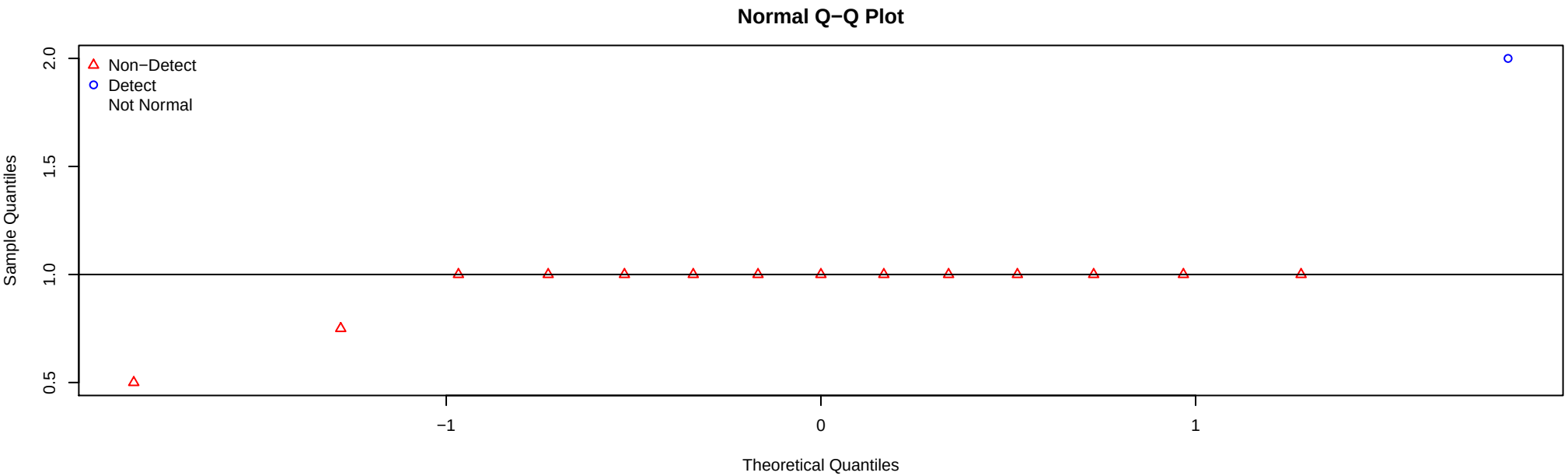
ALUMINUM

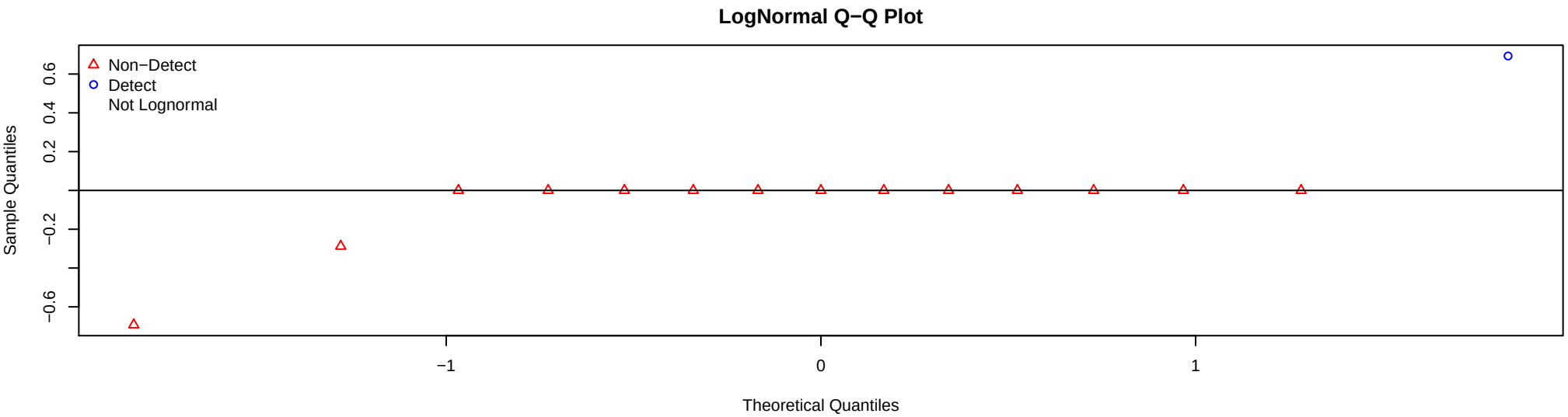




Transition
Surface Soil

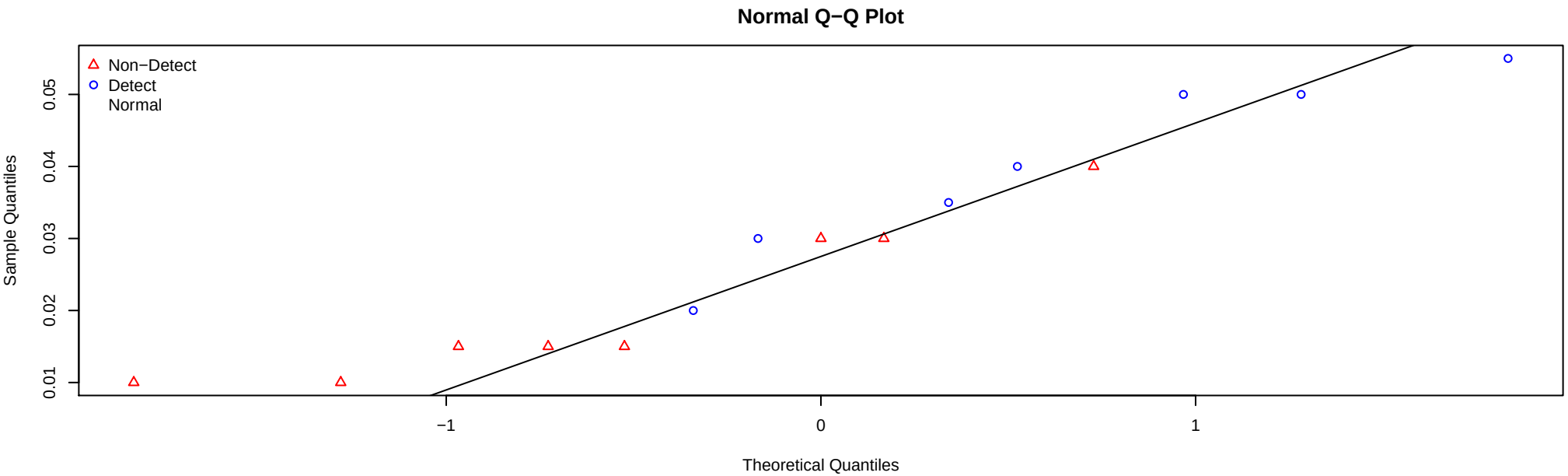
ANTHRACENE

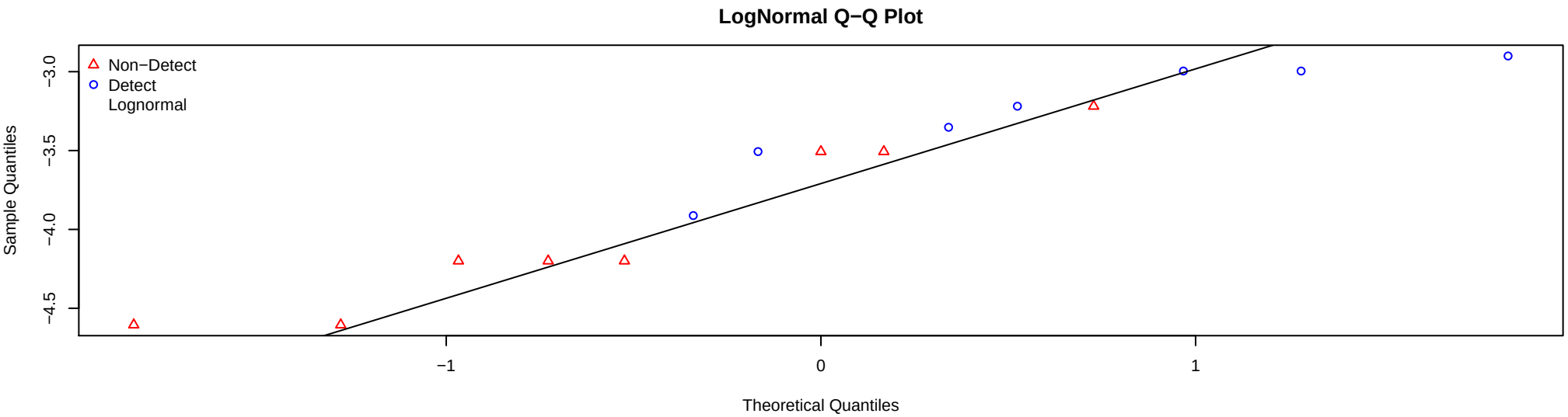




Transition
Surface Soil

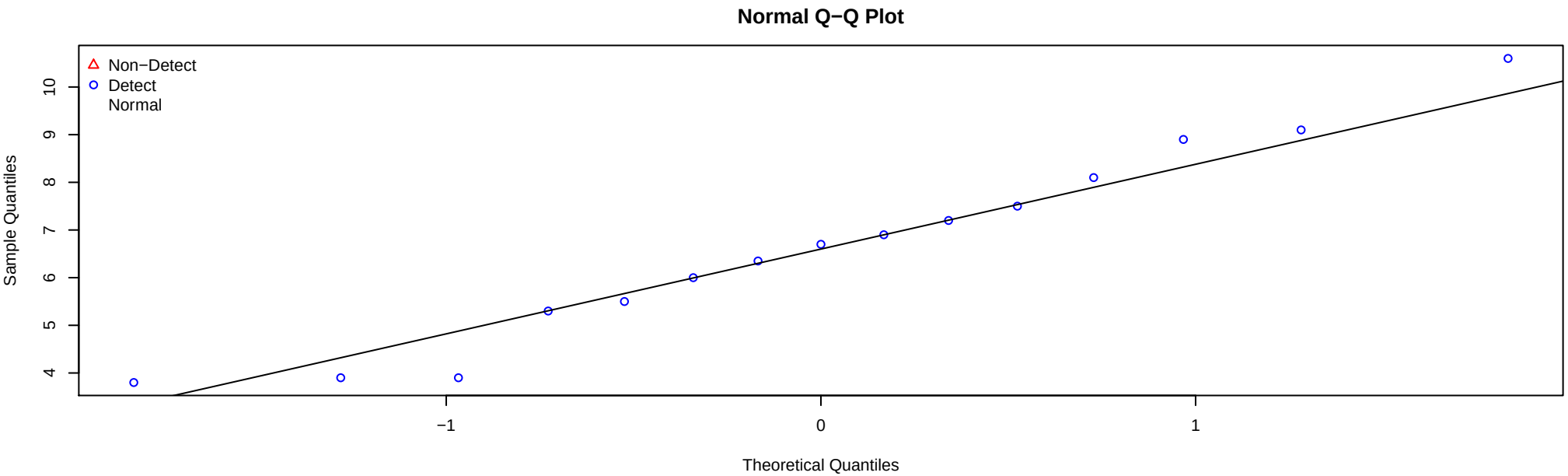
ANTIMONY

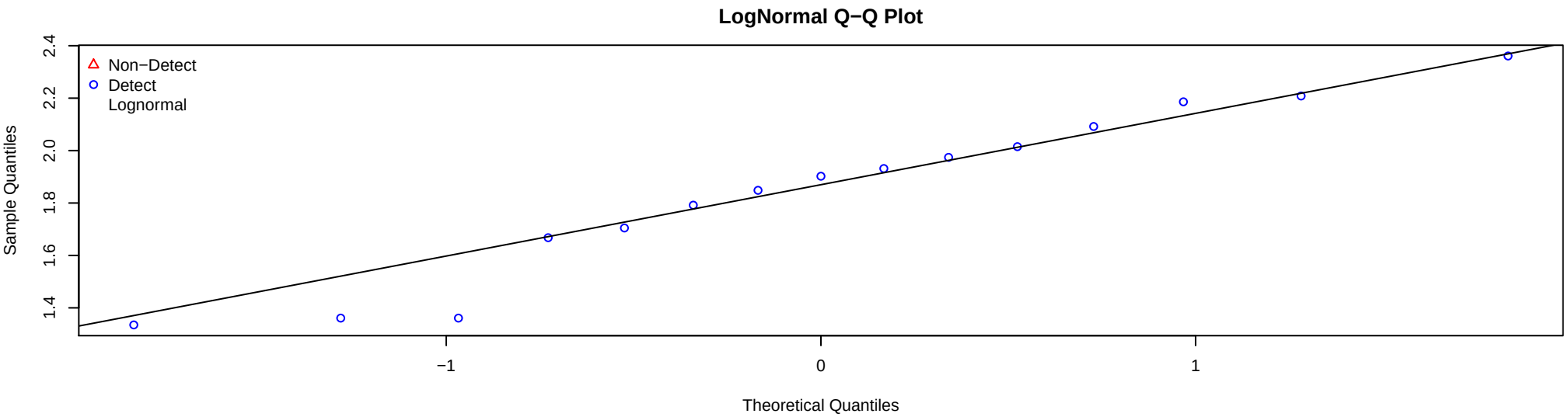




Transition
Surface Soil

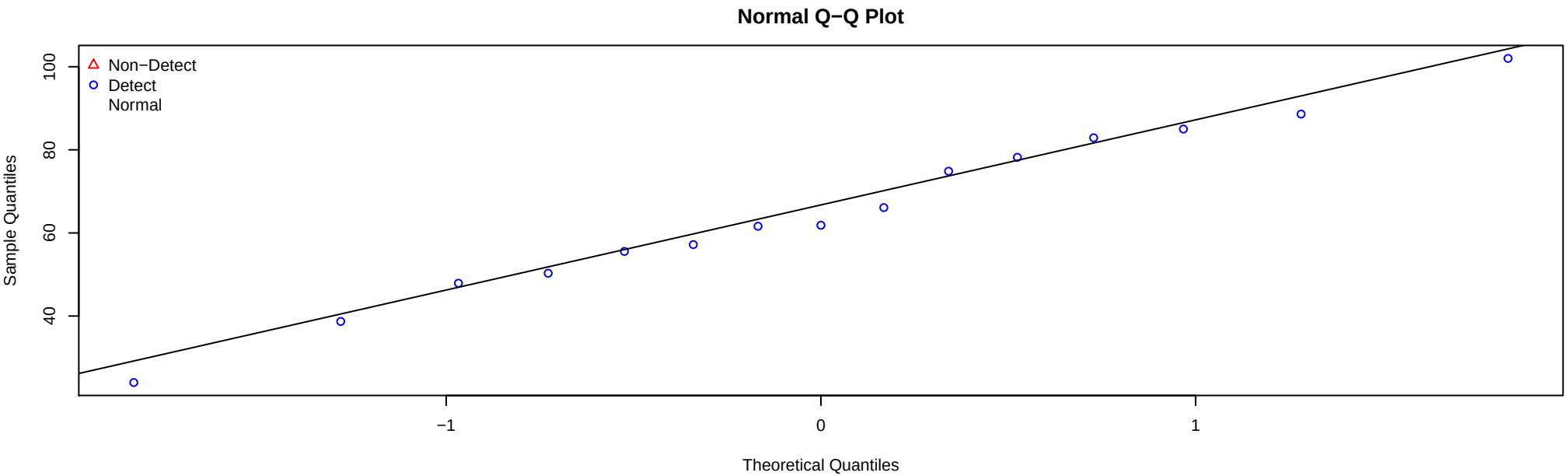
ARSENIC

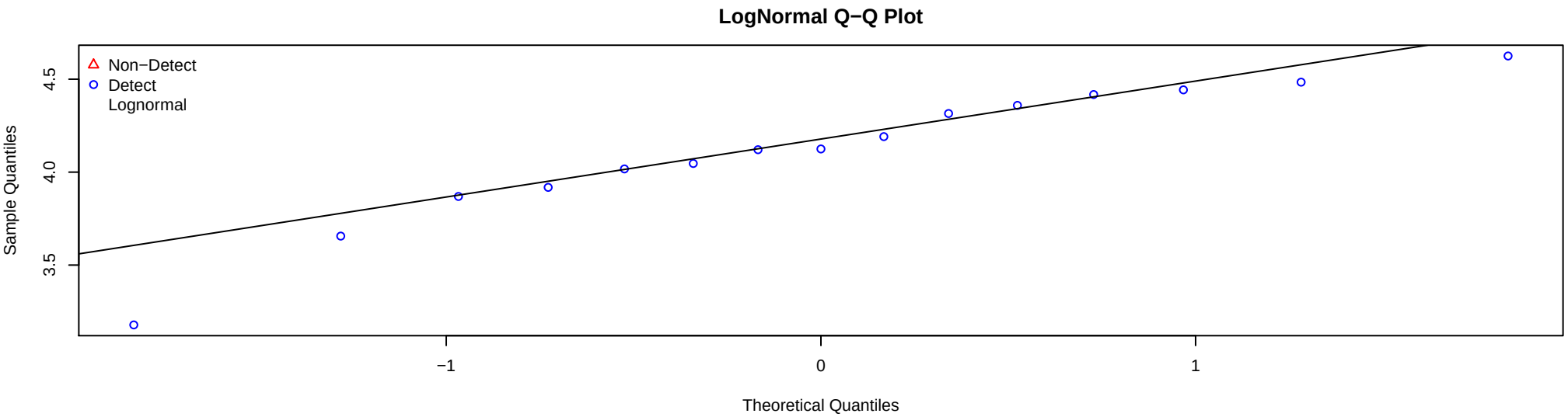




Transition
Surface Soil

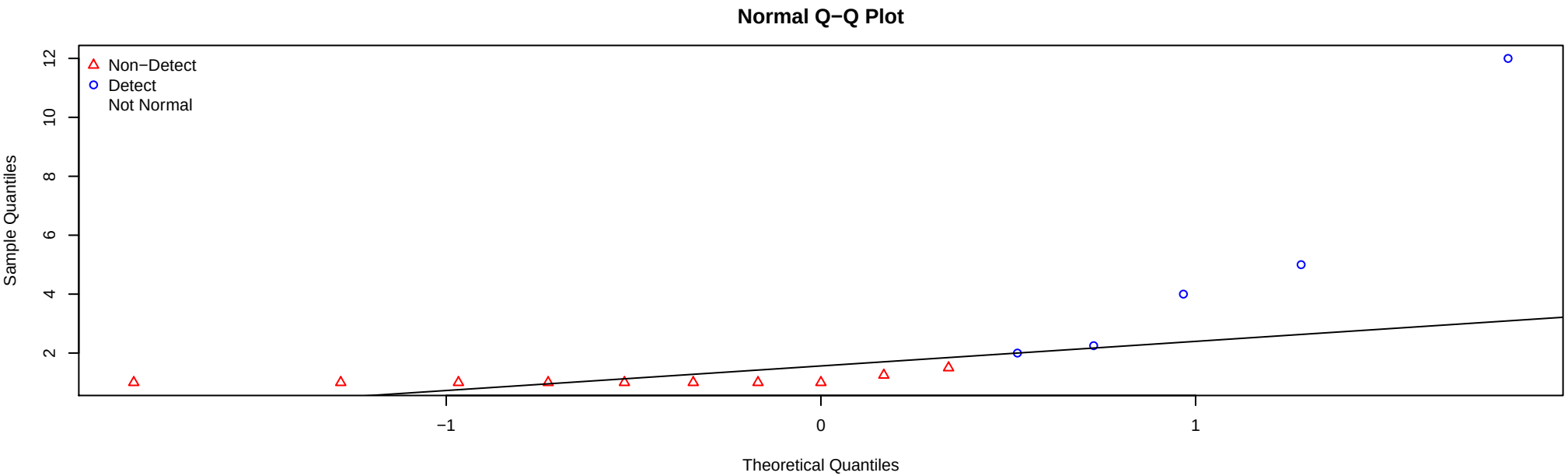
BARIUM

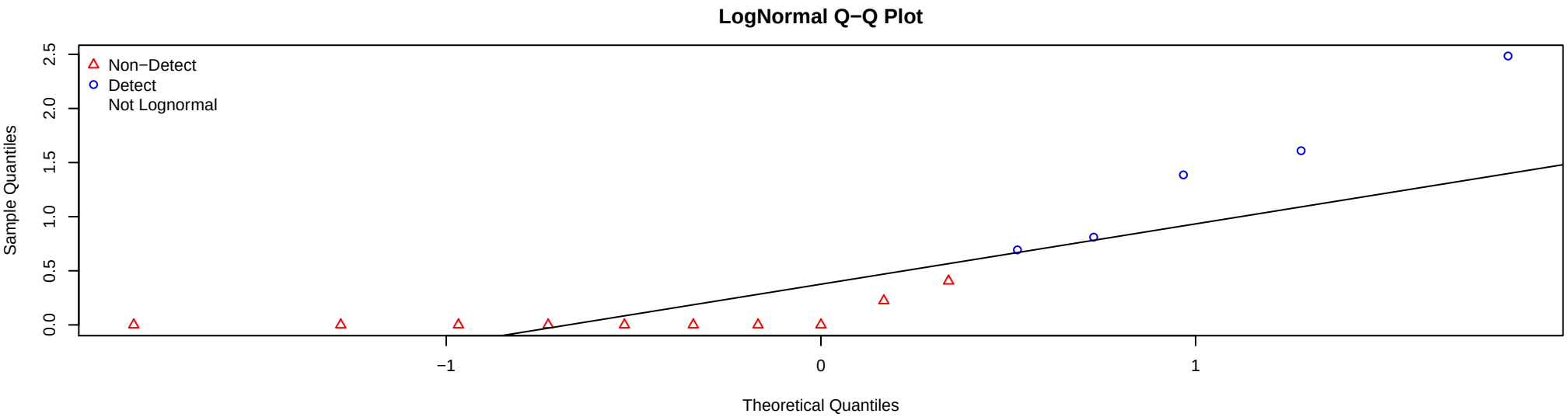




Transition
Surface Soil

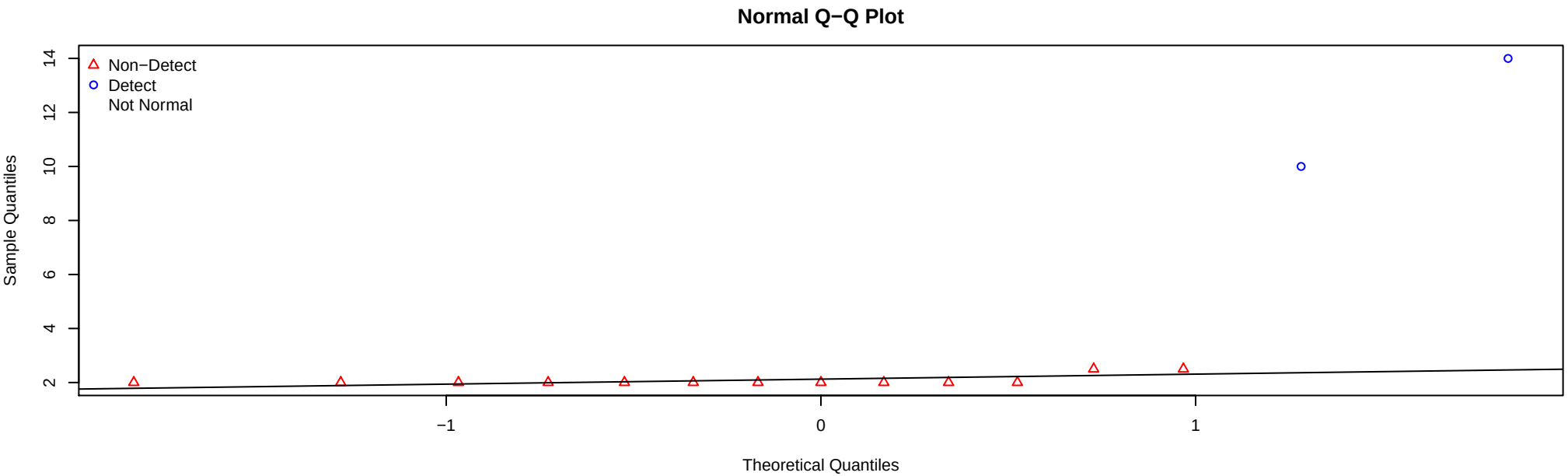
BENZO(A)ANTHRACENE

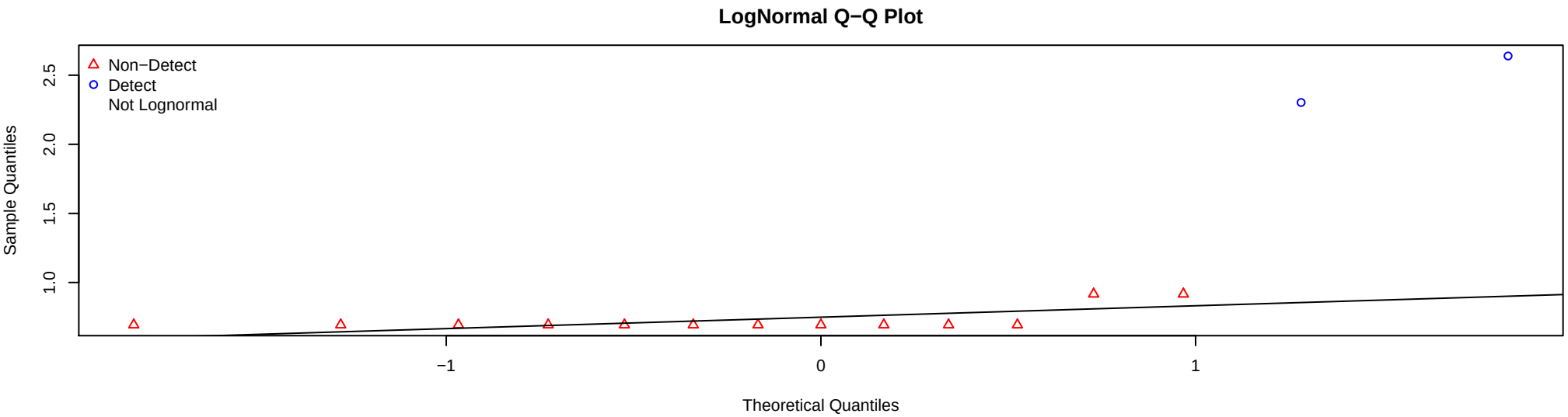




Transition
Surface Soil

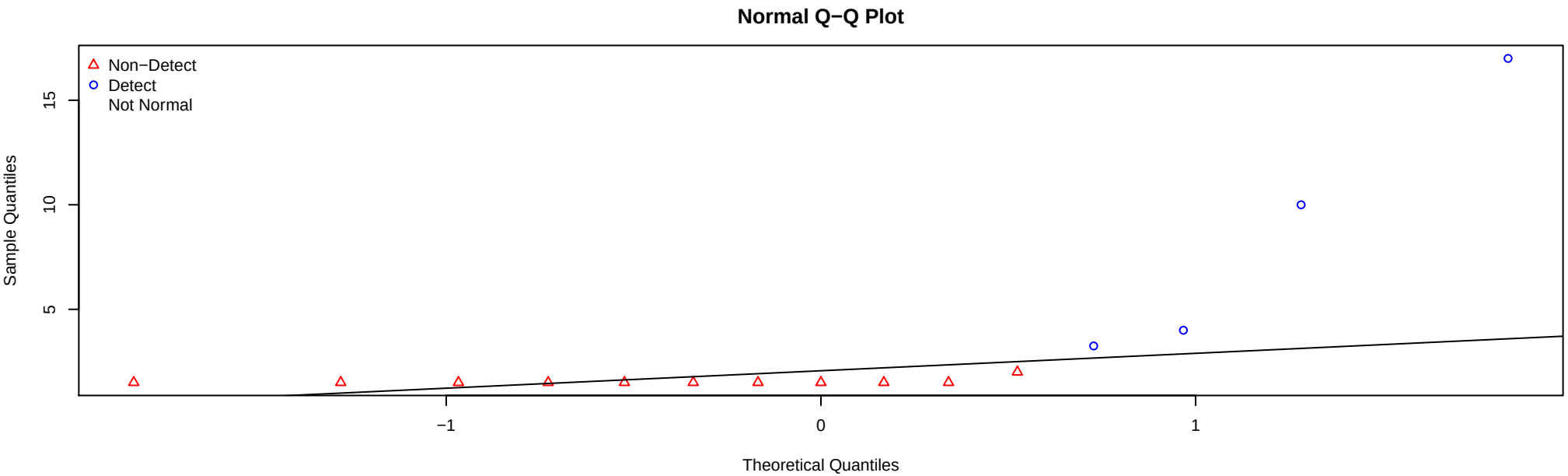
BENZO(A)PYRENE

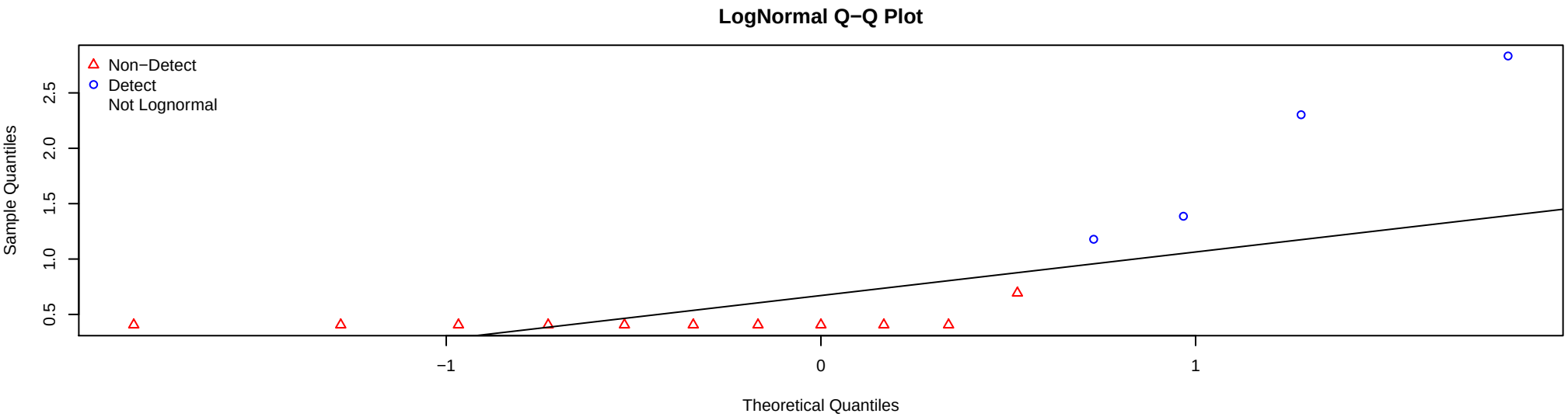




Transition
Surface Soil

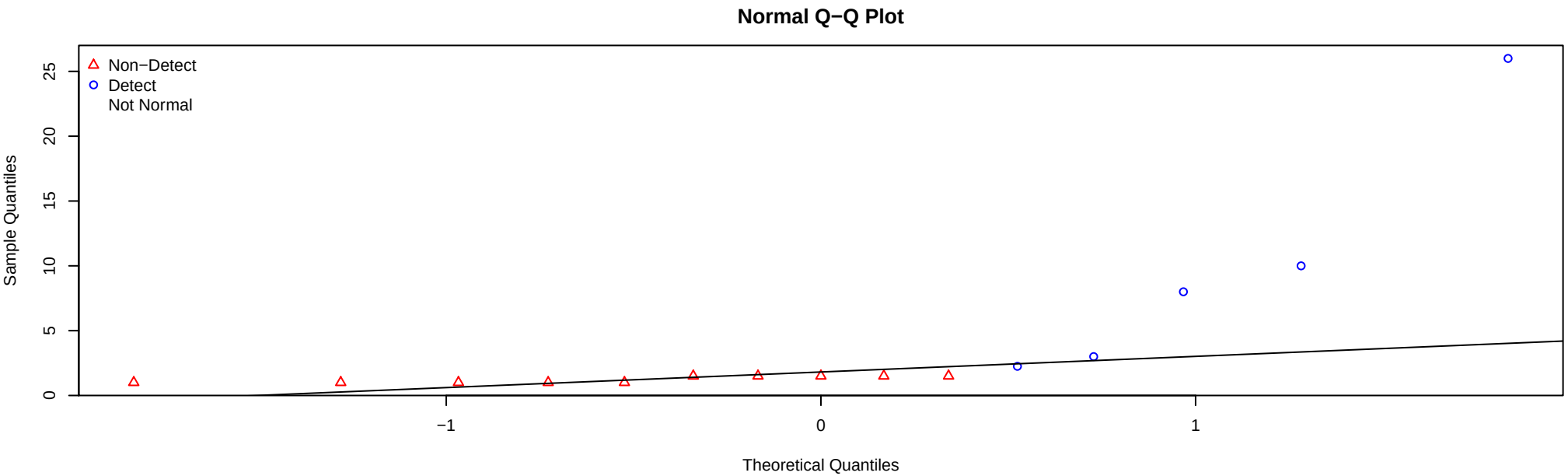
BENZO(B)FLUORANTHENE

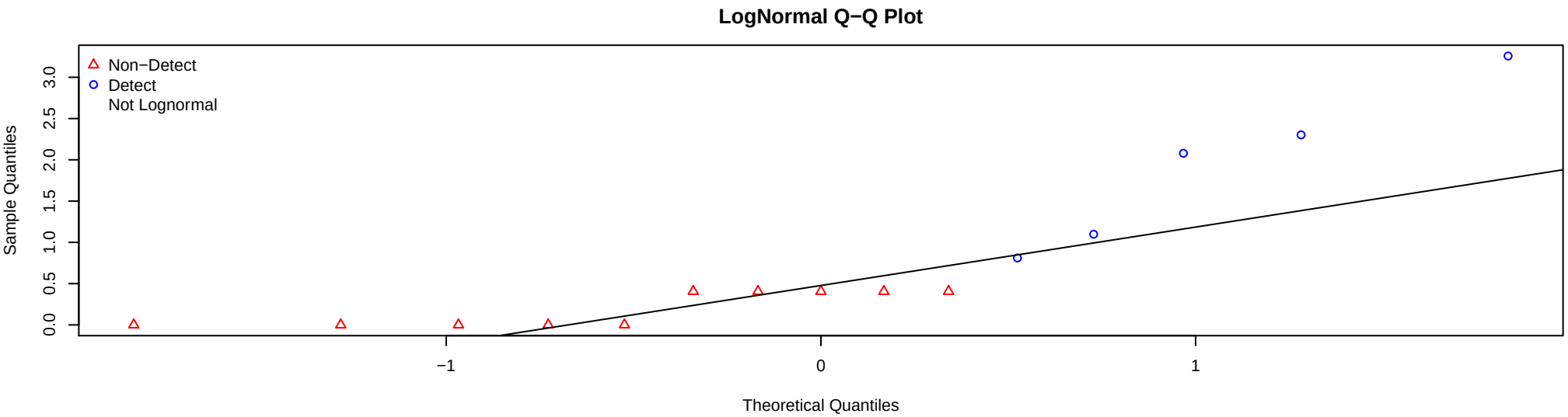




Transition
Surface Soil

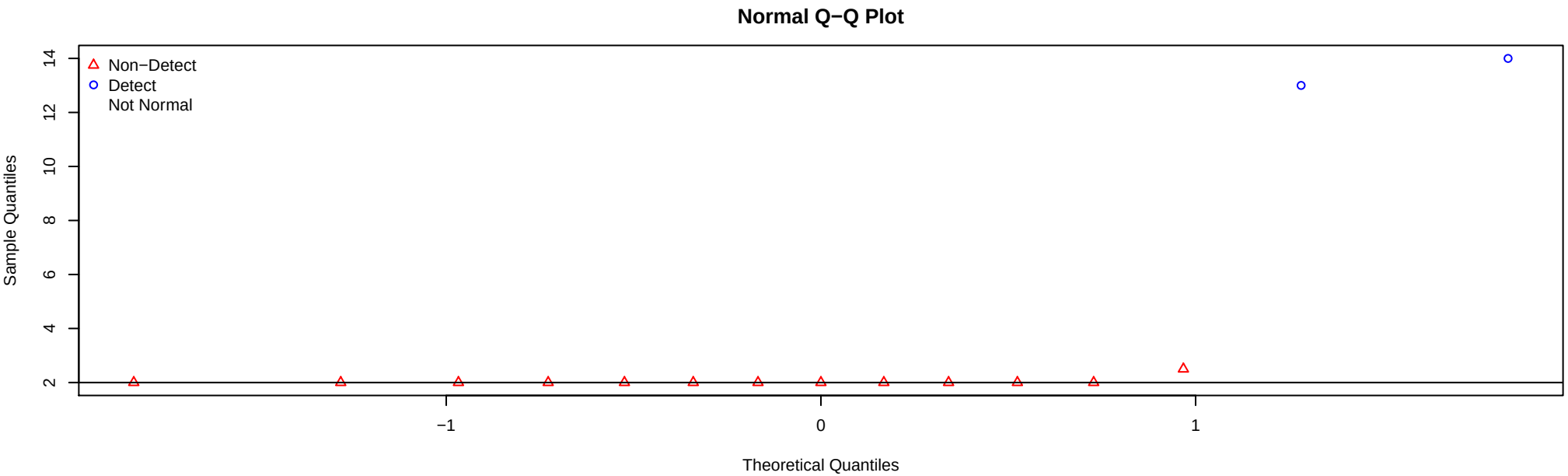
BENZO(G,H,I)PERYLENE

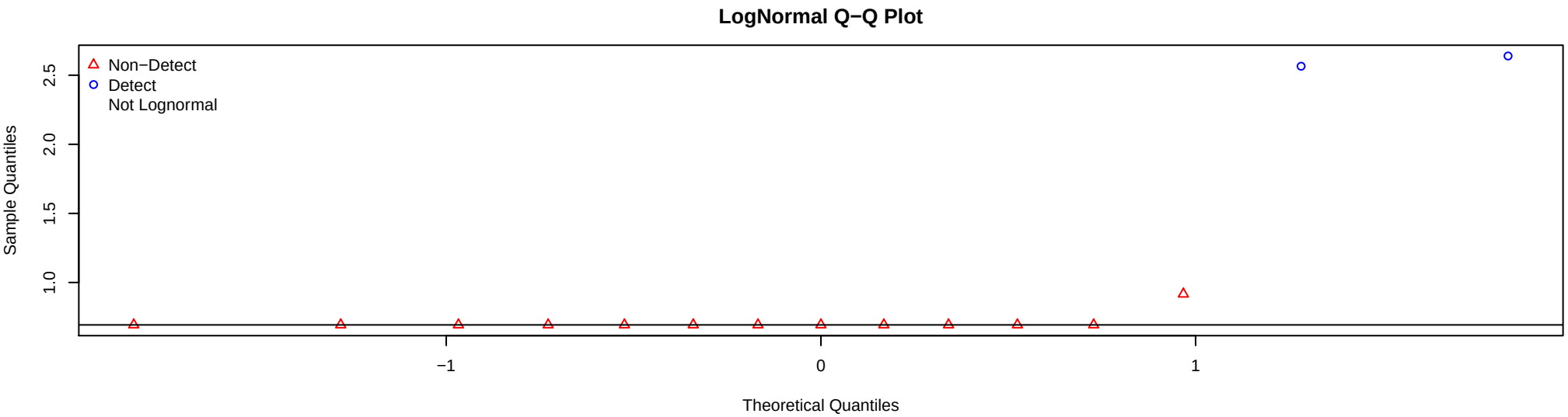




Transition
Surface Soil

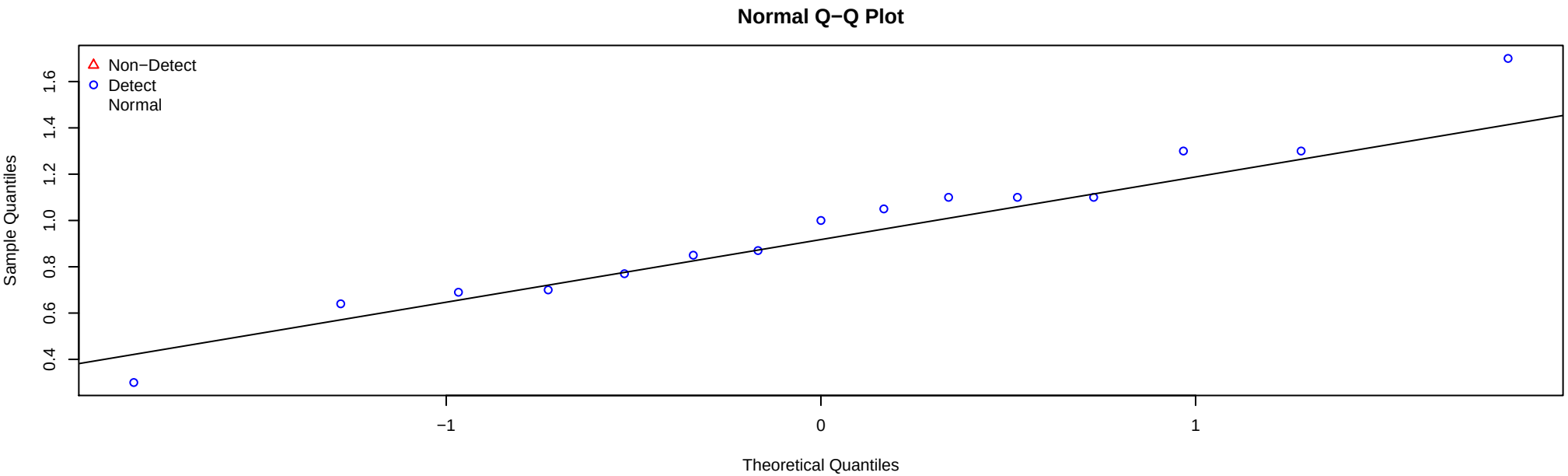
BENZO(K)FLUORANTHENE

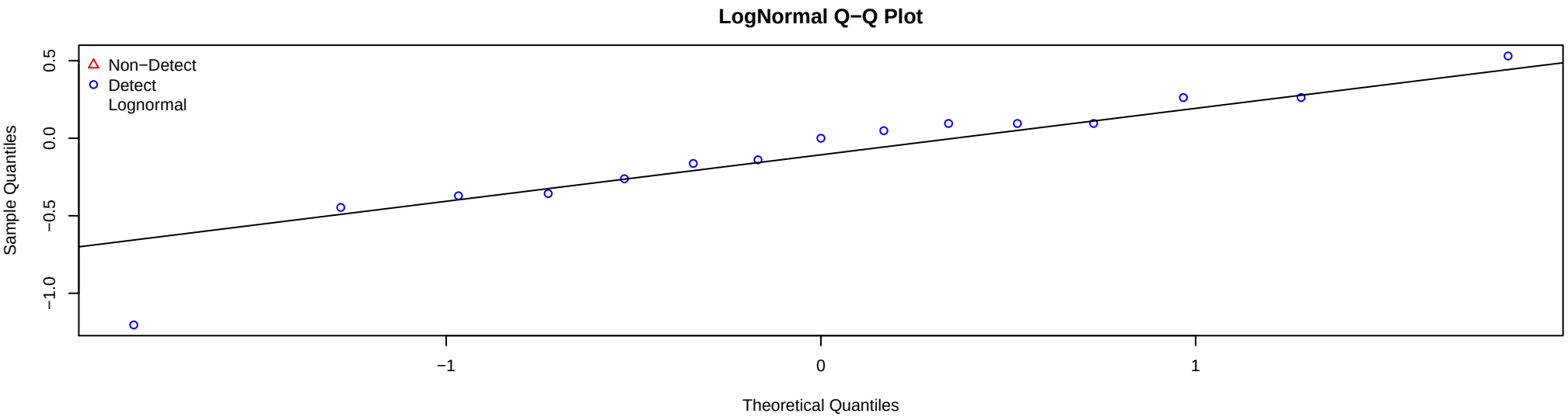




Transition
Surface Soil

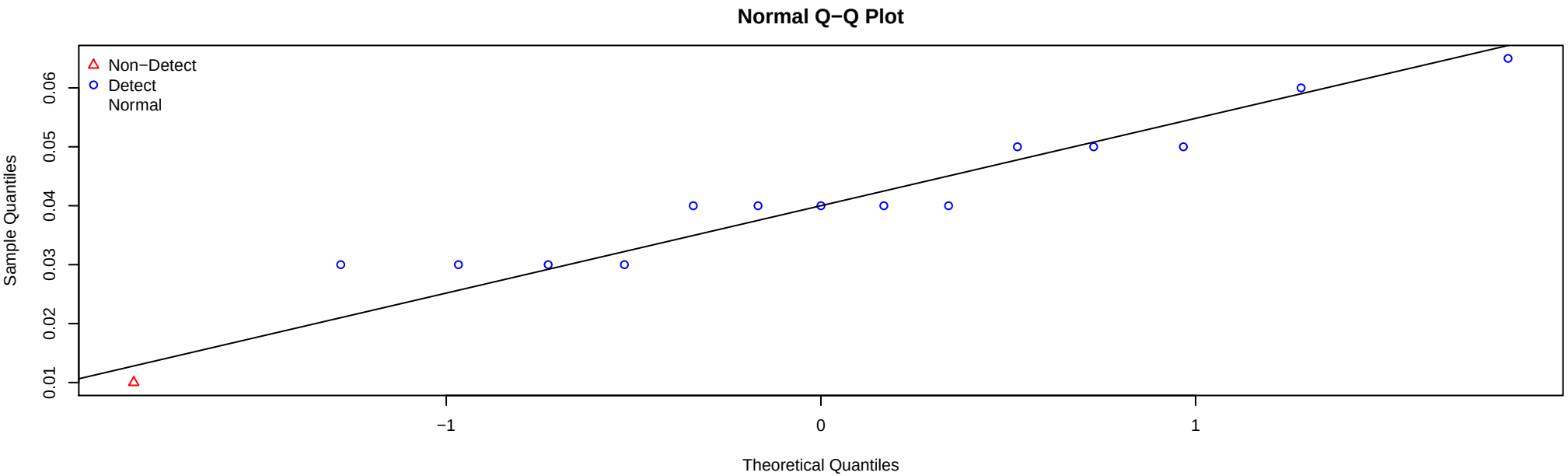
BERYLLIUM

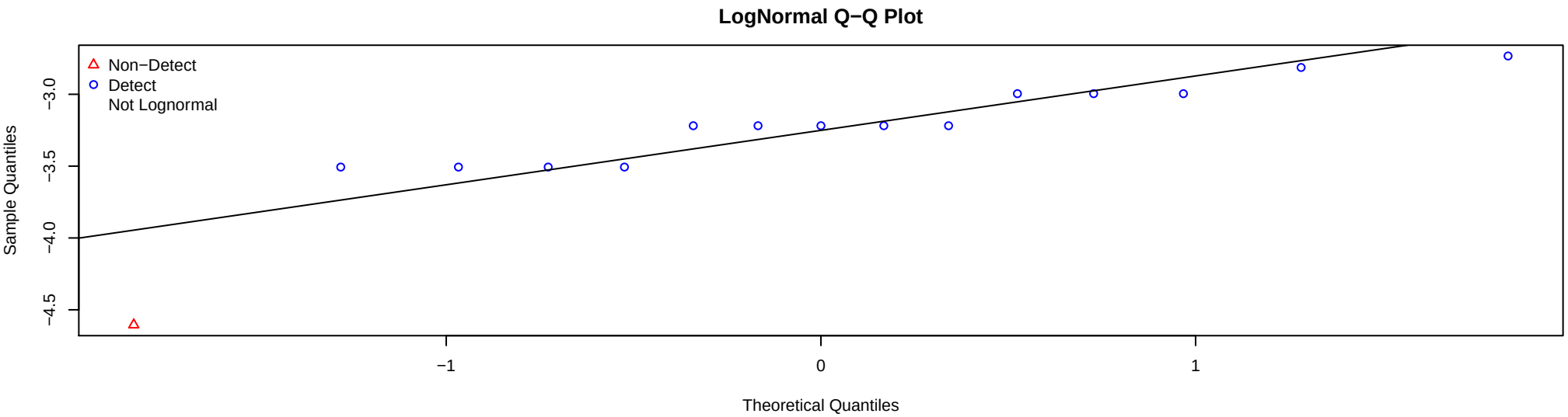




Transition
Surface Soil

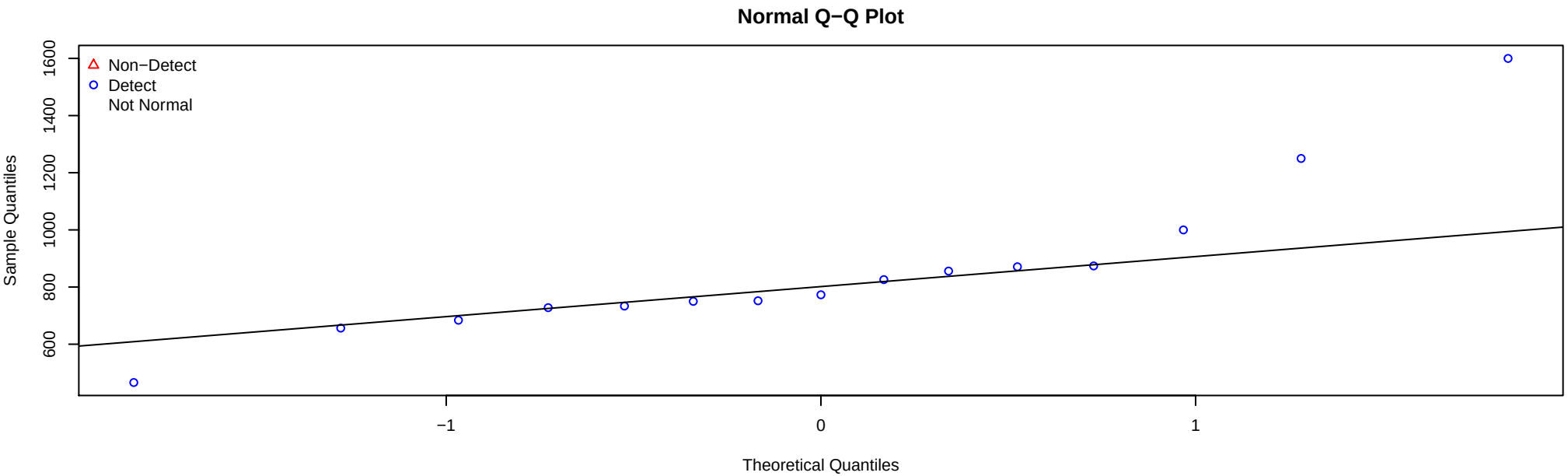
CADMIUM

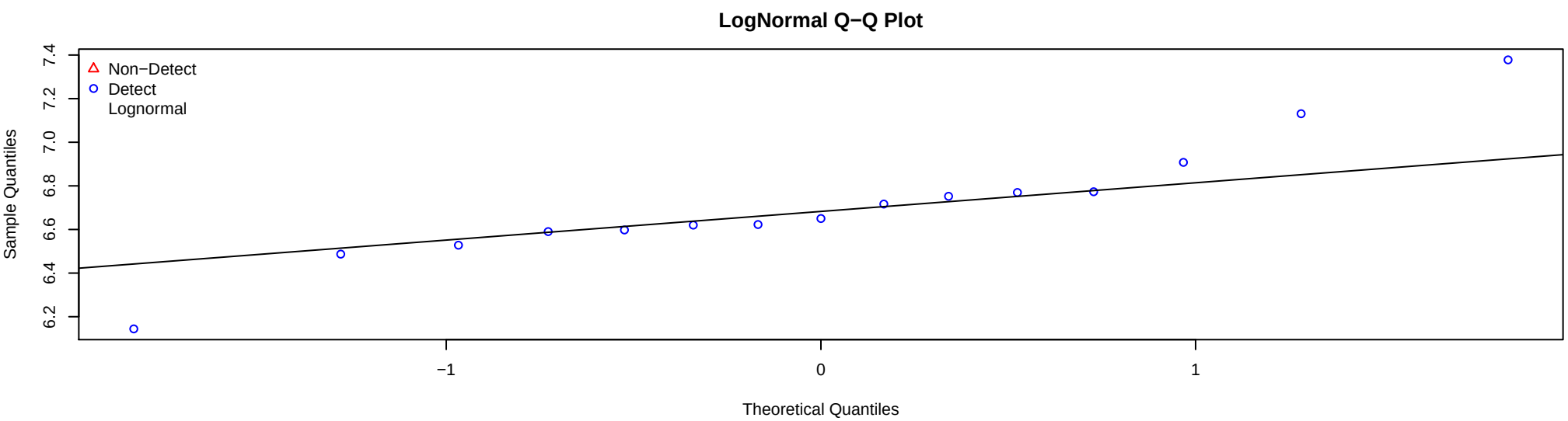




Transition
Surface Soil

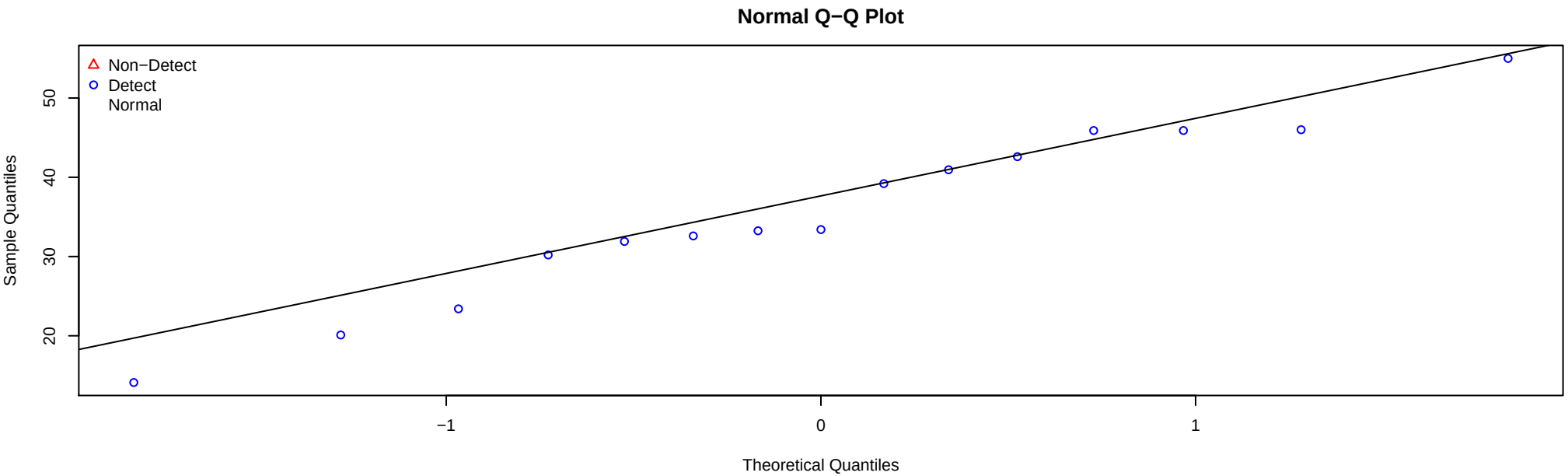
CALCIUM

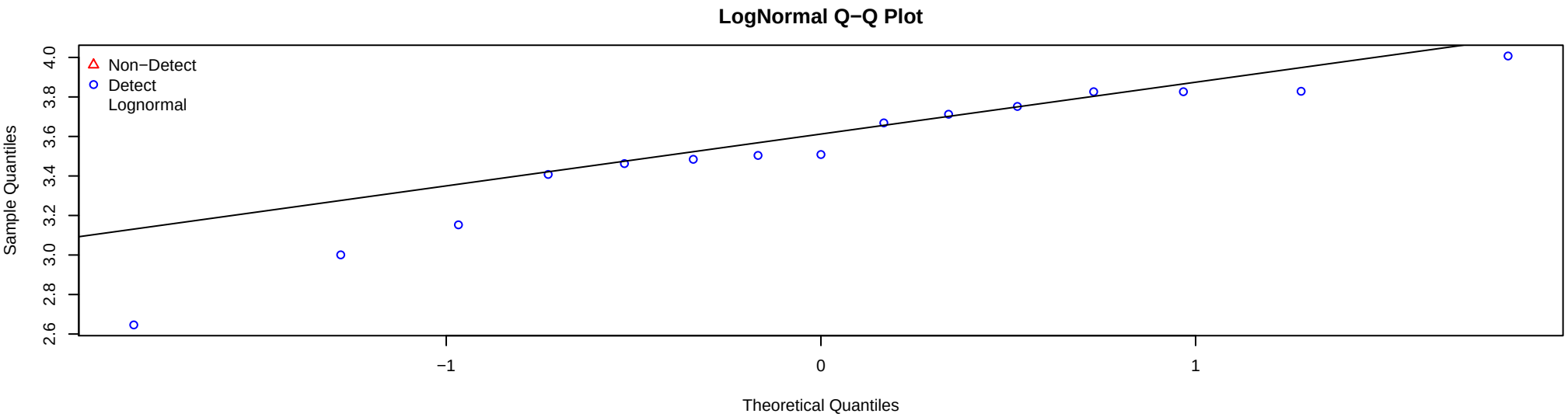




Transition
Surface Soil

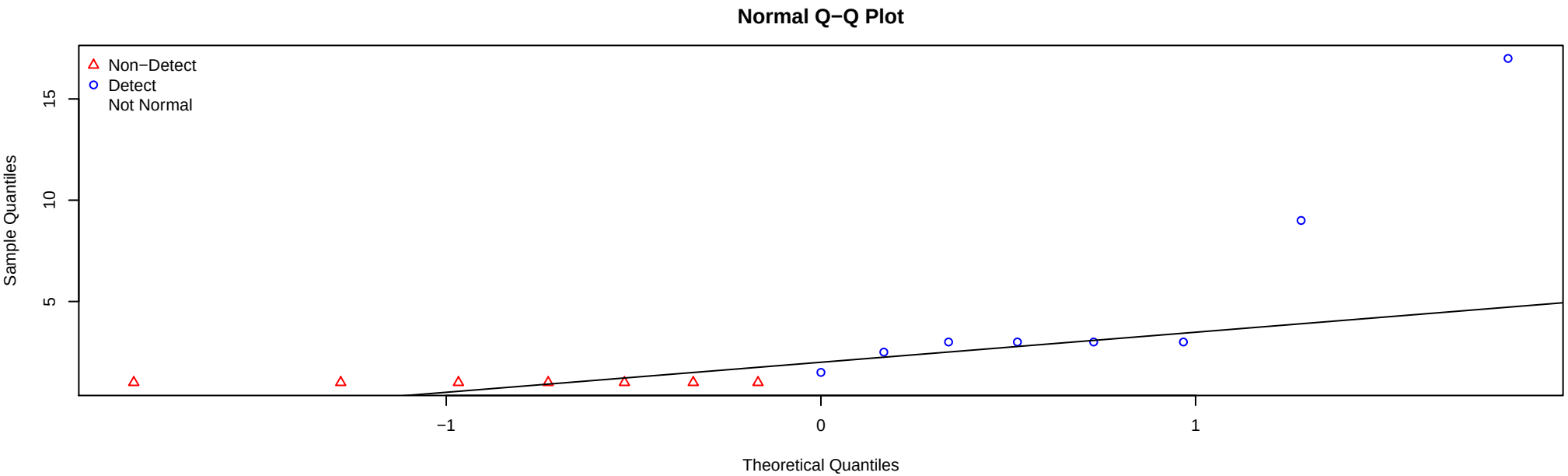
CHROMIUM

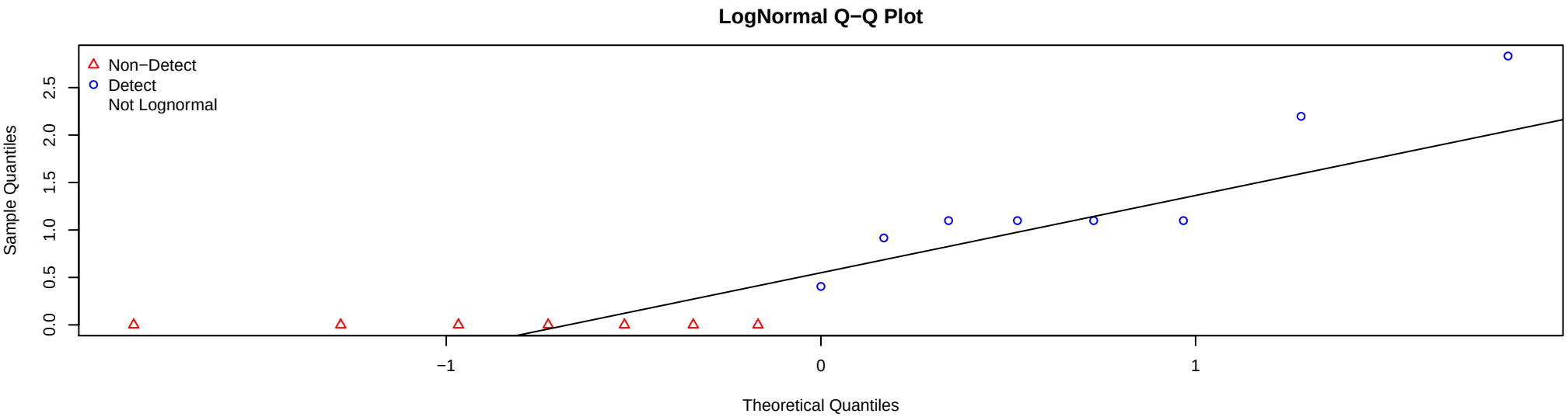




Transition
Surface Soil

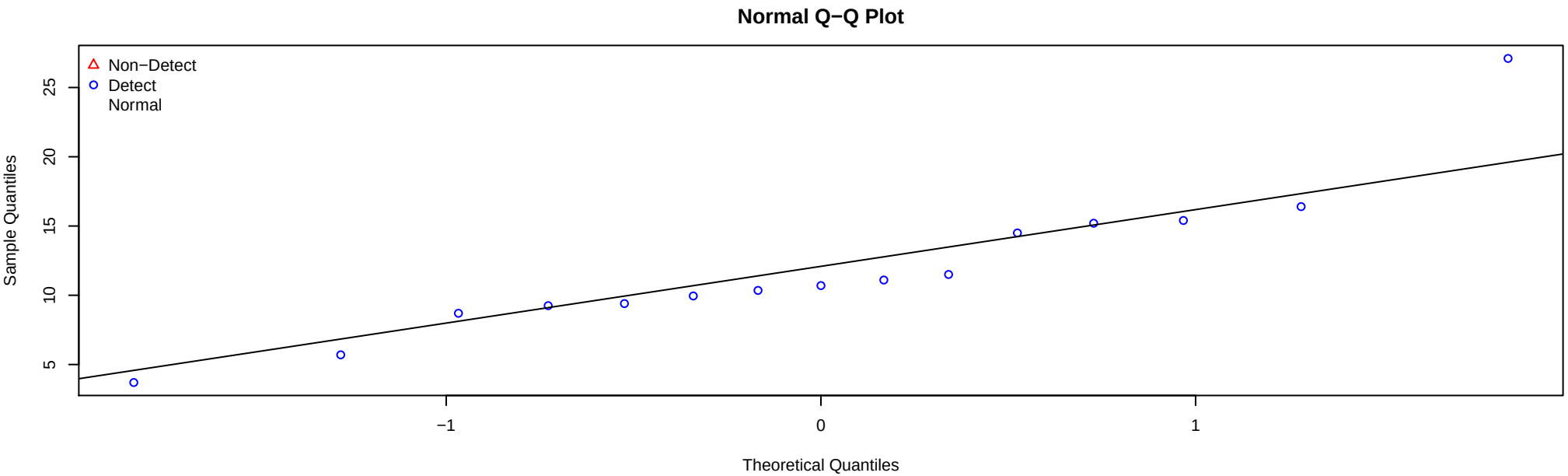
CHRYSENE

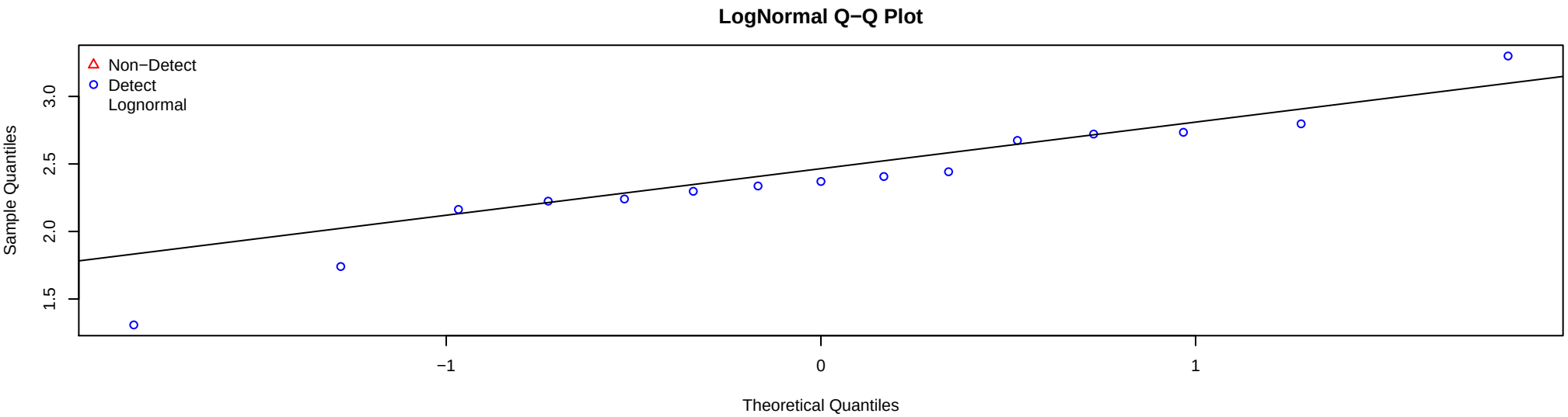




Transition
Surface Soil

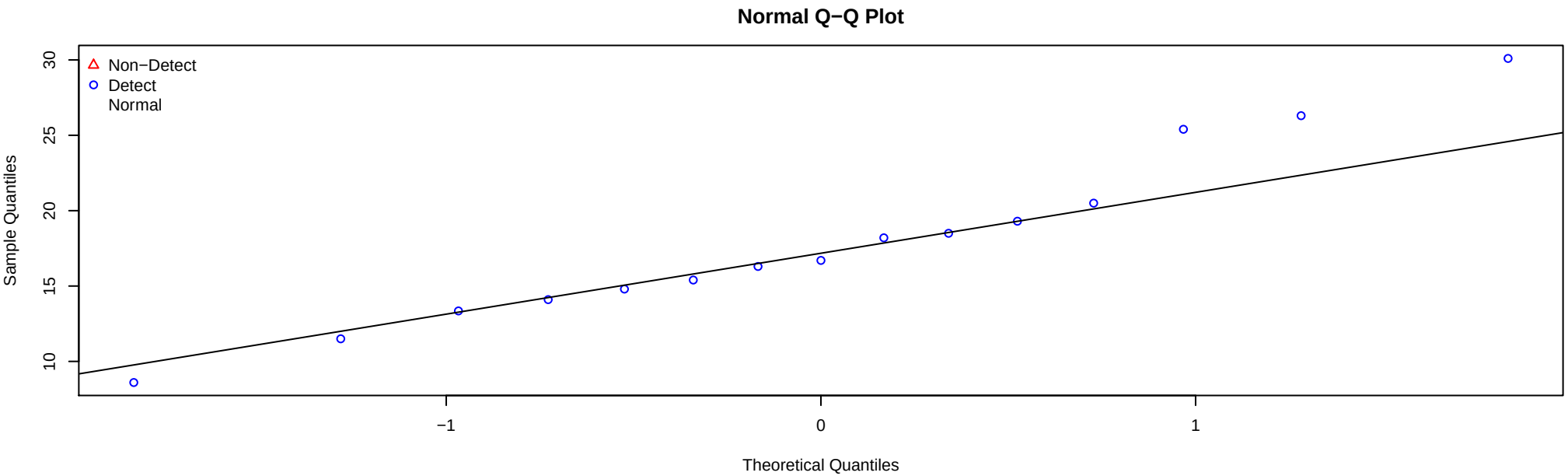
COBALT

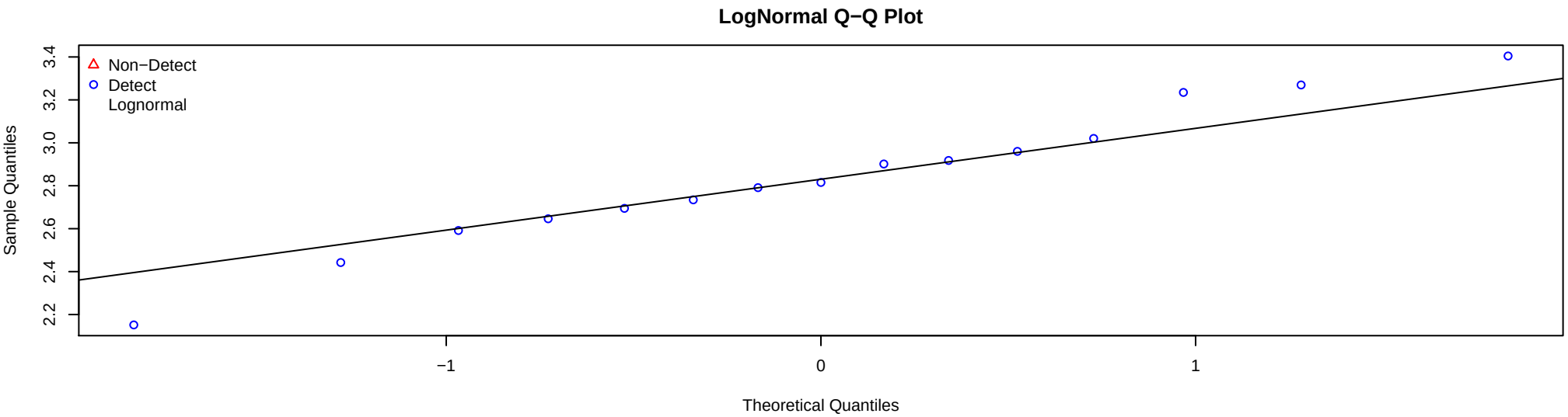




Transition
Surface Soil

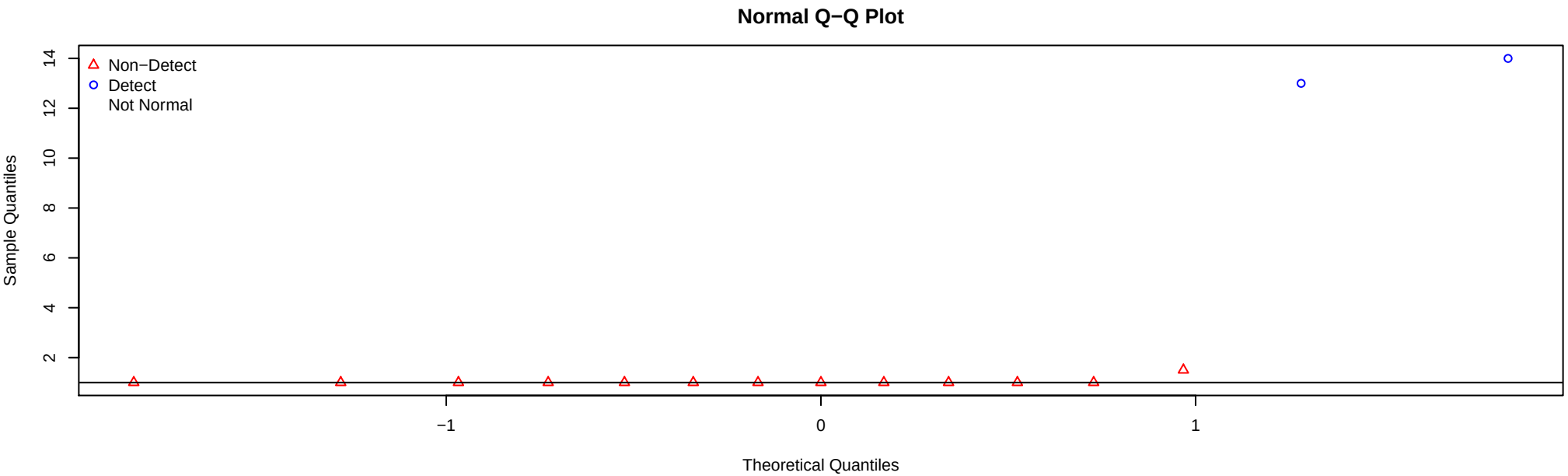
COPPER

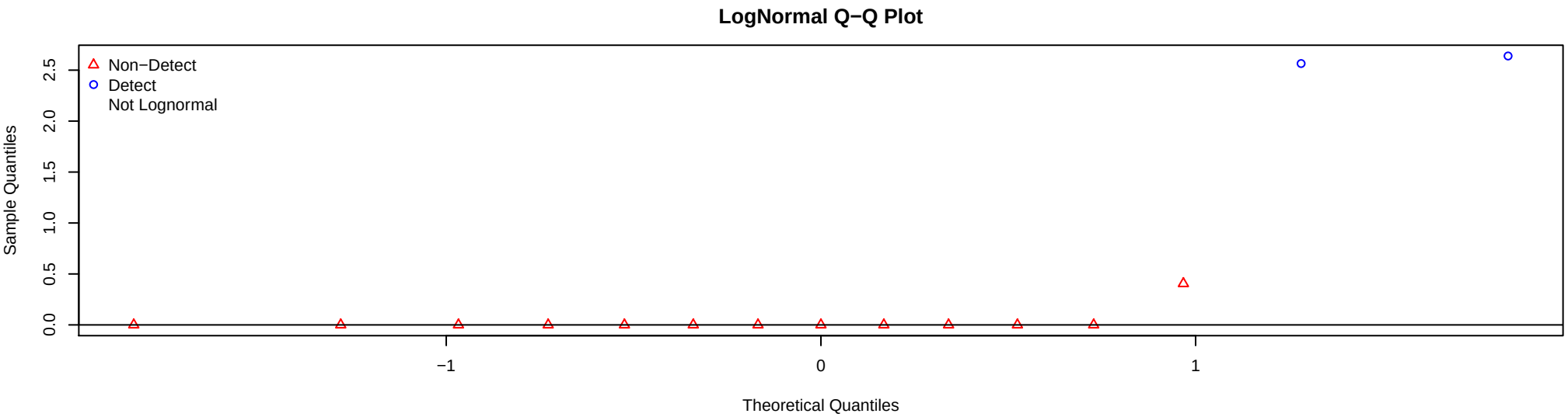




Transition
Surface Soil

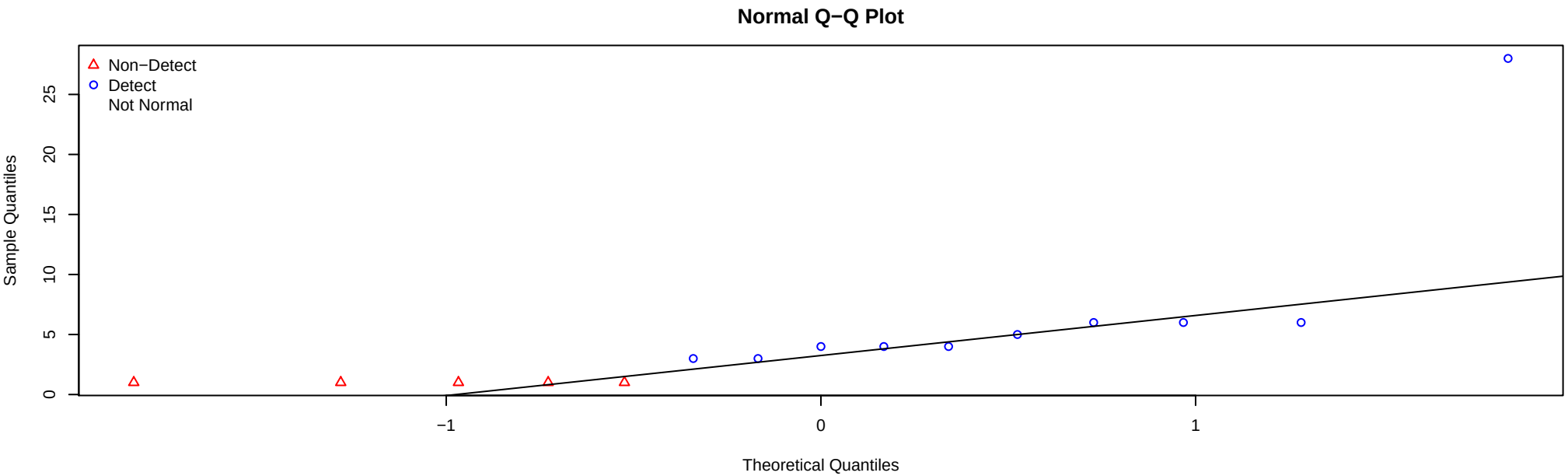
DIBENZO(A,H)ANTHRACENE

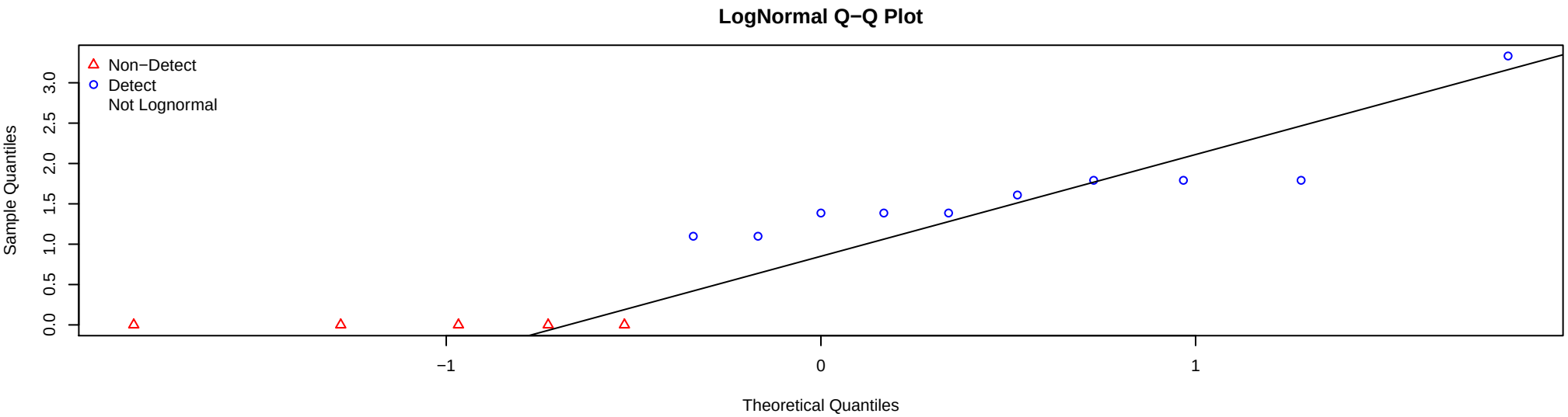




Transition
Surface Soil

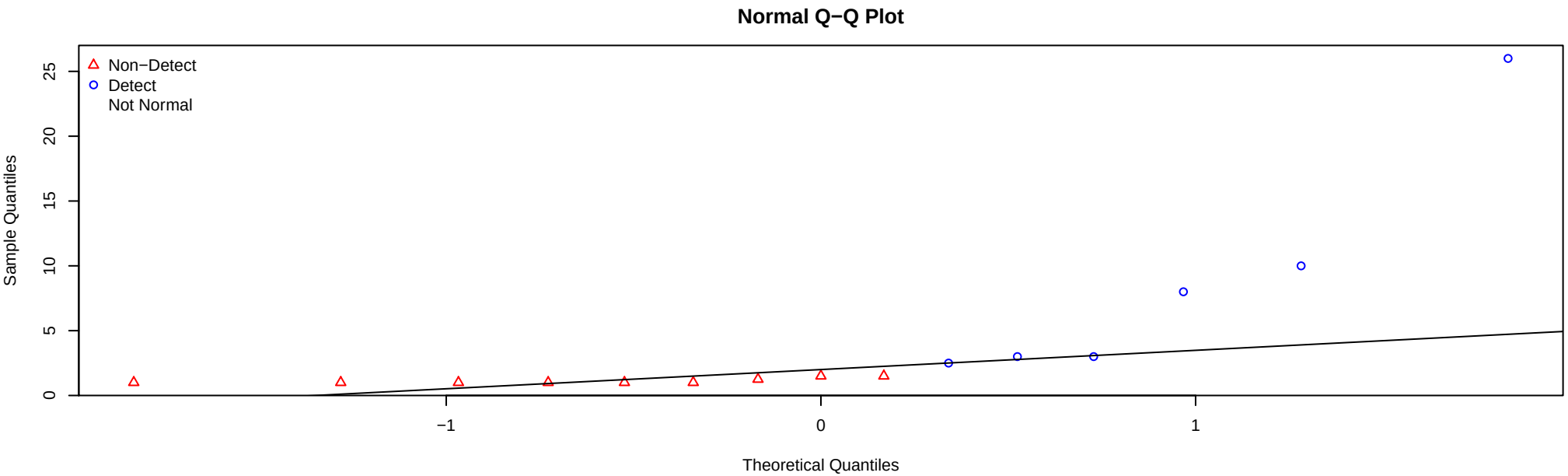
FLUORANTHENE

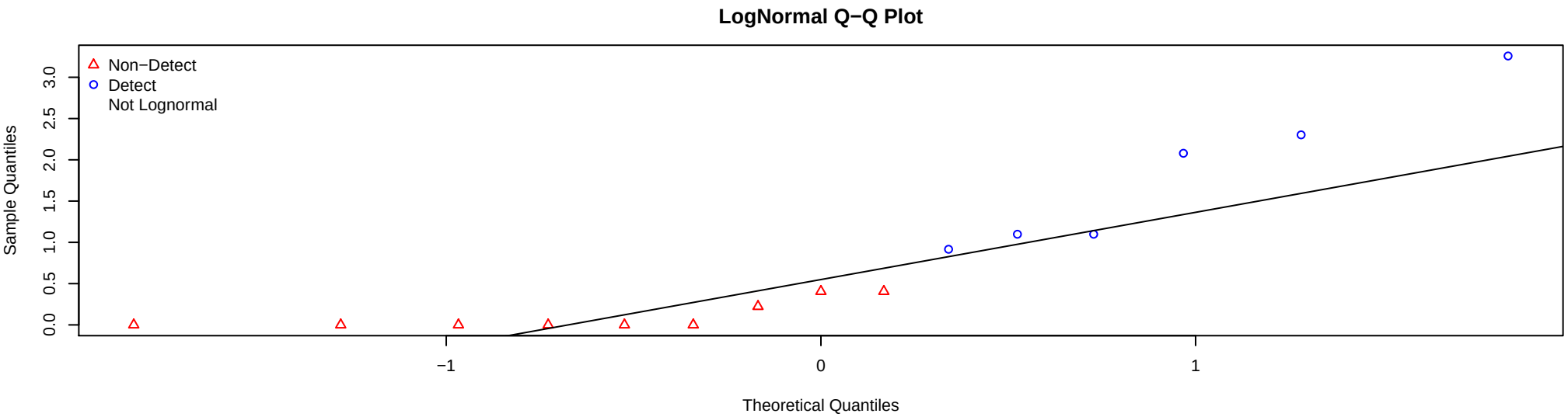




Transition
Surface Soil

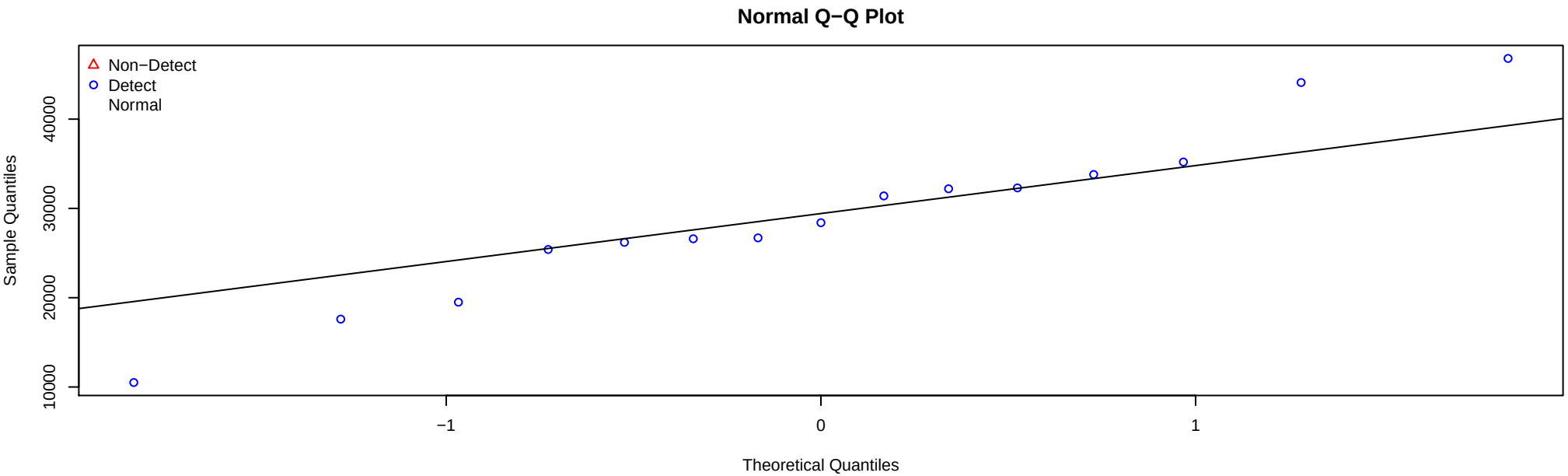
INDENO(1,2,3−CD)PYRENE

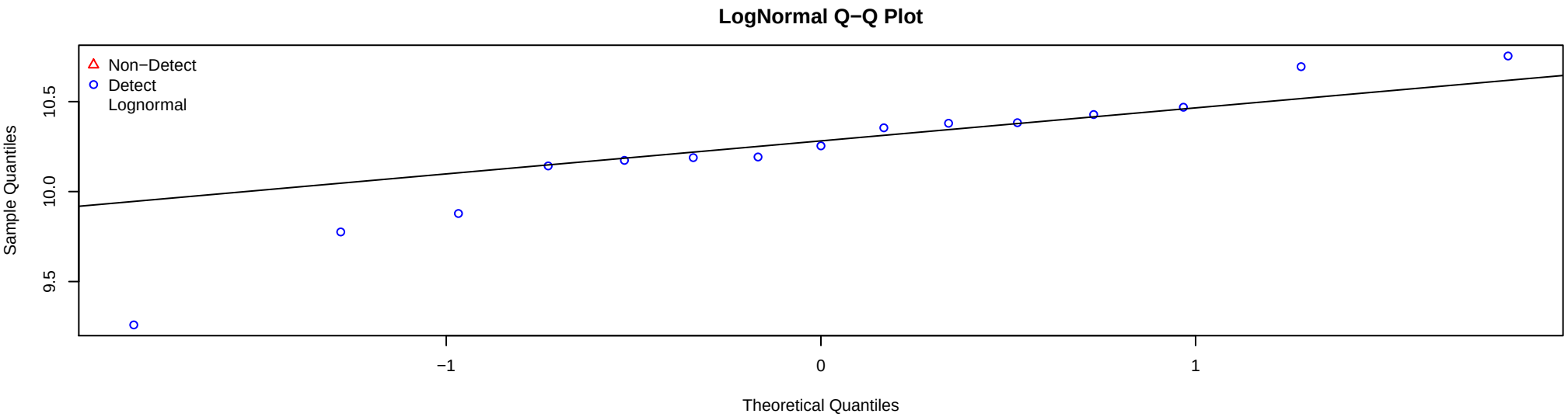




Transition
Surface Soil

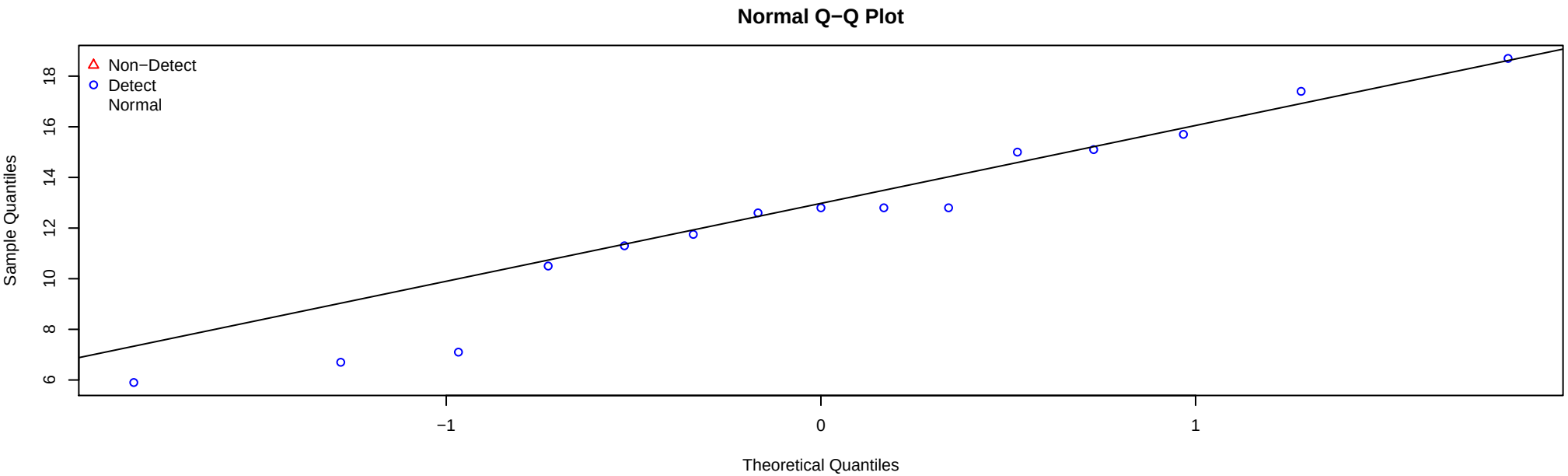
IRON

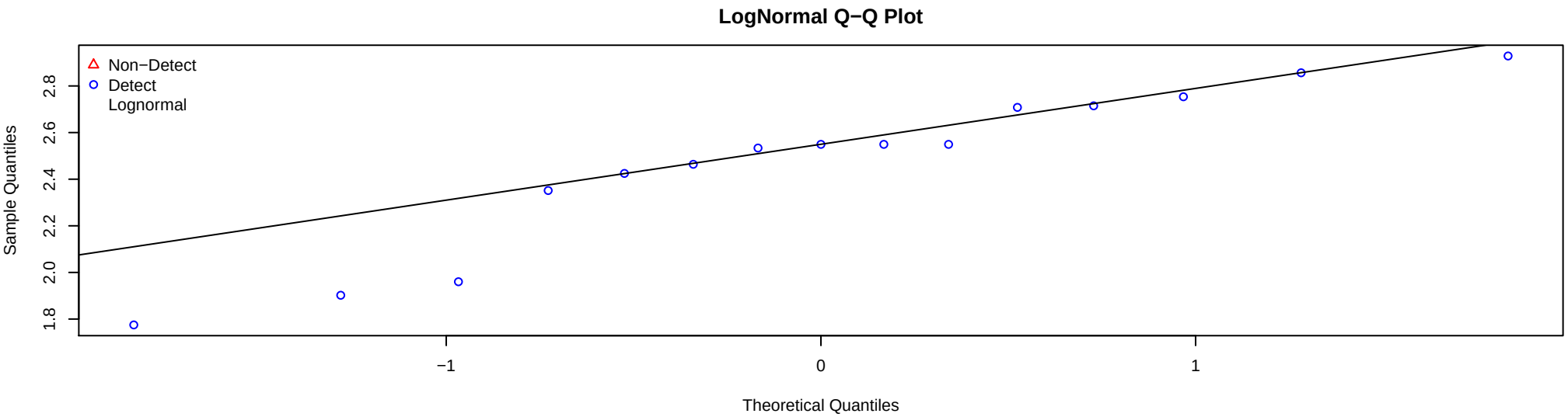




Transition
Surface Soil

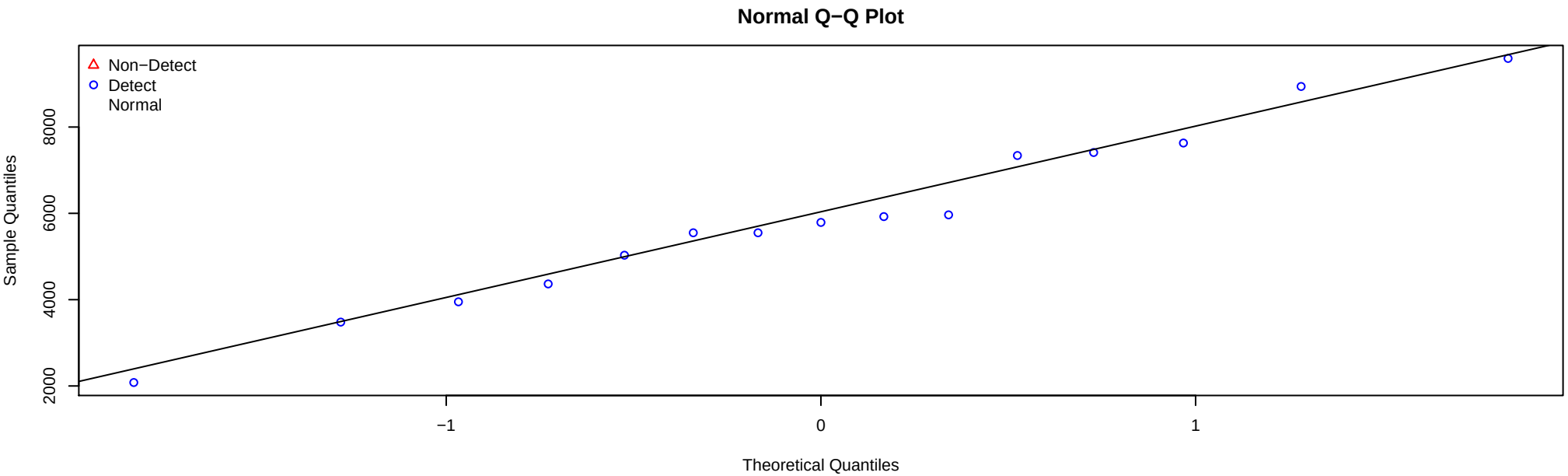
LEAD

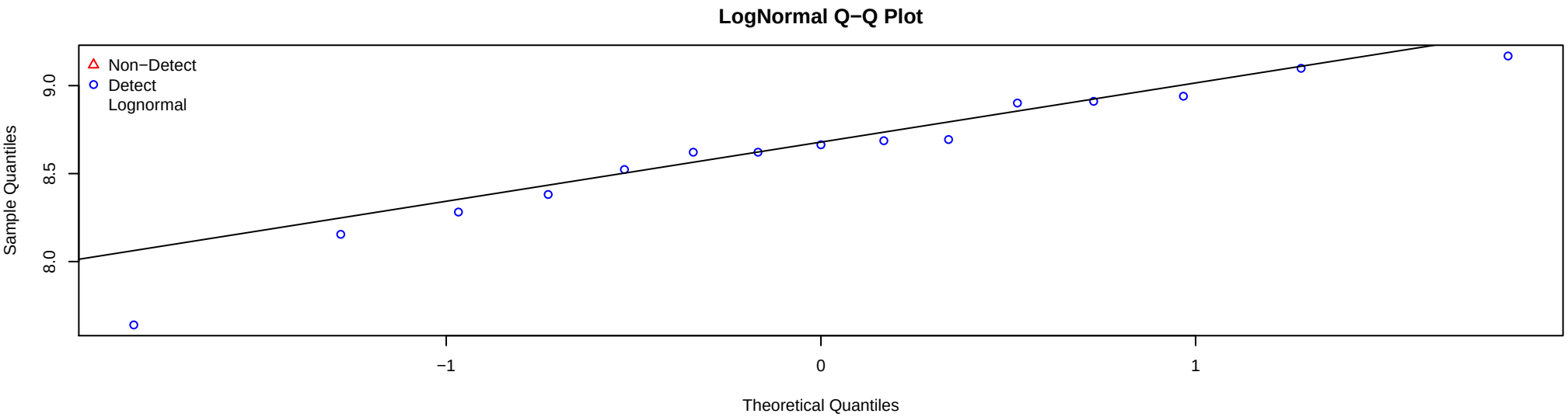




Transition
Surface Soil

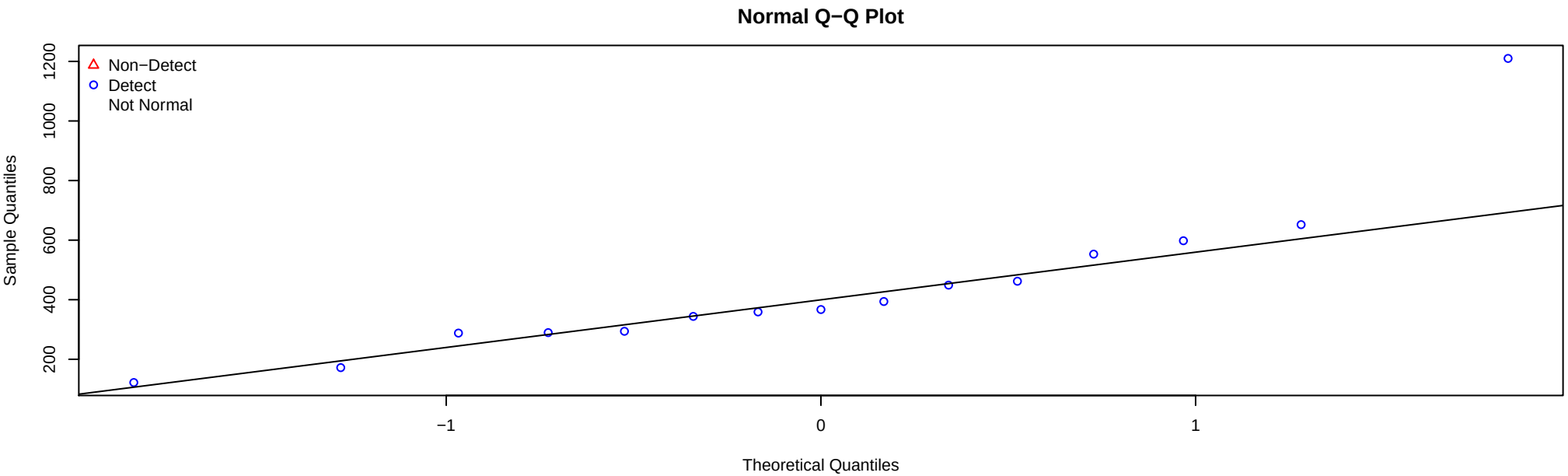
MAGNESIUM

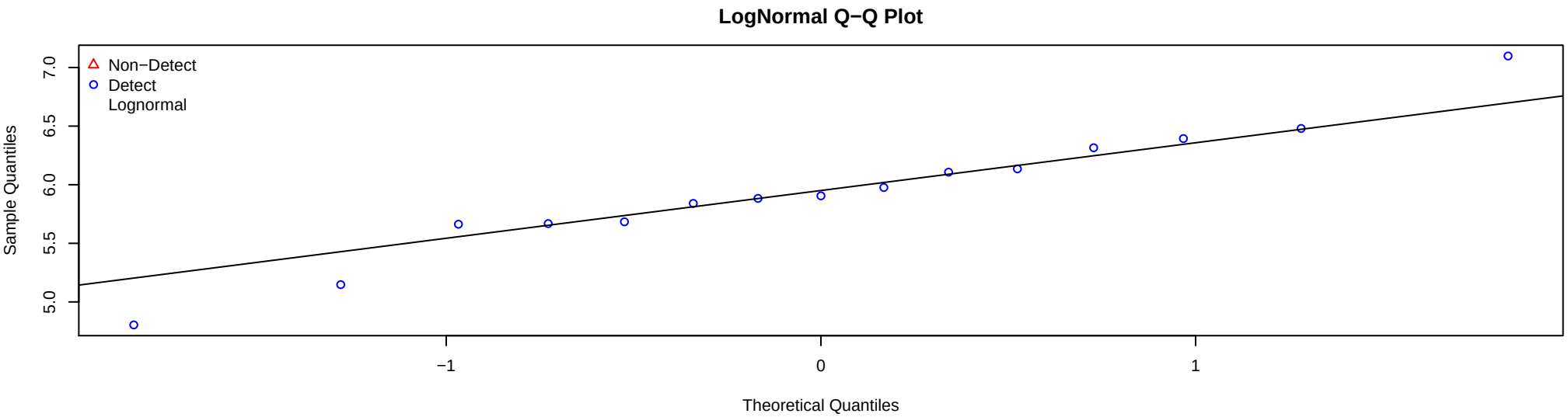




Transition
Surface Soil

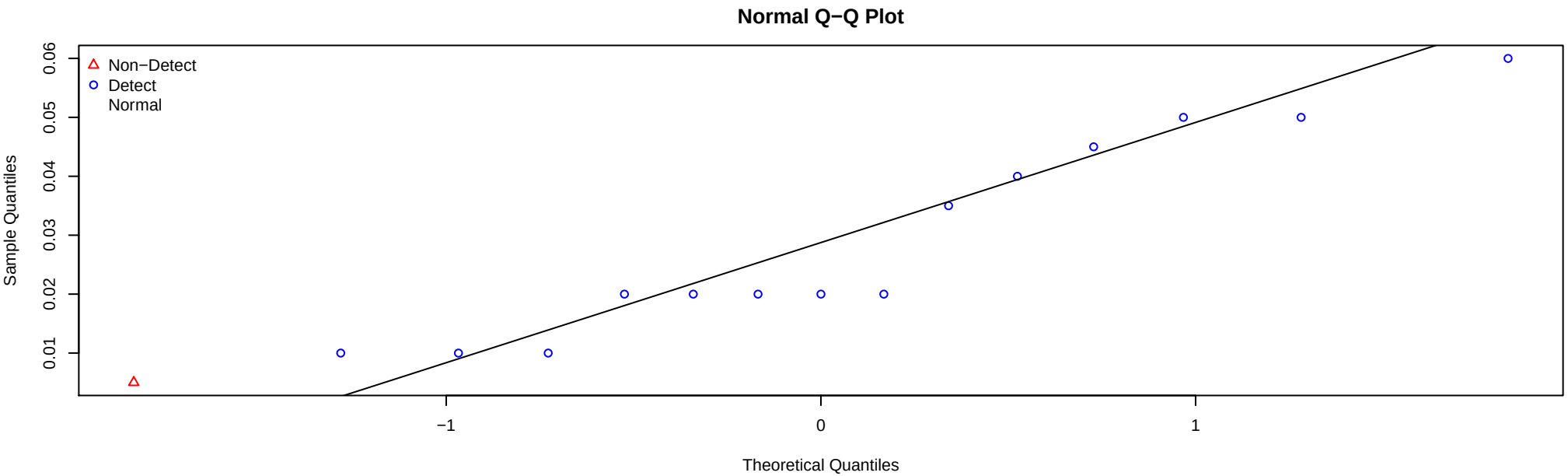
MANGANESE

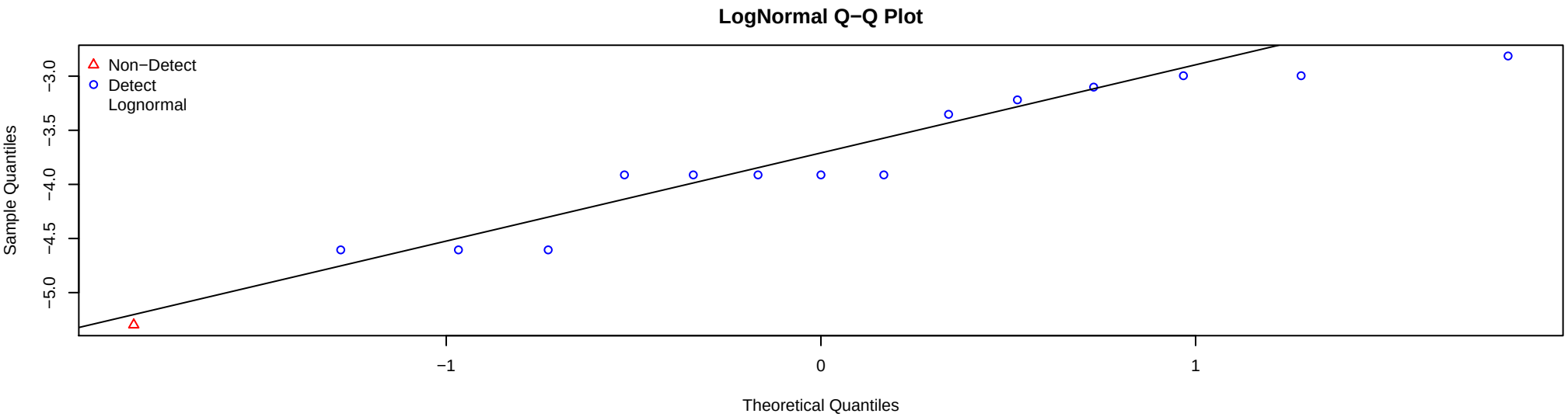




Transition
Surface Soil

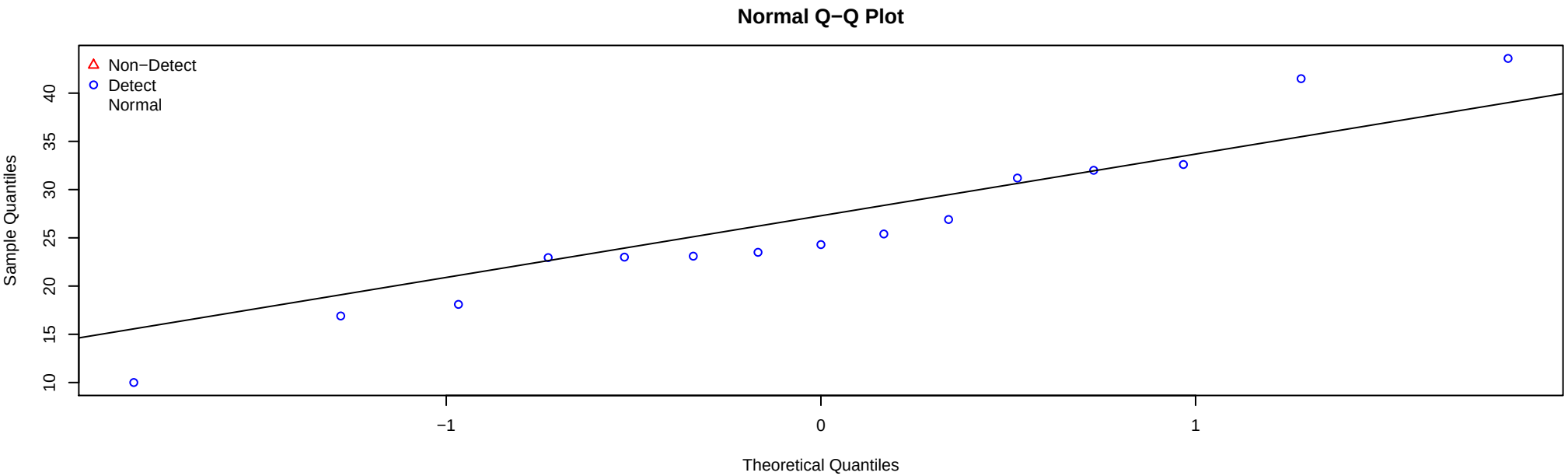
MERCURY

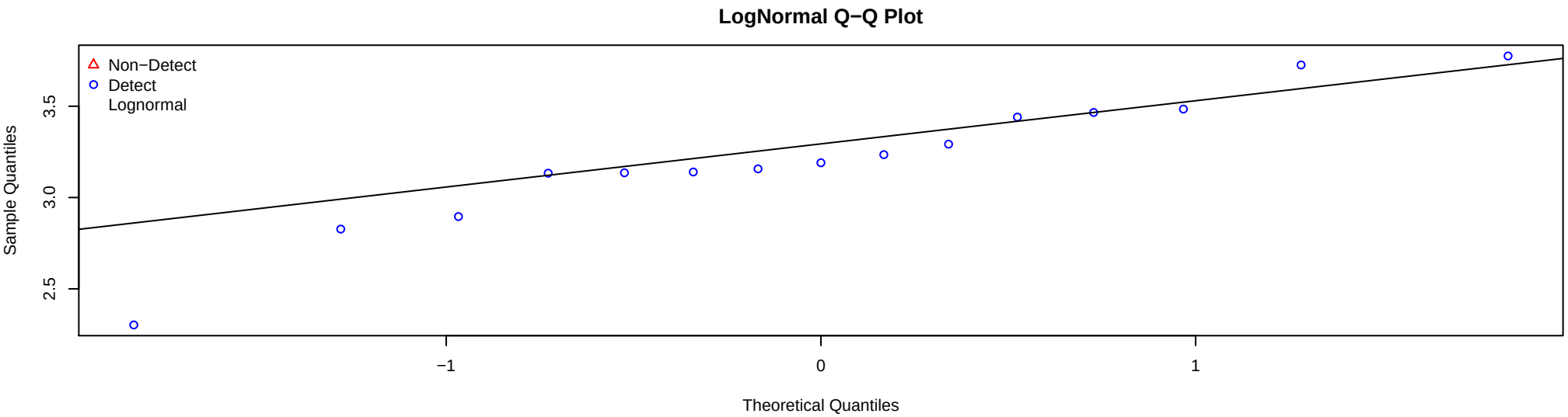




Transition
Surface Soil

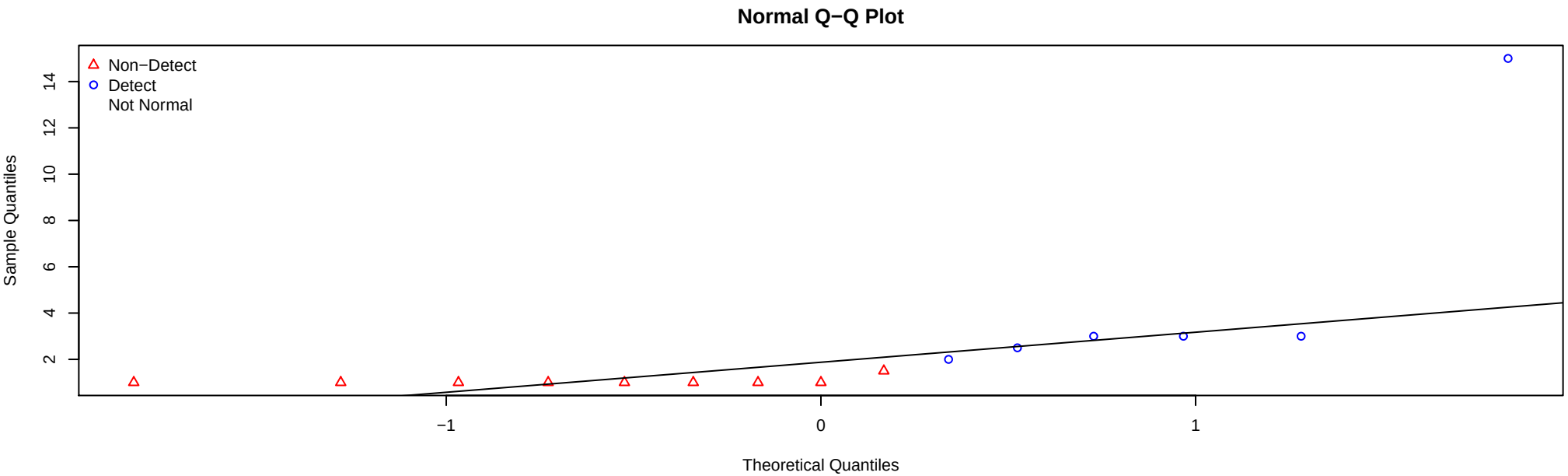
NICKEL

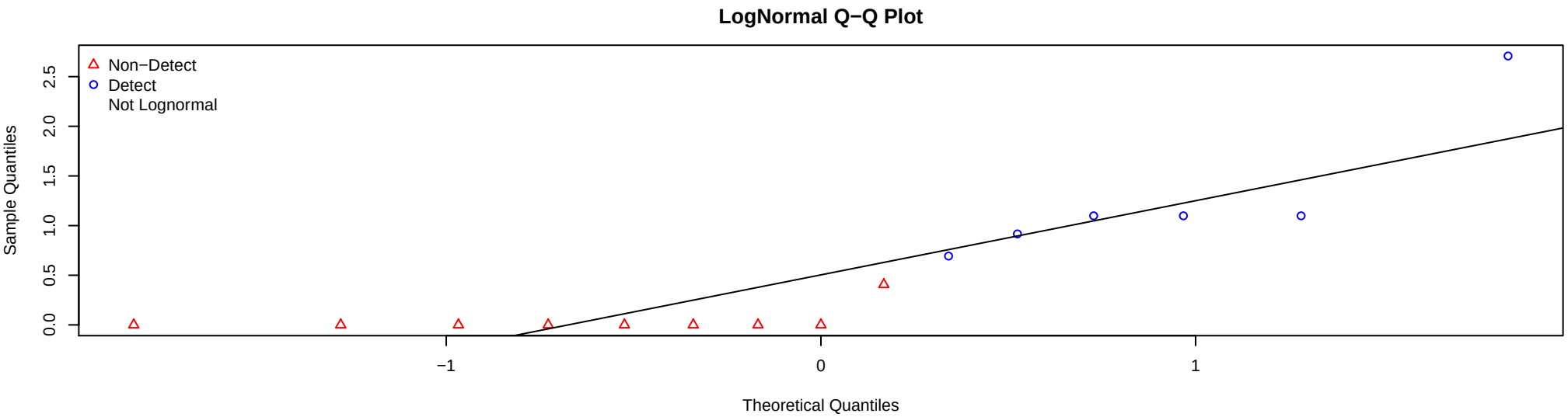




Transition
Surface Soil

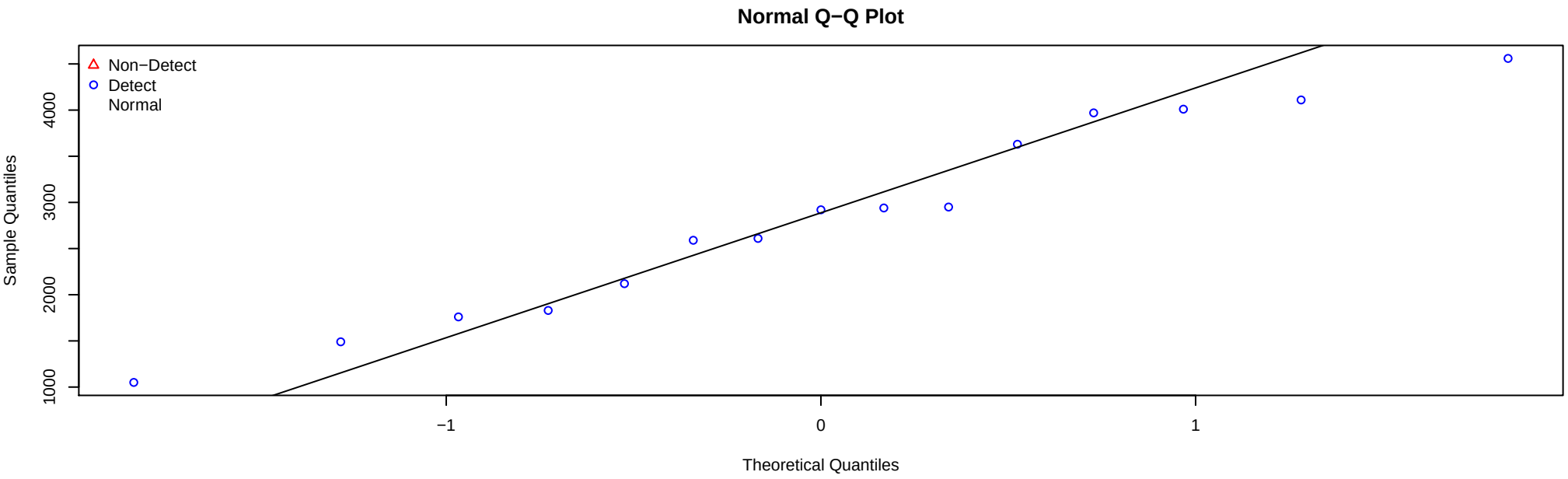
PHENANTHRENE

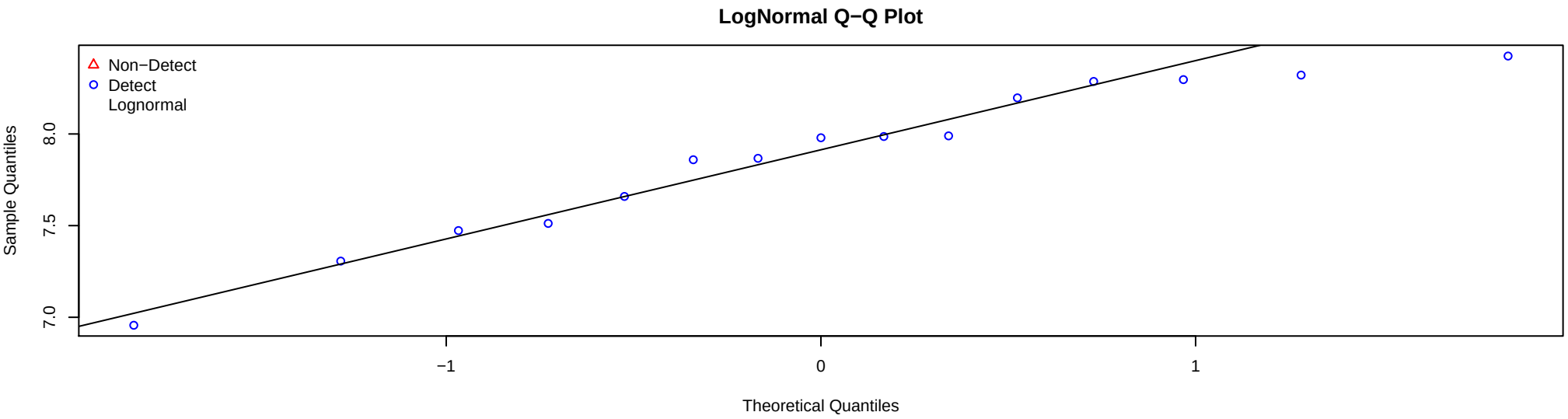




Transition
Surface Soil

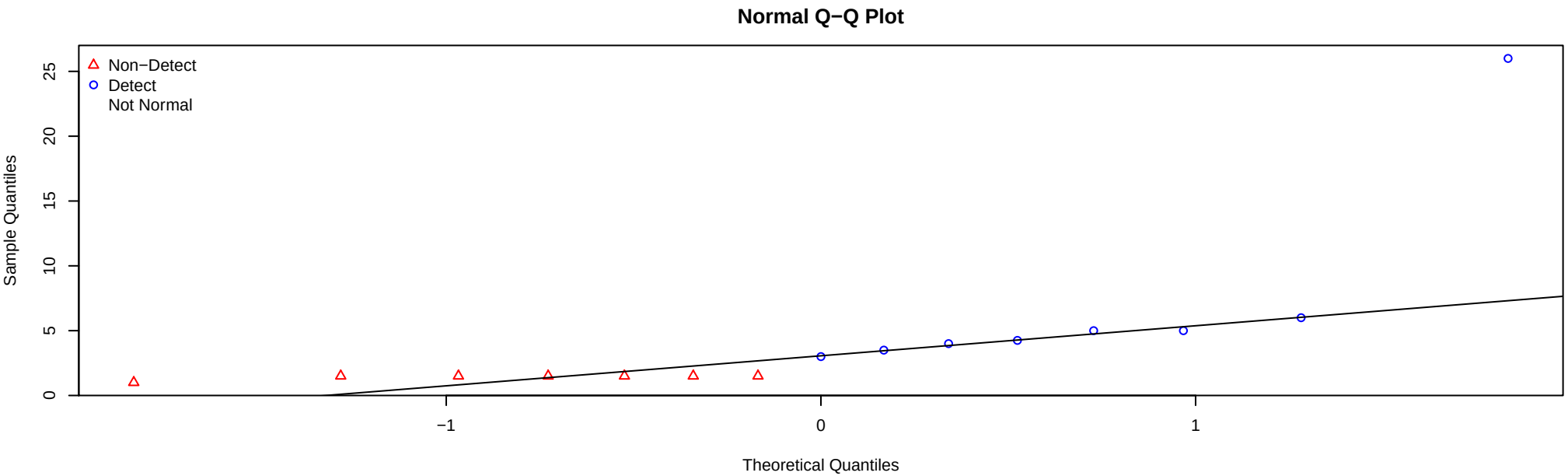
POTASSIUM

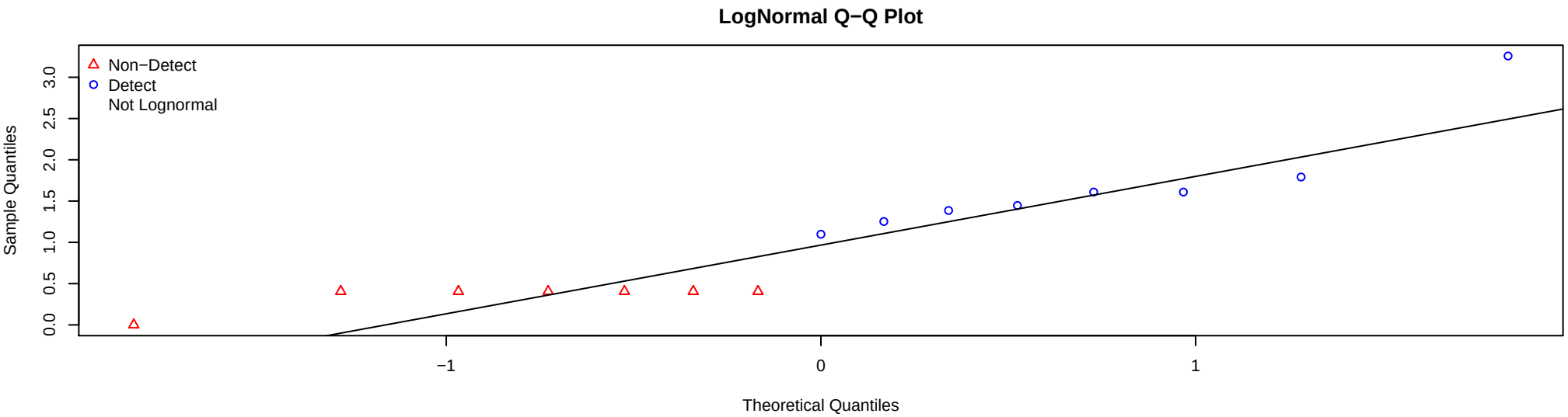




Transition
Surface Soil

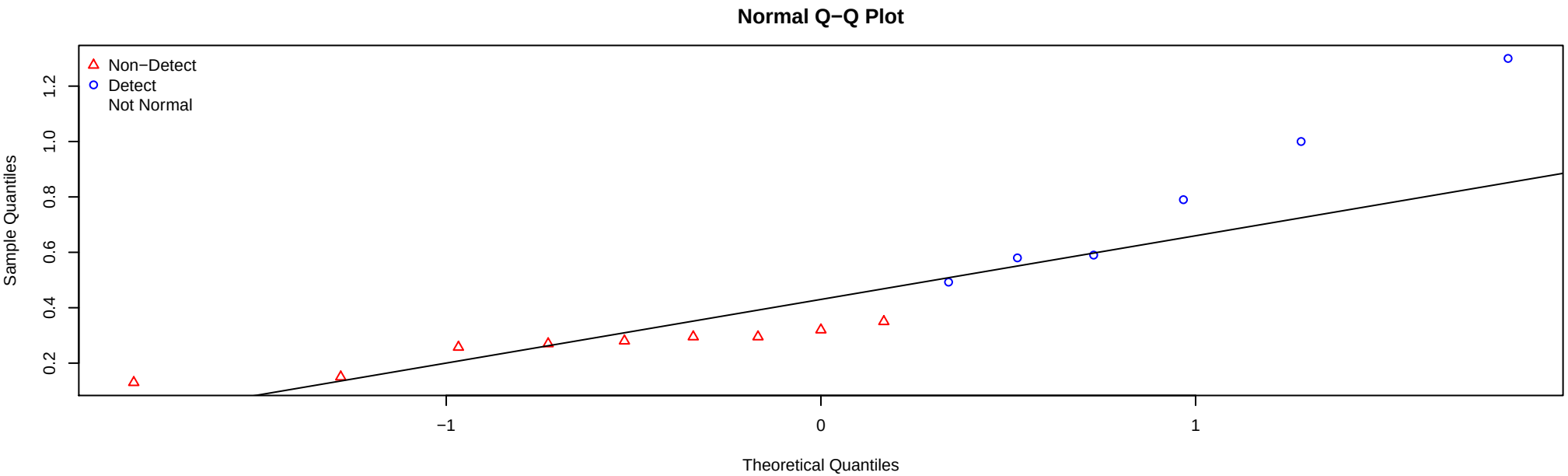
PYRENE

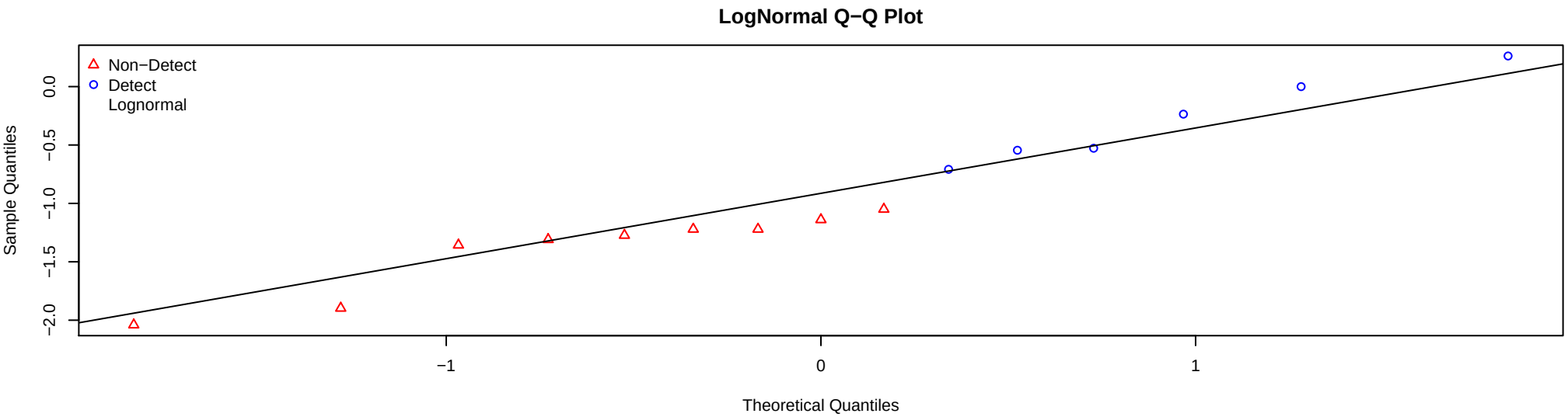




Transition
Surface Soil

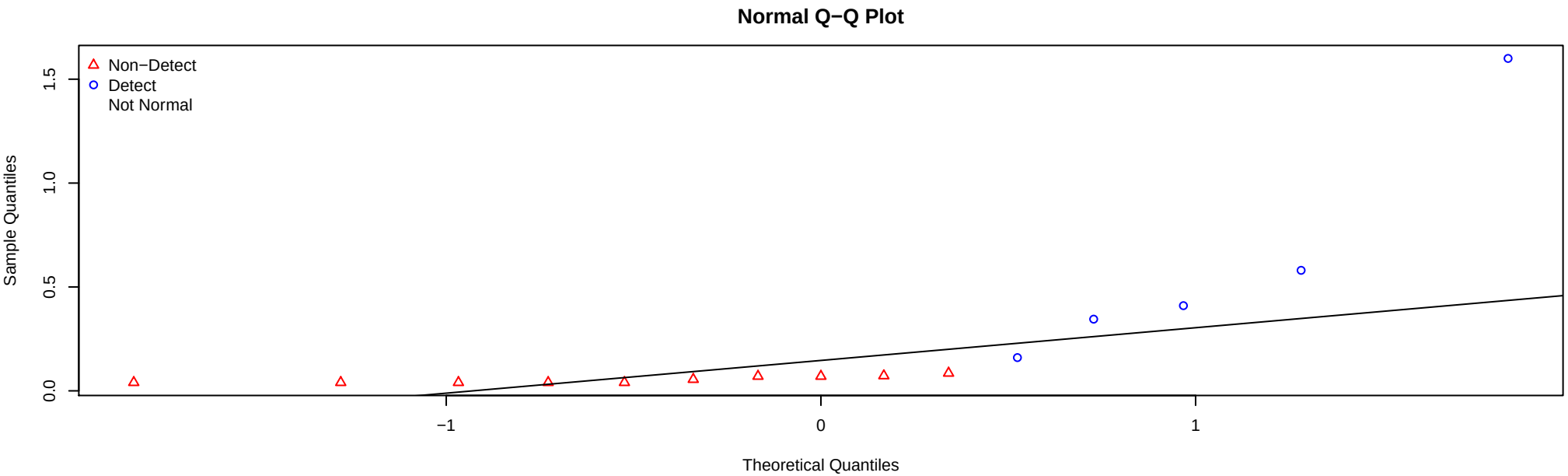
SELENIUM

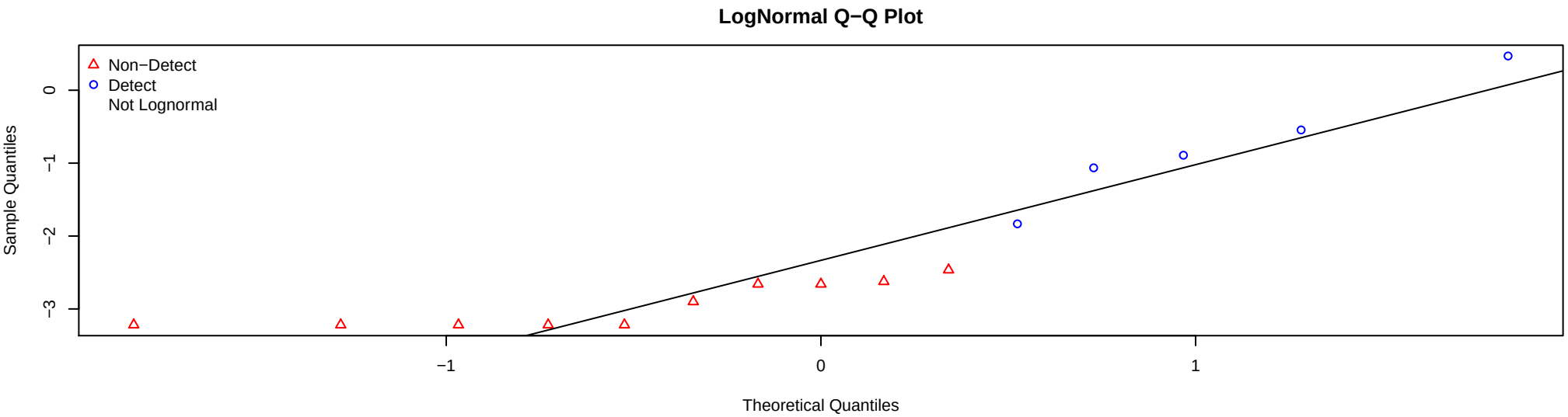




Transition
Surface Soil

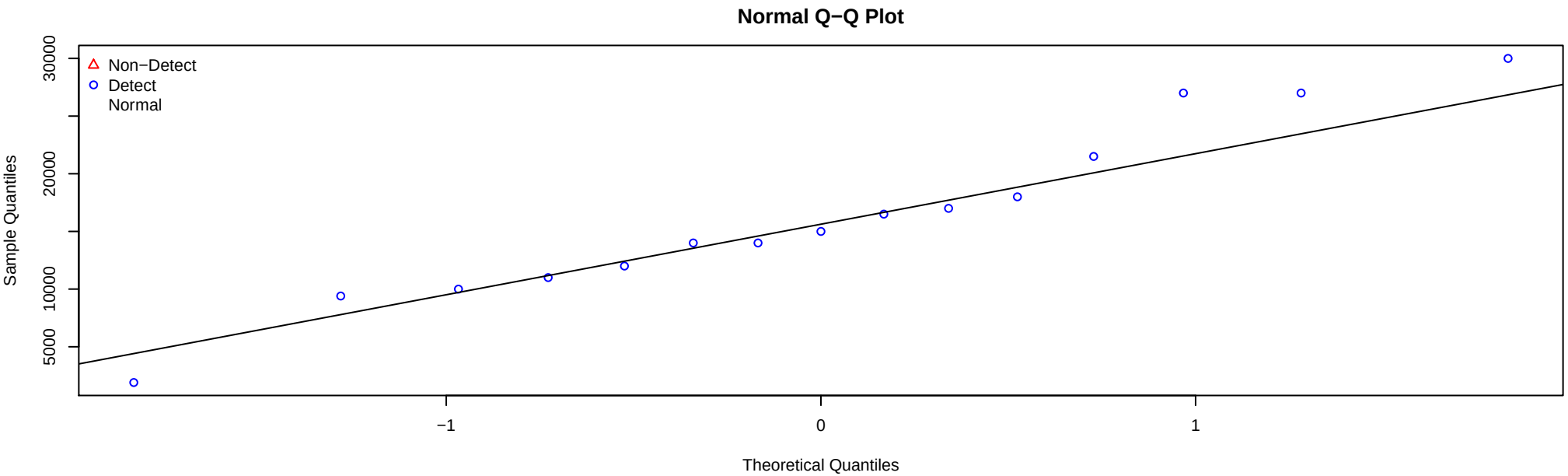
SILVER

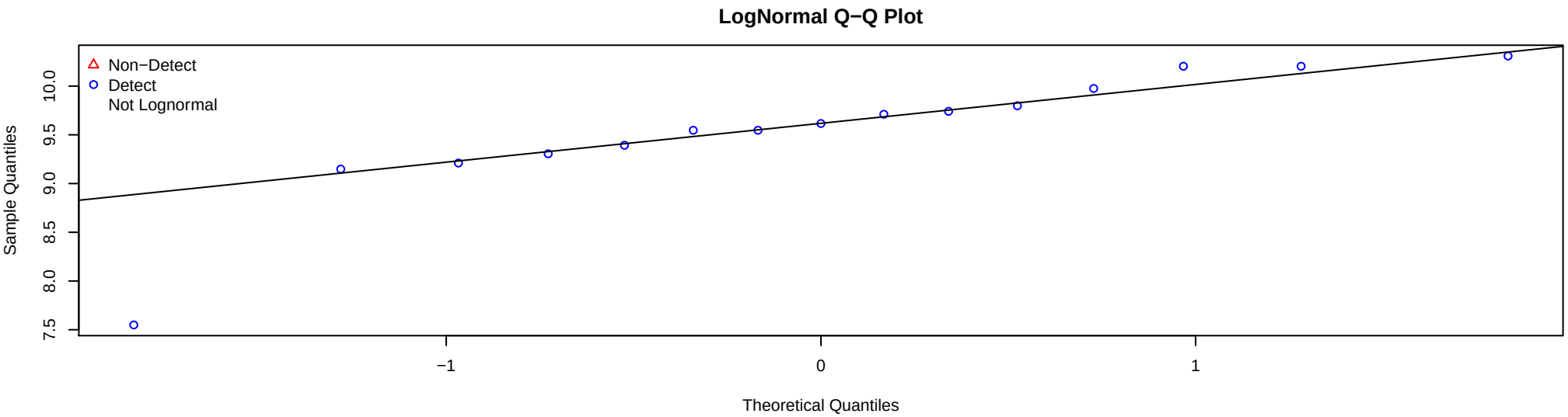




Transition
Surface Soil

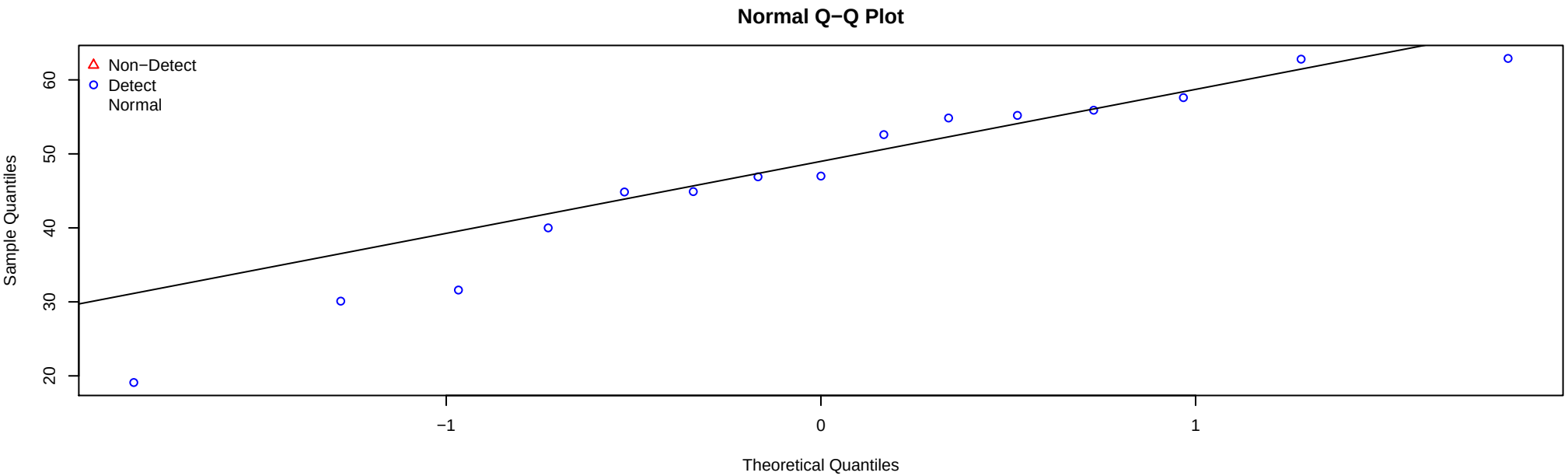
TOTAL ORGANIC CARBON

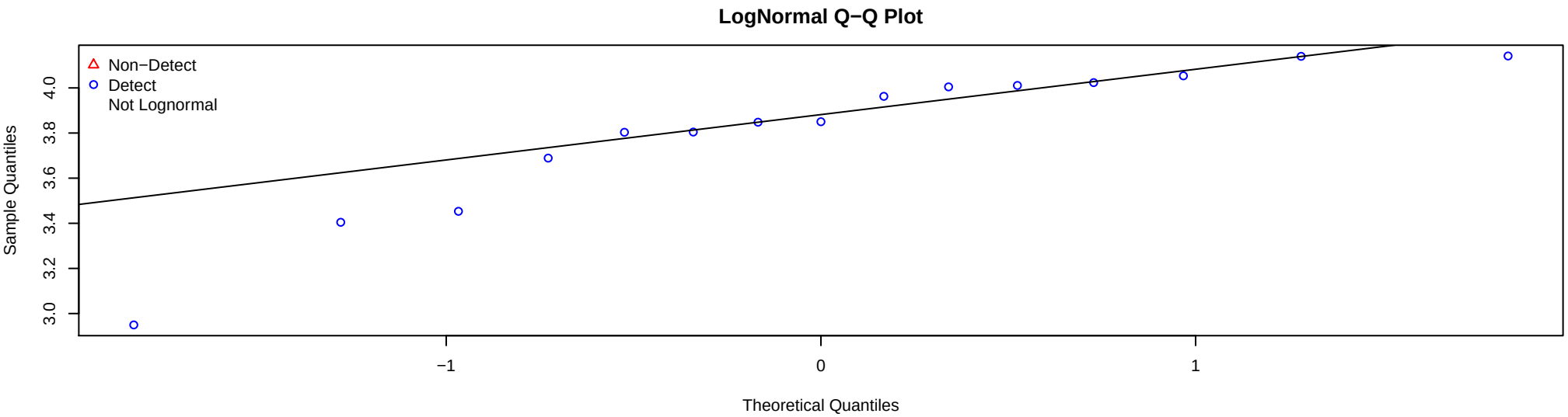




Transition
Surface Soil

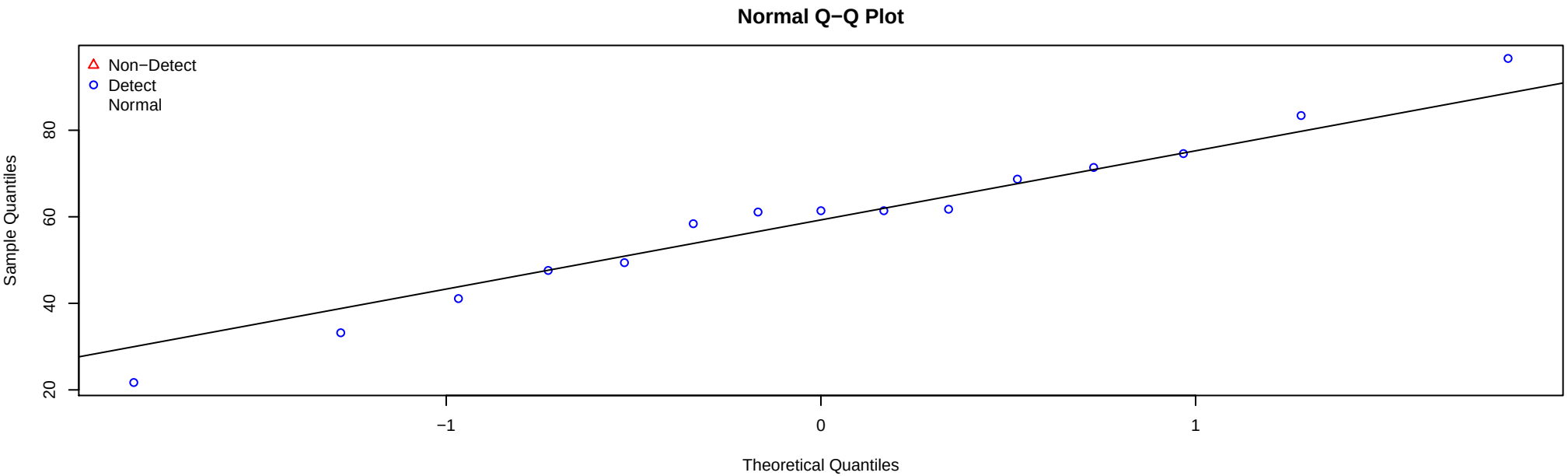
VANADIUM

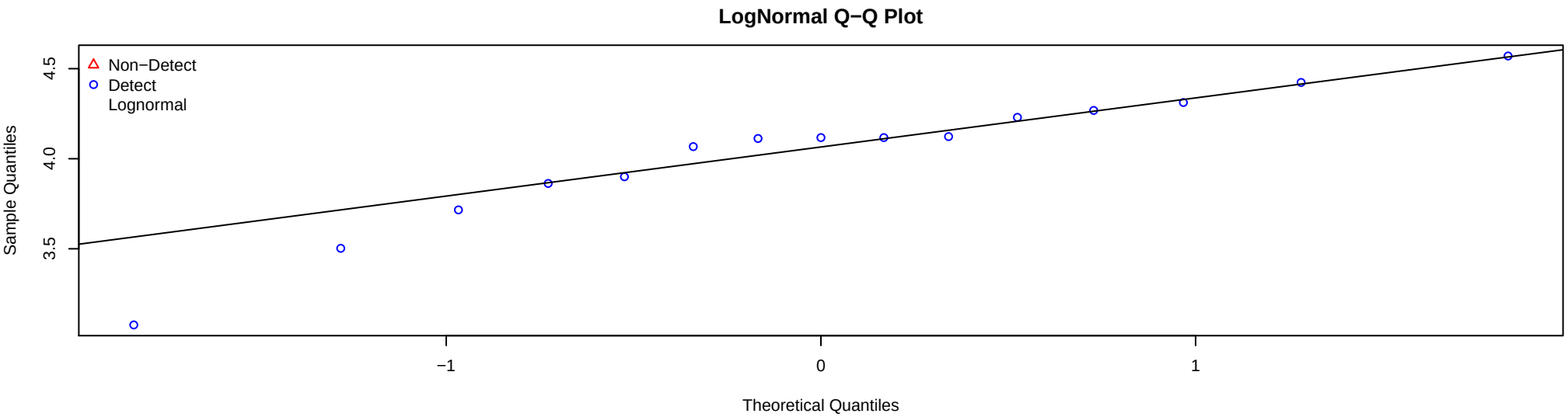




Transition
Surface Soil

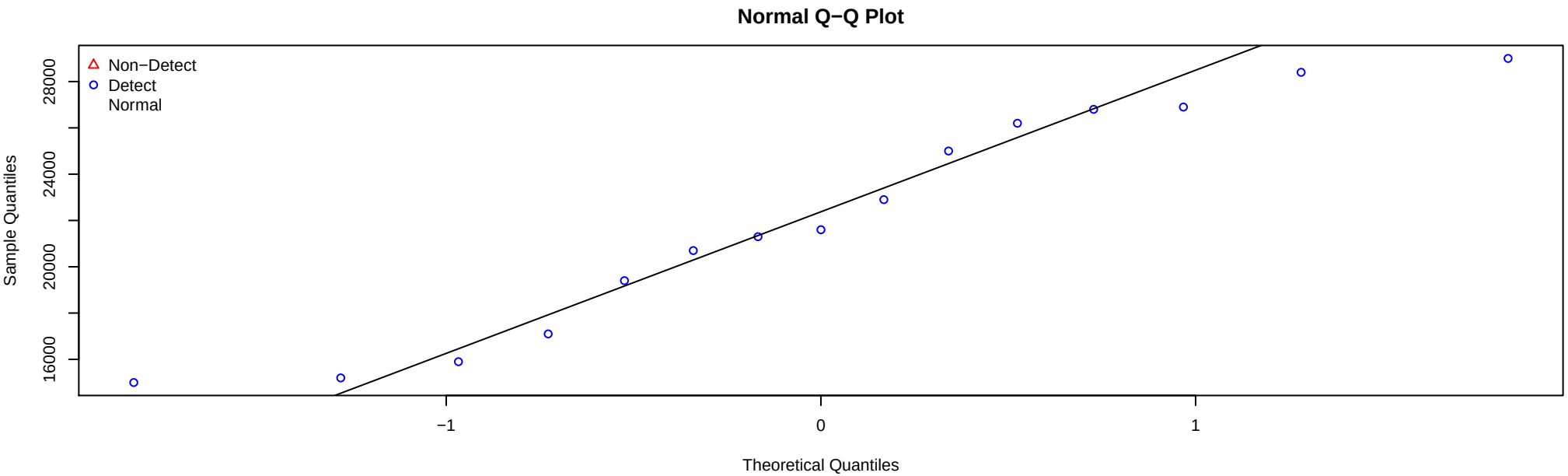
ZINC

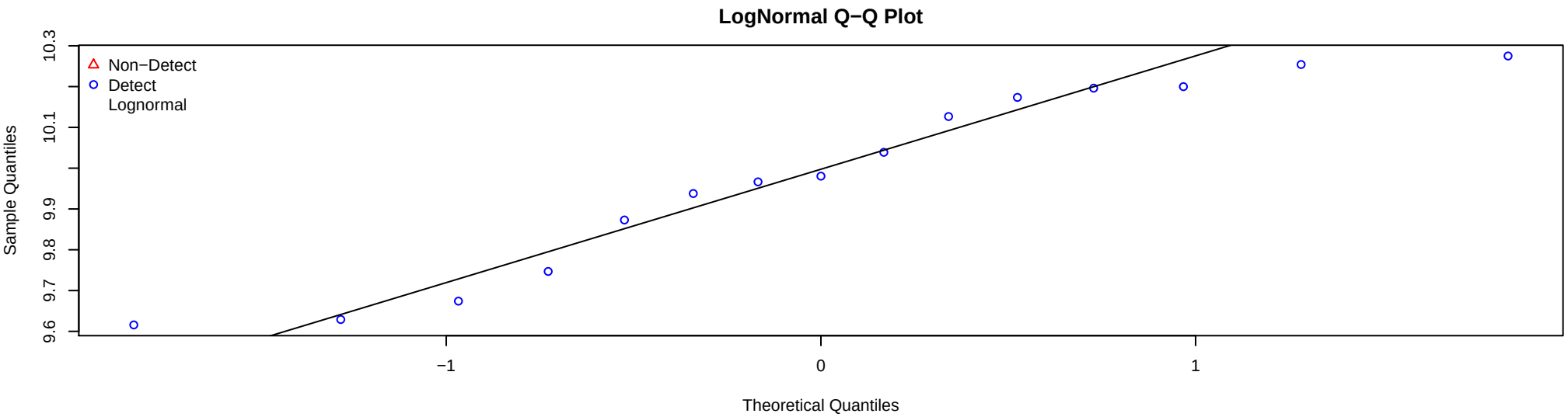




Transition
Subsurface Soil

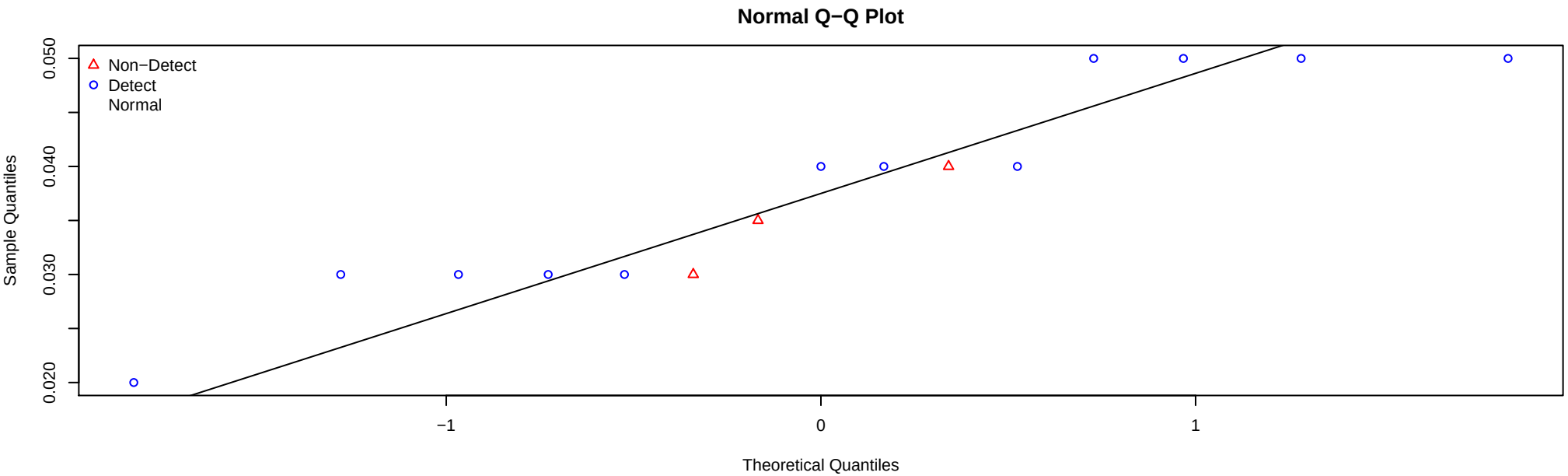
ALUMINUM

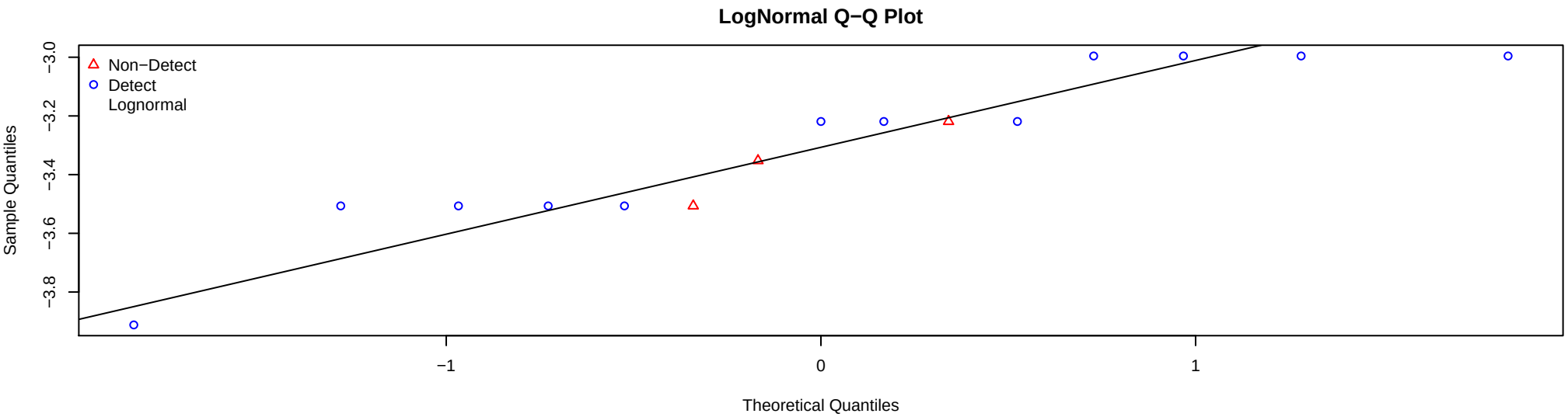




Transition
Subsurface Soil

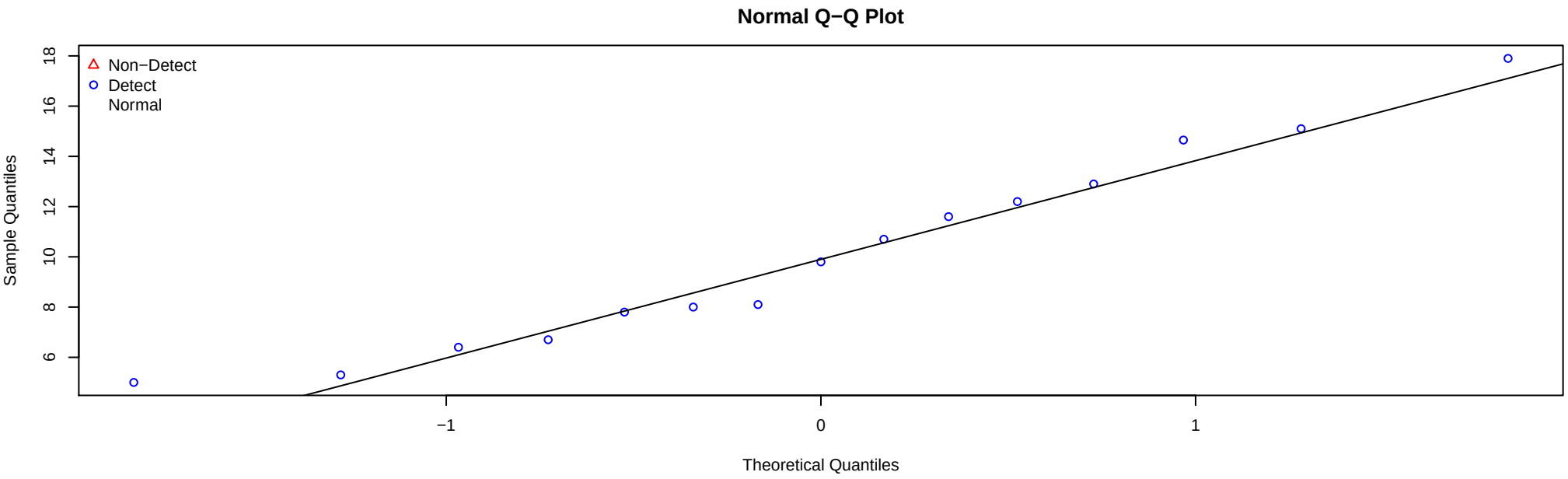
ANTIMONY

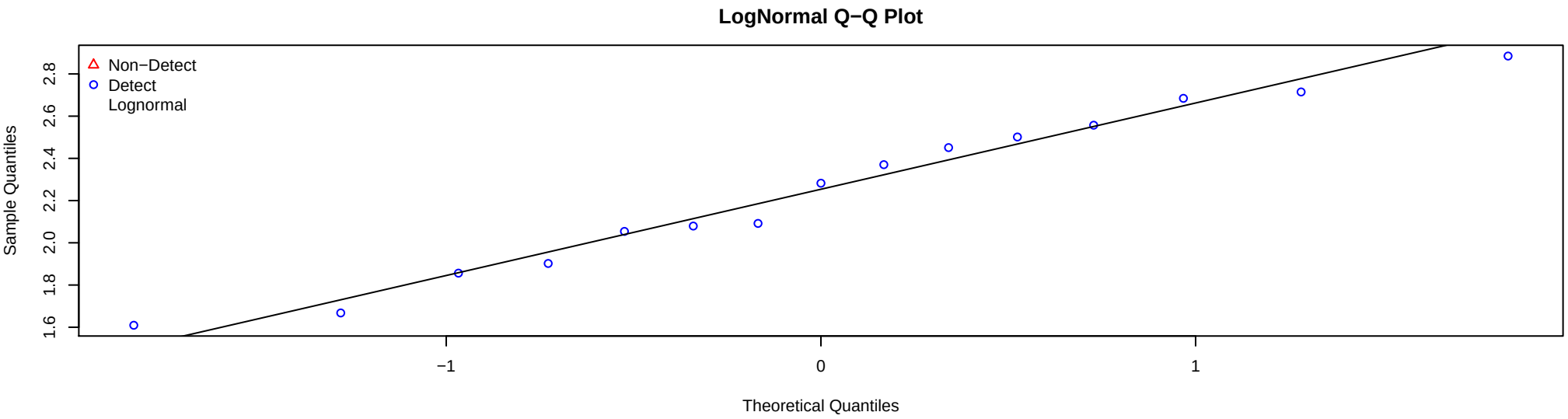




Transition
Subsurface Soil

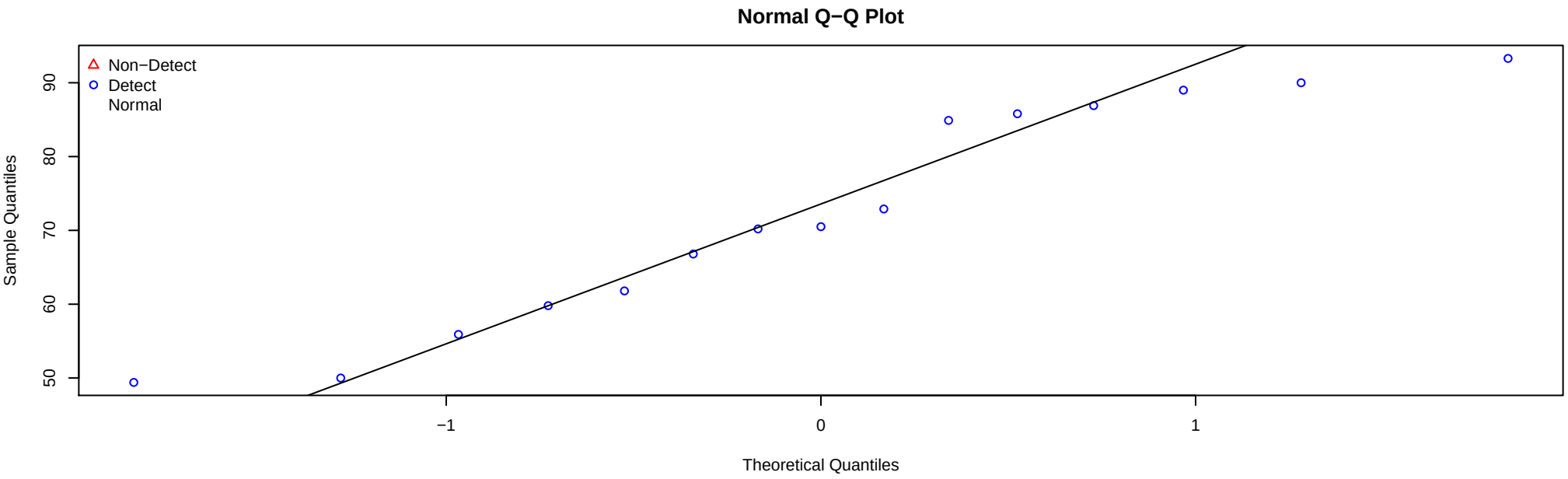
ARSENIC

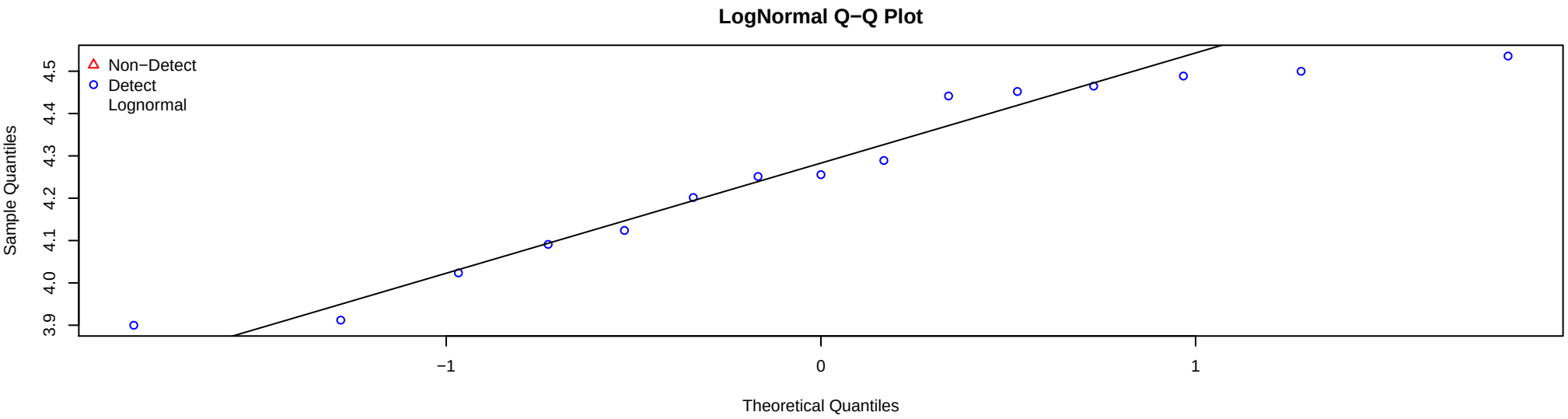




Transition
Subsurface Soil

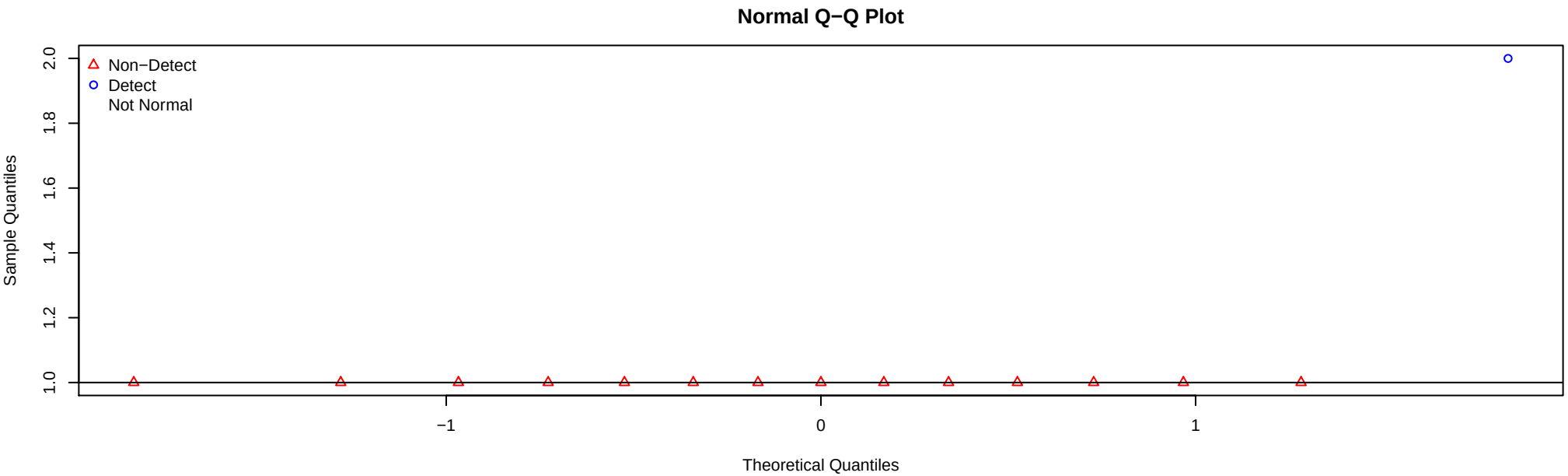
BARIUM

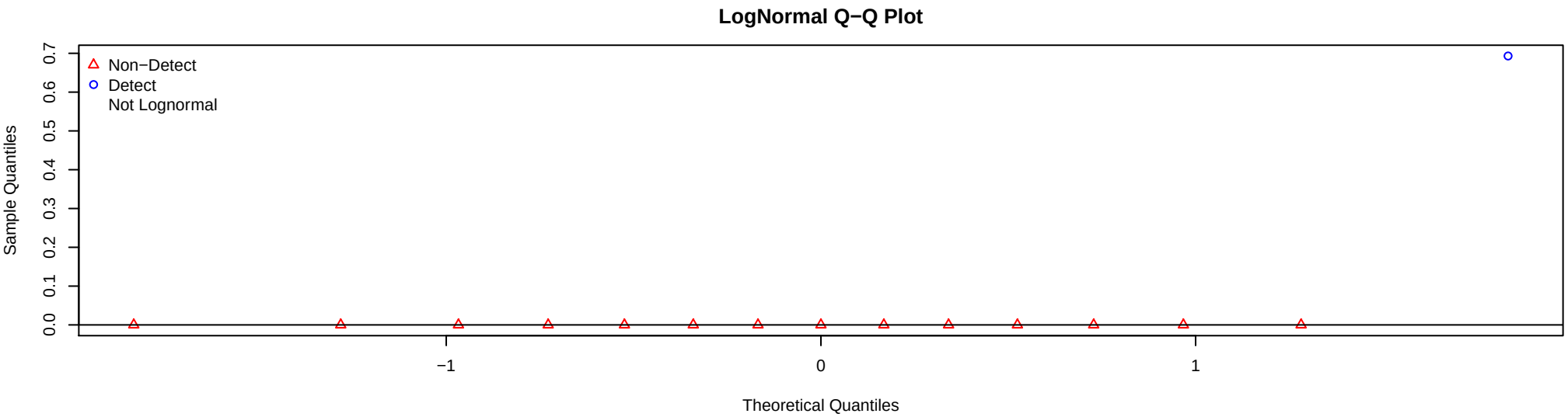




Transition
Subsurface Soil

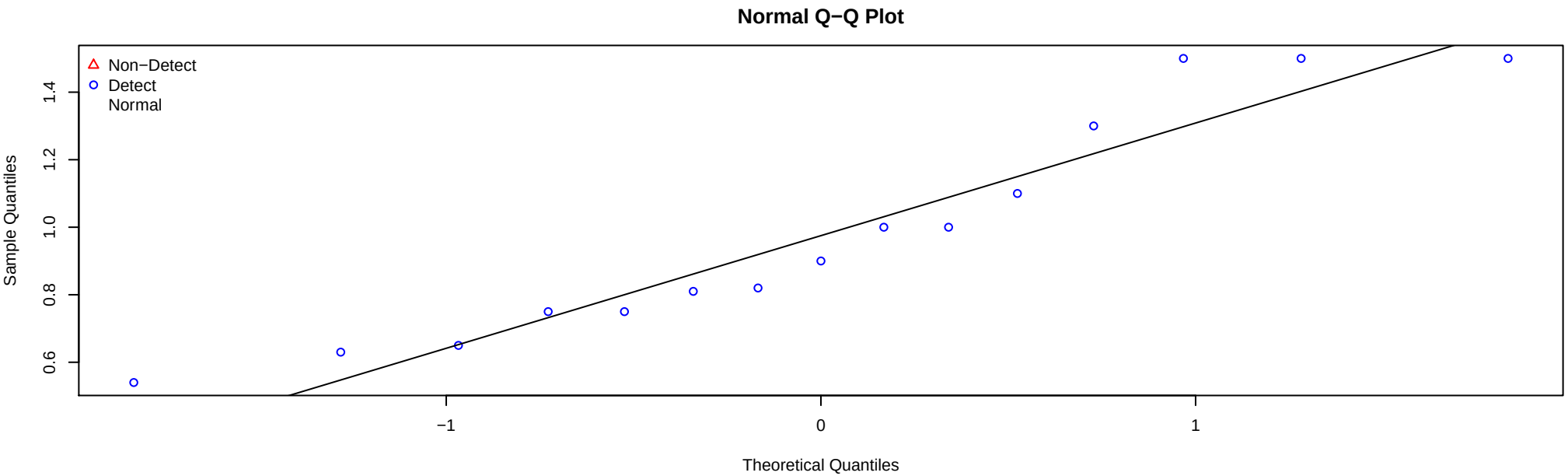
BENZO(A)ANTHRACENE

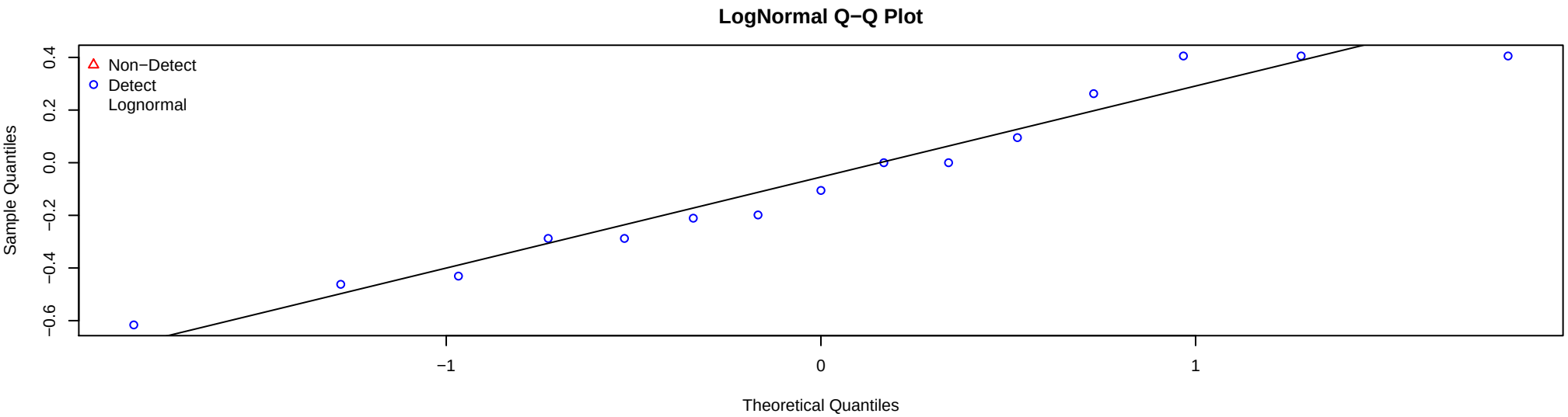




Transition
Subsurface Soil

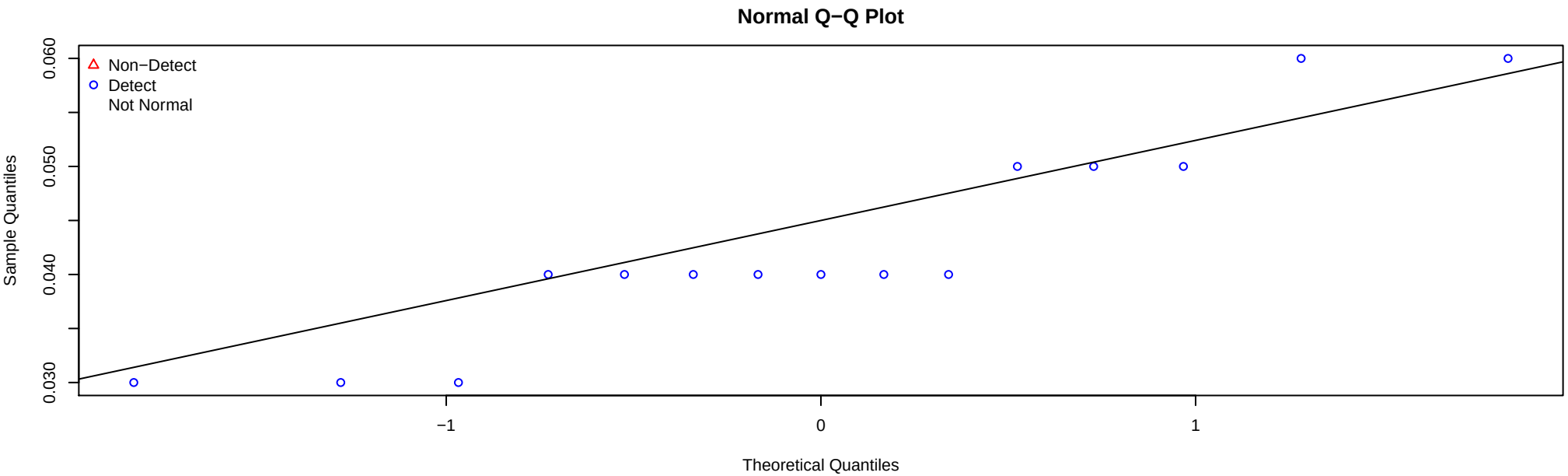
BERYLLIUM

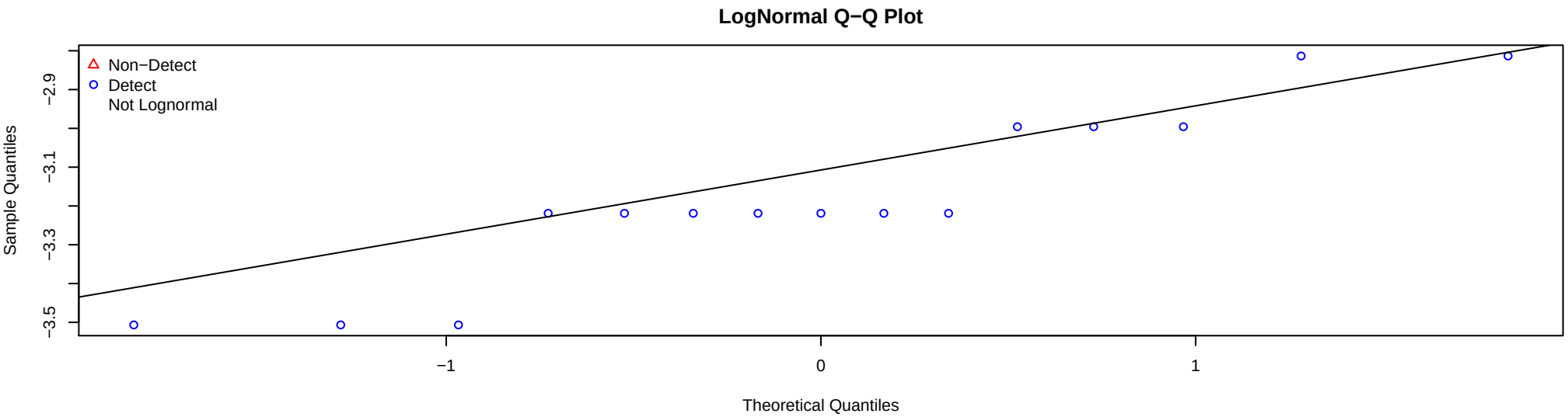




Transition
Subsurface Soil

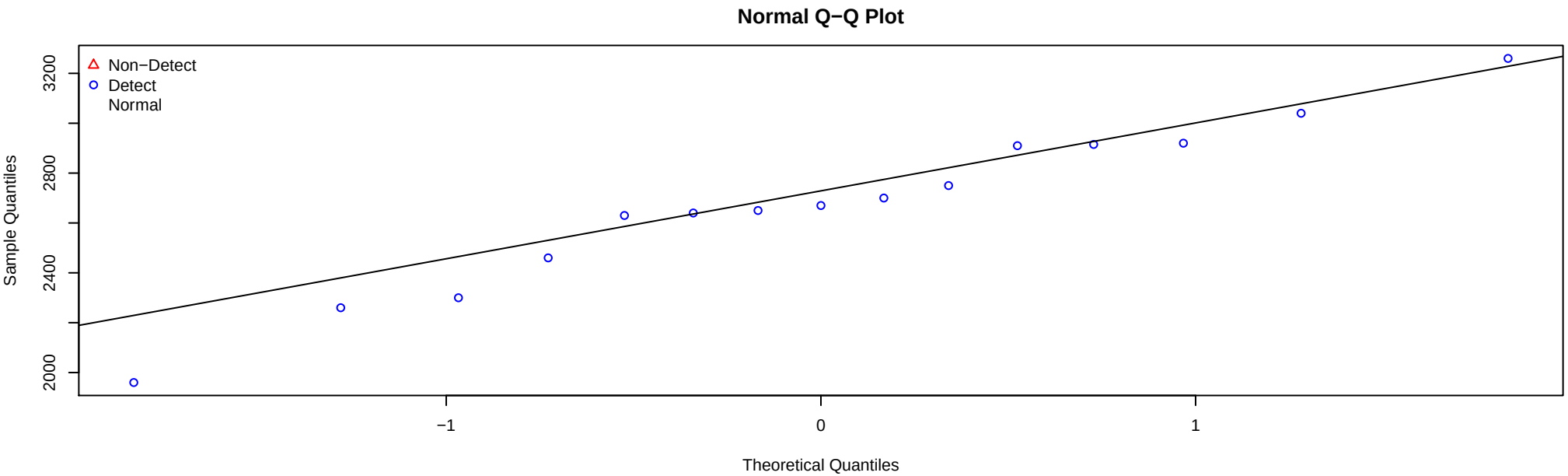
CADMIUM

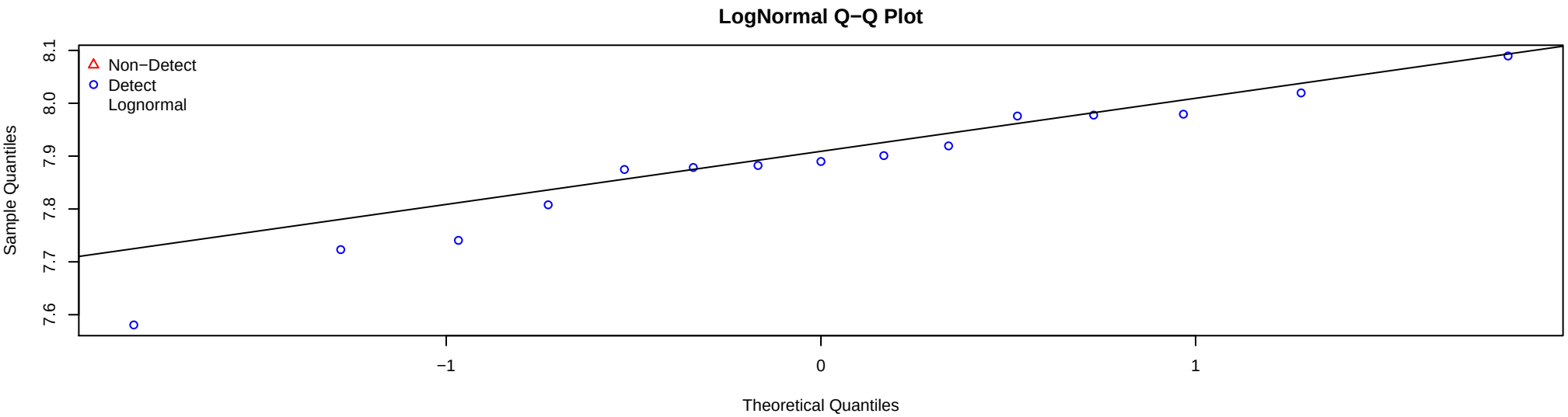




Transition
Subsurface Soil

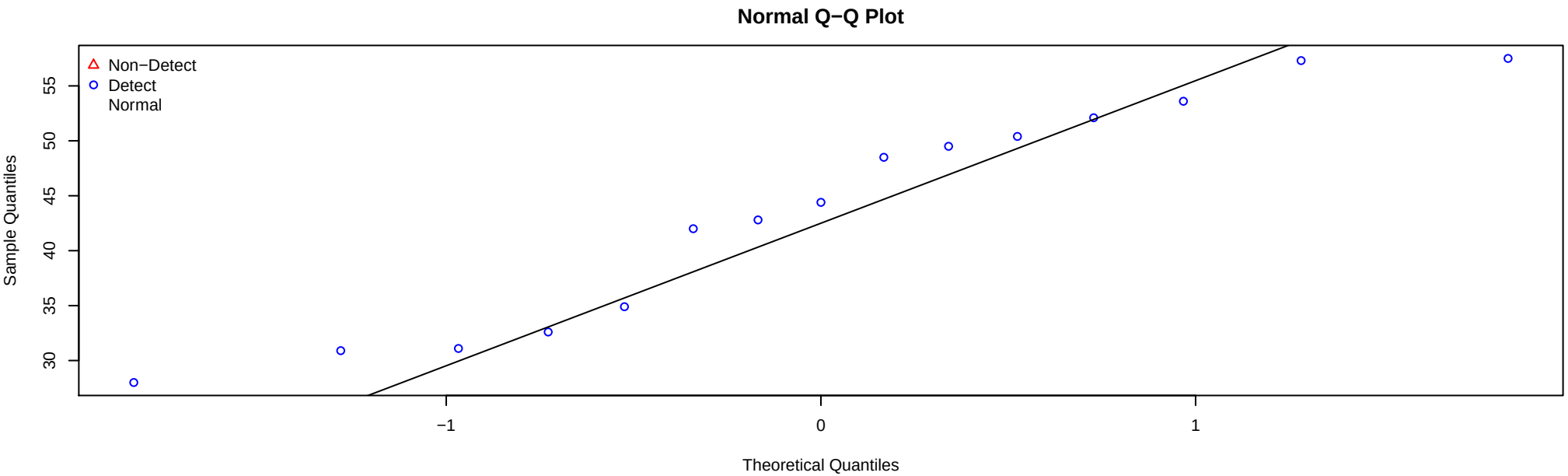
CALCIUM

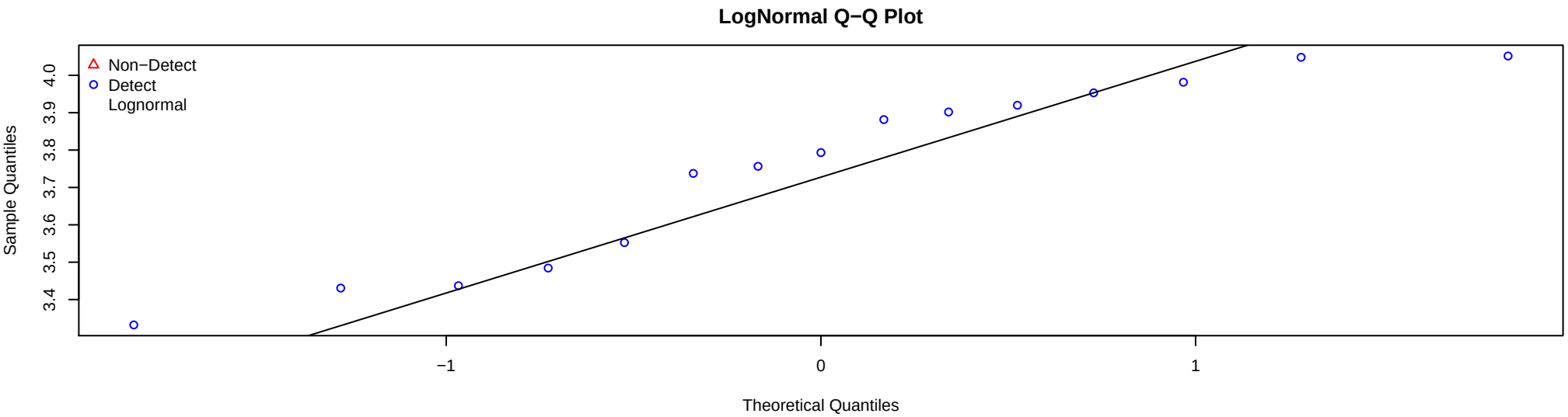




Transition
Subsurface Soil

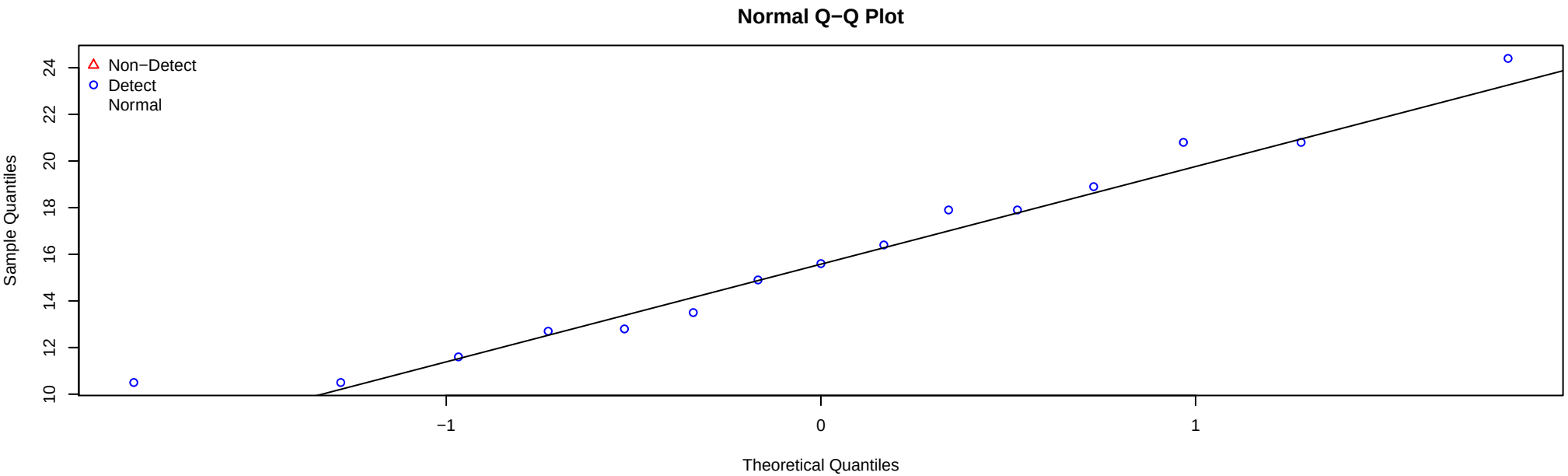
CHROMIUM

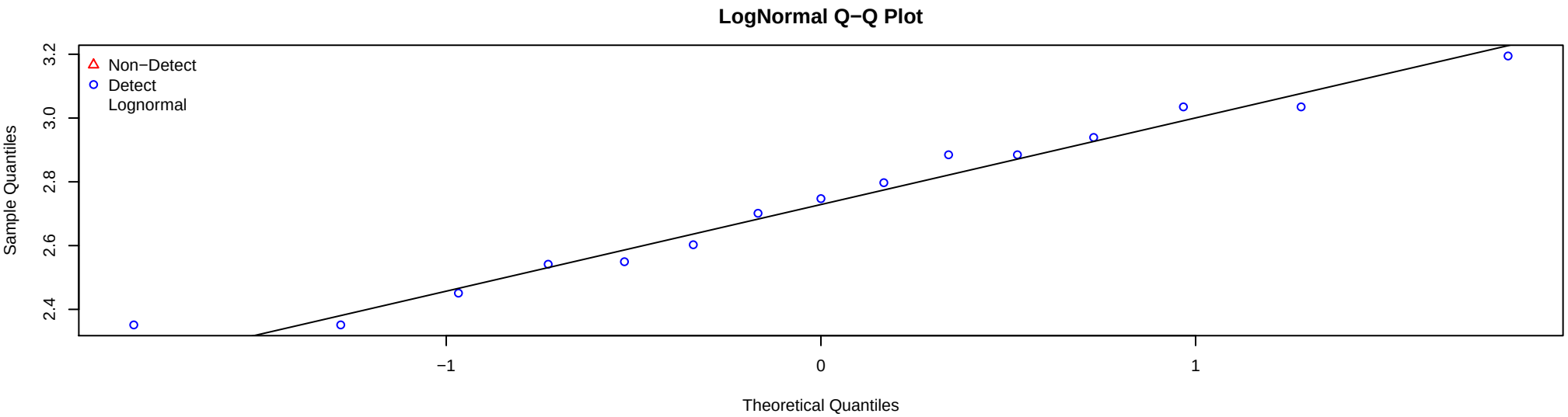




Transition
Subsurface Soil

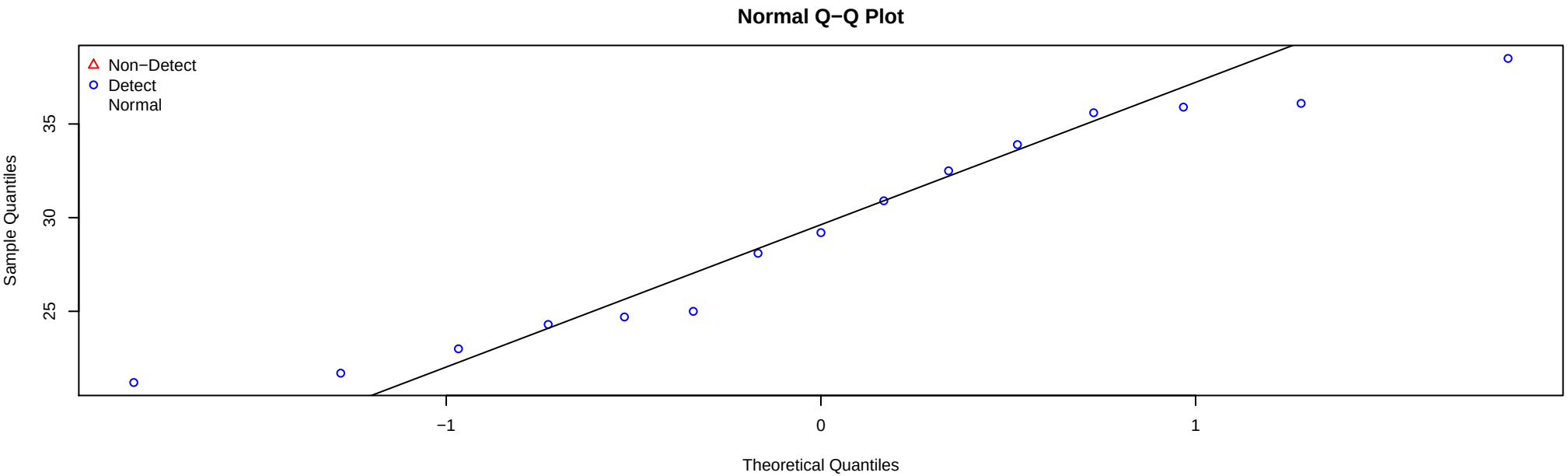
COBALT

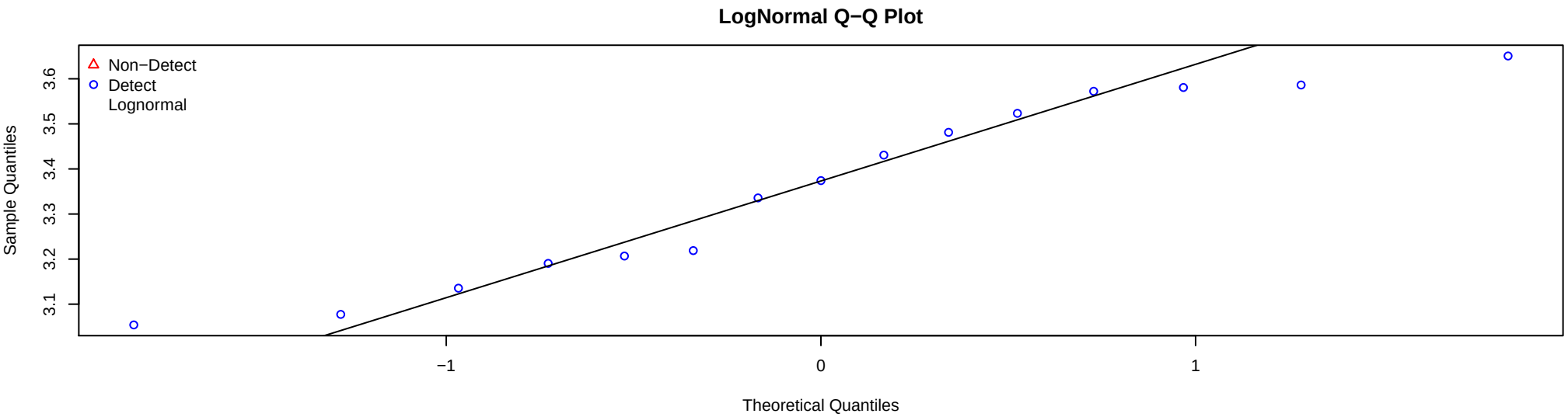




Transition
Subsurface Soil

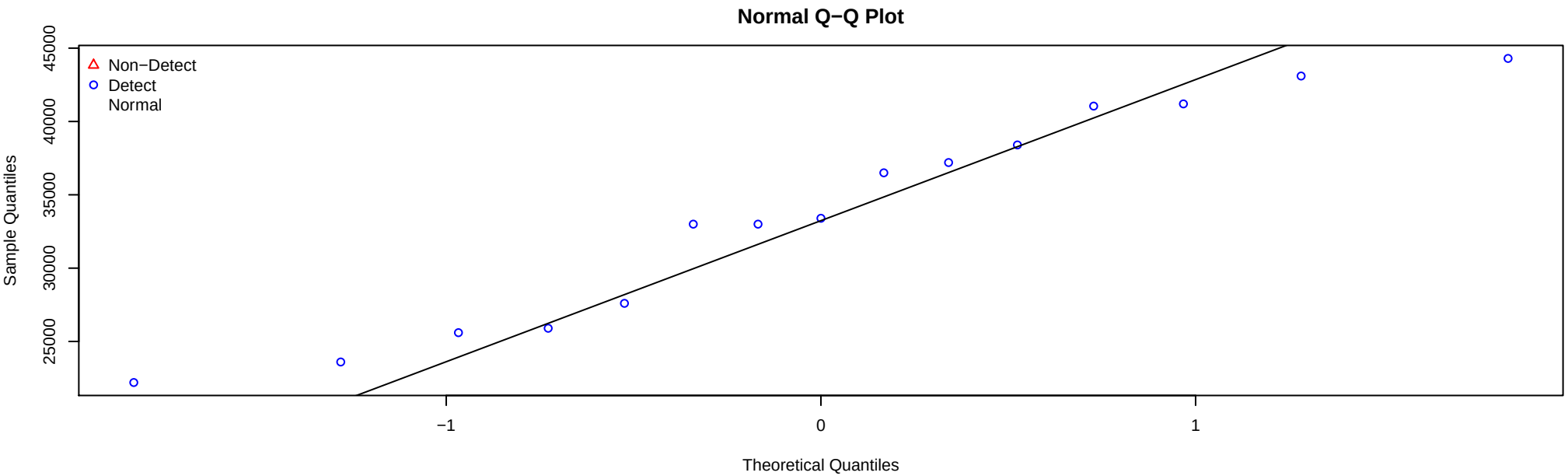
COPPER

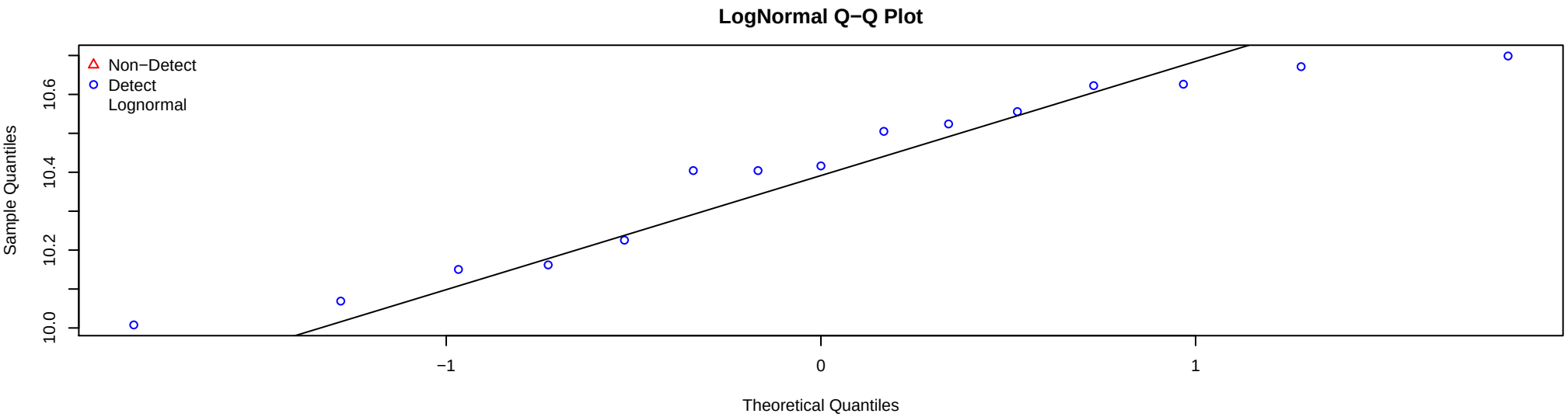




Transition
Subsurface Soil

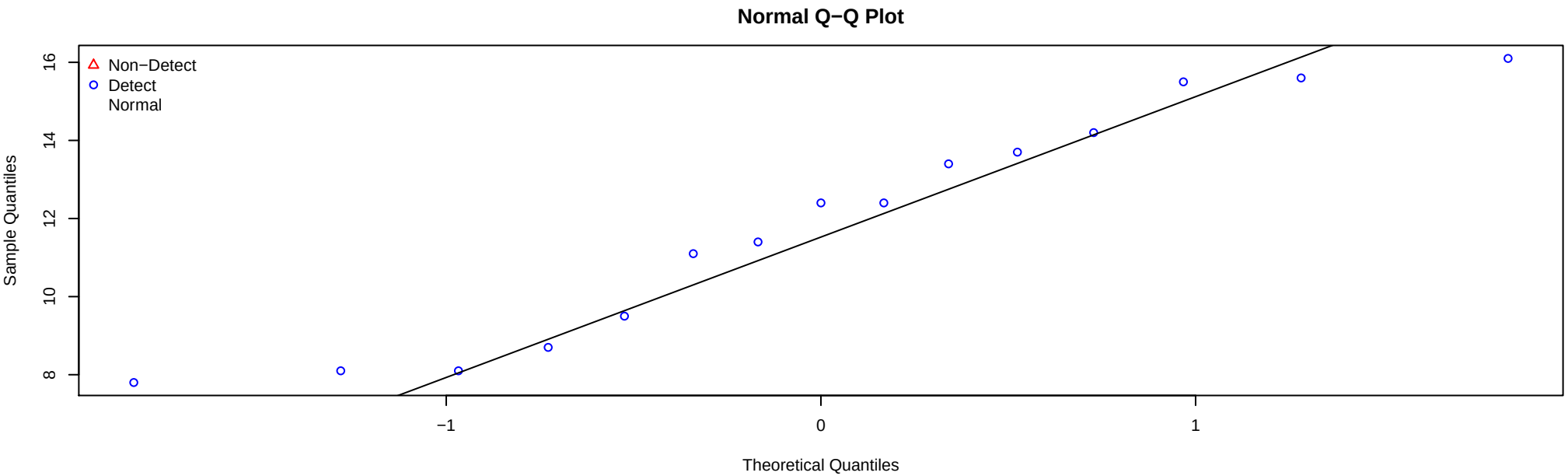
IRON

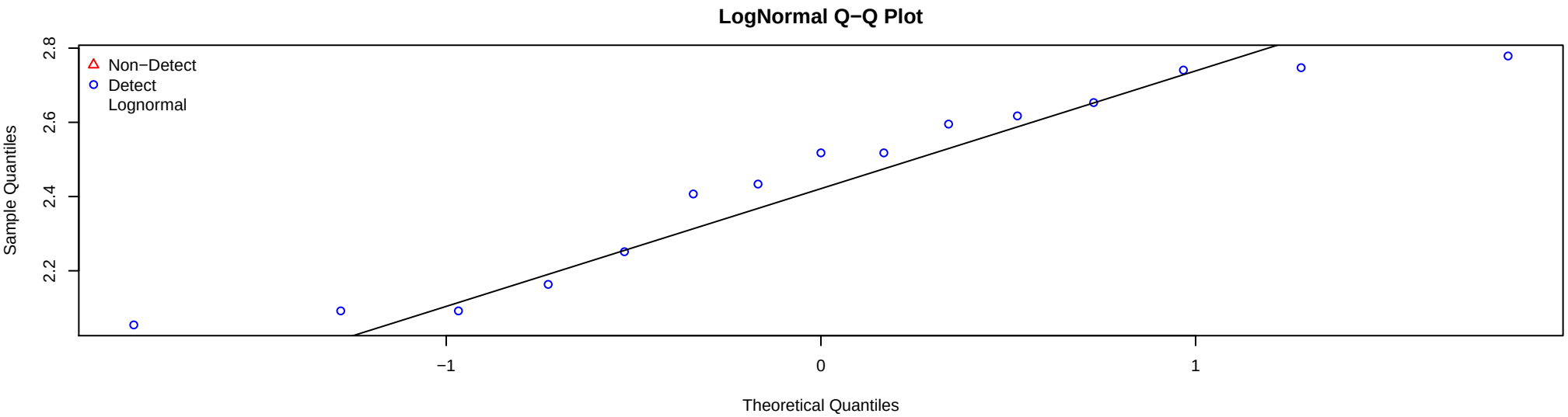




Transition
Subsurface Soil

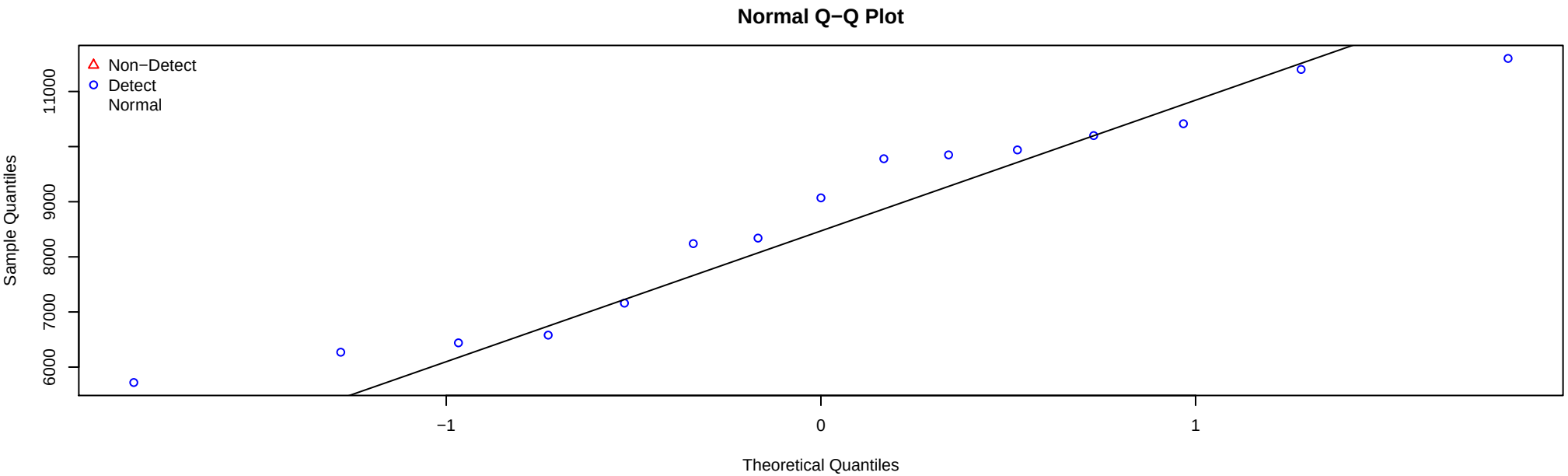
LEAD

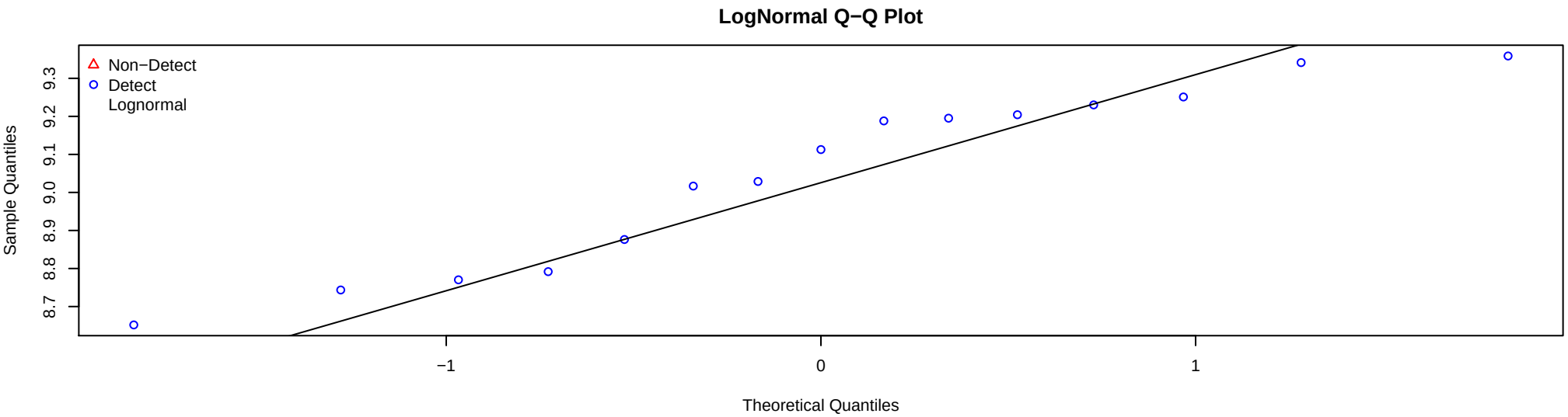




Transition
Subsurface Soil

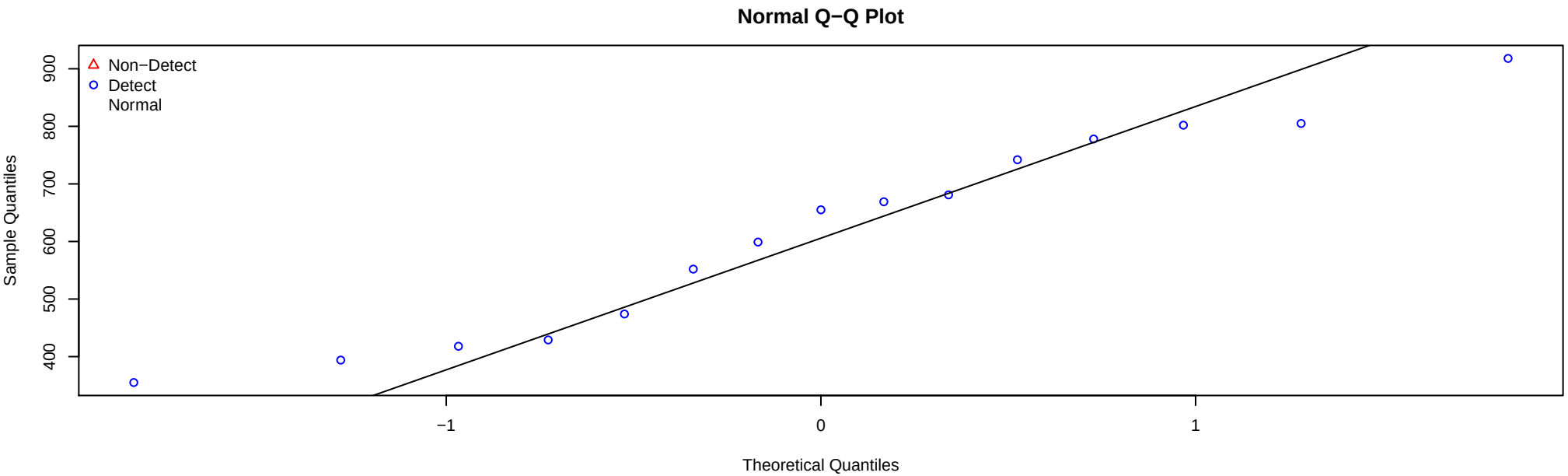
MAGNESIUM

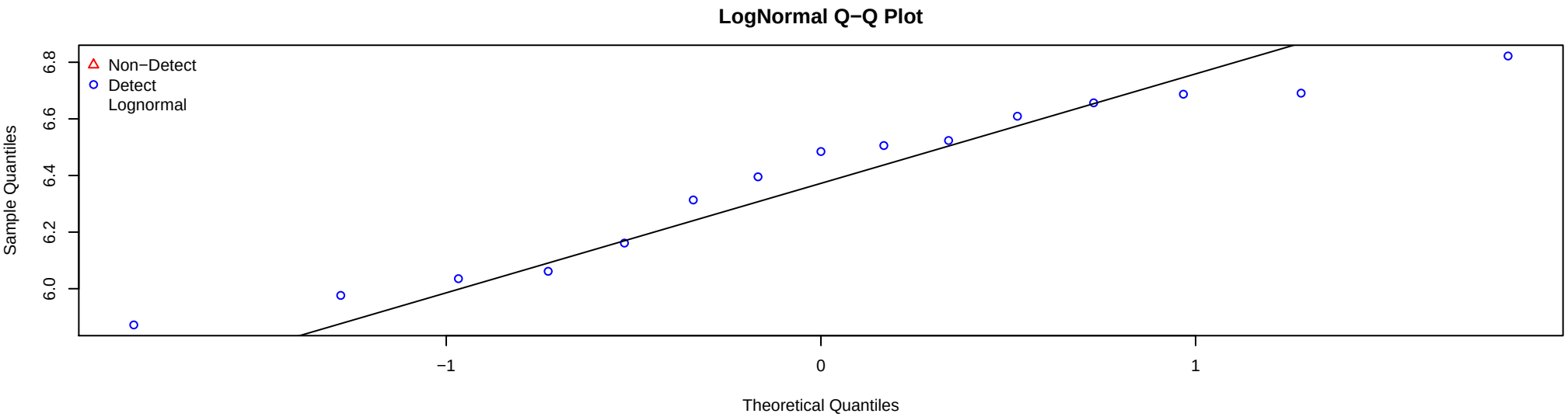




Transition
Subsurface Soil

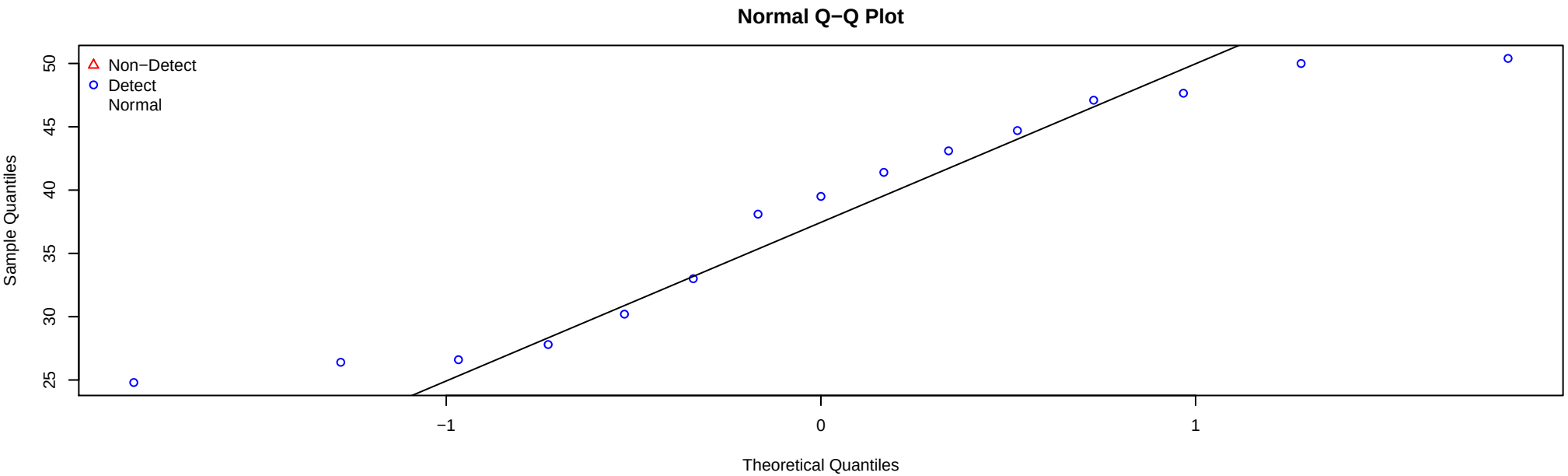
MANGANESE

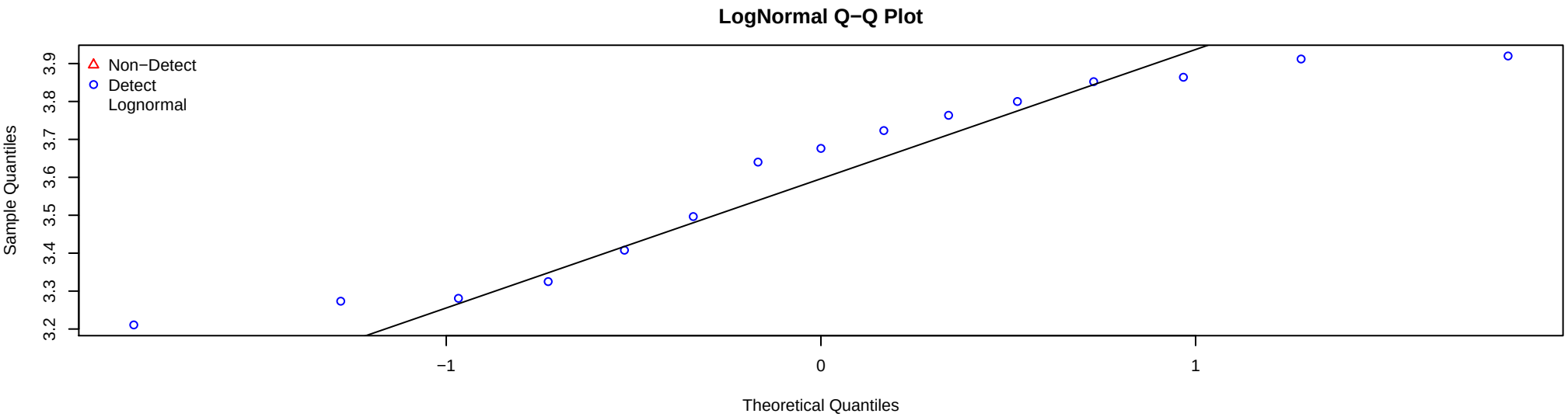




Transition
Subsurface Soil

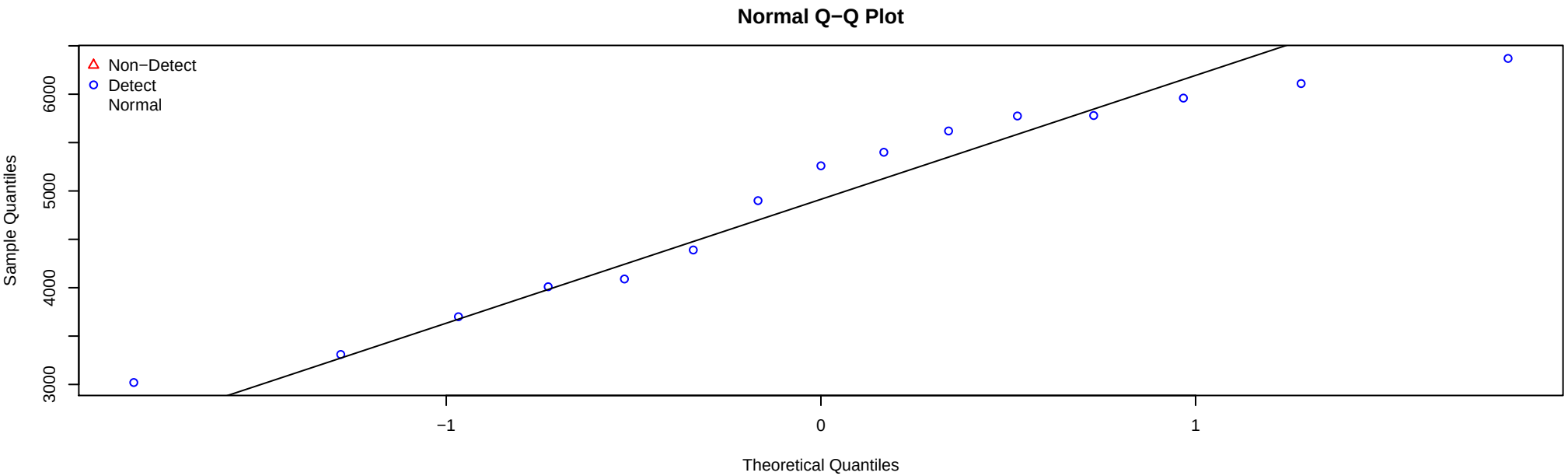
NICKEL

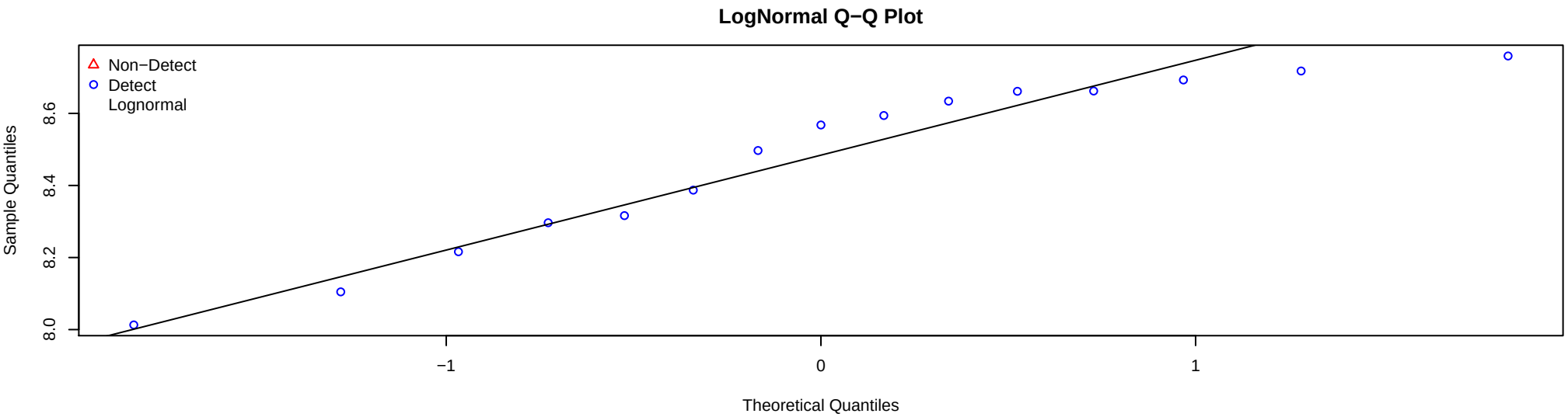




Transition
Subsurface Soil

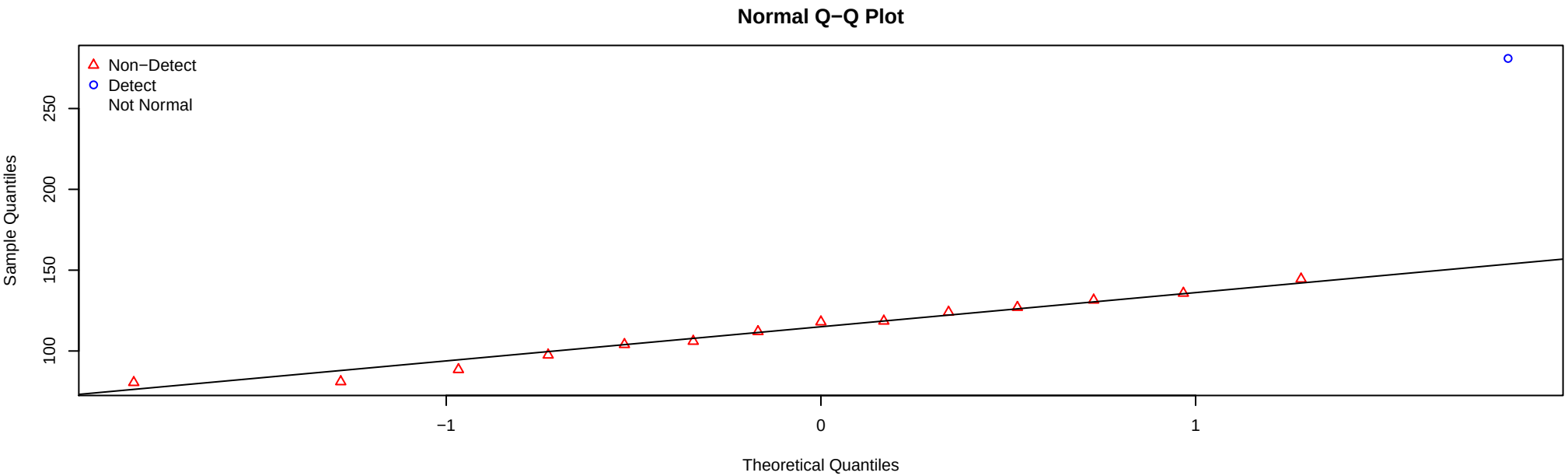
POTASSIUM

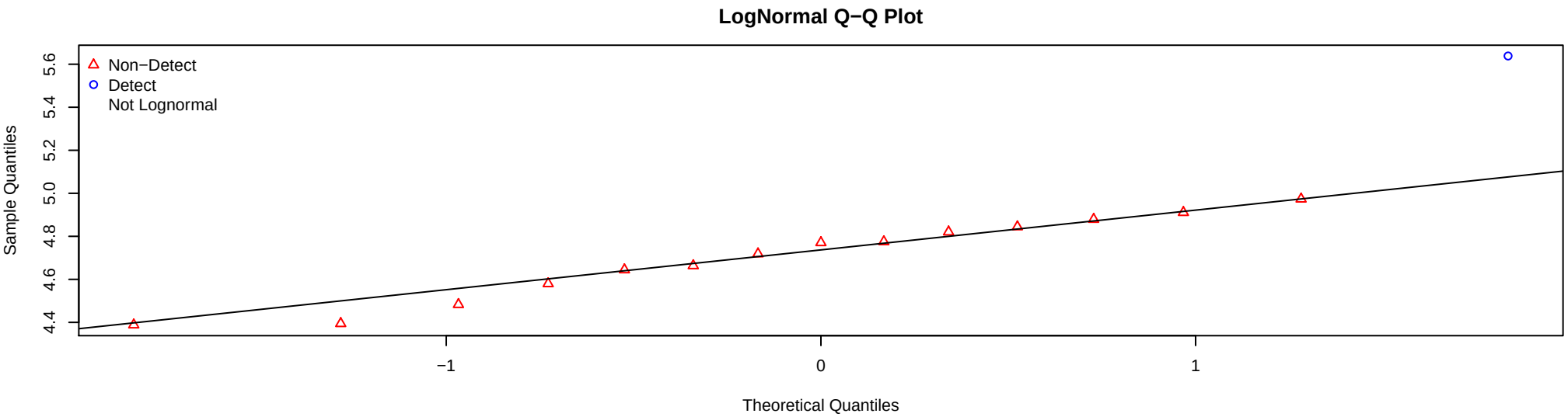




Transition
Subsurface Soil

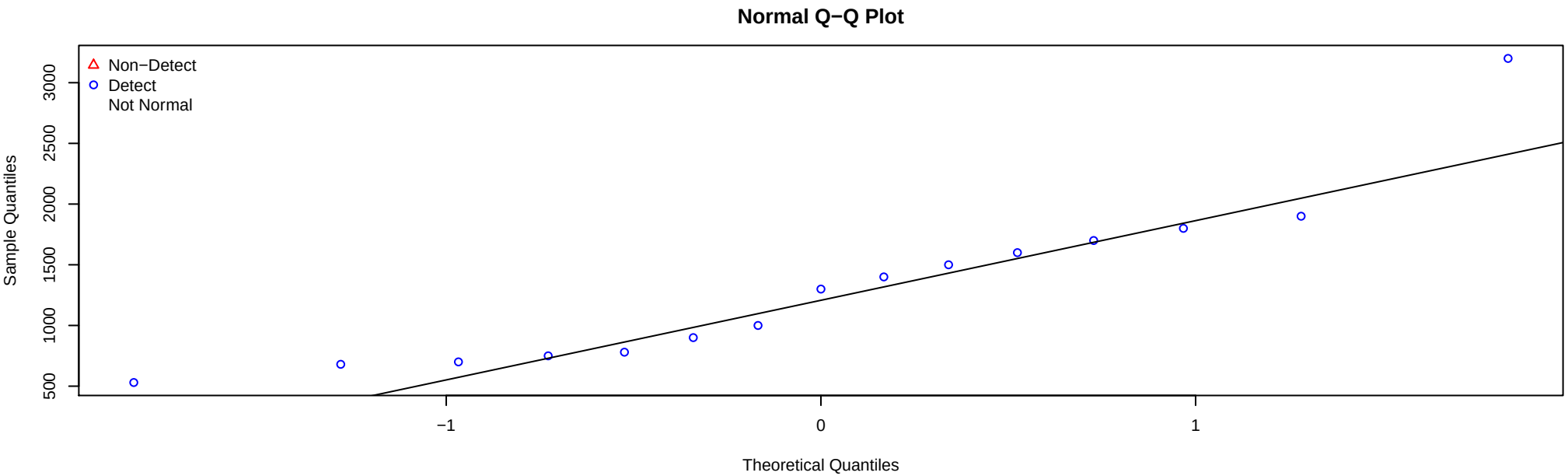
SODIUM

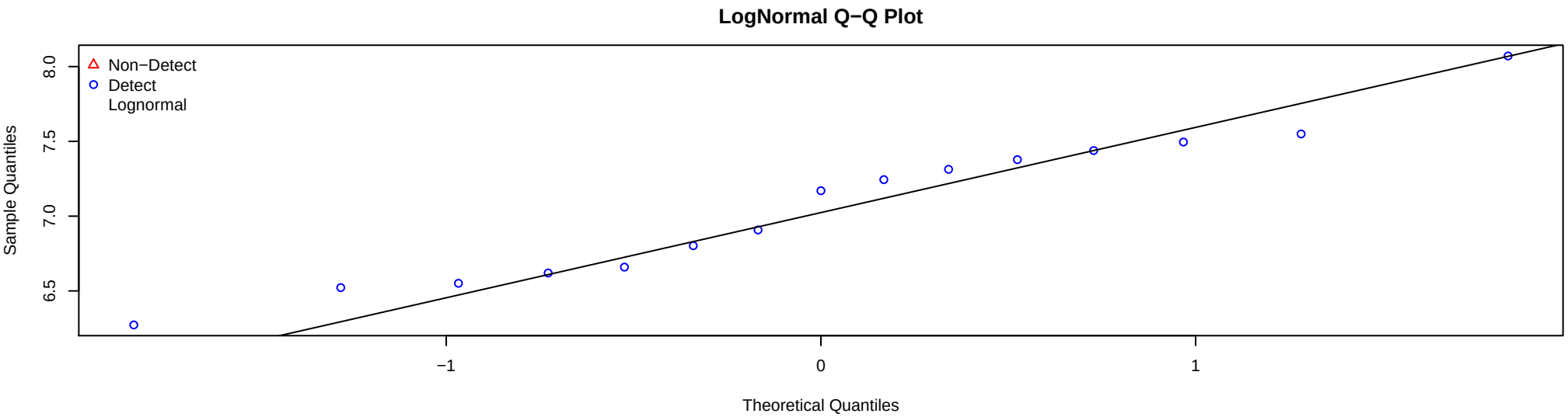




Transition
Subsurface Soil

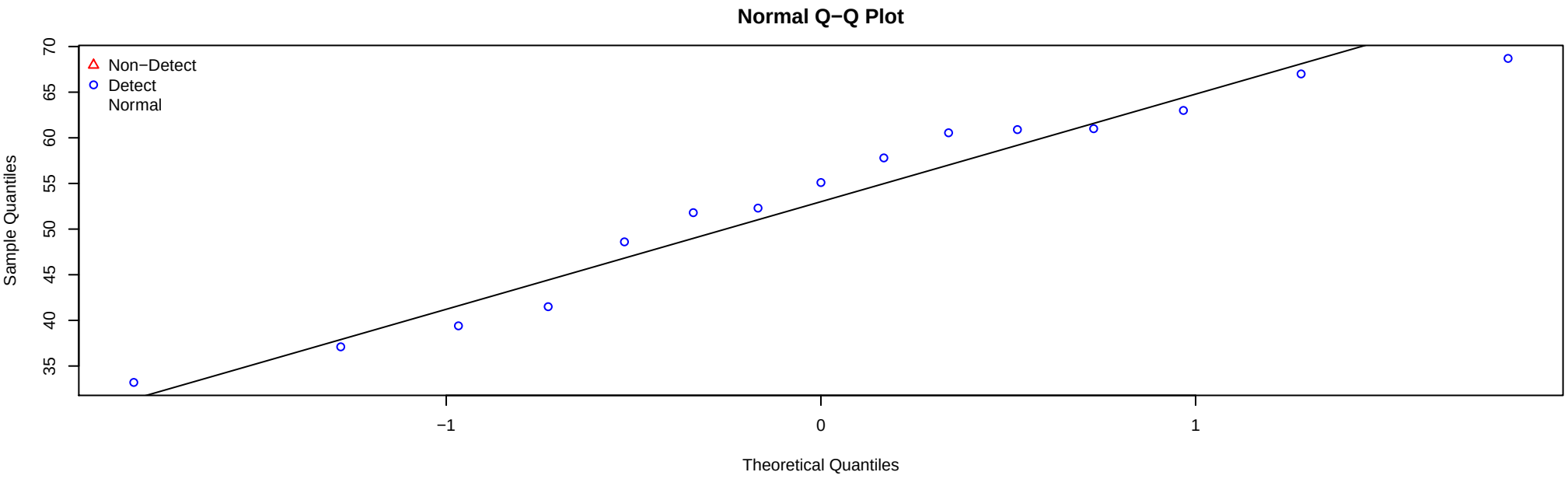
TOTAL ORGANIC CARBON

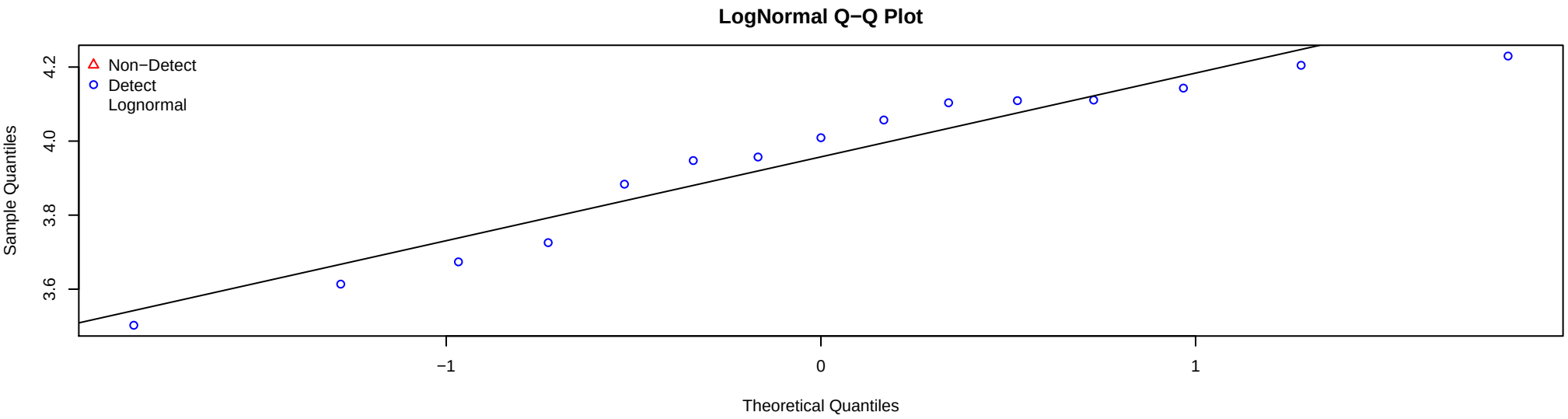




Transition
Subsurface Soil

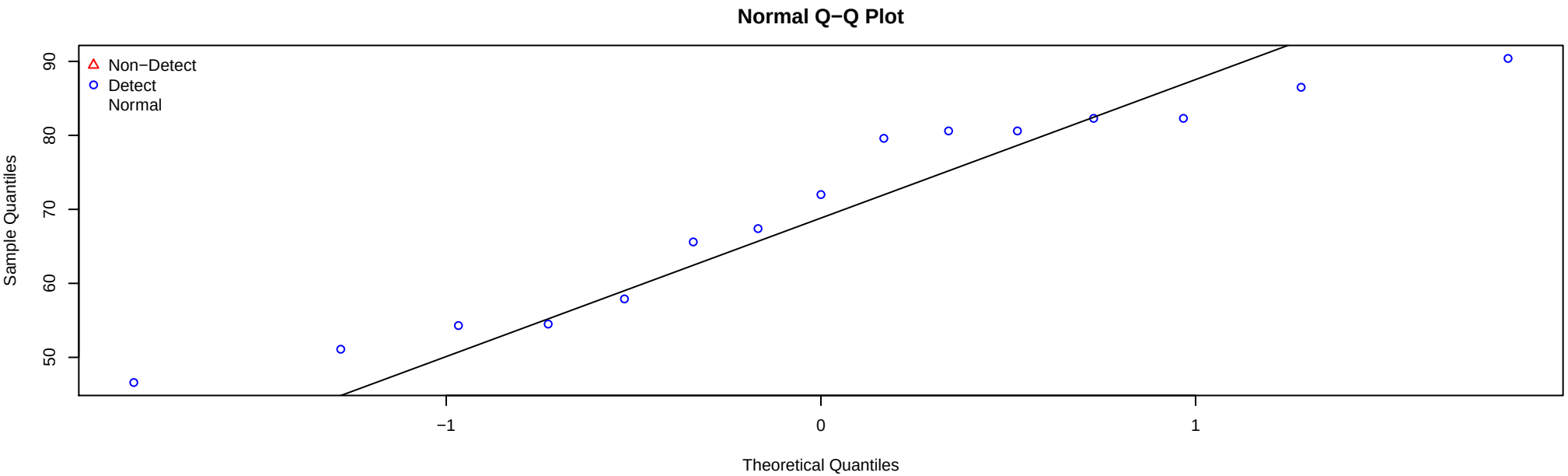
VANADIUM

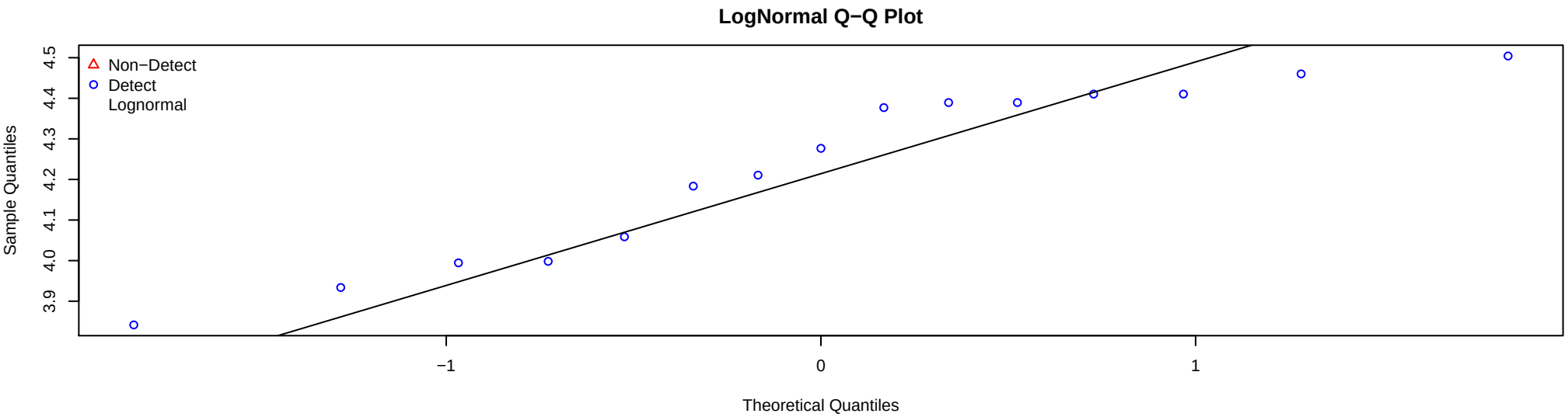




Transition
Subsurface Soil

ZINC





A.3 GRAPHICAL DATA EVALUATION

APPENDIX A.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.

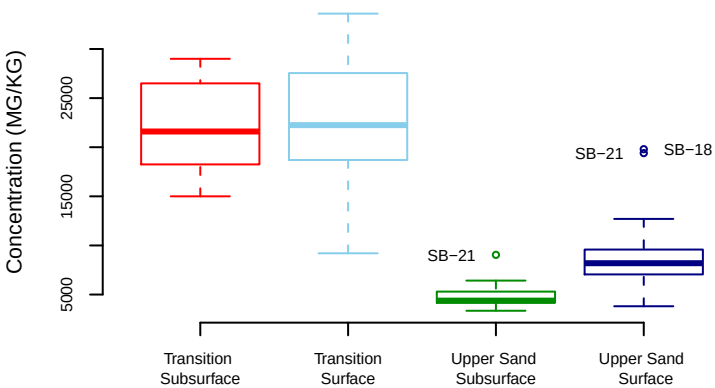
Box plots show the central tendency, degree of symmetry, range of variation, and potential outliers of a data set. The data set is shown as a rectangular box that represents the middle 50 percent of the data. The upper value of the box (75th percentile) and the lower value of the box (25th percentile) 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.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.2 were labeled with location ID.

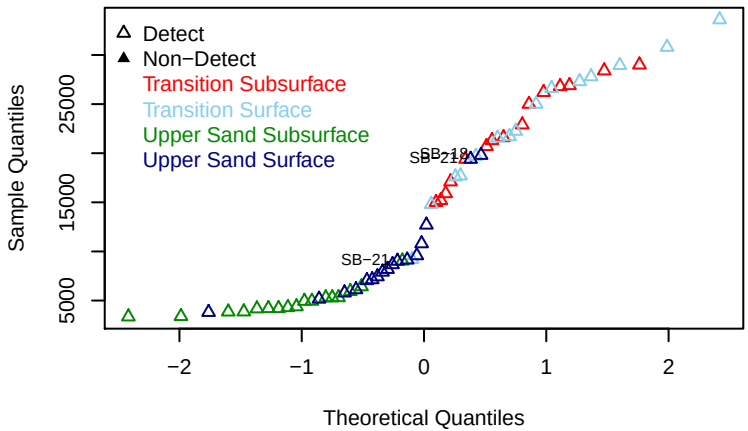
Histograms also depict the distributional shape, showing the mode, the relative frequency of detection at various concentration ranges, and the spread of data points near the upper end. These may be used in conjunction with probability plots to determine which data points contribute anomalies relative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

ALUMINUM

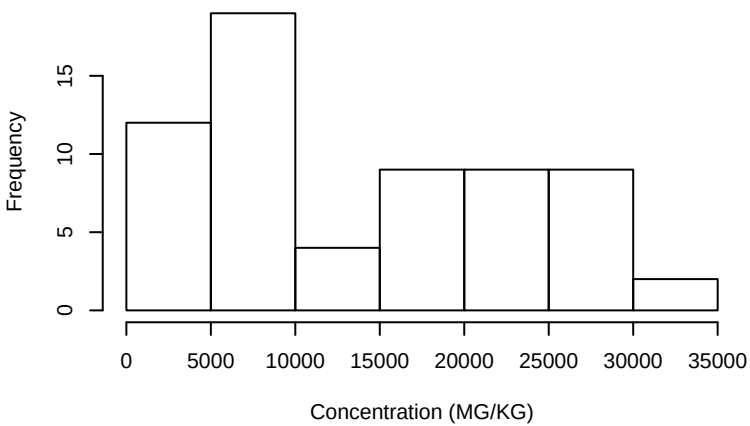
Box Plot



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

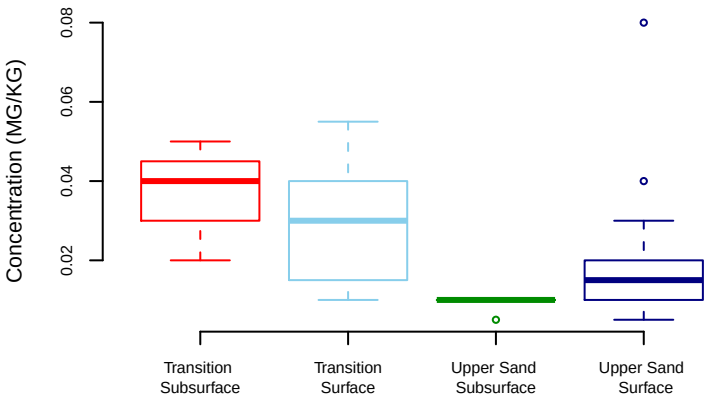
Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

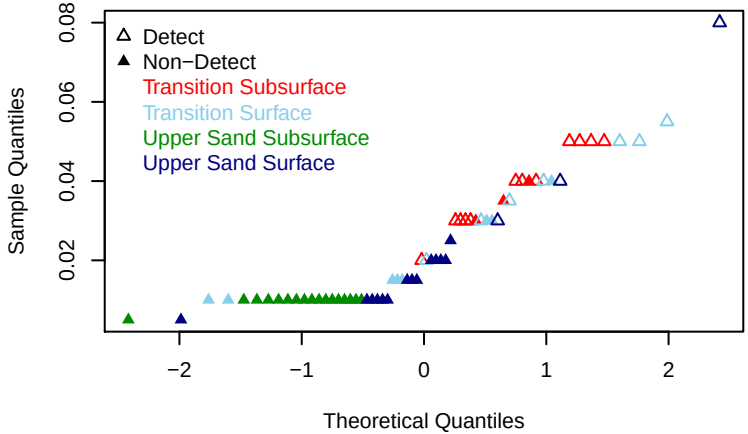
U.S. Sub = Upper Sand Subsurface

ANTIMONY

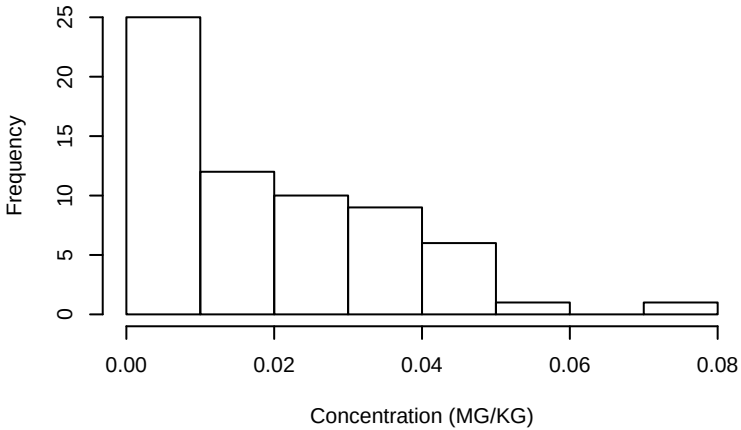
Box Plot



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

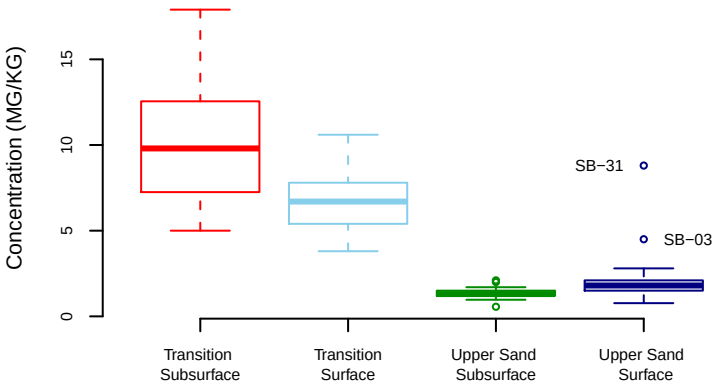
Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

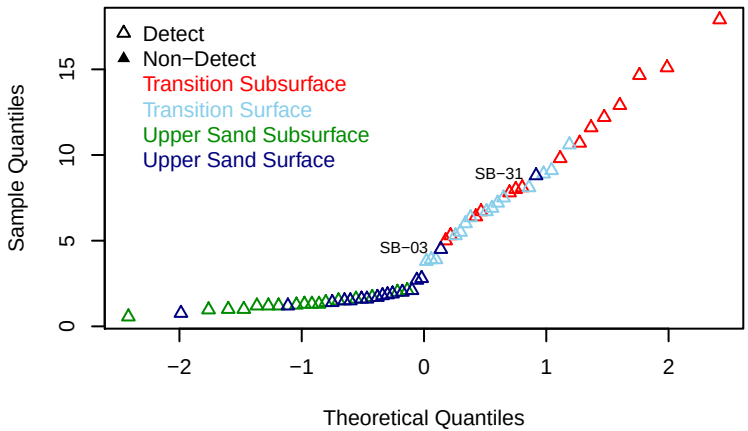
U.S. Sub = Upper Sand Subsurface

ARSENIC

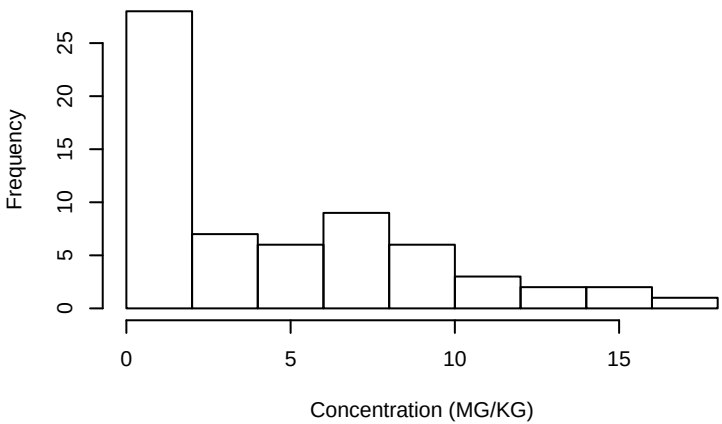
Box Plot



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	6.7	1.3	2.3
75th Percentile	13	7.8	1.5	2.1
Maximum	18	11	2.1	8.8

Trans Surf = Transition Subsurface

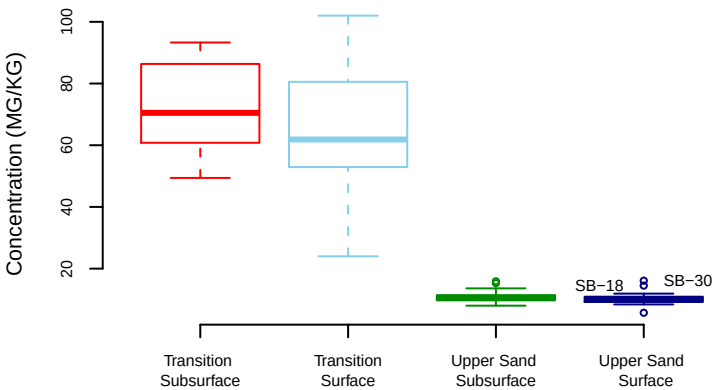
Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

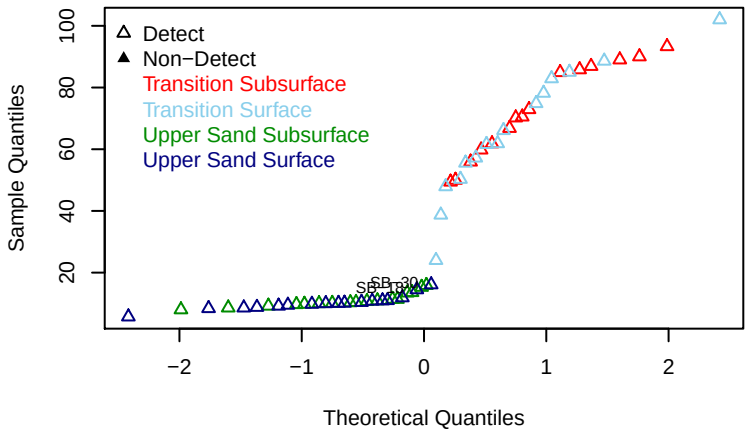
U.S. Sub = Upper Sand Subsurface

BARIUM

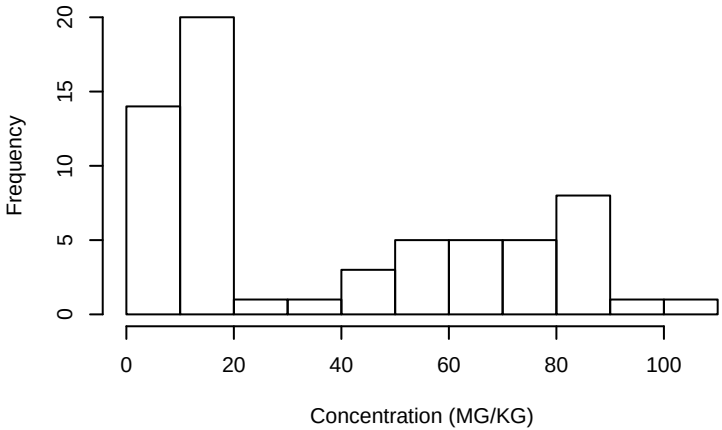
Box Plot



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

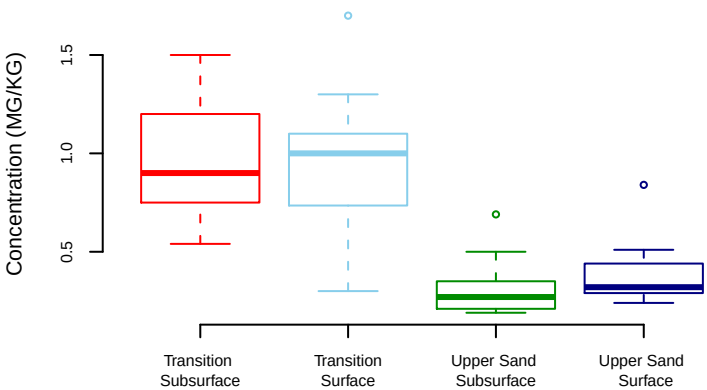
Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

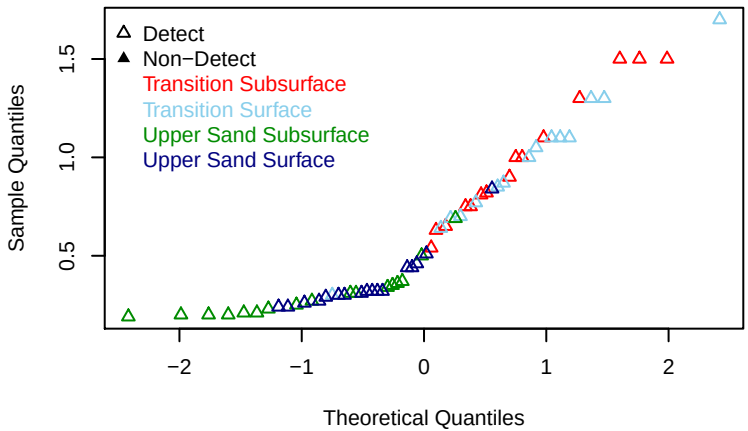
U.S. Sub = Upper Sand Subsurface

BERYLLIUM

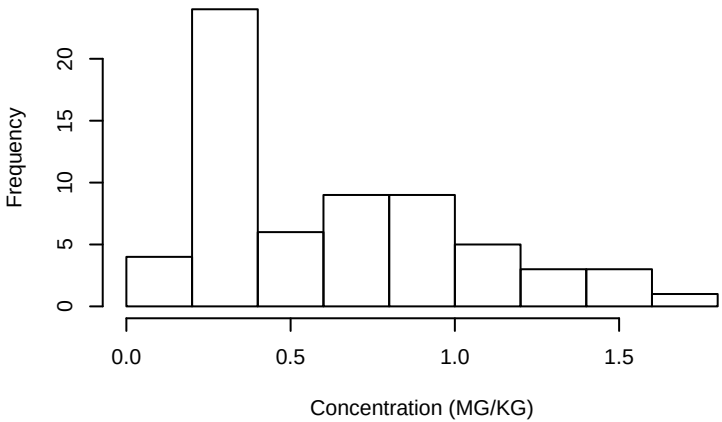
Box Plot



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	0.73	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

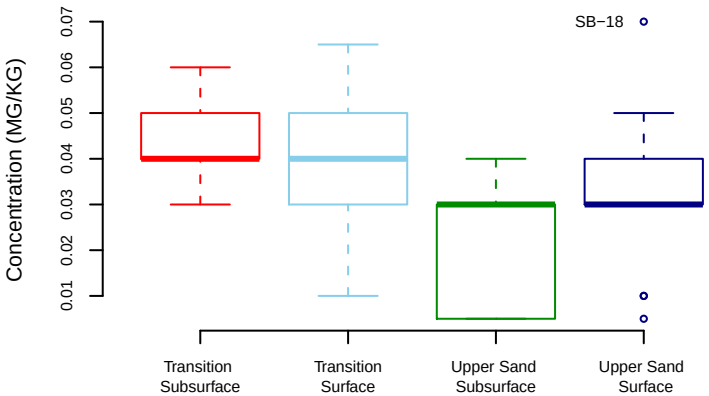
Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

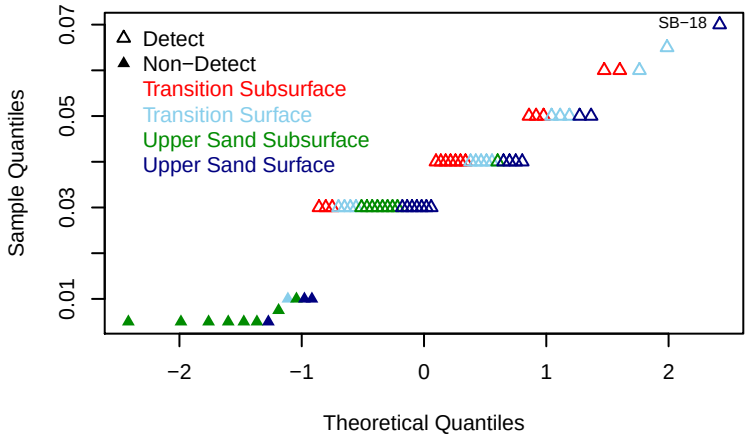
U.S. Sub = Upper Sand Subsurface

CADMIUM

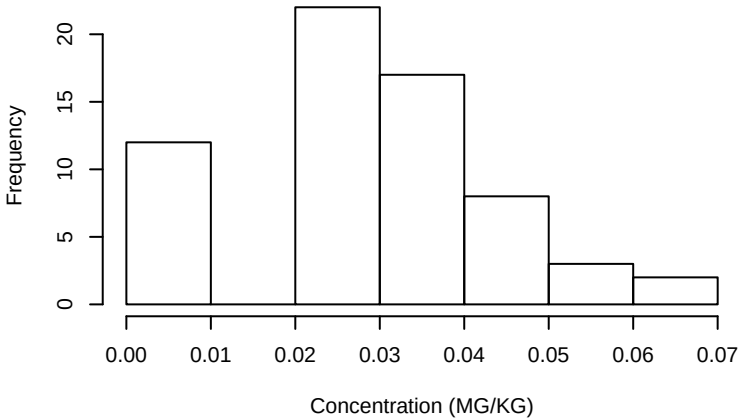
Box Plot



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

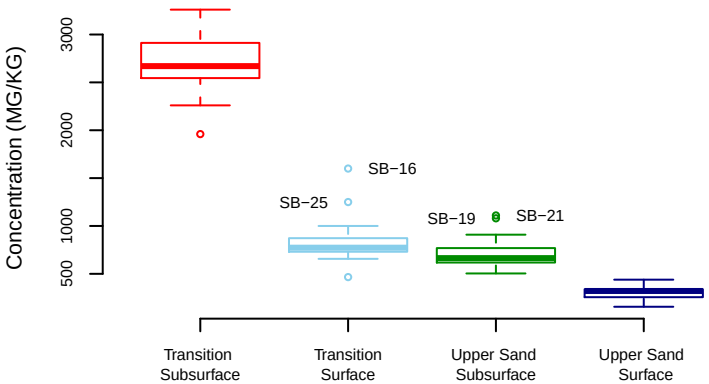
Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

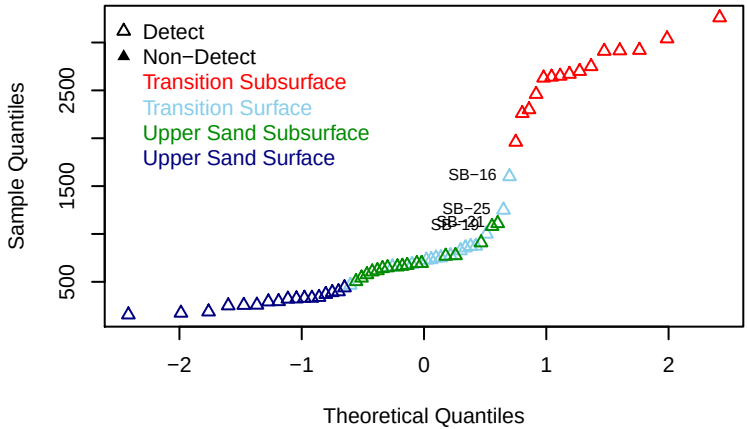
U.S. Sub = Upper Sand Subsurface

CALCIUM

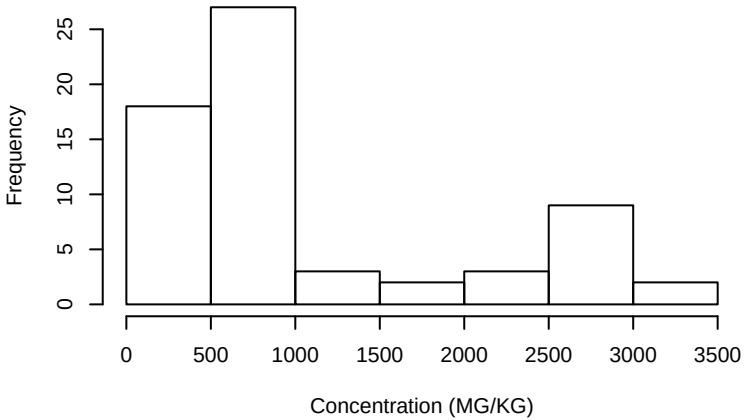
Box Plot



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

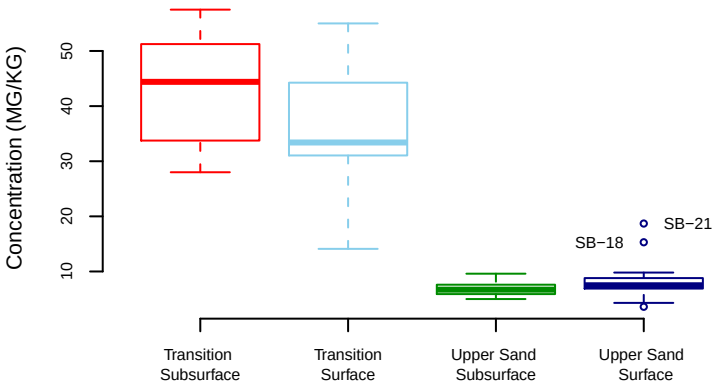
Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

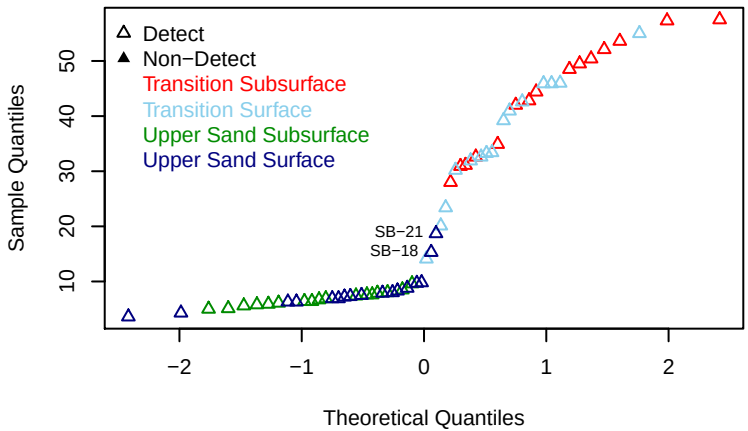
U.S. Sub = Upper Sand Subsurface

CHROMIUM

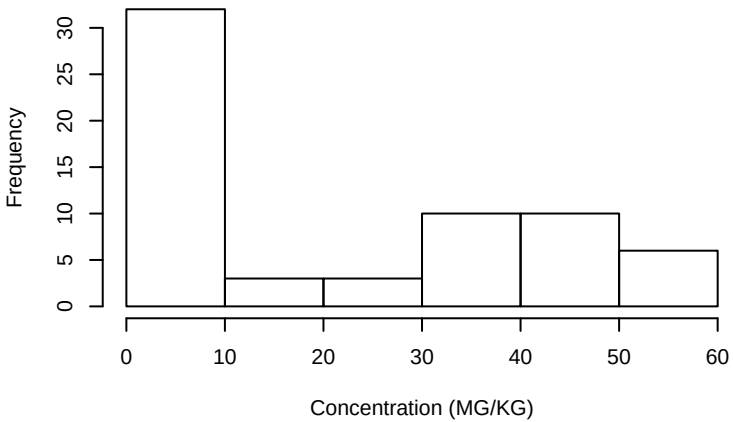
Box Plot



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

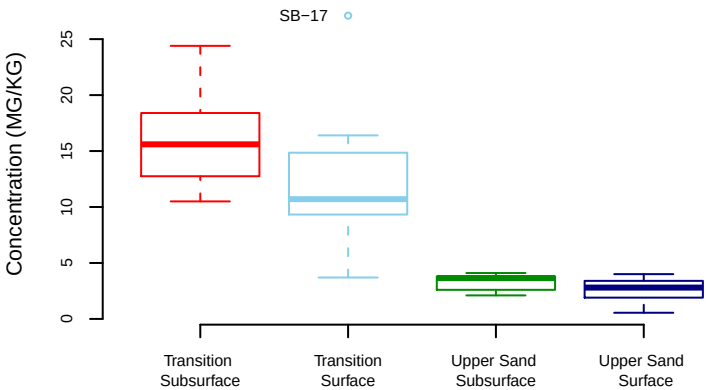
Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

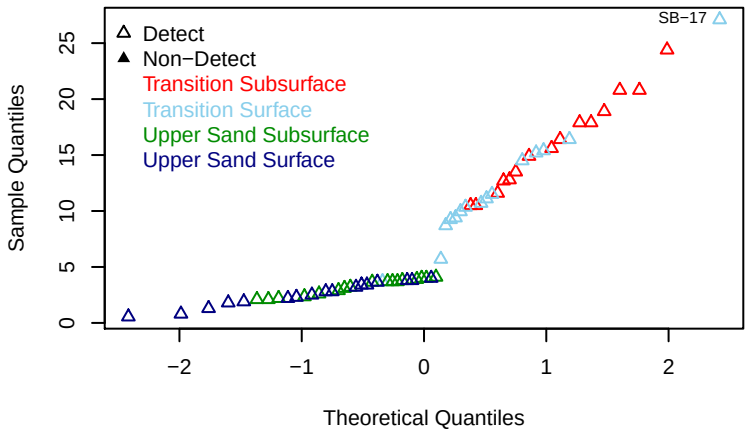
U.S. Sub = Upper Sand Subsurface

COBALT

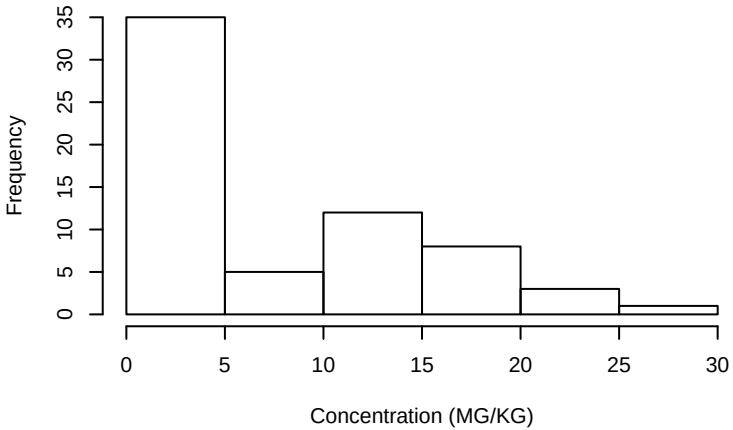
Box Plot



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

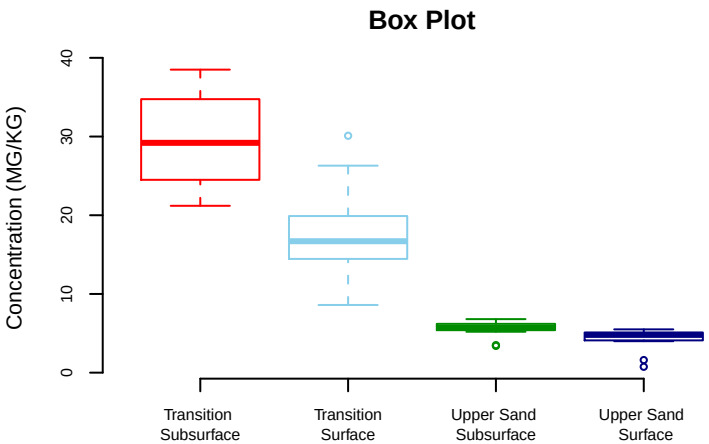
Trans Surf = Transition Subsurface

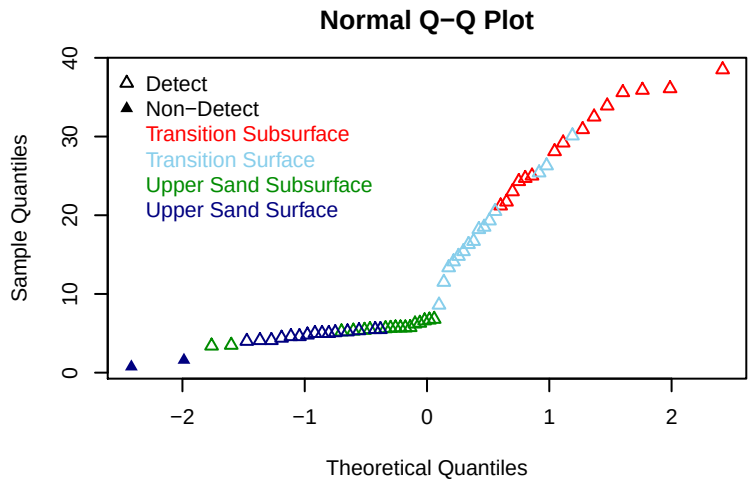
Trans Sub = Transition Surface

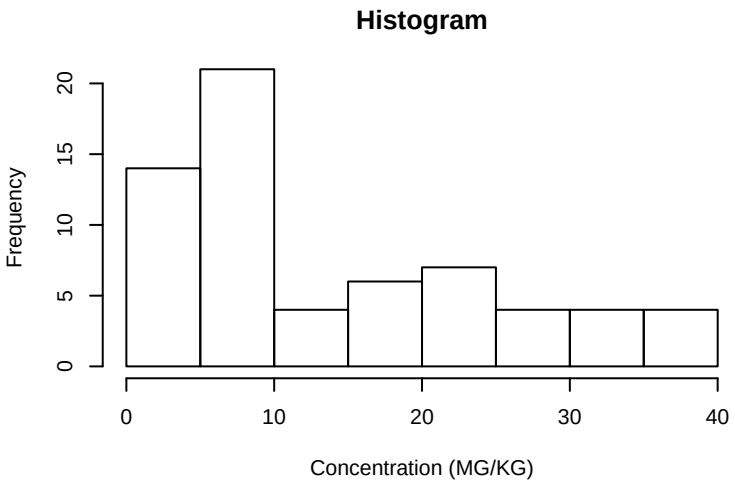
U.S. Surf = Upper Sand Surface

U.S. Sub = Upper Sand Subsurface

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

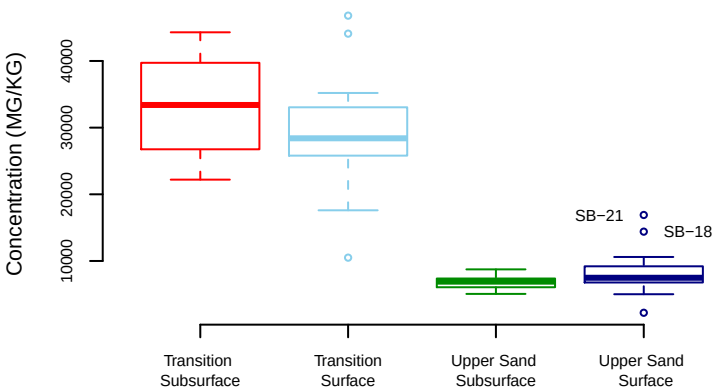
Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

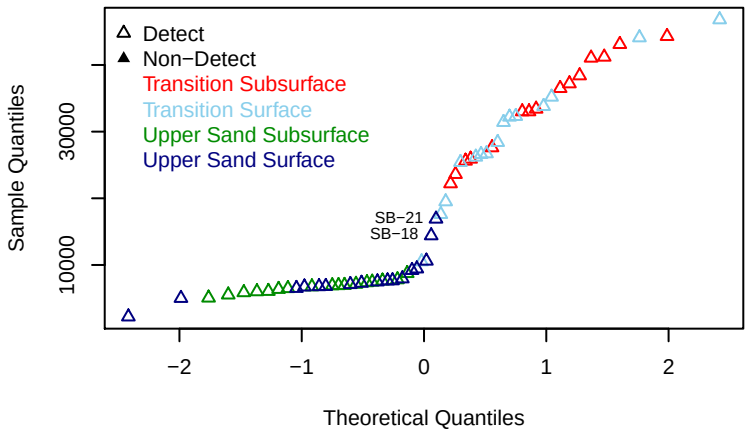
U.S. Sub = Upper Sand Subsurface

IRON

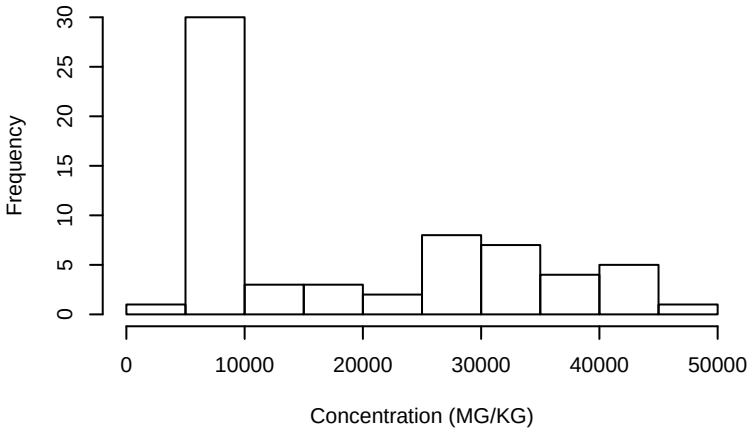
Box Plot



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

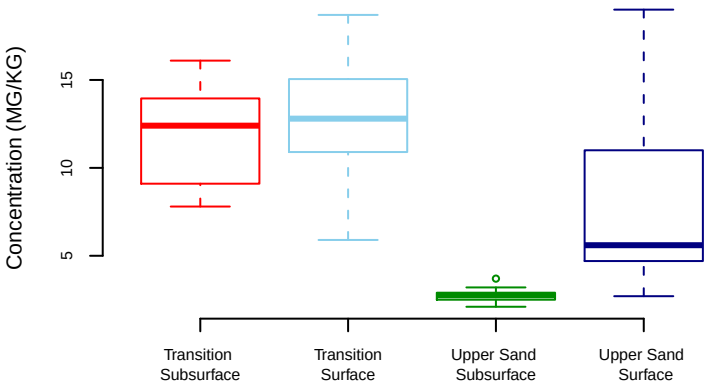
Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

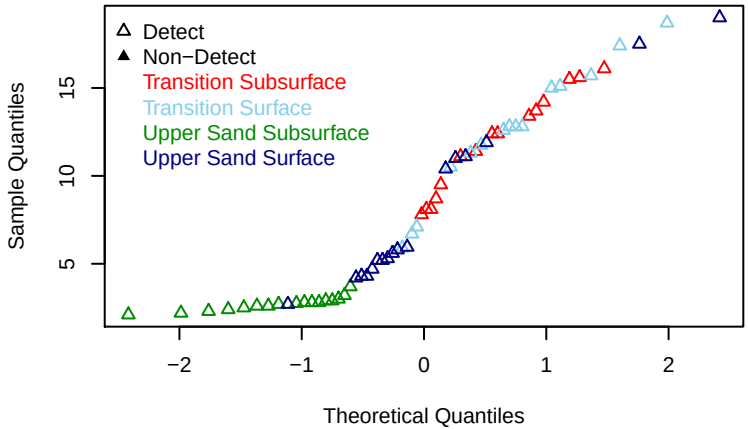
U.S. Sub = Upper Sand Subsurface

LEAD

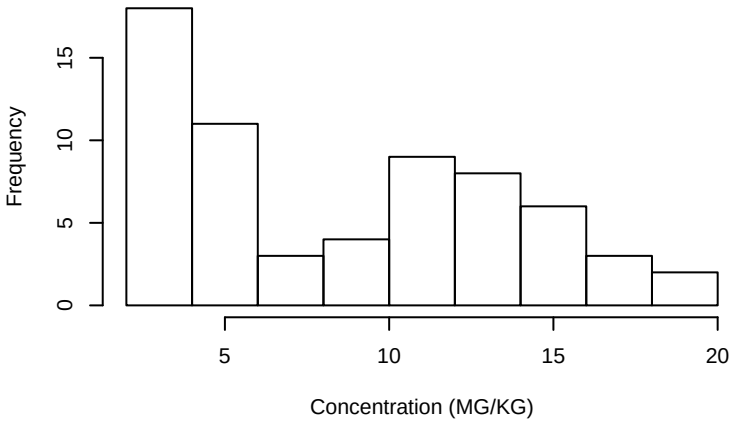
Box Plot



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

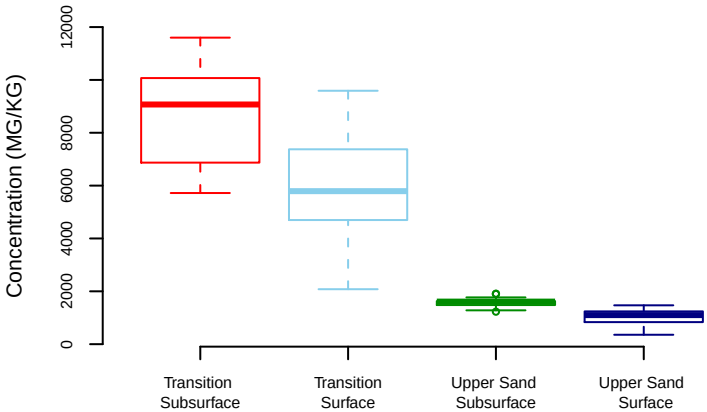
Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

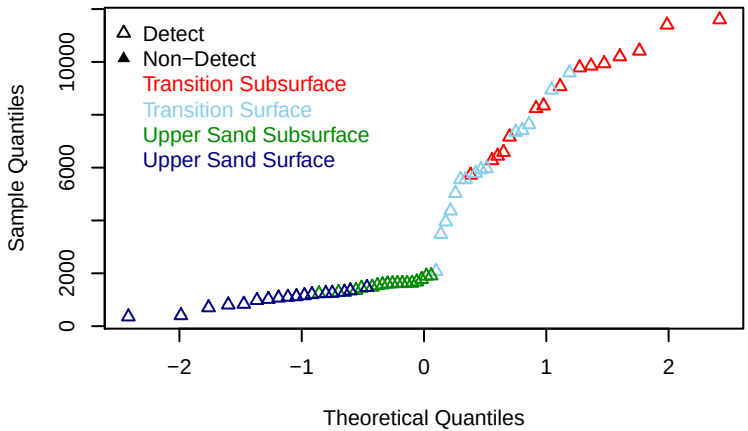
U.S. Sub = Upper Sand Subsurface

MAGNESIUM

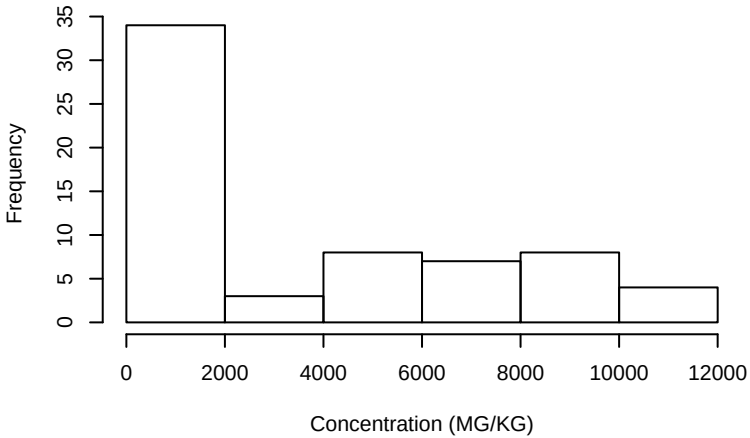
Box Plot



Normal Q−Q Plot



Histogram



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

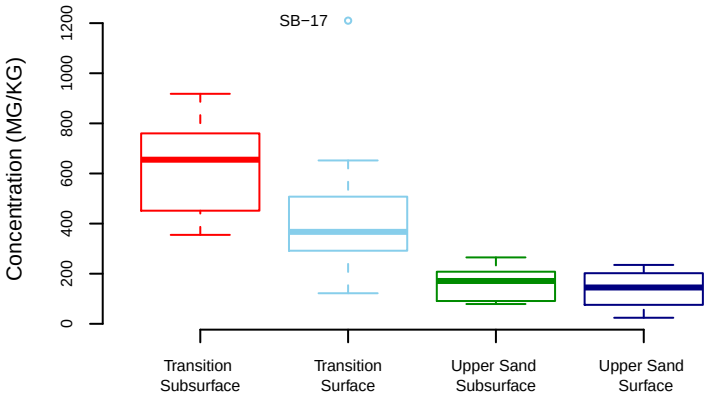
Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

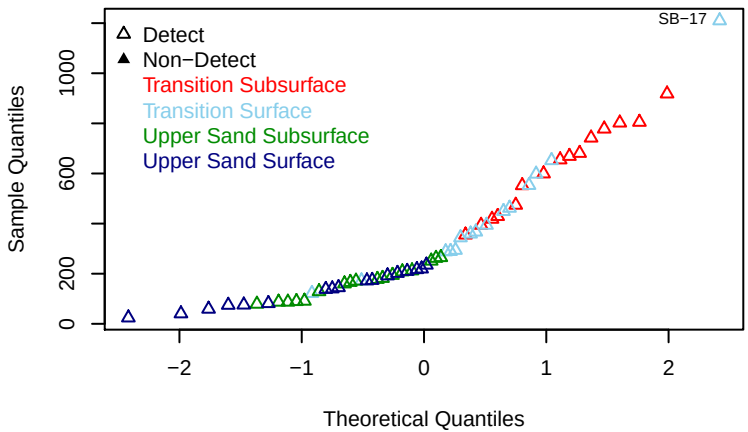
U.S. Sub = Upper Sand Subsurface

MANGANESE

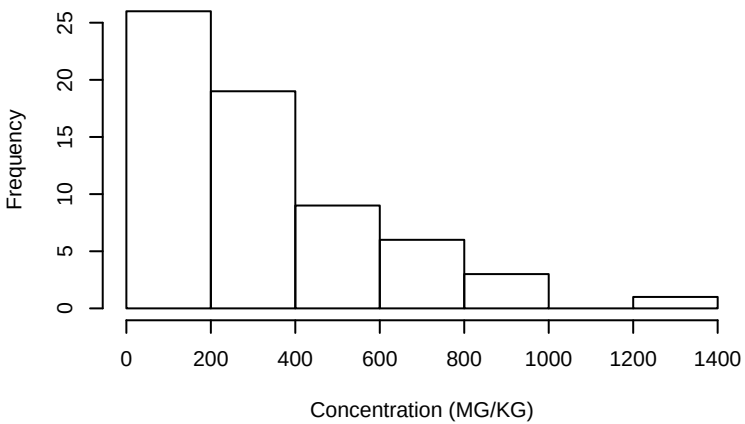
Box Plot



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

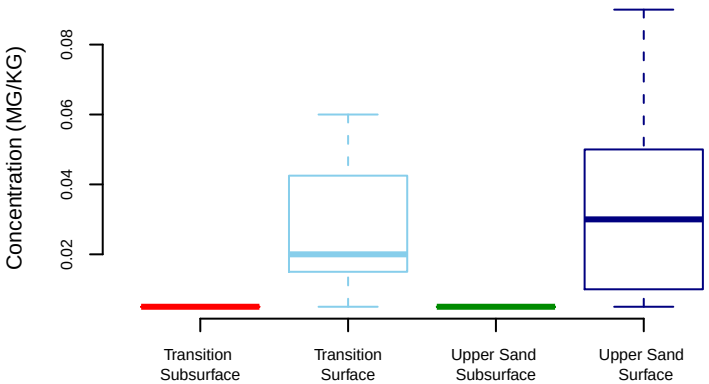
Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

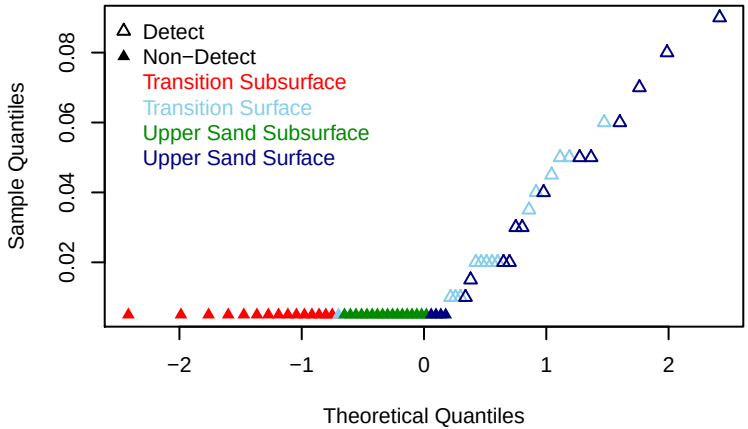
U.S. Sub = Upper Sand Subsurface

MERCURY

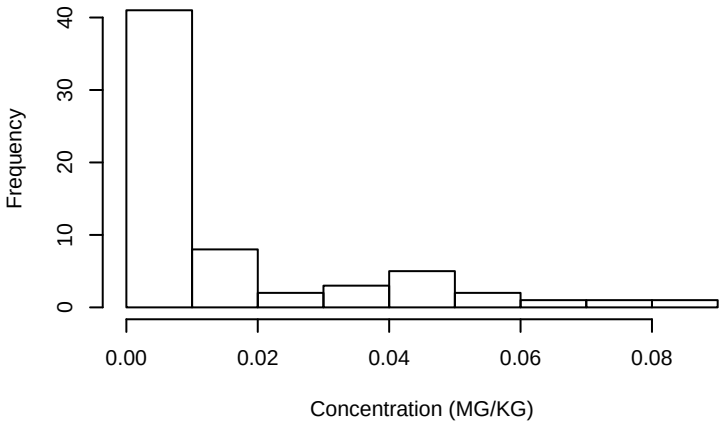
Box Plot



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	0.043	0.005	0.05
Maximum	0.005	0.06	0.005	0.09

Trans Surf = Transition Subsurface

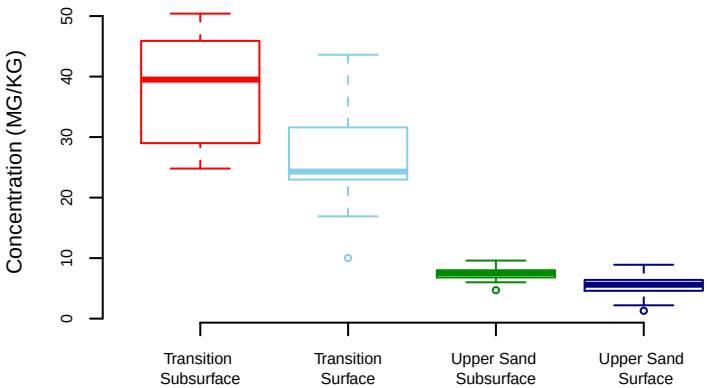
Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

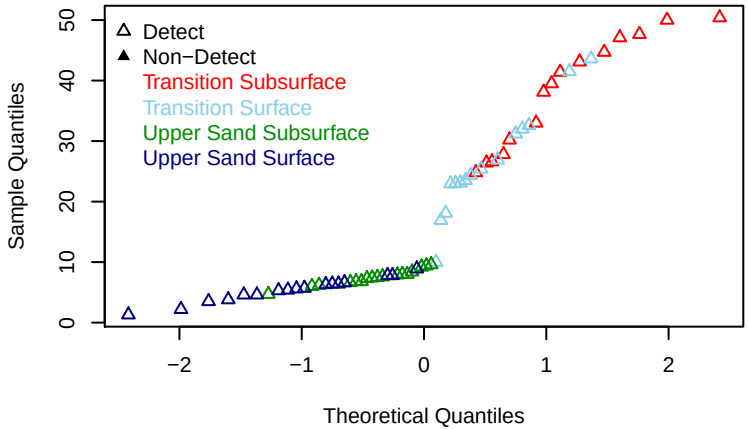
U.S. Sub = Upper Sand Subsurface

NICKEL

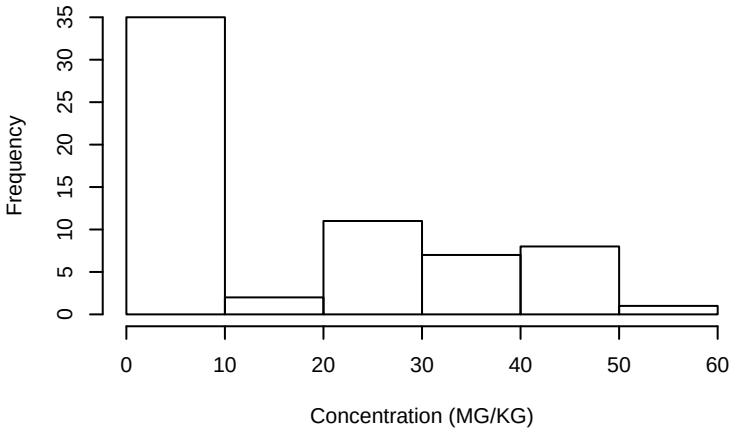
Box Plot



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

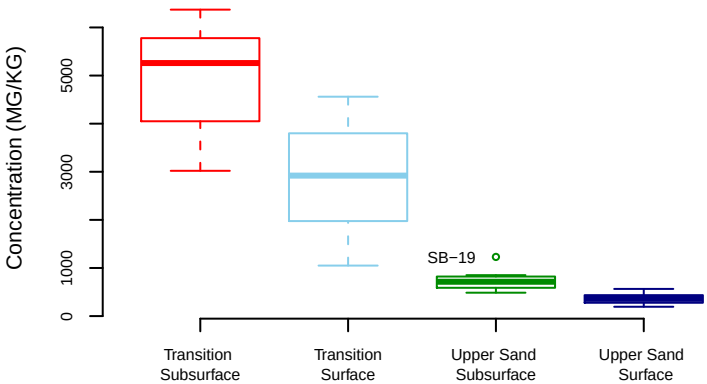
Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

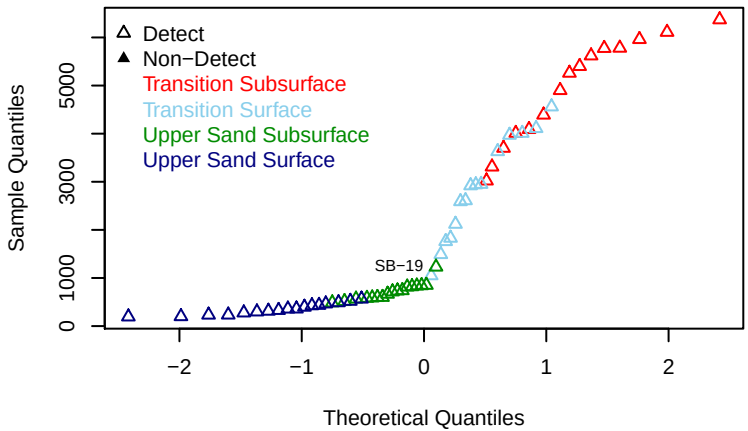
U.S. Sub = Upper Sand Subsurface

POTASSIUM

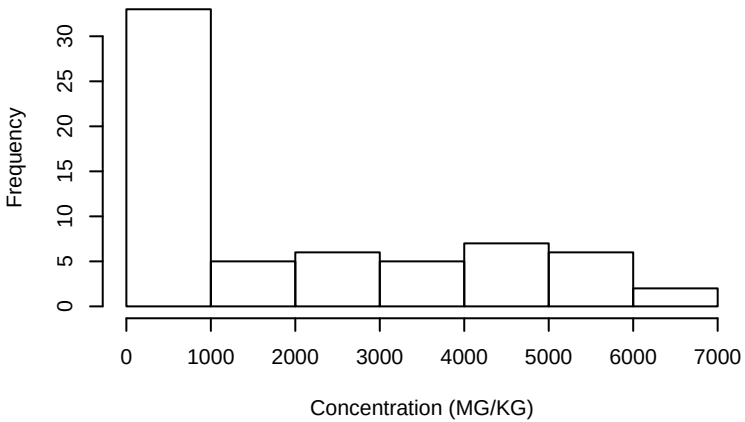
Box Plot



Normal Q−Q Plot



Histogram



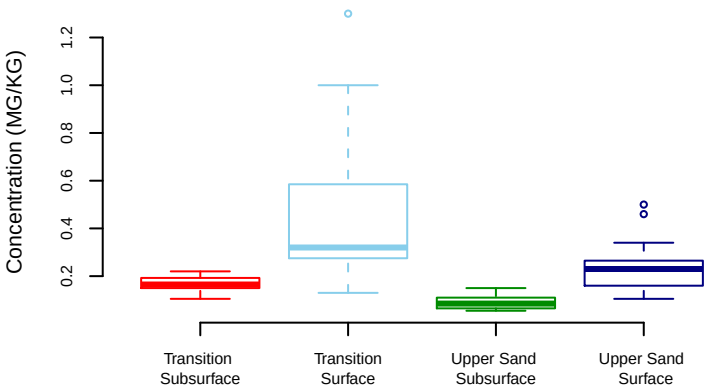
Summary Statistics

	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

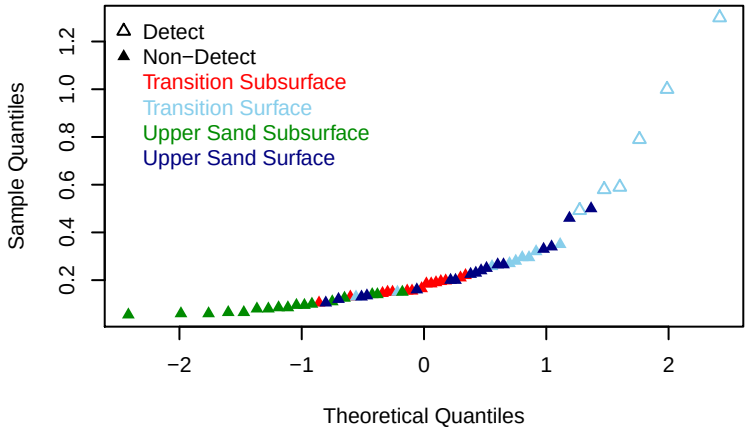
Trans Surf = Transition Subsurface
Trans Sub = Transition Surface
U.S. Surf = Upper Sand Surface
U.S. Sub = Upper Sand Subsurface

SELENIUM

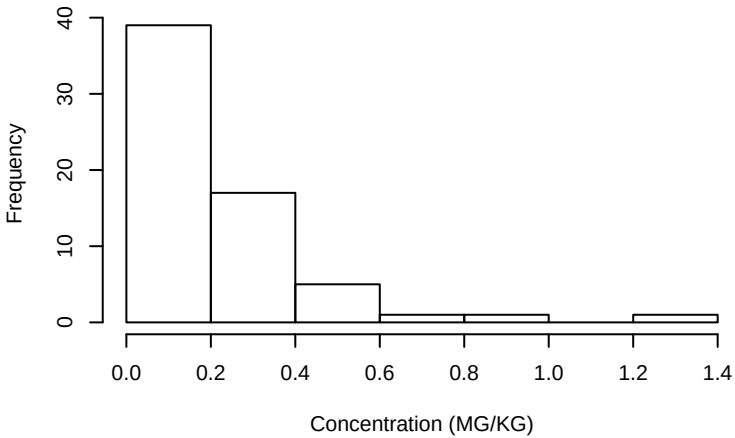
Box Plot



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	0.17	0.32	0.085	0.23
Mean	0.17	0.47	0.094	0.24
75th Percentile	0.19	0.58	0.11	0.27
Maximum	0.22	1.3	0.15	0.5

Trans Surf = Transition Subsurface

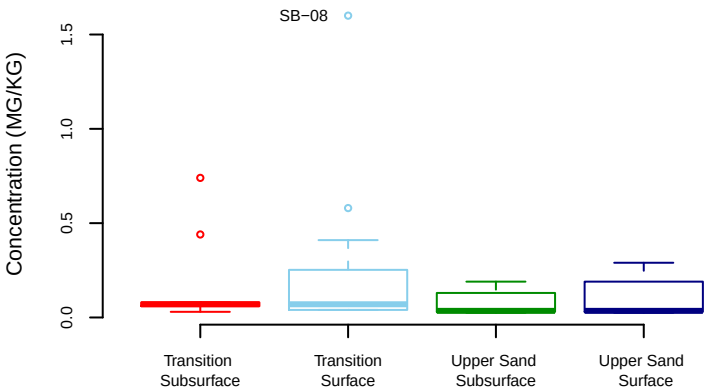
Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

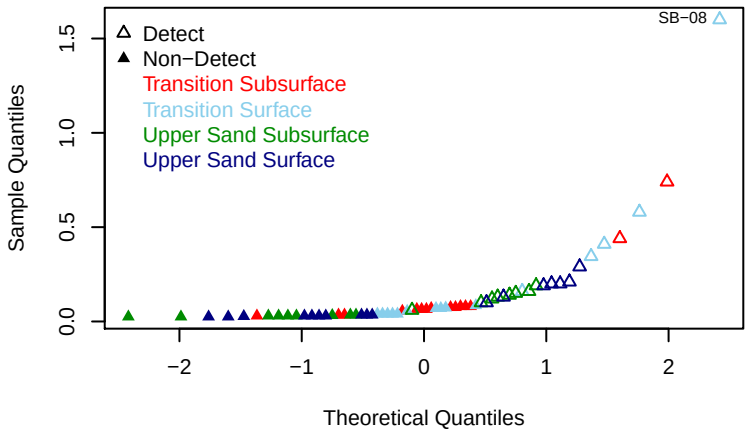
U.S. Sub = Upper Sand Subsurface

SILVER

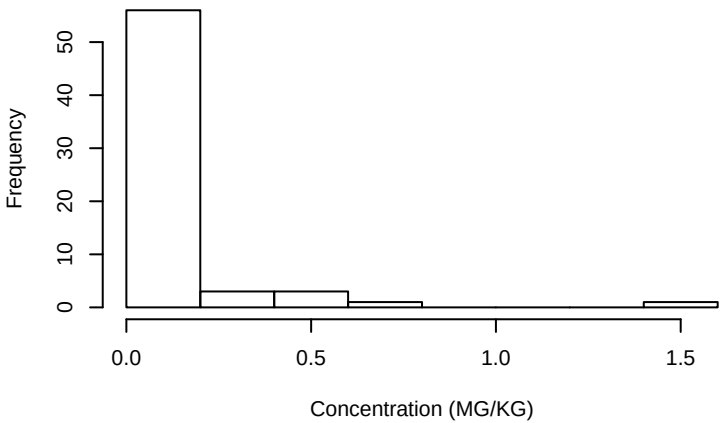
Box Plot



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

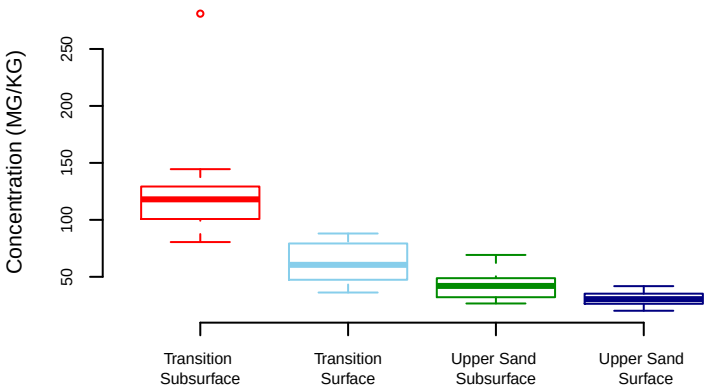
Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

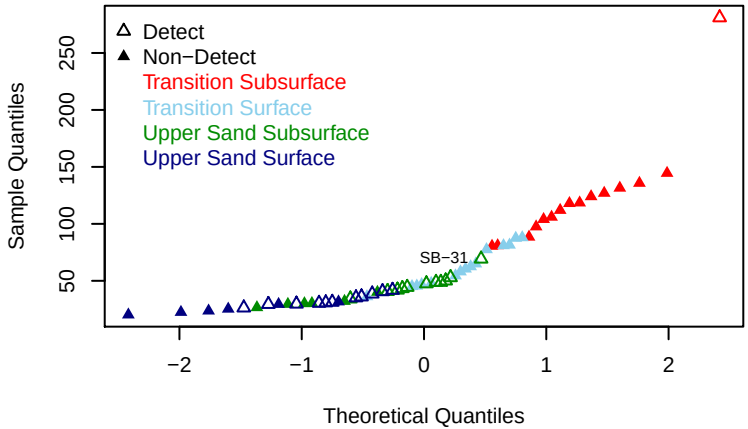
U.S. Sub = Upper Sand Subsurface

SODIUM

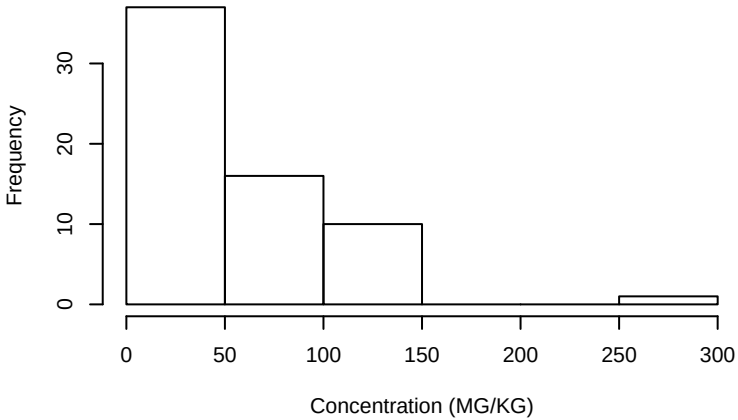
Box Plot



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

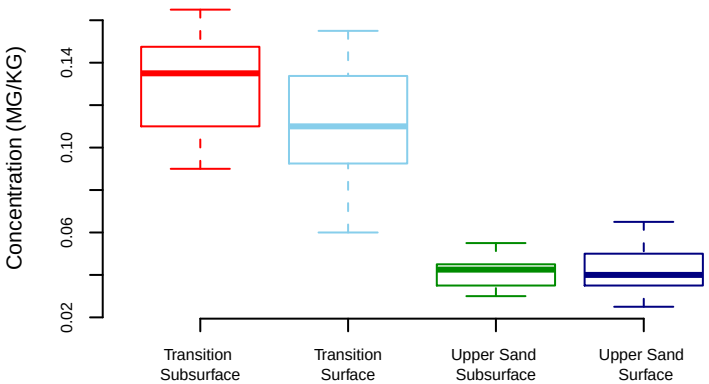
Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

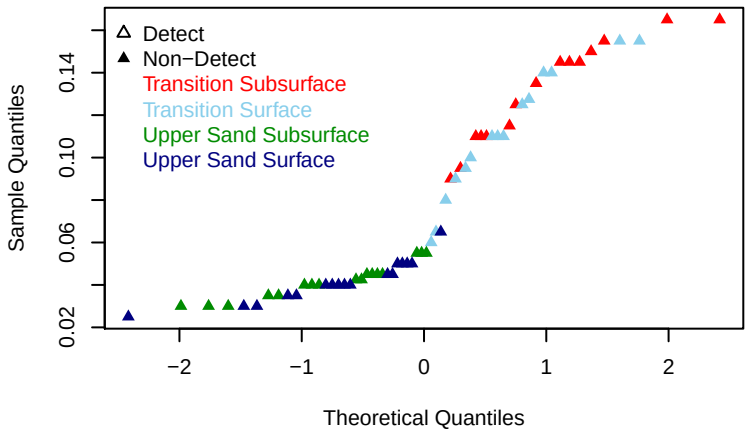
U.S. Sub = Upper Sand Subsurface

THALLIUM

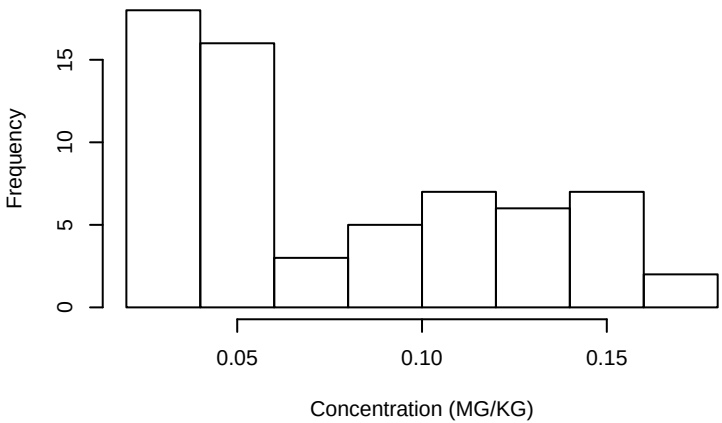
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum	0.09	0.06	0.03	0.025
25th Percentile	0.11	0.092	0.035	0.035
Median	0.14	0.11	0.043	0.04
Mean	0.13	0.11	0.042	0.042
75th Percentile	0.15	0.13	0.045	0.05
Maximum	0.17	0.15	0.055	0.065

Trans Surf = Transition Subsurface

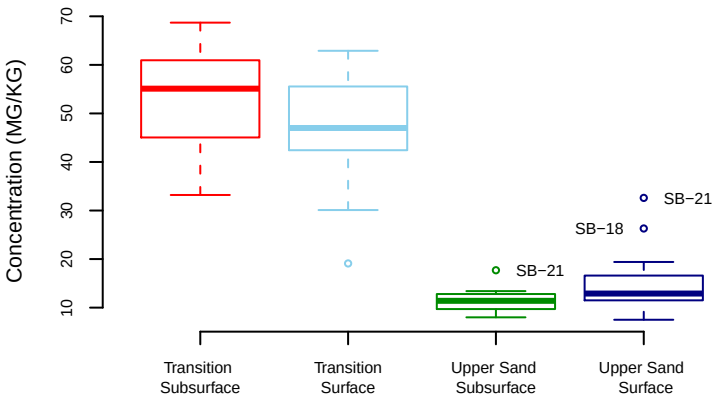
Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

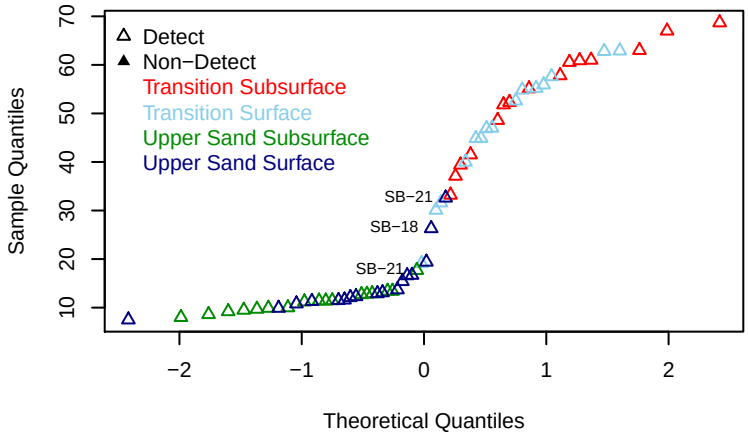
U.S. Sub = Upper Sand Subsurface

VANADIUM

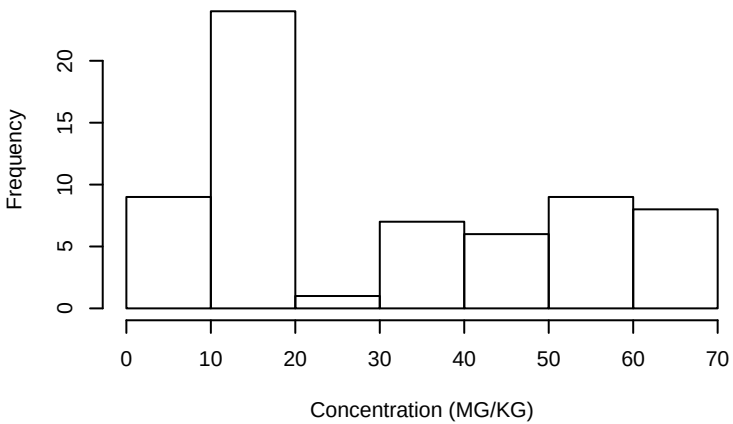
Box Plot



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

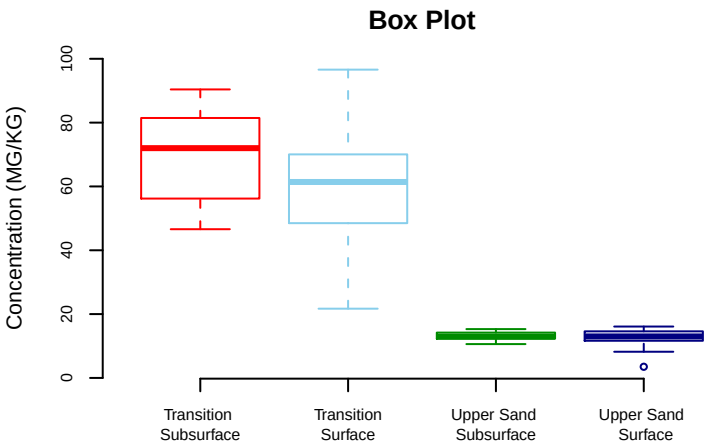
Trans Surf = Transition Subsurface

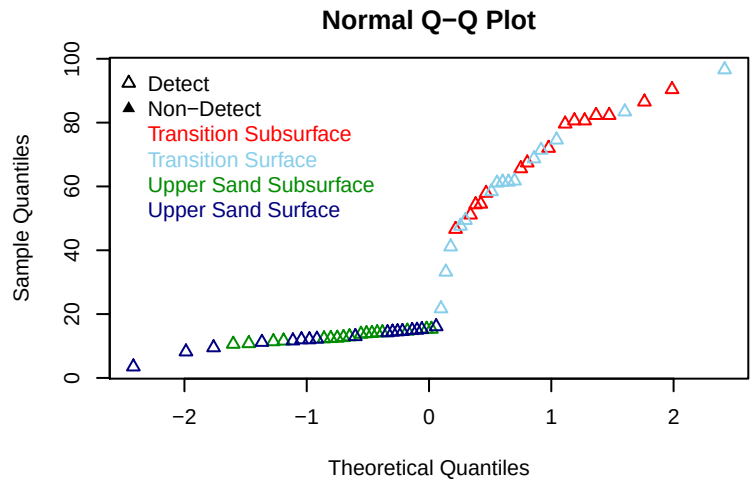
Trans Sub = Transition Surface

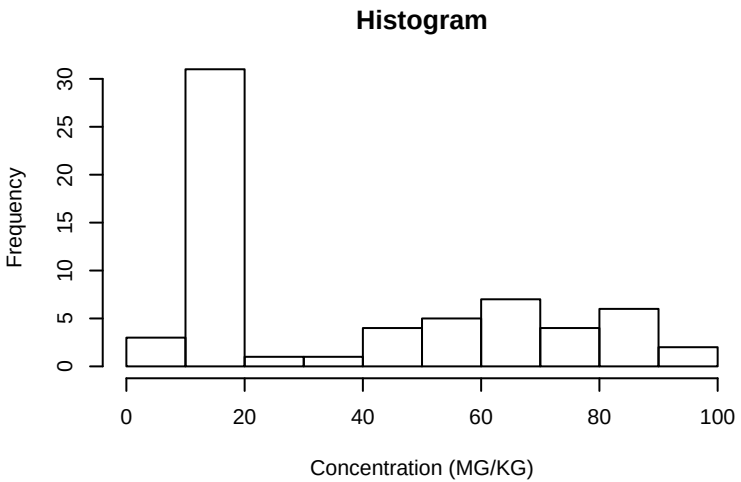
U.S. Surf = Upper Sand Surface

U.S. Sub = Upper Sand Subsurface

ZINC







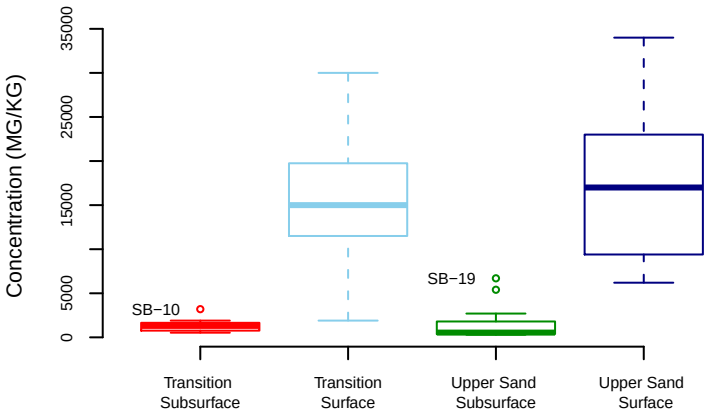
Summary Statistics

	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

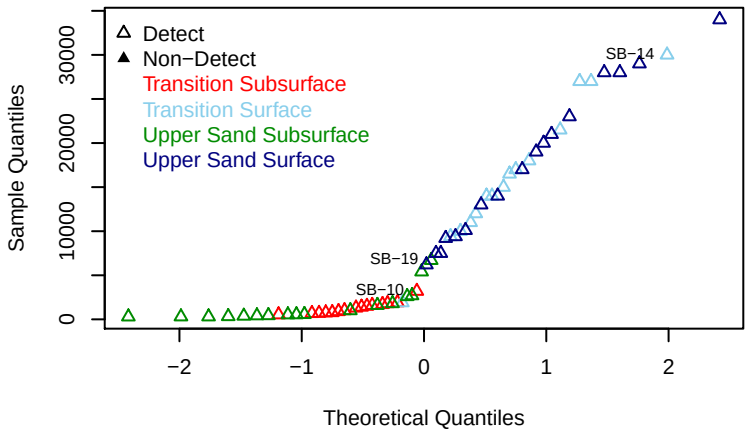
Trans Surf = Transition Subsurface
Trans Sub = Transition Surface
U.S. Surf = Upper Sand Surface
U.S. Sub = Upper Sand Subsurface

TOTAL ORGANIC CARBON

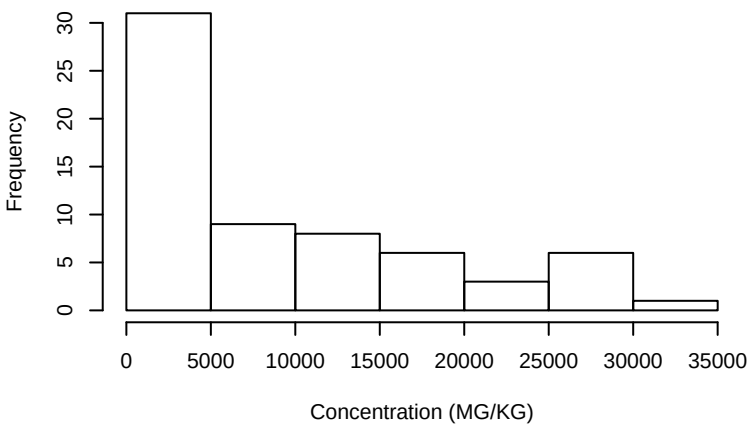
Box Plot



Normal Q−Q Plot



Histogram



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

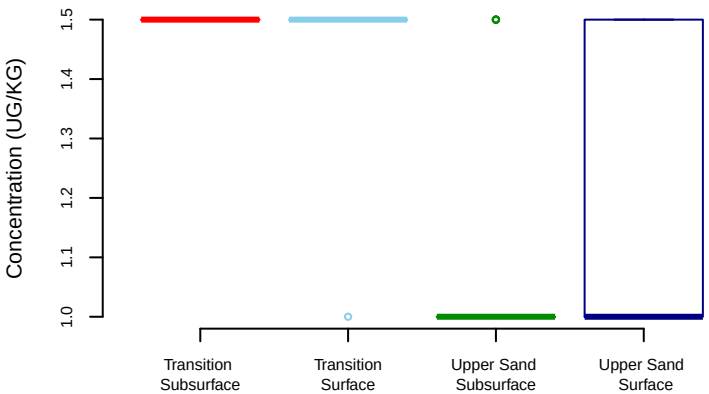
Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

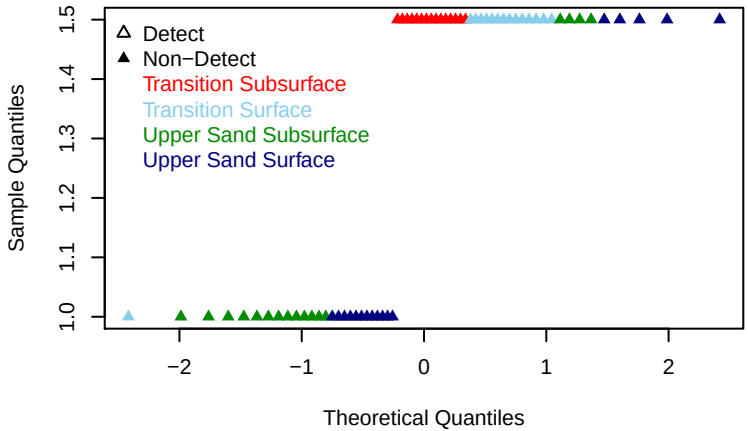
U.S. Sub = Upper Sand Subsurface

2−METHYLNAPHTHALENE

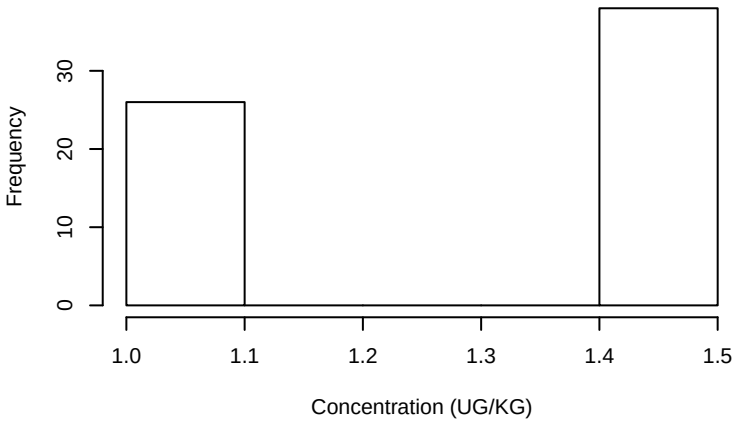
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum	1.5	1	1	1
25th Percentile	1.5	1.5	1	1
Median	1.5	1.5	1	1
Mean	1.5	1.5	1.1	1.1
75th Percentile	1.5	1.5	1	1.5
Maximum	1.5	1.5	1.5	1.5

Trans Surf = Transition Subsurface

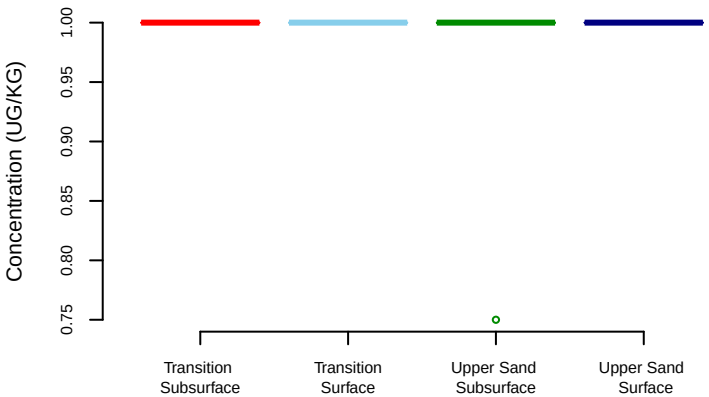
Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

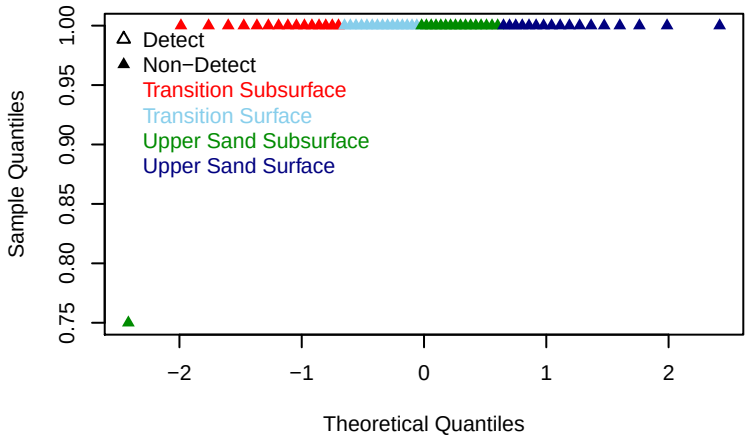
U.S. Sub = Upper Sand Subsurface

ACENAPHTHENE

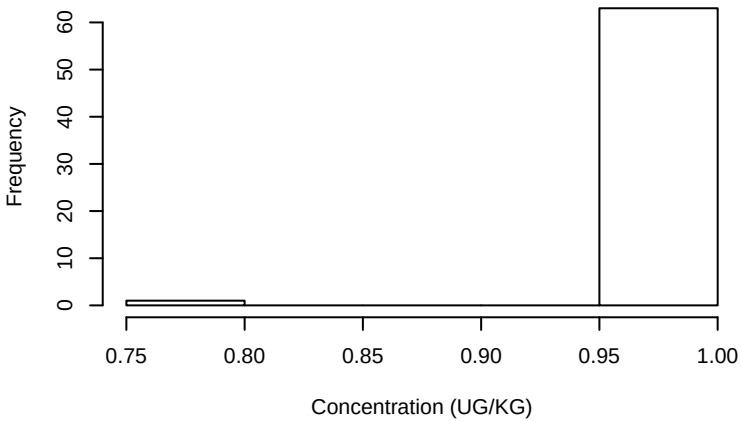
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum	1	1	0.75	1
25th Percentile	1	1	1	1
Median	1	1	1	1
Mean	1	1	0.99	1
75th Percentile	1	1	1	1
Maximum	1	1	1	1

Trans Surf = Transition Subsurface

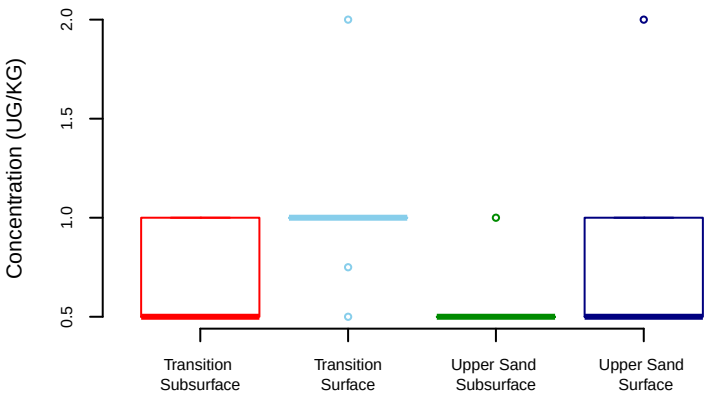
Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

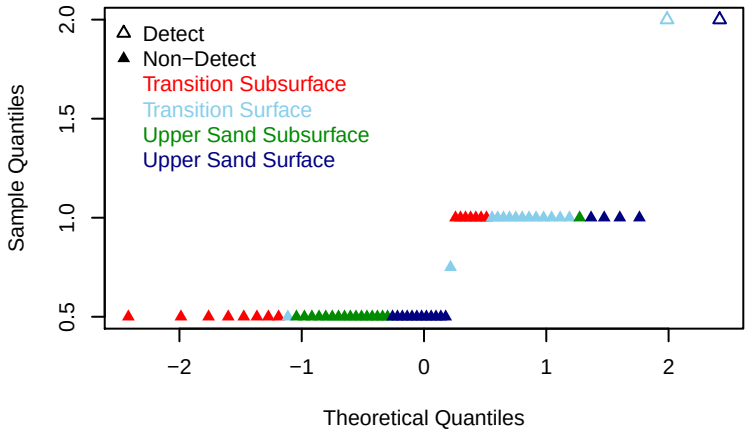
U.S. Sub = Upper Sand Subsurface

ACENAPHTHYLENE

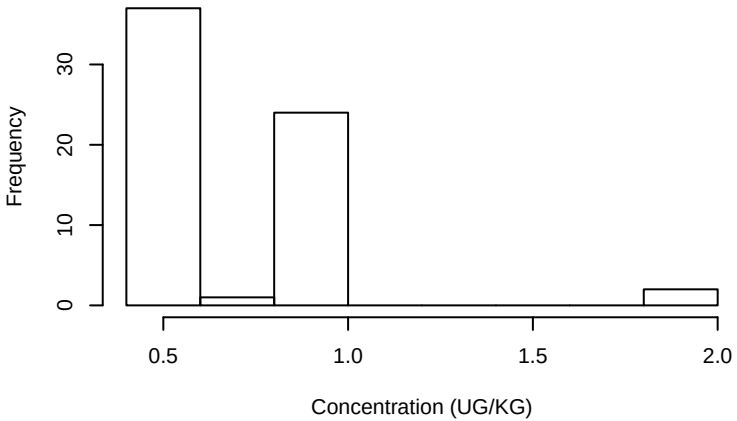
Box Plot



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

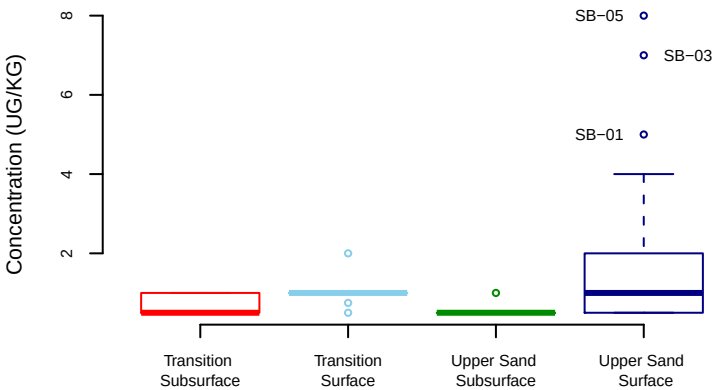
Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

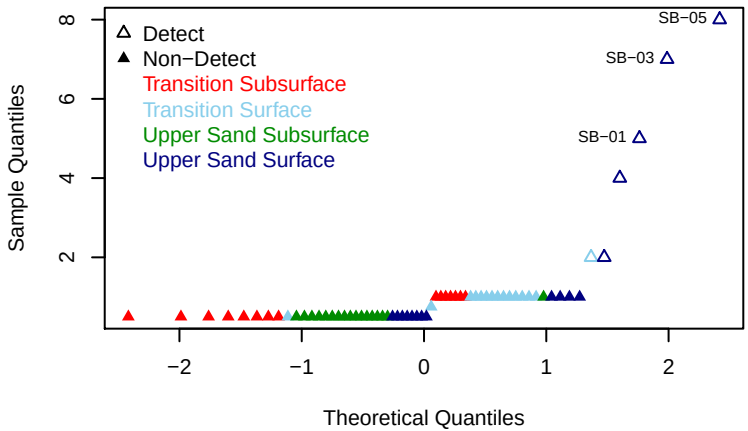
U.S. Sub = Upper Sand Subsurface

ANTHRACENE

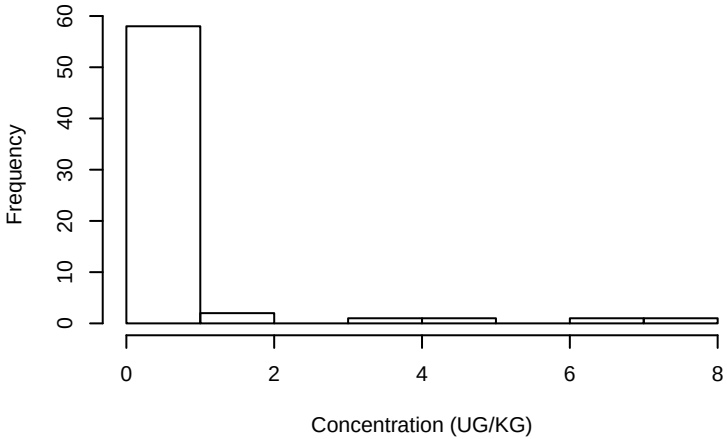
Box Plot



Normal Q−Q Plot



Histogram



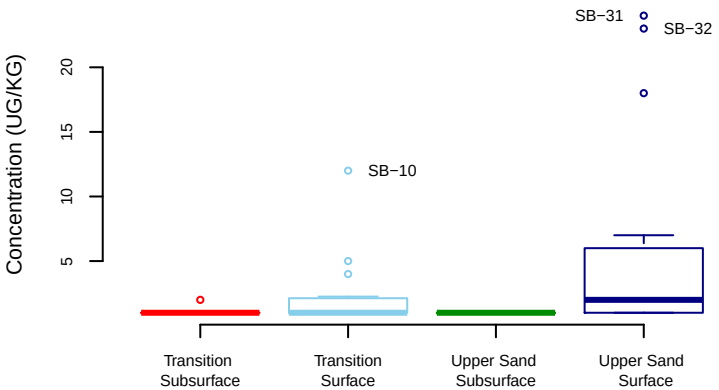
Summary Statistics

	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

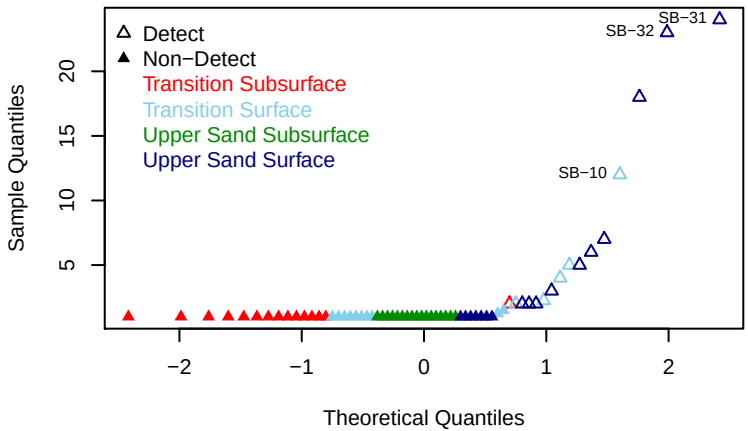
Trans Surf = Transition Subsurface
Trans Sub = Transition Surface
U.S. Surf = Upper Sand Surface
U.S. Sub = Upper Sand Subsurface

BENZO(A)ANTHRACENE

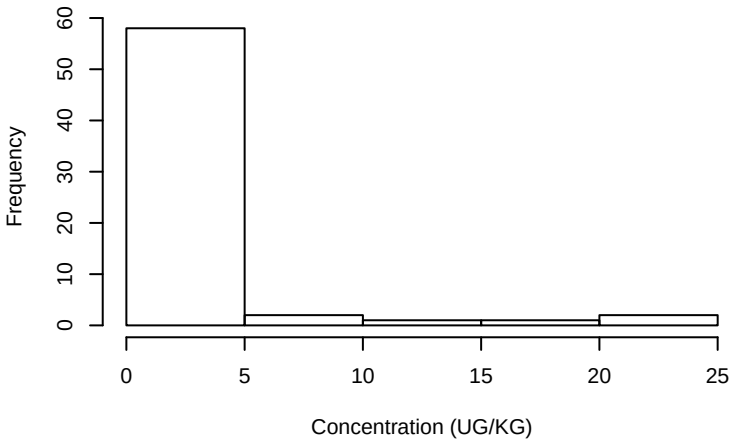
Box Plot



Normal Q−Q Plot



Histogram



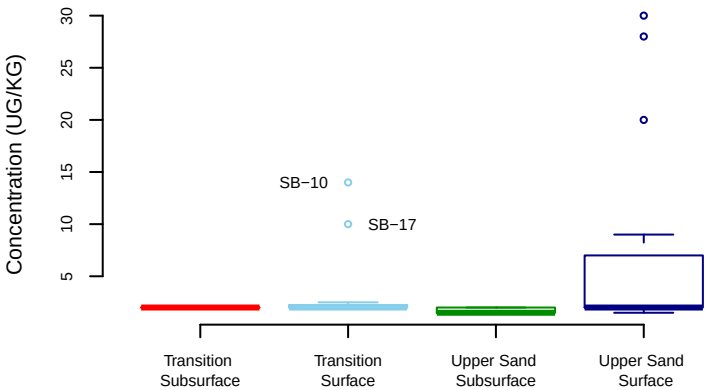
Summary Statistics

	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

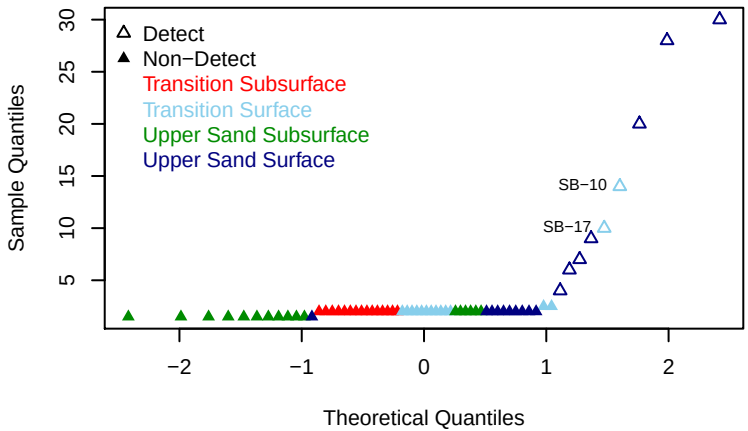
Trans Surf = Transition Subsurface
Trans Sub = Transition Surface
U.S. Surf = Upper Sand Surface
U.S. Sub = Upper Sand Subsurface

BENZO(A)PYRENE

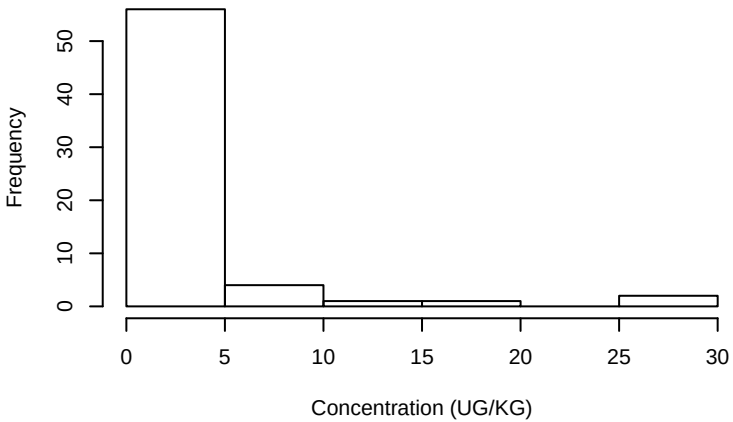
Box Plot



Normal Q−Q Plot



Histogram



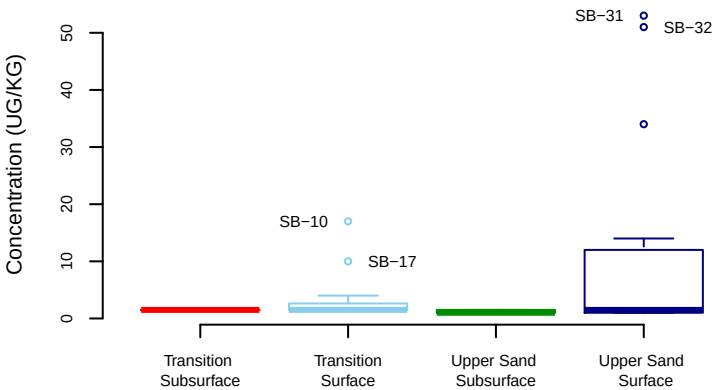
Summary Statistics

	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

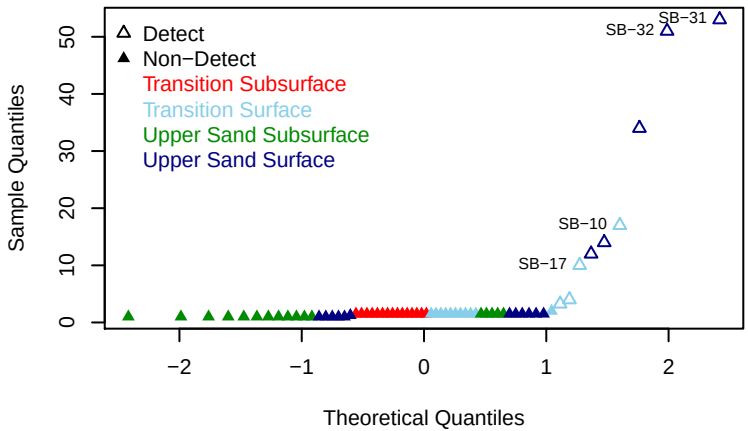
Trans Surf = Transition Subsurface
Trans Sub = Transition Surface
U.S. Surf = Upper Sand Surface
U.S. Sub = Upper Sand Subsurface

BENZO(B)FLUORANTHENE

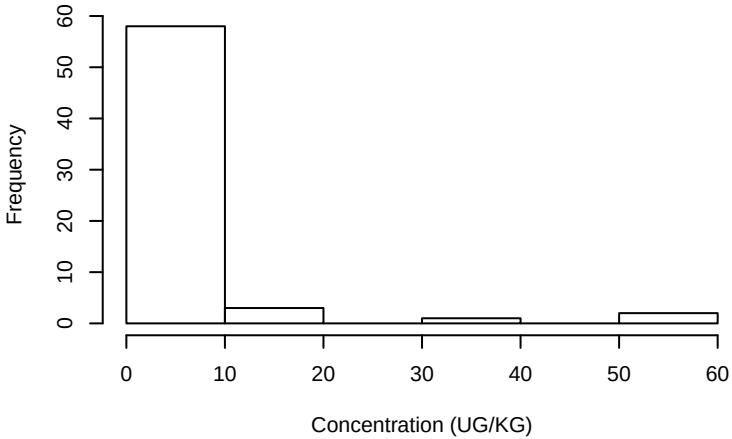
Box Plot



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

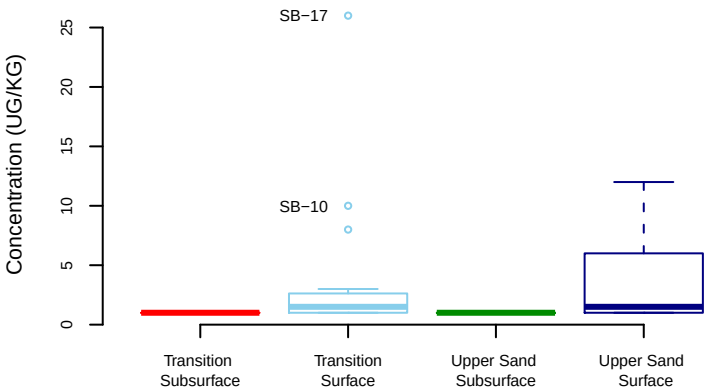
Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

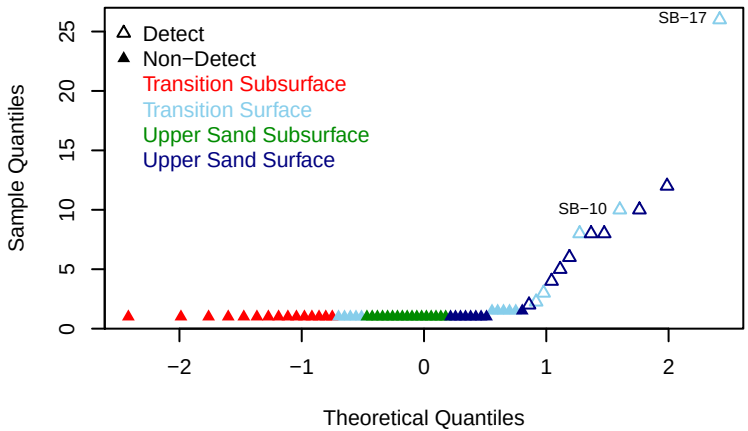
U.S. Sub = Upper Sand Subsurface

BENZO(G,H,I)PERYLENE

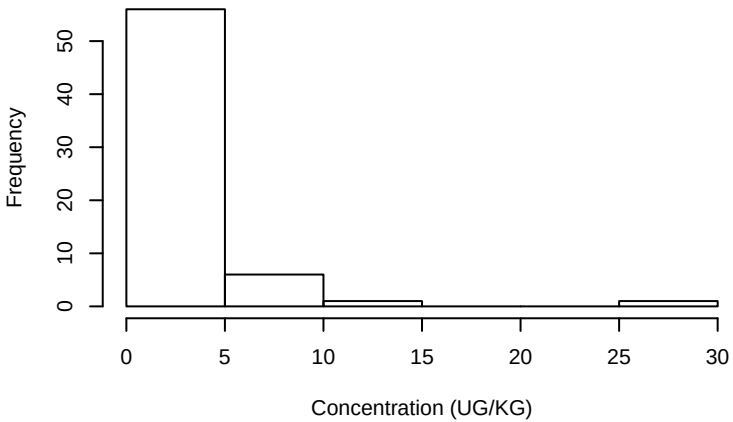
Box Plot



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

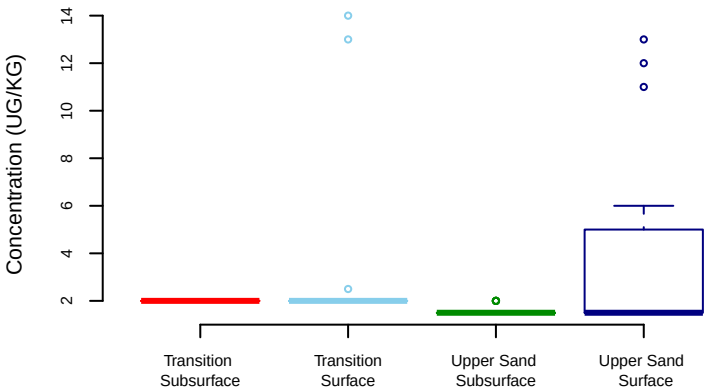
Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

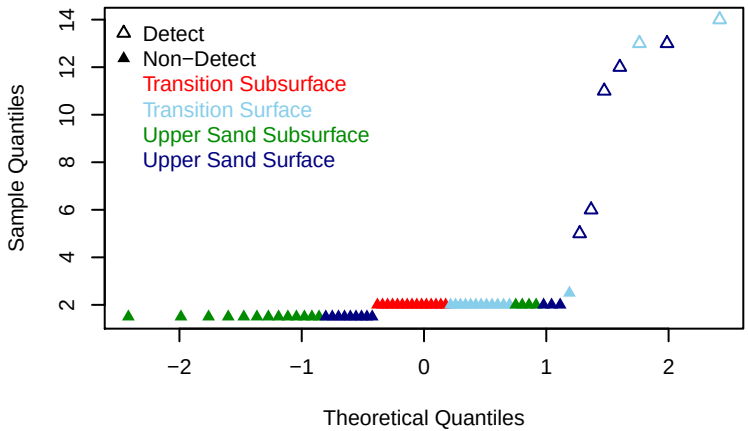
U.S. Sub = Upper Sand Subsurface

BENZO(K)FLUORANTHENE

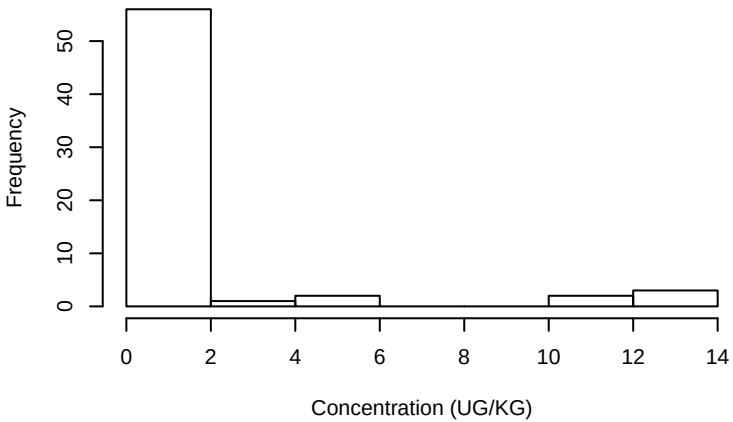
Box Plot



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

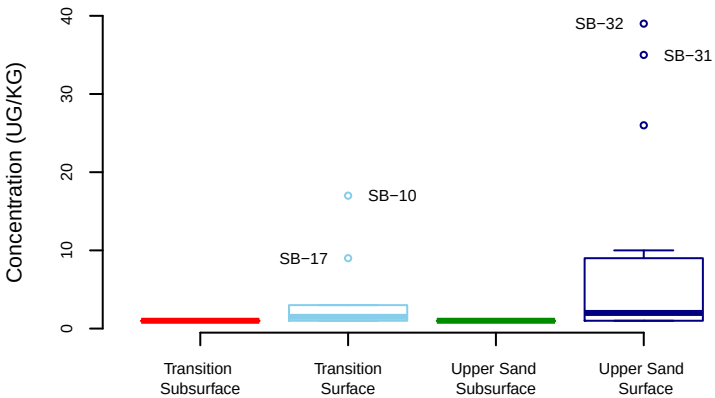
Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

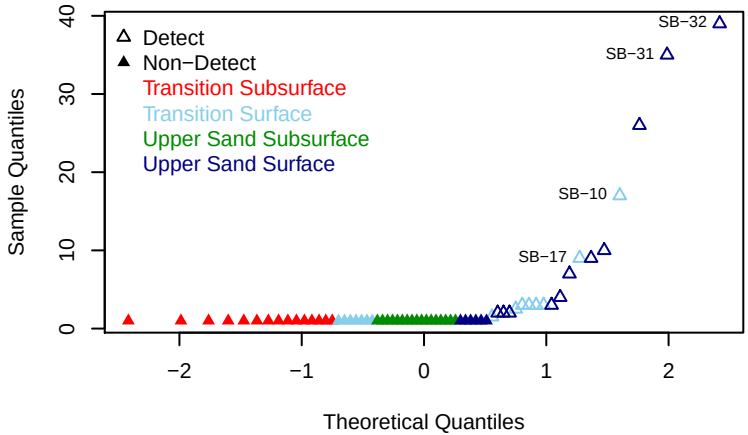
U.S. Sub = Upper Sand Subsurface

CHRYSENE

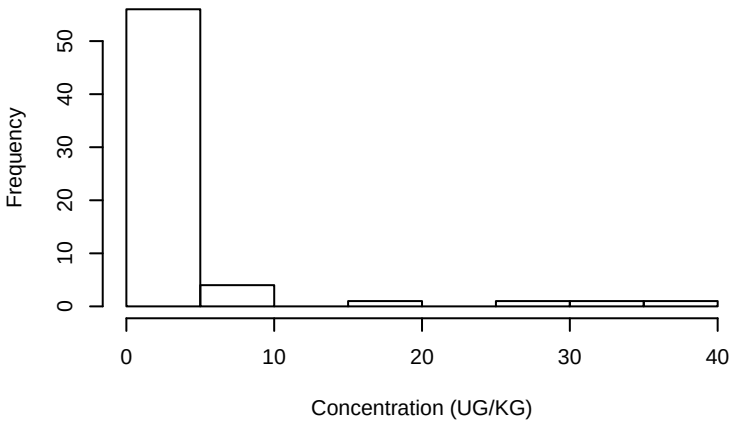
Box Plot



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

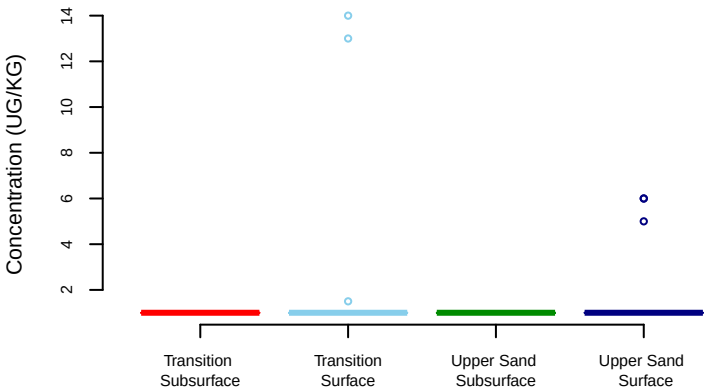
Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

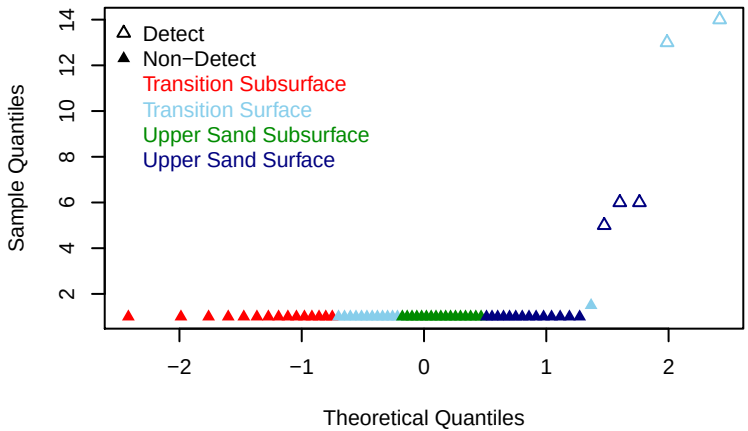
U.S. Sub = Upper Sand Subsurface

DIBENZO(A,H)ANTHRACENE

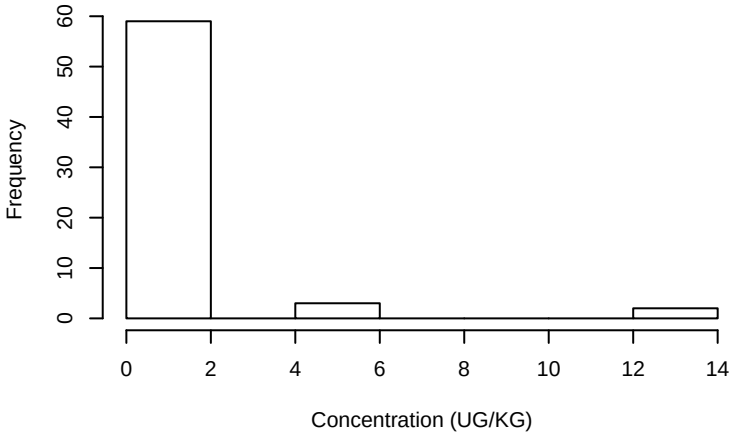
Box Plot



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

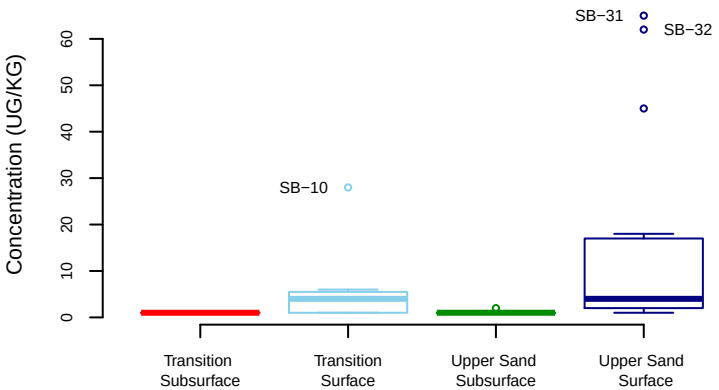
Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

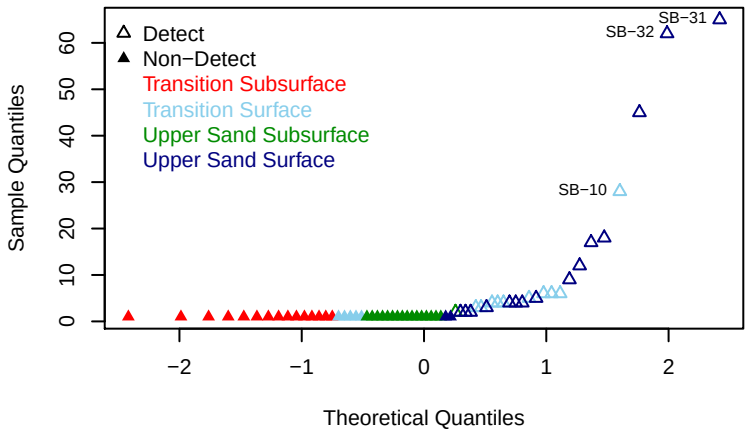
U.S. Sub = Upper Sand Subsurface

FLUORANTHENE

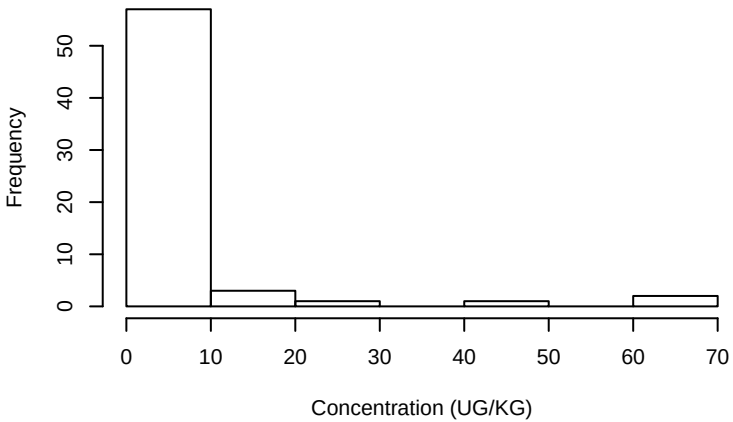
Box Plot



Normal Q−Q Plot



Histogram



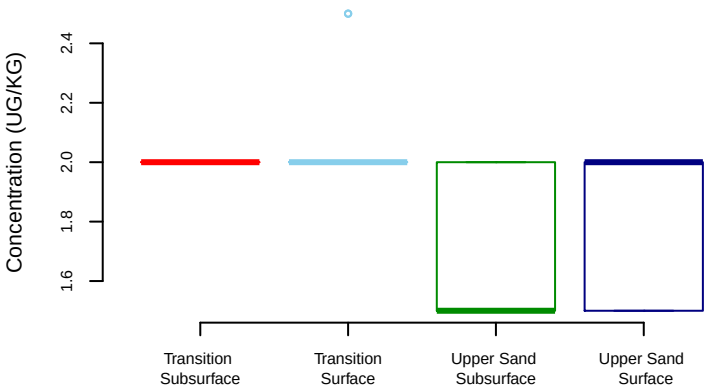
Summary Statistics

	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

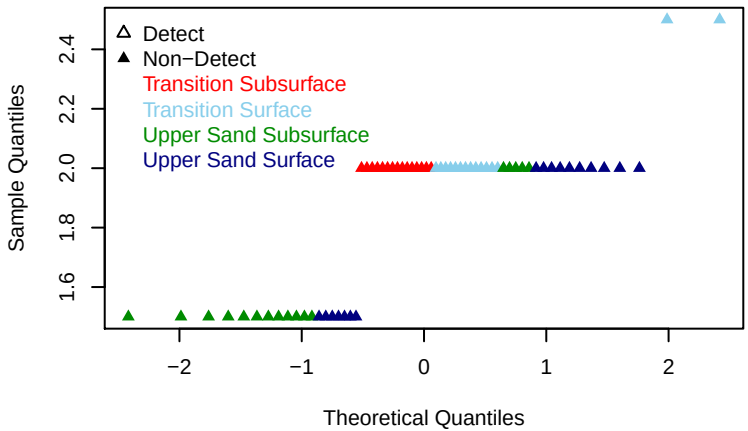
Trans Surf = Transition Subsurface
Trans Sub = Transition Surface
U.S. Surf = Upper Sand Surface
U.S. Sub = Upper Sand Subsurface

FLUORENE

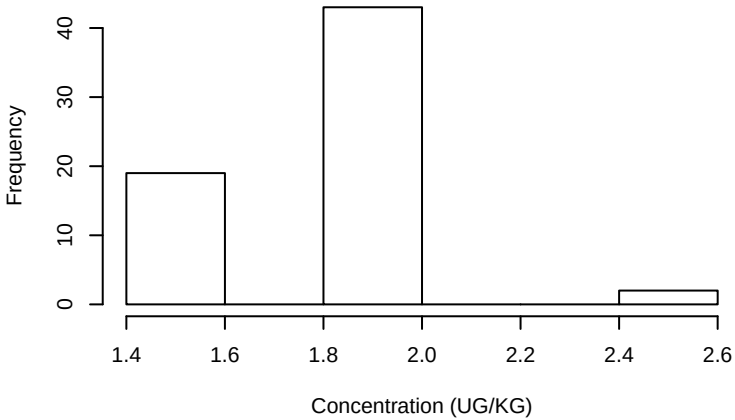
Box Plot



Normal Q−Q Plot



Histogram



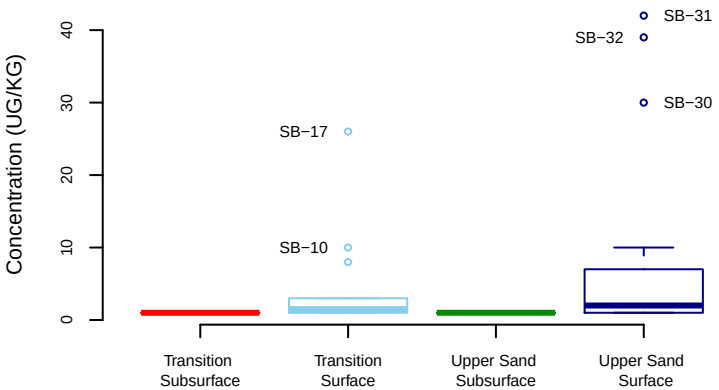
Summary Statistics

	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	2
Mean	2	2.1	1.6	1.8
75th Percentile	2	2	2	2
Maximum	2	2.5	2	2

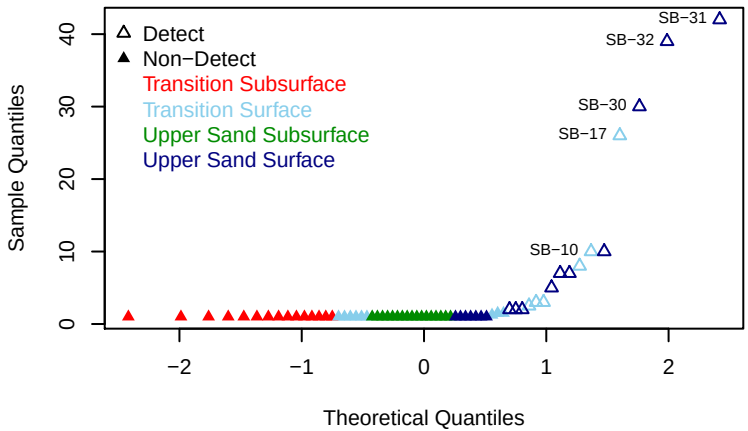
Trans Surf = Transition Subsurface
Trans Sub = Transition Surface
U.S. Surf = Upper Sand Surface
U.S. Sub = Upper Sand Subsurface

INDENO(1,2,3−CD)PYRENE

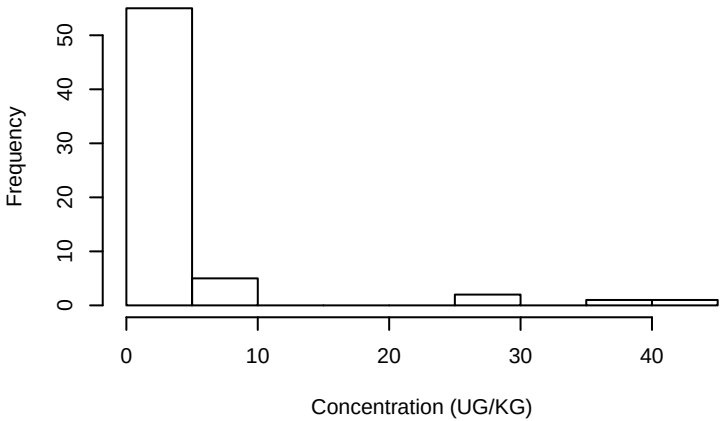
Box Plot



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

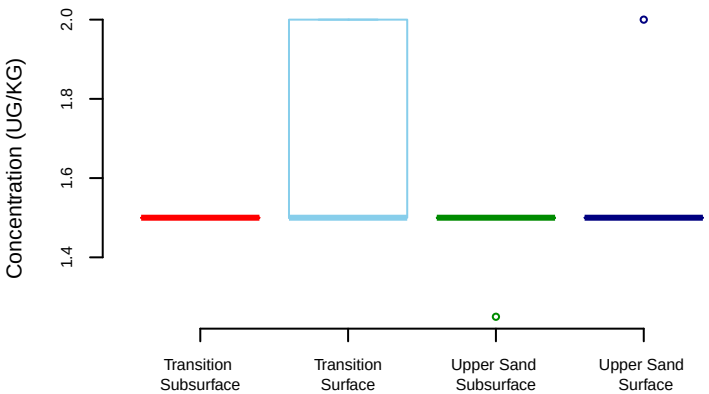
Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

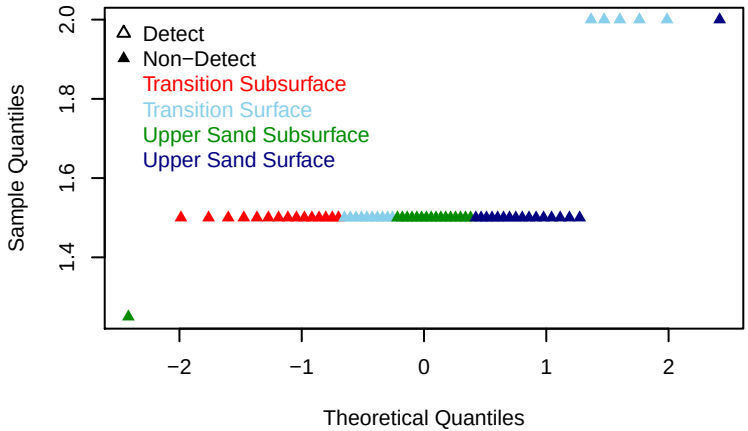
U.S. Sub = Upper Sand Subsurface

NAPHTHALENE

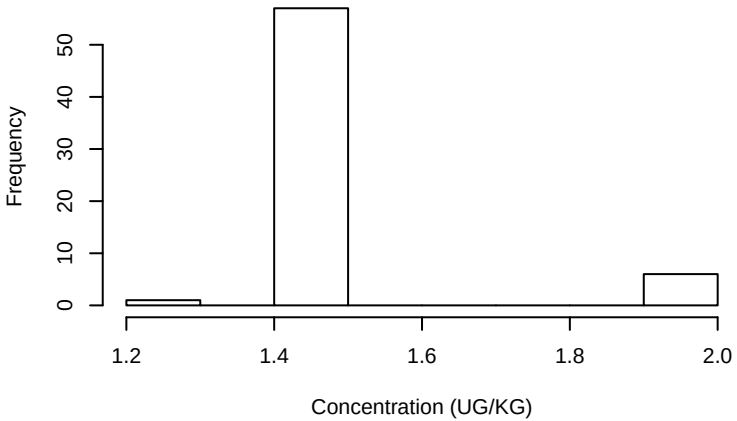
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Sub	Trans Surf	U.S. Sub	U.S. Surf
Minimum	1.5	1.5	1.2	1.5
25th Percentile	1.5	1.5	1.5	1.5
Median	1.5	1.5	1.5	1.5
Mean	1.5	1.7	1.5	1.5
75th Percentile	1.5	2	1.5	1.5
Maximum	1.5	2	1.5	2

Trans Surf = Transition Subsurface

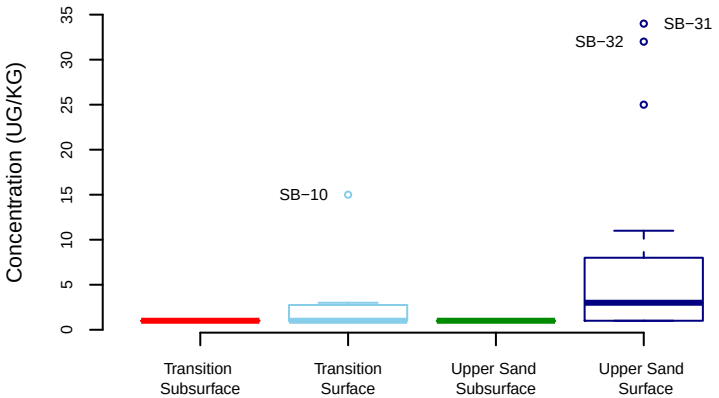
Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

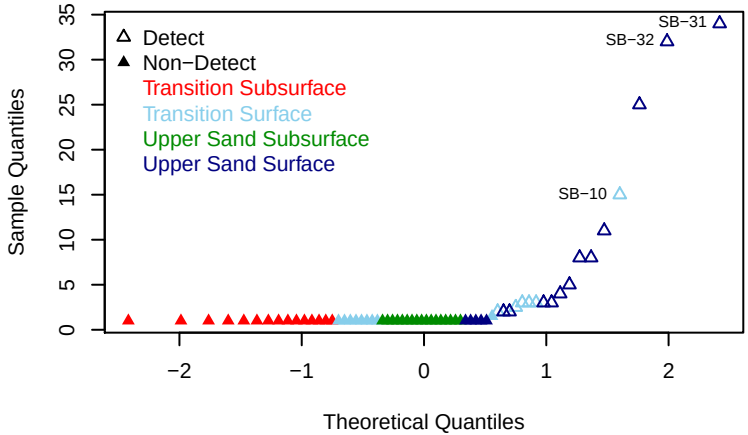
U.S. Sub = Upper Sand Subsurface

PHENANTHRENE

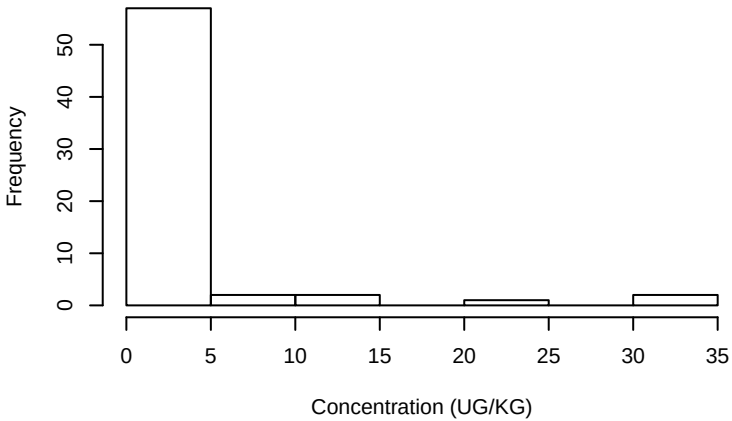
Box Plot



Normal Q−Q Plot



Histogram



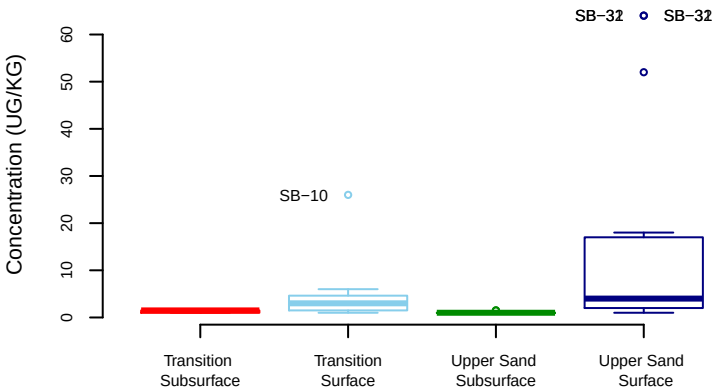
Summary Statistics

	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

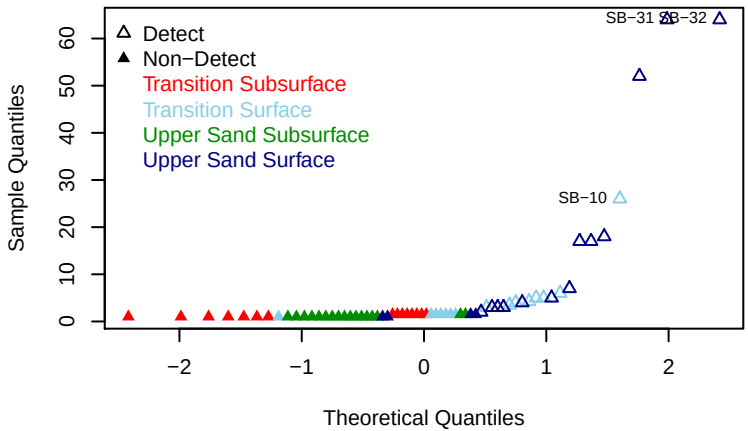
Trans Surf = Transition Subsurface
Trans Sub = Transition Surface
U.S. Surf = Upper Sand Surface
U.S. Sub = Upper Sand Subsurface

PYRENE

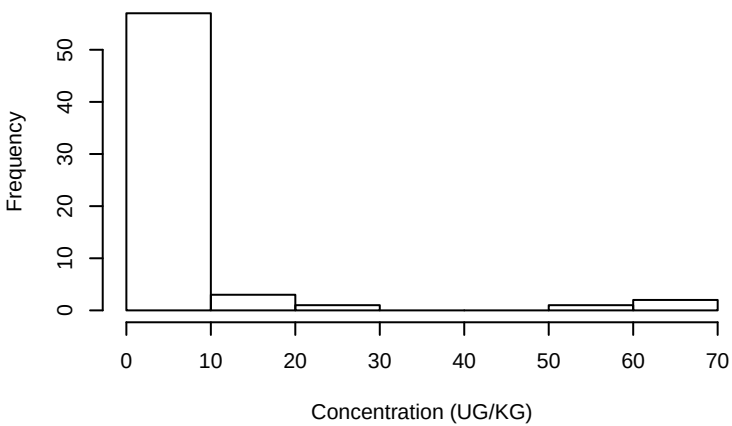
Box Plot



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	4.5	1.1	16
75th Percentile	1.5	4.6	1	17
Maximum	1.5	26	1.5	64

Trans Surf = Transition Subsurface

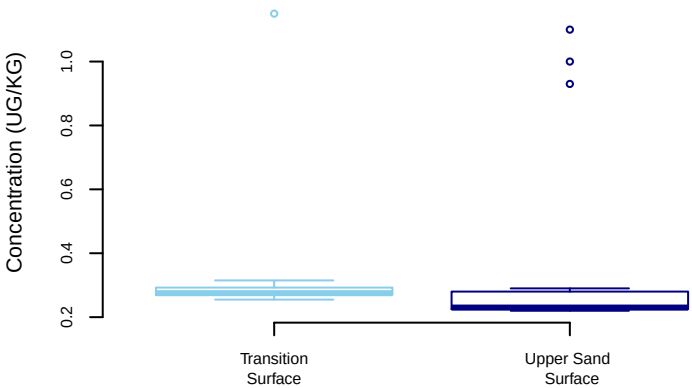
Trans Sub = Transition Surface

U.S. Surf = Upper Sand Surface

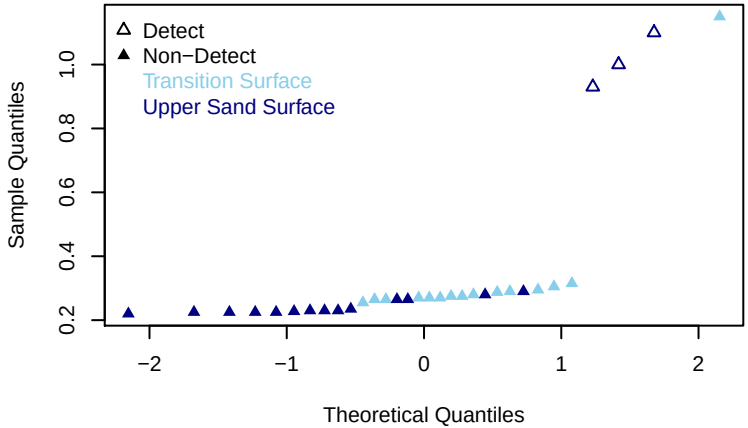
U.S. Sub = Upper Sand Subsurface

4,4'−DDD

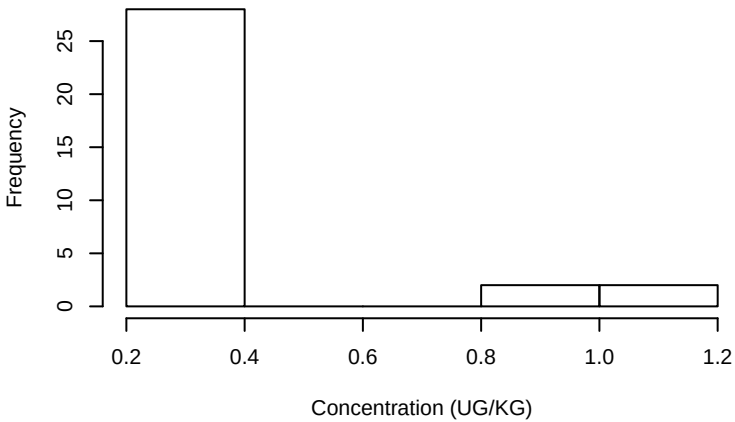
Box Plot



Normal Q−Q Plot



Histogram



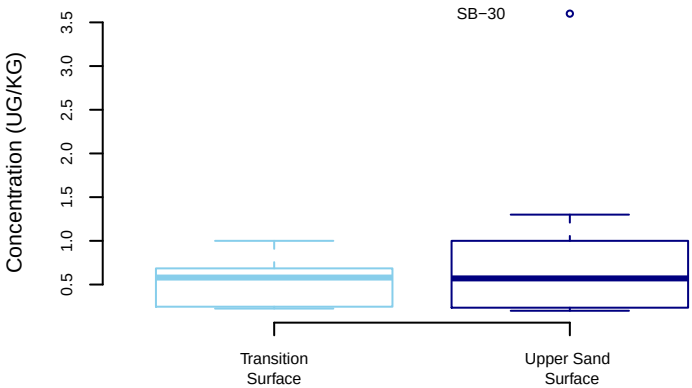
Summary Statistics

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

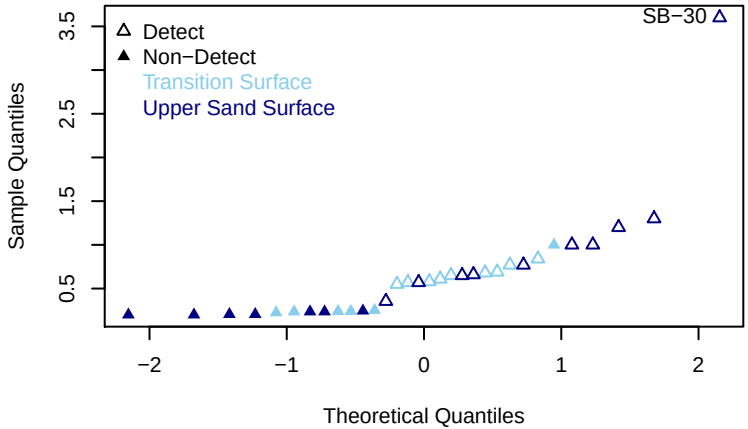
Trans Sub = Transition Surface
U.S. Surf = Upper Sand Surface

4,4'−DDE

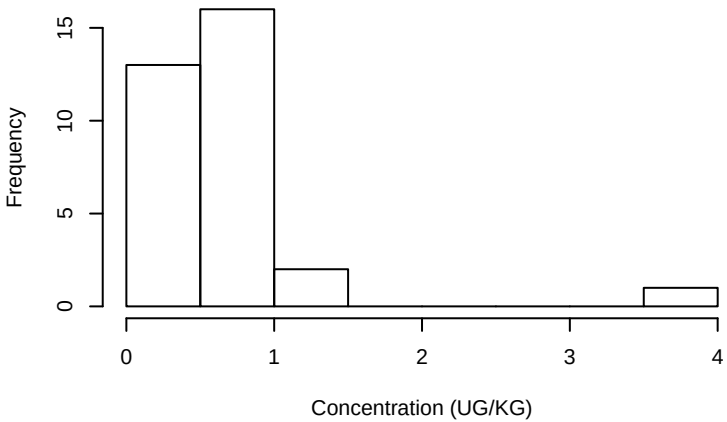
Box Plot



Normal Q−Q Plot



Histogram

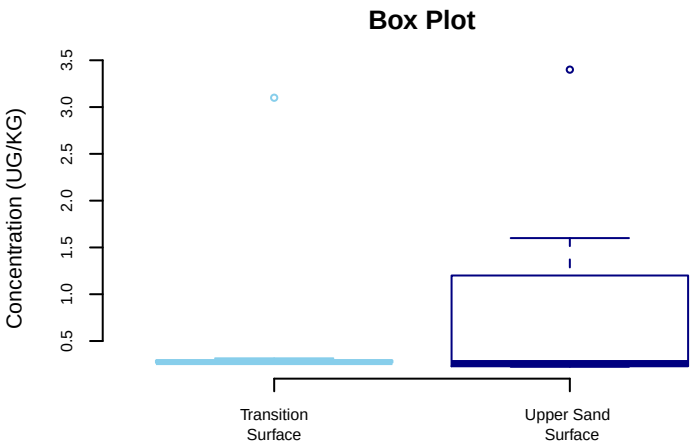


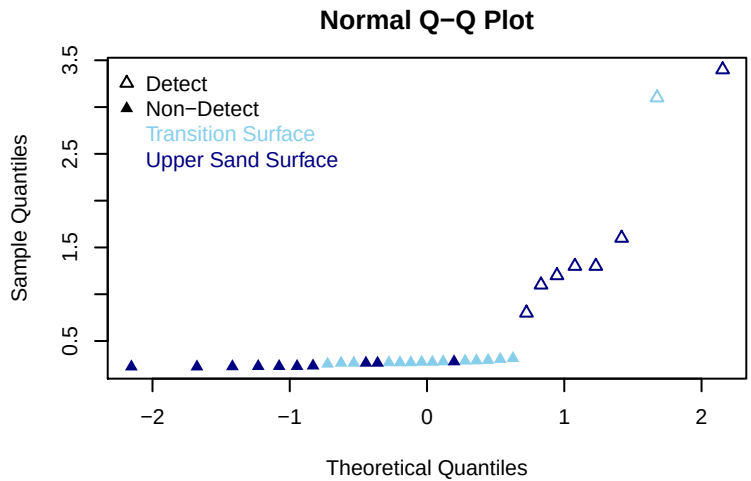
Summary Statistics

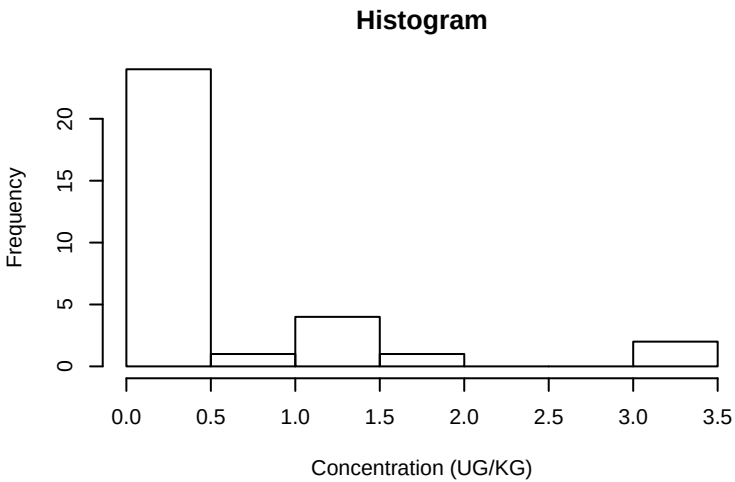
	Trans Surf	U.S. Surf
Minimum	0.23	0.2
25th Percentile	0.25	0.23
Median	0.58	0.57
Mean	0.54	0.74
75th Percentile	0.69	1
Maximum	1	3.6

Trans Sub = Transition Surface
U.S. Surf = Upper Sand Surface

4,4'−DDT







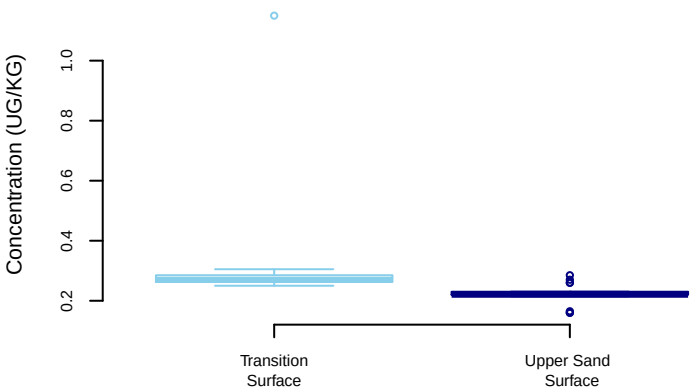
Summary Statistics

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

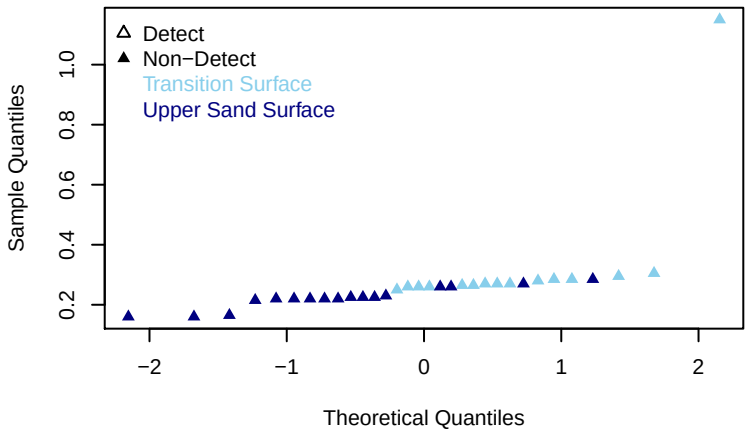
Trans Sub = Transition Surface
U.S. Surf = Upper Sand Surface

ALDRIN

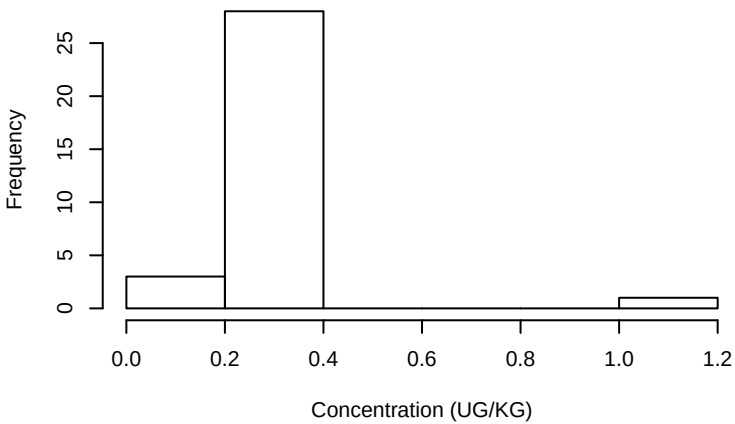
Box Plot



Normal Q−Q Plot



Histogram



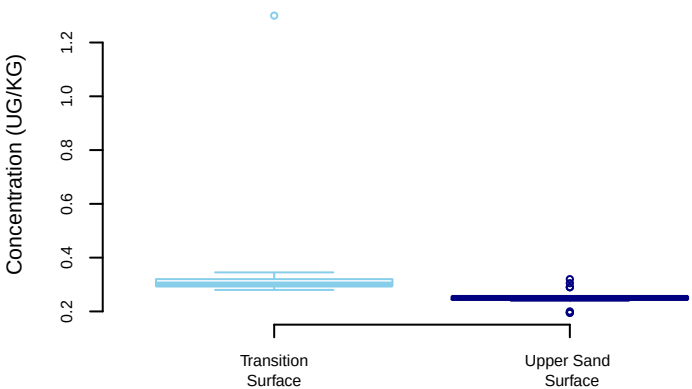
Summary Statistics

	Trans Surf	U.S. Surf
Minimum	0.25	0.16
25th Percentile	0.26	0.22
Median	0.27	0.22
Mean	0.33	0.22
75th Percentile	0.28	0.23
Maximum	1.1	0.28

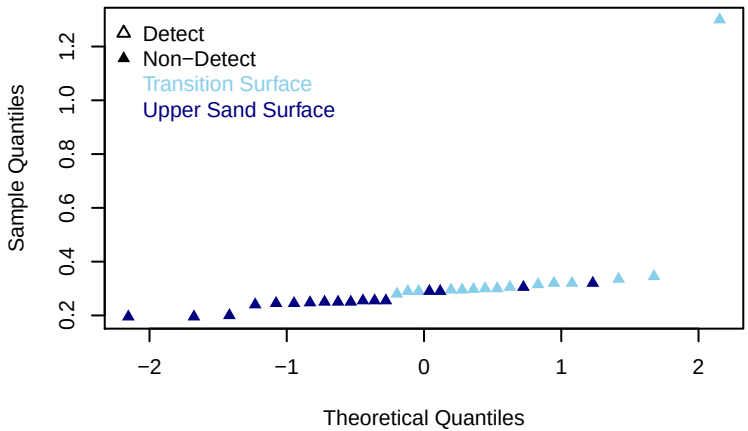
Trans Sub = Transition Surface
U.S. Surf = Upper Sand Surface

ALPHA−BHC

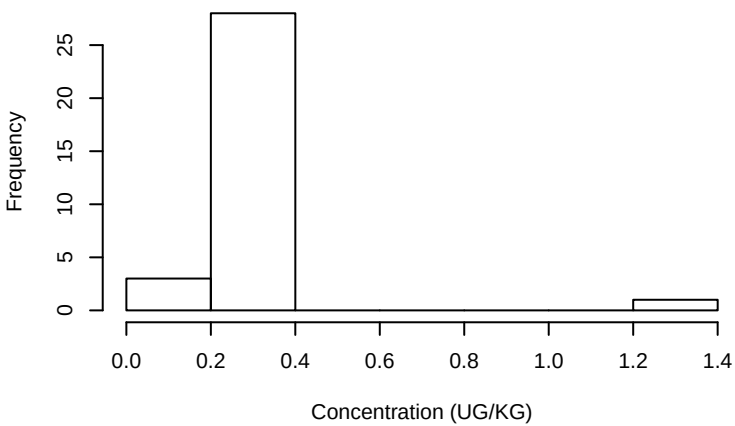
Box Plot



Normal Q−Q Plot



Histogram



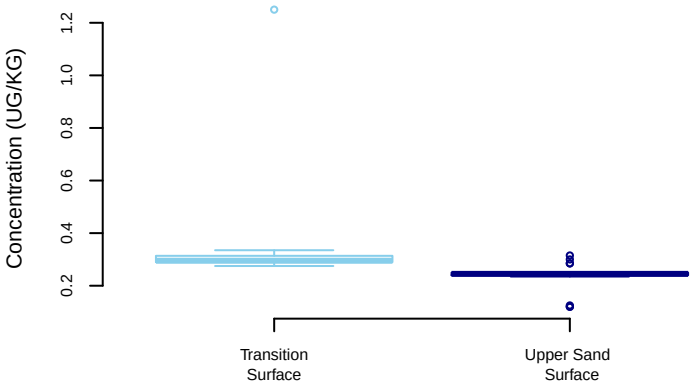
Summary Statistics

	Trans Surf	U.S. Surf
Minimum	0.28	0.2
25th Percentile	0.29	0.24
Median	0.3	0.25
Mean	0.37	0.25
75th Percentile	0.32	0.26
Maximum	1.3	0.32

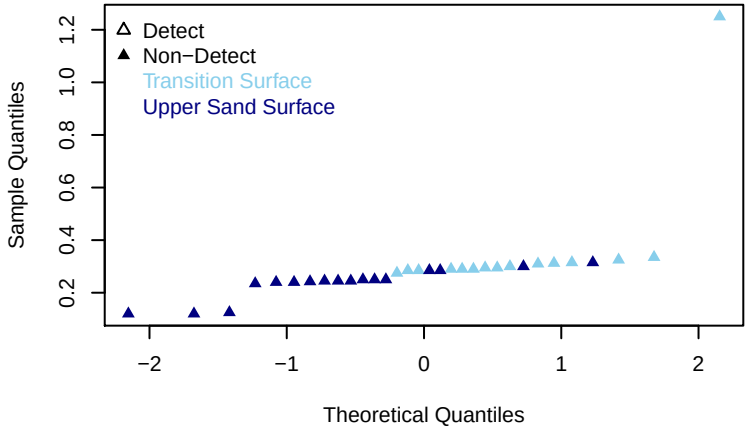
Trans Sub = Transition Surface
U.S. Surf = Upper Sand Surface

ALPHA−CHLORDANE

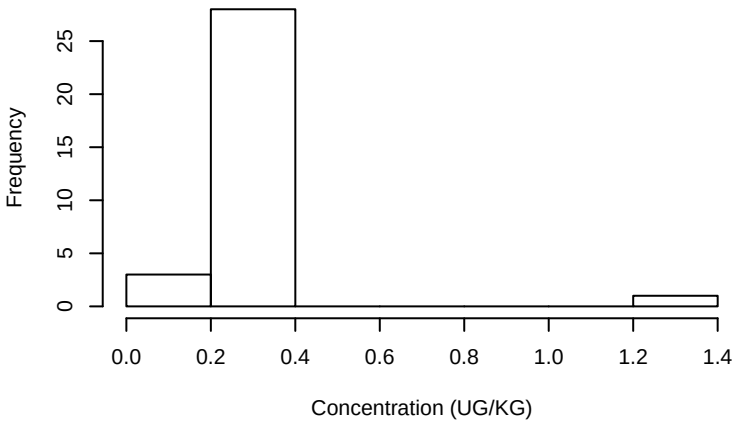
Box Plot



Normal Q−Q Plot



Histogram



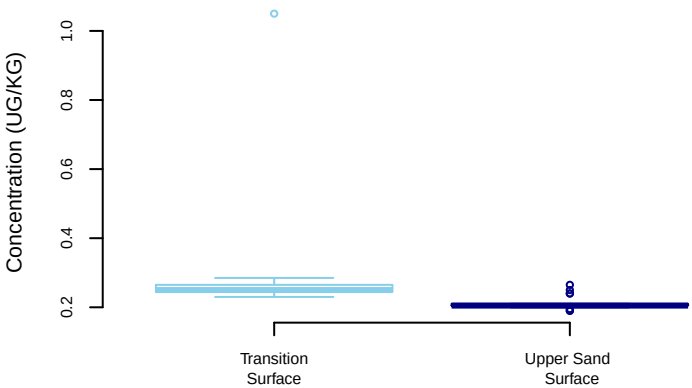
Summary Statistics

	Trans Surf	U.S. Surf
Minimum	0.28	0.12
25th Percentile	0.29	0.24
Median	0.29	0.24
Mean	0.36	0.23
75th Percentile	0.31	0.25
Maximum	1.2	0.32

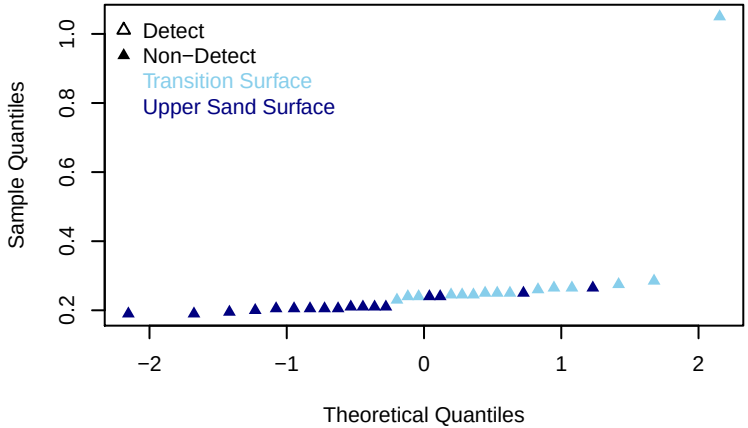
Trans Sub = Transition Surface
U.S. Surf = Upper Sand Surface

BETA−BHC

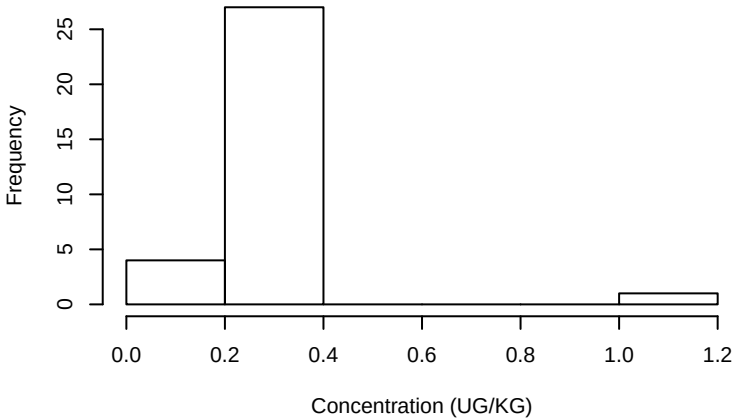
Box Plot



Normal Q−Q Plot



Histogram



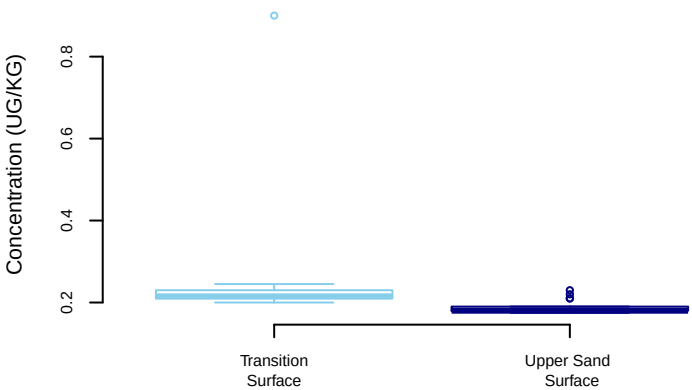
Summary Statistics

	Trans Surf	U.S. Surf
Minimum	0.23	0.19
25th Percentile	0.24	0.2
Median	0.25	0.2
Mean	0.31	0.21
75th Percentile	0.27	0.21
Maximum	1.1	0.27

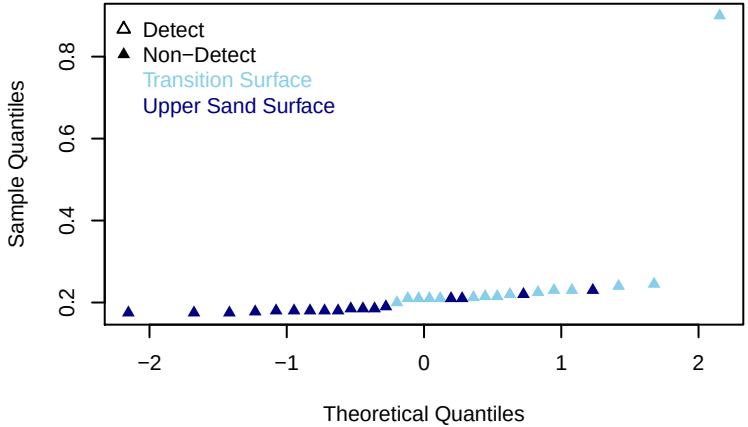
Trans Sub = Transition Surface
U.S. Surf = Upper Sand Surface

DELTA−BHC

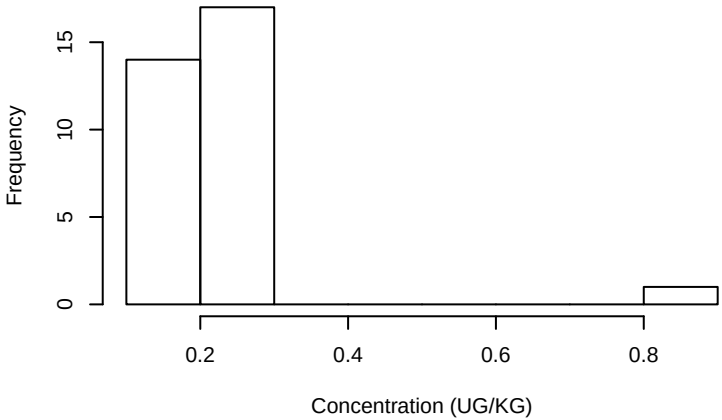
Box Plot



Normal Q−Q Plot



Histogram



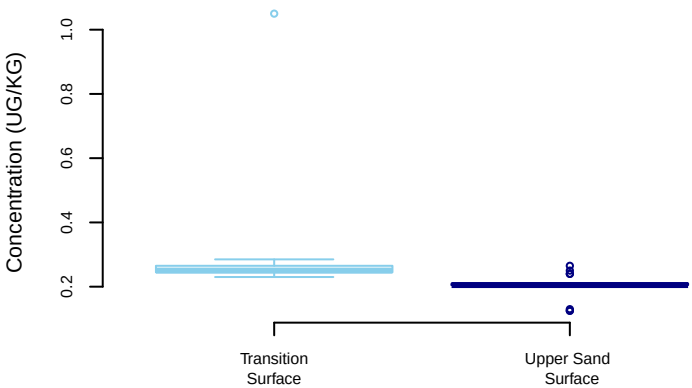
Summary Statistics

	Trans Surf	U.S. Surf
Minimum	0.2	0.17
25th Percentile	0.21	0.18
Median	0.21	0.18
Mean	0.26	0.19
75th Percentile	0.23	0.19
Maximum	0.9	0.23

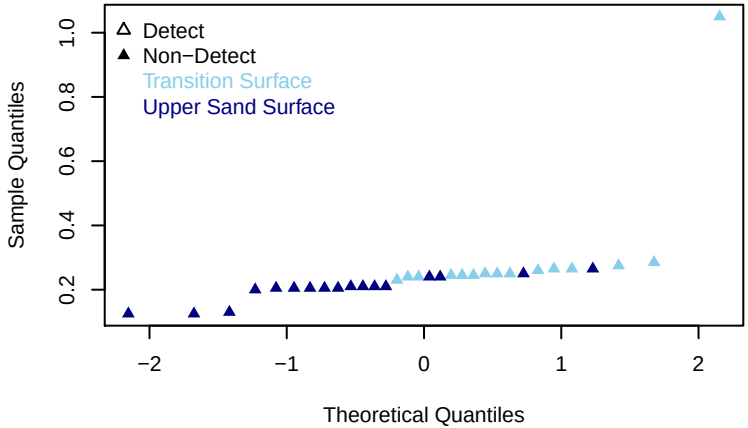
Trans Sub = Transition Surface
U.S. Surf = Upper Sand Surface

DIELDRIN

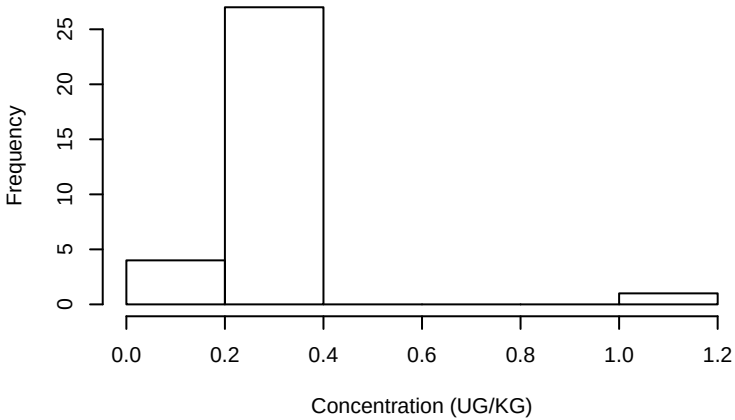
Box Plot



Normal Q−Q Plot



Histogram



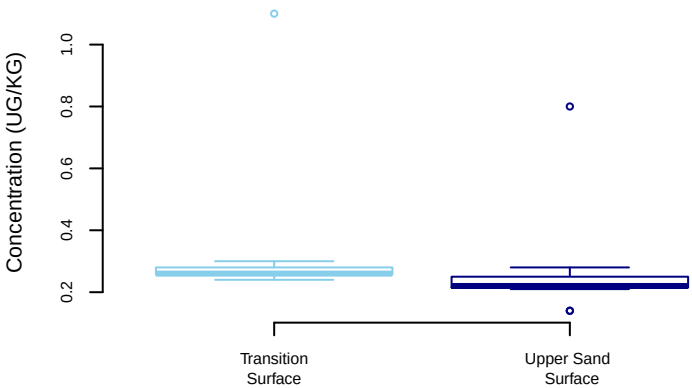
Summary Statistics

	Trans Surf	U.S. Surf
Minimum	0.23	0.12
25th Percentile	0.24	0.2
Median	0.25	0.2
Mean	0.31	0.2
75th Percentile	0.27	0.21
Maximum	1.1	0.27

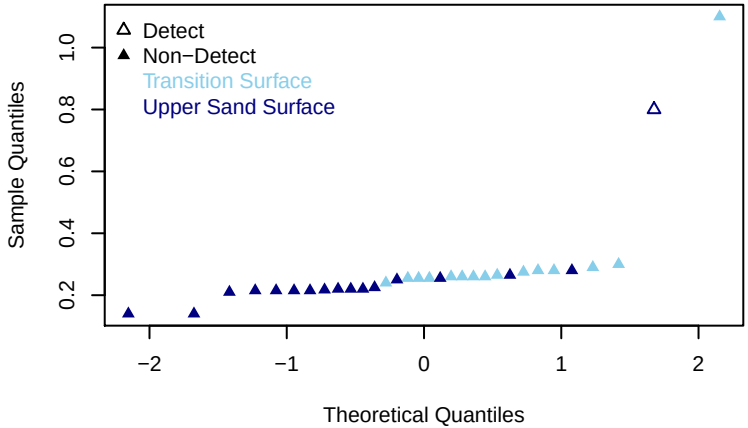
Trans Sub = Transition Surface
U.S. Surf = Upper Sand Surface

ENDOSULFAN I

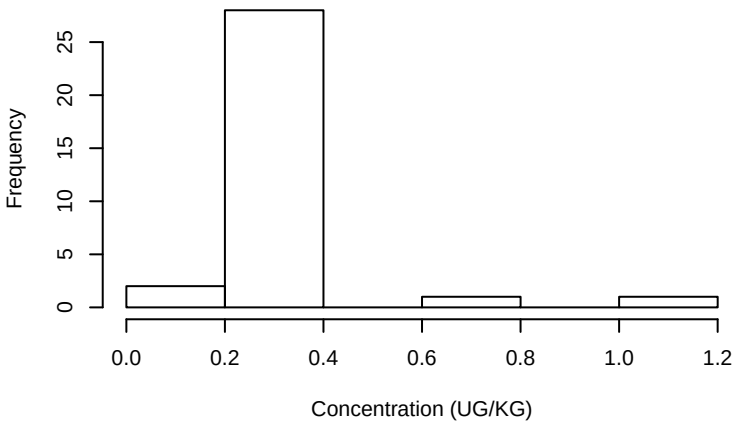
Box Plot



Normal Q−Q Plot



Histogram

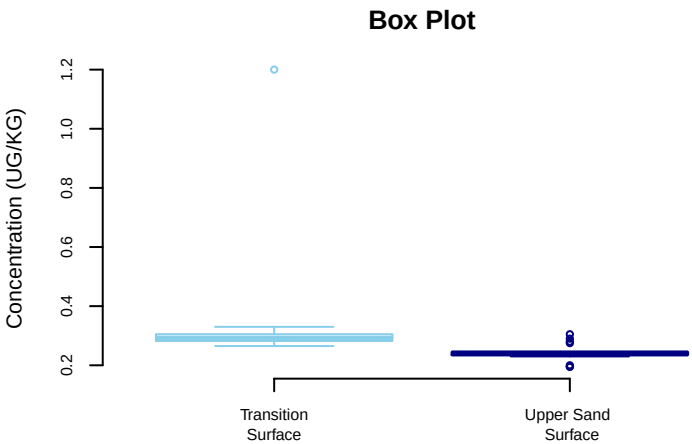


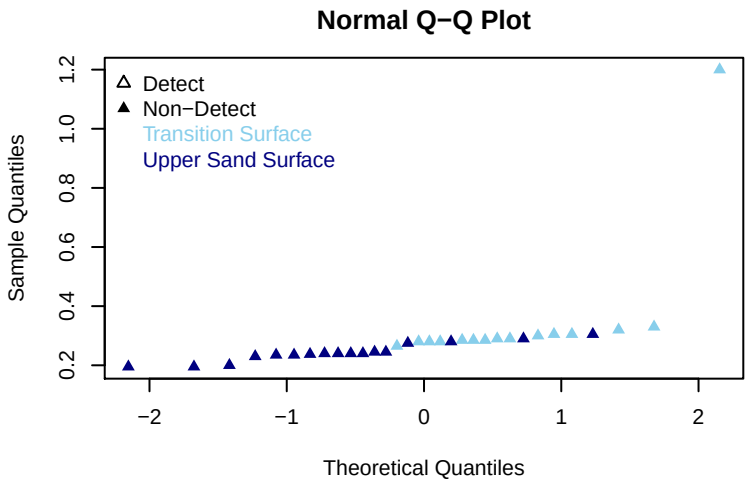
Summary Statistics

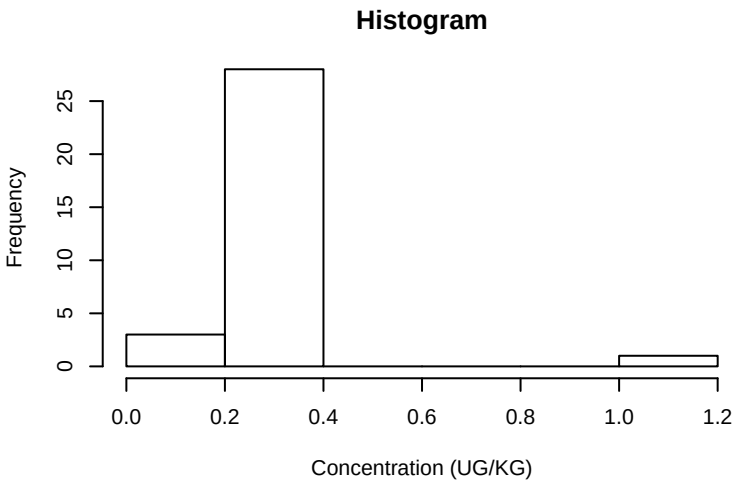
	Trans Surf	U.S. Surf
Minimum	0.24	0.14
25th Percentile	0.26	0.21
Median	0.26	0.22
Mean	0.32	0.25
75th Percentile	0.28	0.25
Maximum	1.1	0.8

Trans Sub = Transition Surface
U.S. Surf = Upper Sand Surface

ENDOSULFAN II







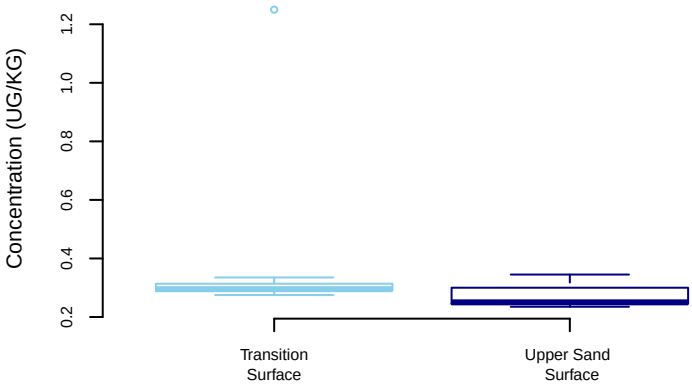
Summary Statistics

	Trans Surf	U.S. Surf
Minimum	0.27	0.2
25th Percentile	0.28	0.23
Median	0.29	0.24
Mean	0.35	0.24
75th Percentile	0.3	0.24
Maximum	1.2	0.3

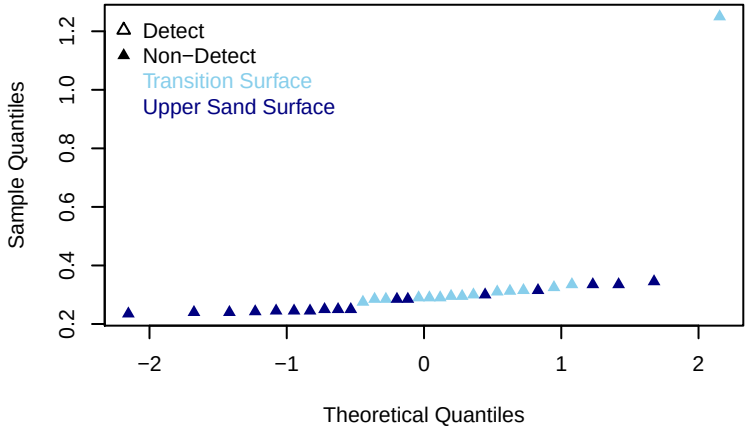
Trans Sub = Transition Surface
U.S. Surf = Upper Sand Surface

ENDOSULFAN SULFATE

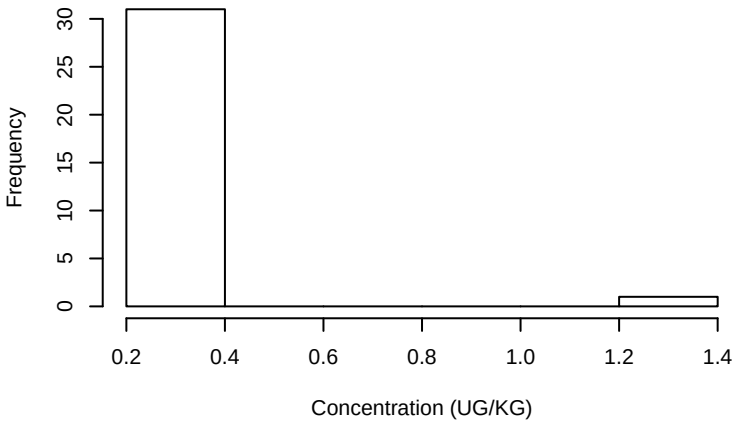
Box Plot



Normal Q−Q Plot



Histogram



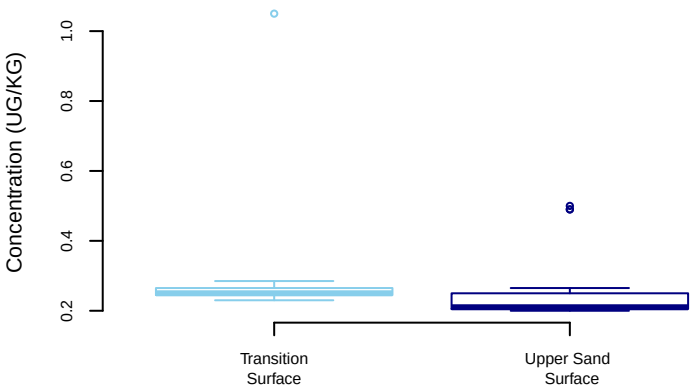
Summary Statistics

	Trans Surf	U.S. Surf
Minimum	0.28	0.23
25th Percentile	0.29	0.24
Median	0.29	0.25
Mean	0.36	0.27
75th Percentile	0.31	0.3
Maximum	1.2	0.34

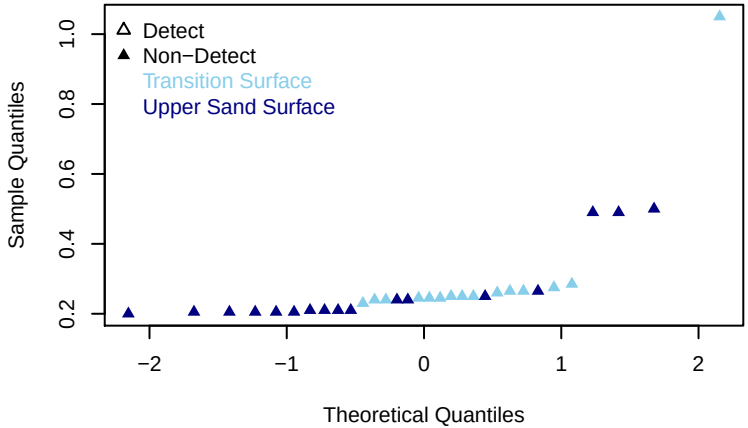
Trans Sub = Transition Surface
U.S. Surf = Upper Sand Surface

ENDRIN

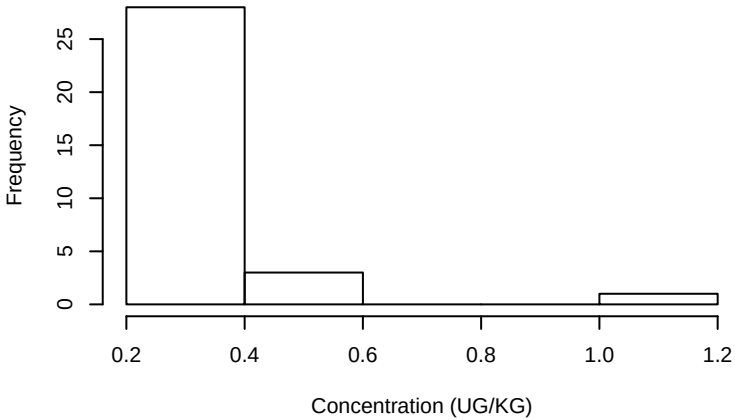
Box Plot



Normal Q−Q Plot



Histogram



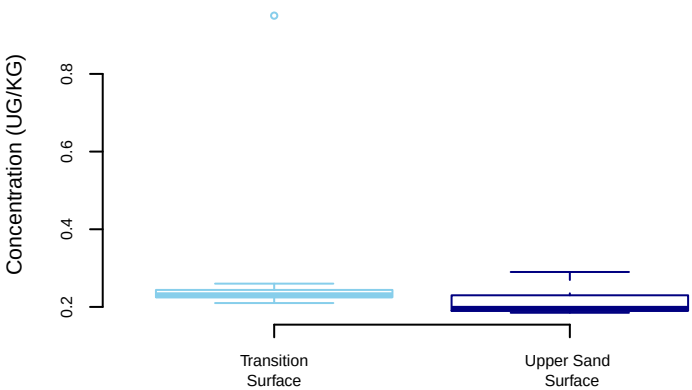
Summary Statistics

	Trans Surf	U.S. Surf
Minimum	0.23	0.2
25th Percentile	0.24	0.2
Median	0.25	0.21
Mean	0.31	0.27
75th Percentile	0.27	0.25
Maximum	1.1	0.5

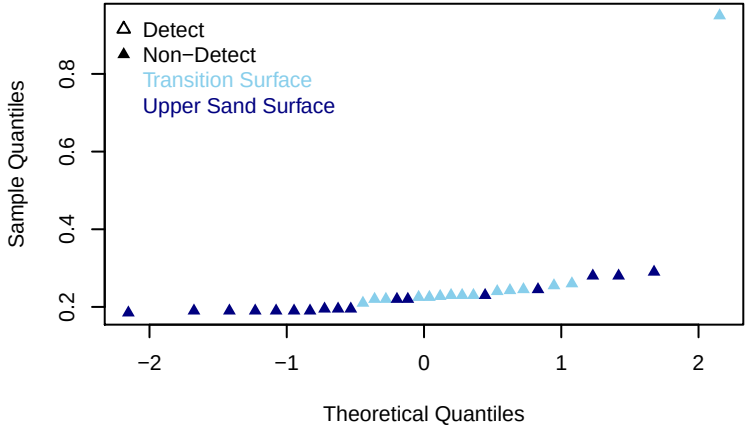
Trans Sub = Transition Surface
U.S. Surf = Upper Sand Surface

ENDRIN ALDEHYDE

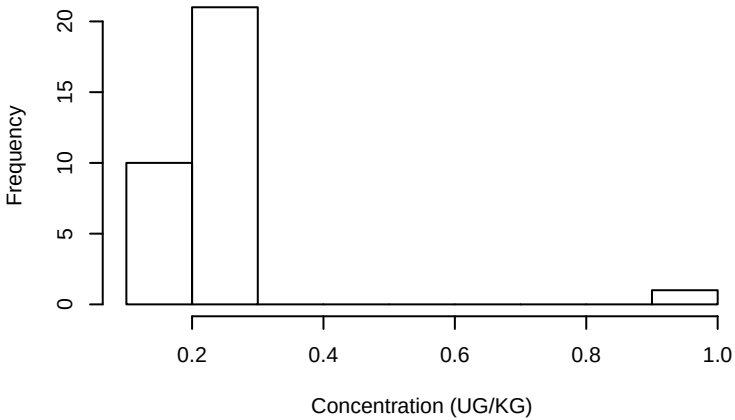
Box Plot



Normal Q−Q Plot



Histogram

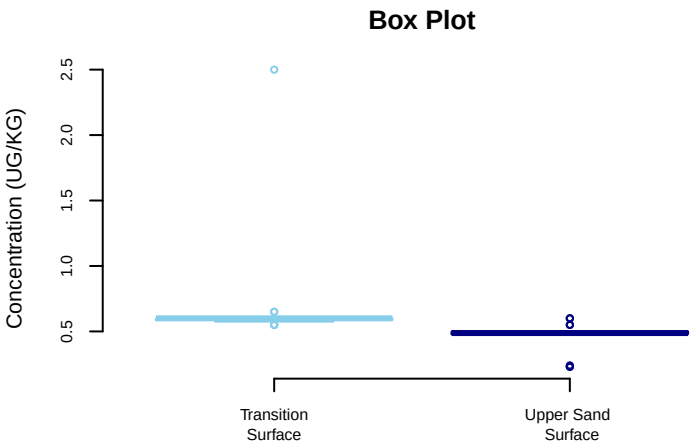


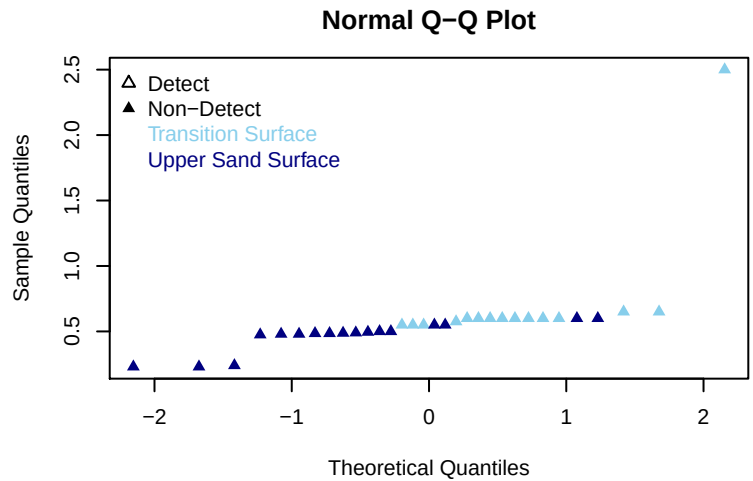
Summary Statistics

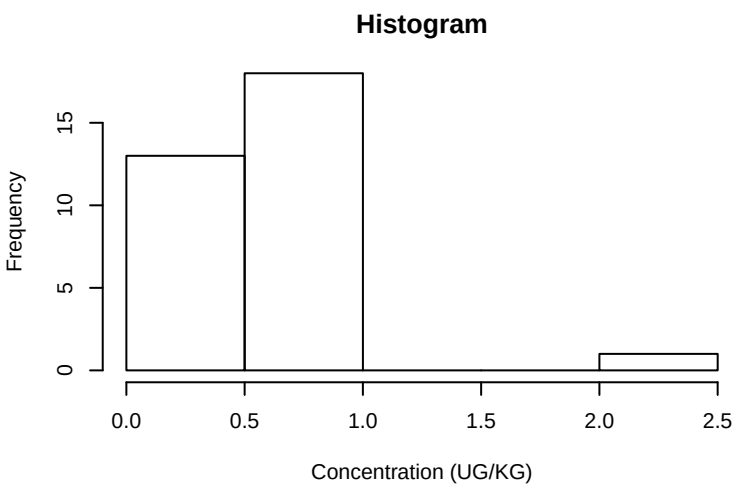
	Trans Surf	U.S. Surf
Minimum	0.21	0.18
25th Percentile	0.23	0.19
Median	0.23	0.2
Mean	0.28	0.22
75th Percentile	0.24	0.23
Maximum	0.95	0.29

Trans Sub = Transition Surface
U.S. Surf = Upper Sand Surface

ENDRIN KETONE







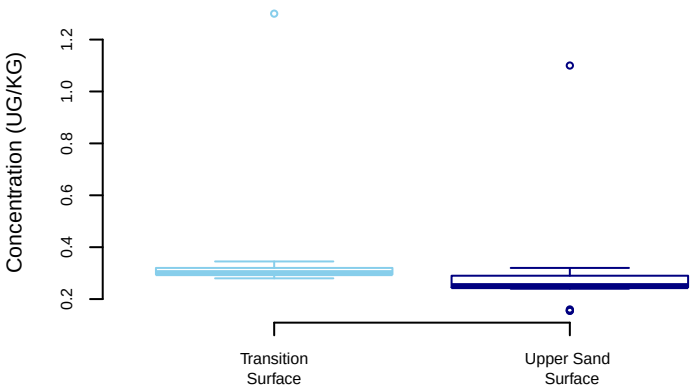
Summary Statistics

	Trans Surf	U.S. Surf
Minimum	0.55	0.23
25th Percentile	0.59	0.48
Median	0.6	0.49
Mean	0.72	0.46
75th Percentile	0.6	0.5
Maximum	2.5	0.6

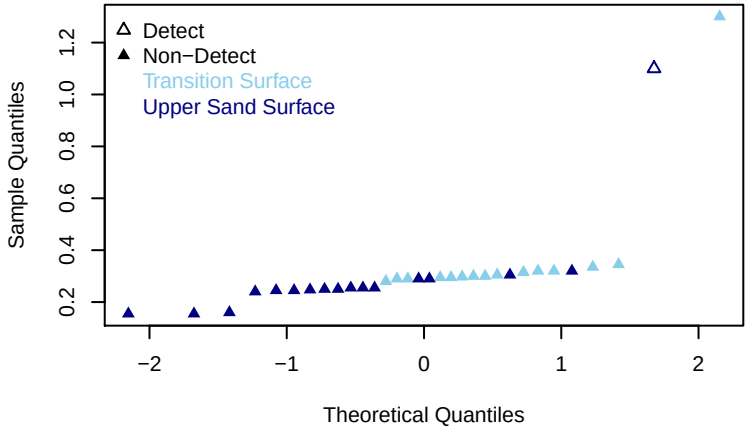
Trans Sub = Transition Surface
U.S. Surf = Upper Sand Surface

GAMMA−BHC (LINDANE)

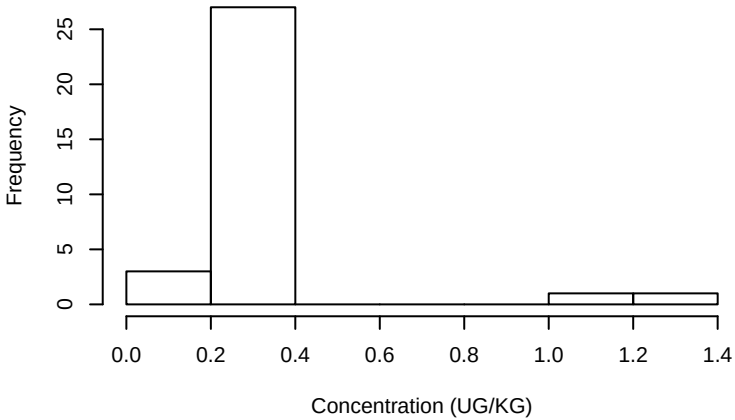
Box Plot



Normal Q−Q Plot



Histogram



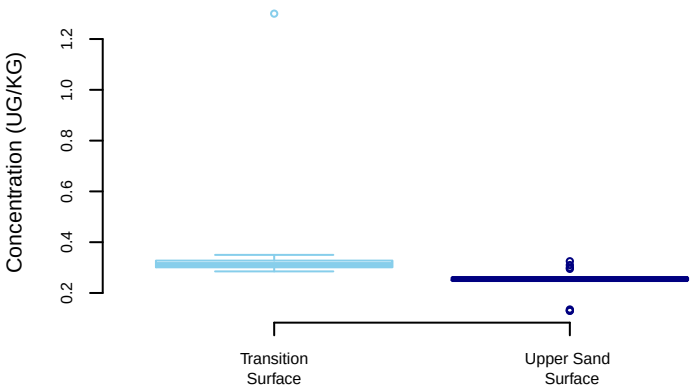
Summary Statistics

	Trans Surf	U.S. Surf
Minimum	0.28	0.15
25th Percentile	0.29	0.24
Median	0.3	0.25
Mean	0.37	0.3
75th Percentile	0.32	0.29
Maximum	1.3	1.1

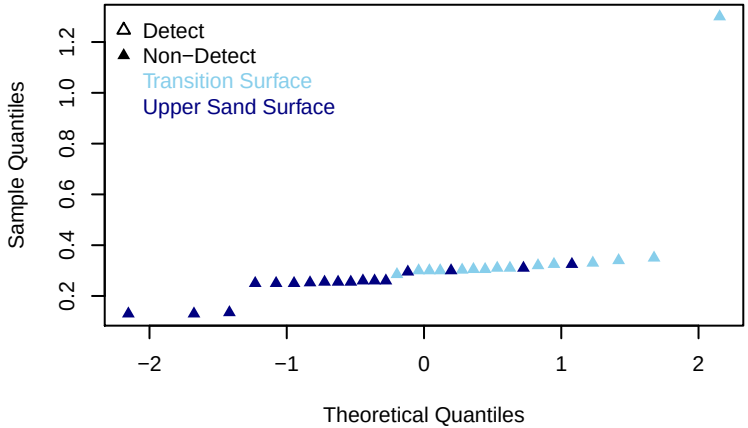
Trans Sub = Transition Surface
U.S. Surf = Upper Sand Surface

GAMMA−CHLORDANE

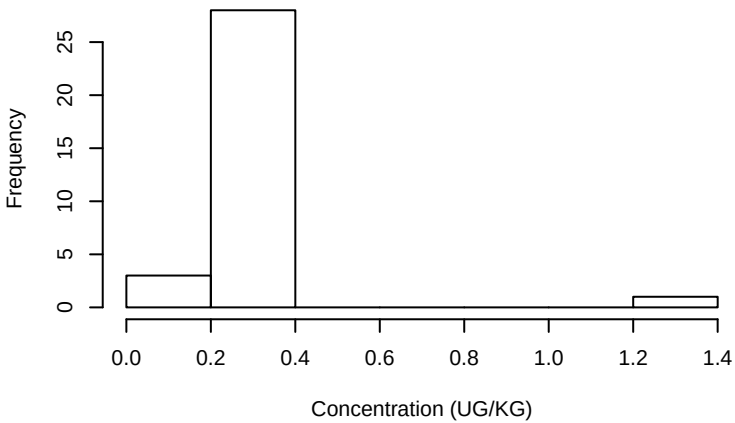
Box Plot



Normal Q−Q Plot



Histogram



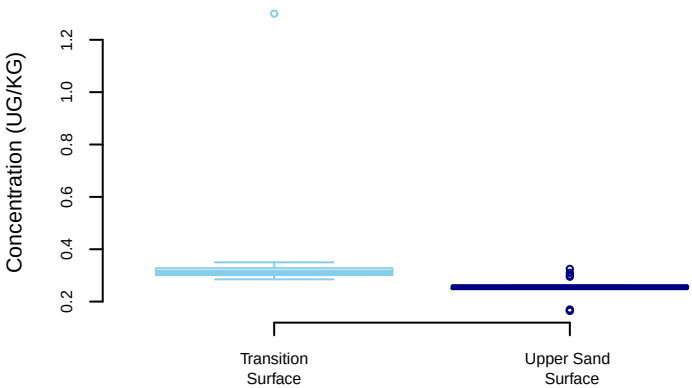
Summary Statistics

	Trans Surf	U.S. Surf
Minimum	0.28	0.13
25th Percentile	0.3	0.25
Median	0.31	0.26
Mean	0.38	0.25
75th Percentile	0.33	0.26
Maximum	1.3	0.33

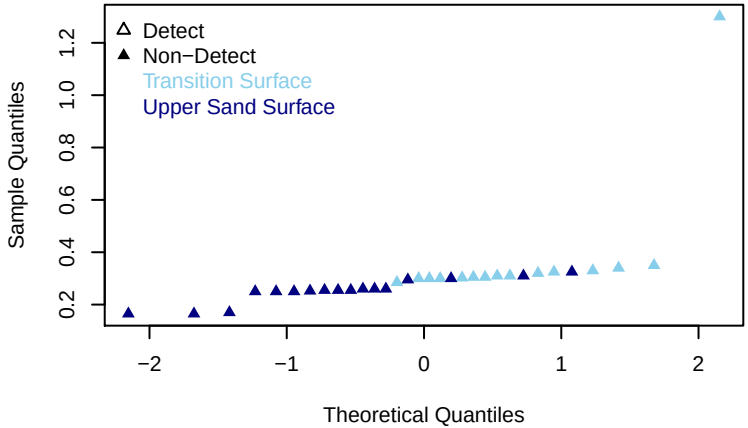
Trans Sub = Transition Surface
U.S. Surf = Upper Sand Surface

HEPTACHLOR

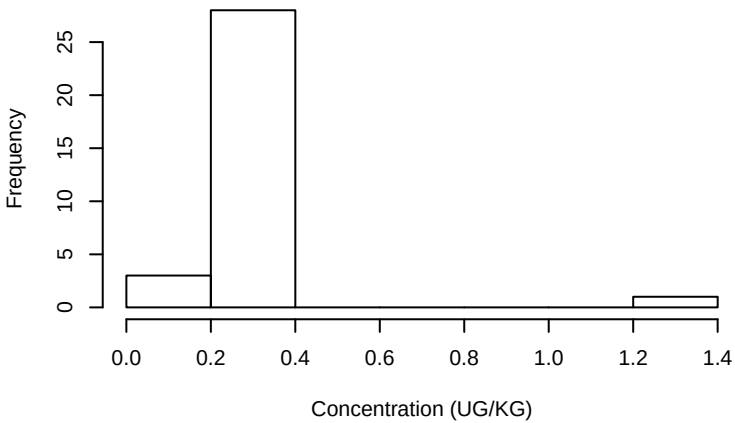
Box Plot



Normal Q−Q Plot



Histogram

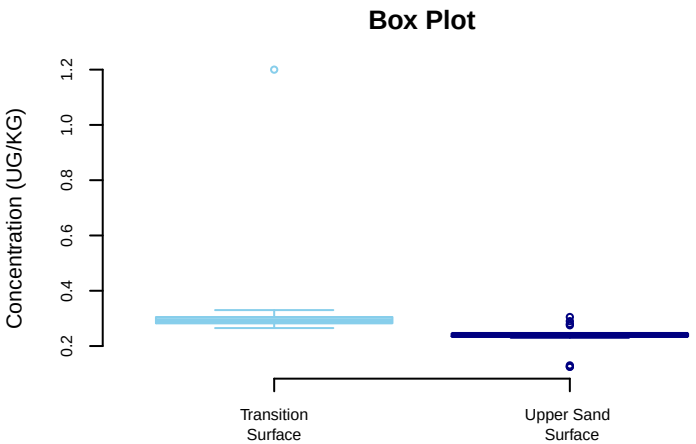


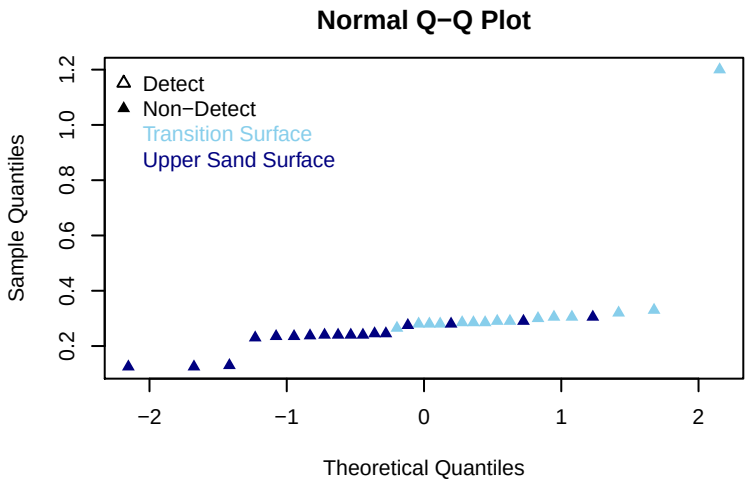
Summary Statistics

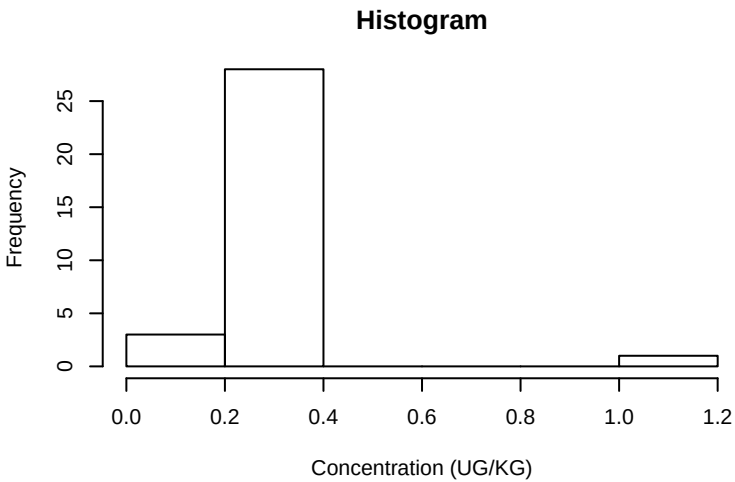
	Trans Surf	U.S. Surf
Minimum	0.28	0.17
25th Percentile	0.3	0.25
Median	0.31	0.26
Mean	0.38	0.25
75th Percentile	0.33	0.26
Maximum	1.3	0.33

Trans Sub = Transition Surface
U.S. Surf = Upper Sand Surface

HEPTACHLOR EPOXIDE





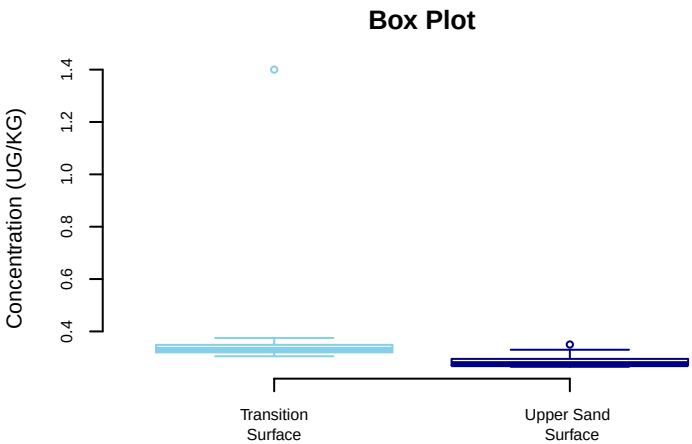


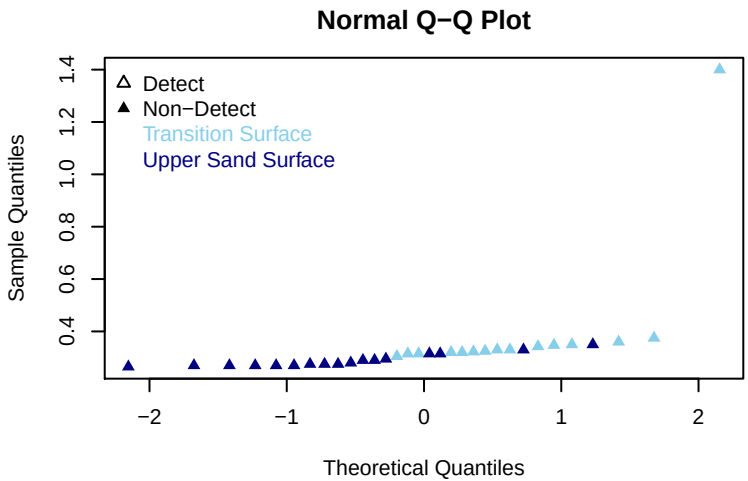
Summary Statistics

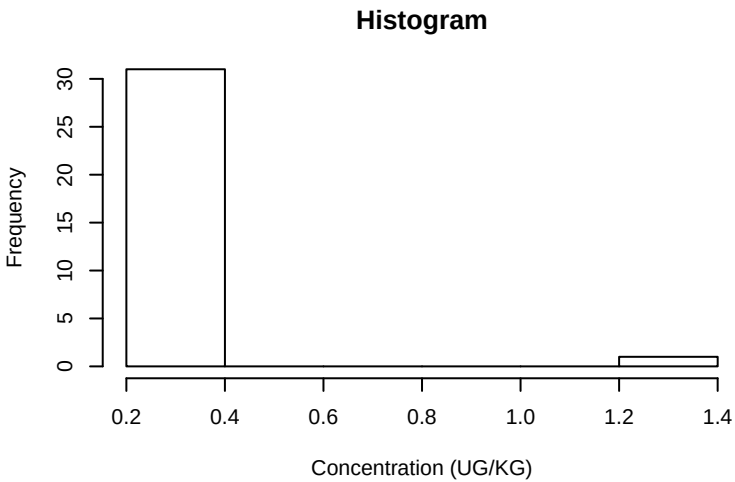
	Trans Surf	U.S. Surf
Minimum	0.27	0.12
25th Percentile	0.28	0.23
Median	0.29	0.24
Mean	0.35	0.23
75th Percentile	0.3	0.24
Maximum	1.2	0.3

Trans Sub = Transition Surface
U.S. Surf = Upper Sand Surface

METHOXYCHLOR





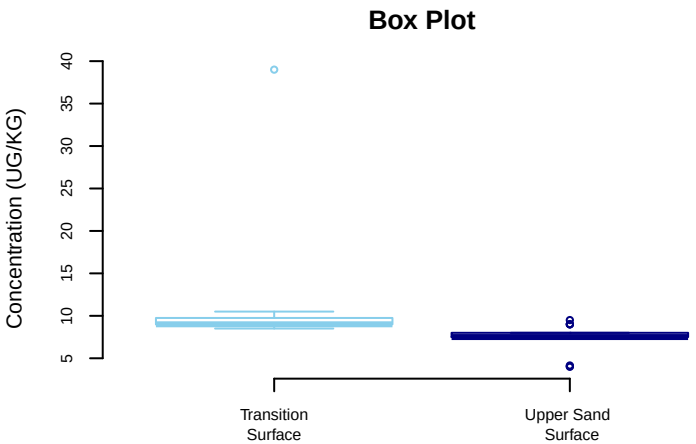


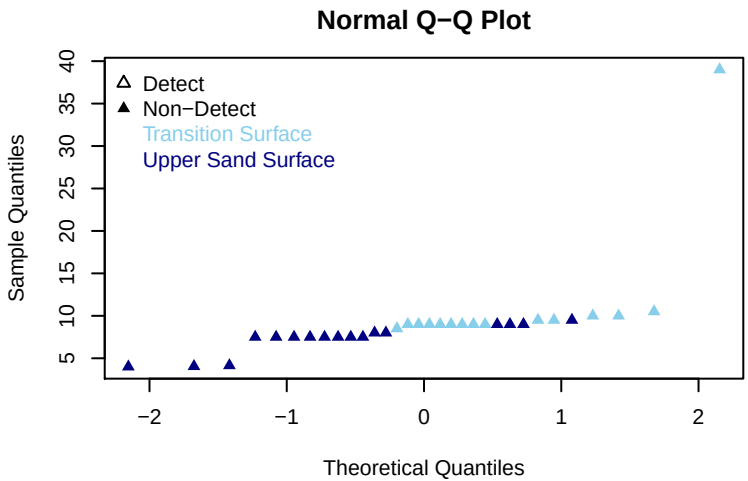
Summary Statistics

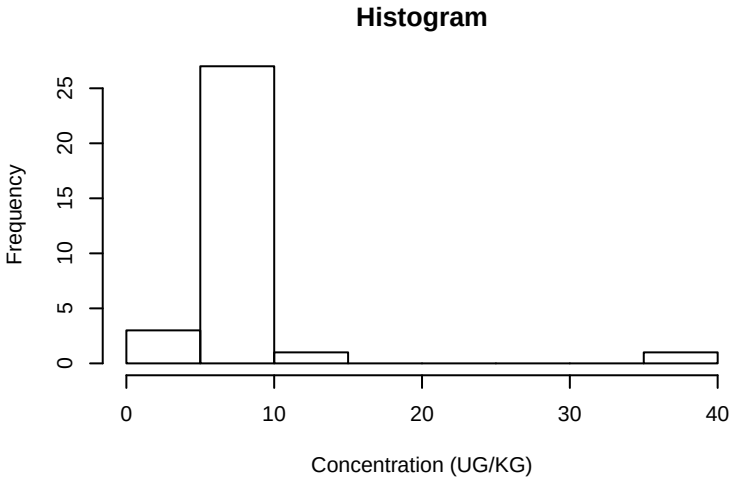
	Trans Surf	U.S. Surf
Minimum	0.3	0.27
25th Percentile	0.32	0.27
Median	0.33	0.28
Mean	0.4	0.29
75th Percentile	0.35	0.29
Maximum	1.4	0.35

Trans Sub = Transition Surface
U.S. Surf = Upper Sand Surface

TOXAPHENE







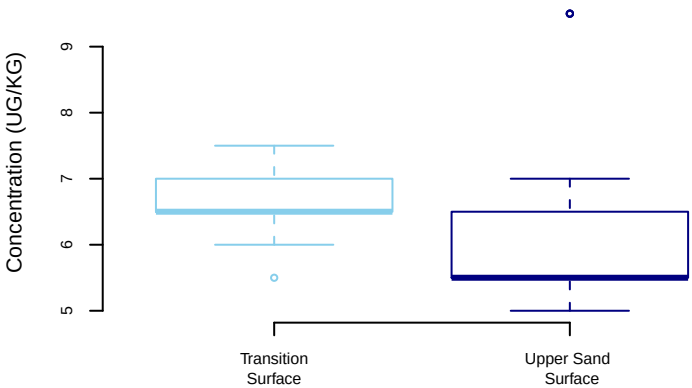
Summary Statistics

	Trans Surf	U.S. Surf
Minimum	8.5	4
25th Percentile	9	7.5
Median	9	7.5
Mean	11	7.3
75th Percentile	9.8	8
Maximum	39	9.5

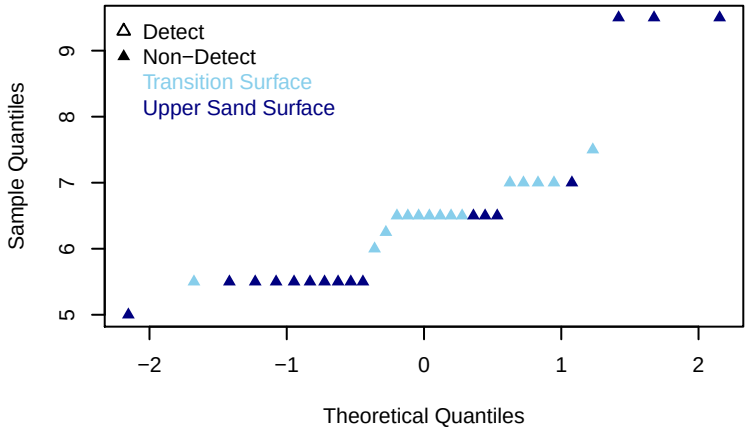
Trans Sub = Transition Surface
U.S. Surf = Upper Sand Surface

2,4,5−T

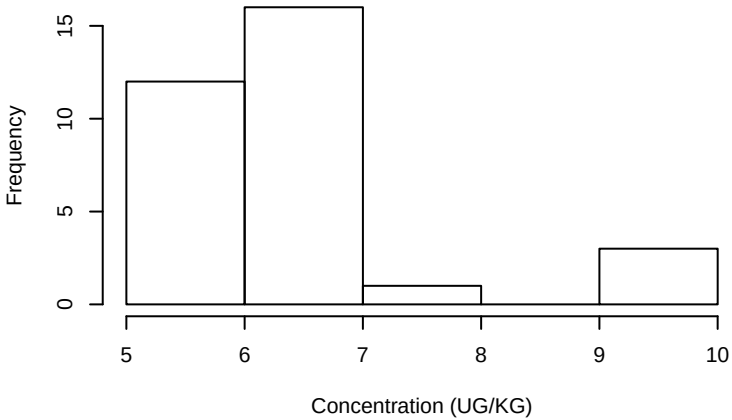
Box Plot



Normal Q−Q Plot



Histogram



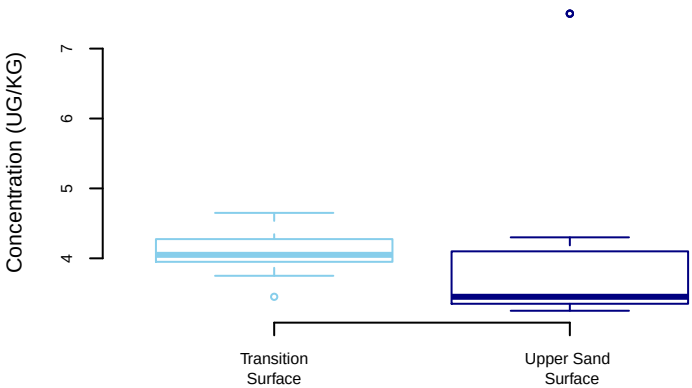
Summary Statistics

	Trans Surf	U.S. Surf
Minimum	5.5	5
25th Percentile	6.5	5.5
Median	6.5	5.5
Mean	6.6	6.4
75th Percentile	7	6.5
Maximum	7.5	9.5

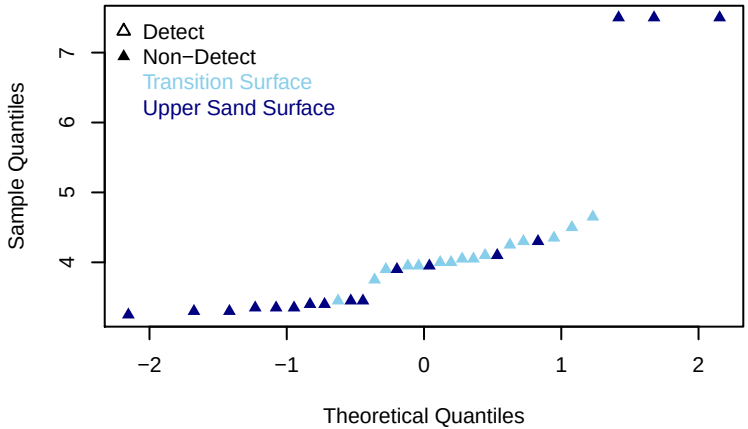
Trans Sub = Transition Surface
U.S. Surf = Upper Sand Surface

2,4,5−TP (SILVEX)

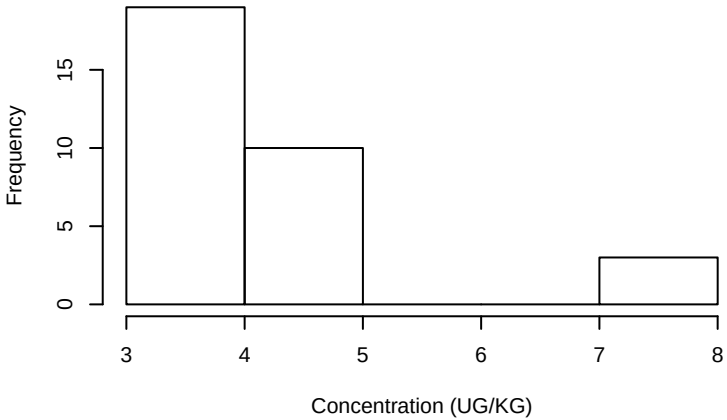
Box Plot



Normal Q−Q Plot



Histogram

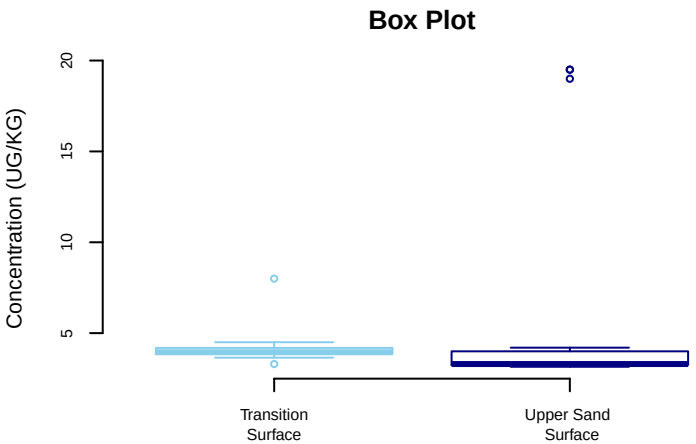


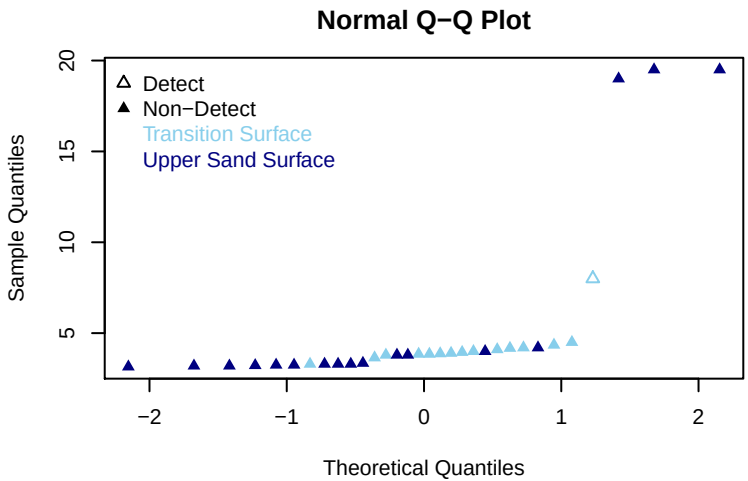
Summary Statistics

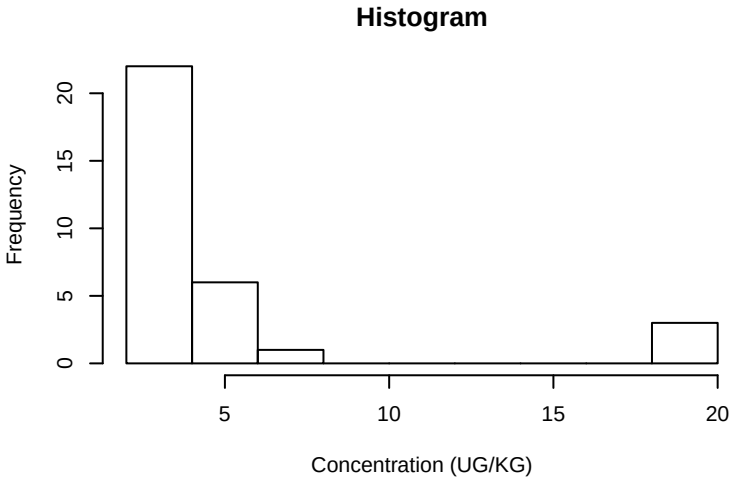
	Trans Surf	U.S. Surf
Minimum	3.5	3.2
25th Percentile	4	3.4
Median	4	3.5
Mean	4.1	4.3
75th Percentile	4.3	4.1
Maximum	4.7	7.5

Trans Sub = Transition Surface
U.S. Surf = Upper Sand Surface

2,4−D







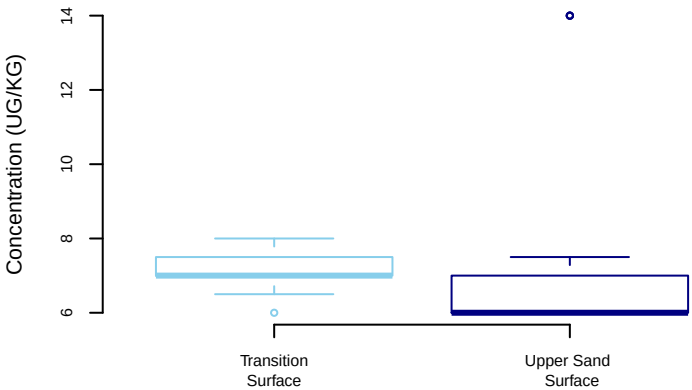
Summary Statistics

	Trans Surf	U.S. Surf
Minimum	3.3	3.1
25th Percentile	3.9	3.2
Median	4	3.3
Mean	4.2	6.3
75th Percentile	4.2	4
Maximum	8	20

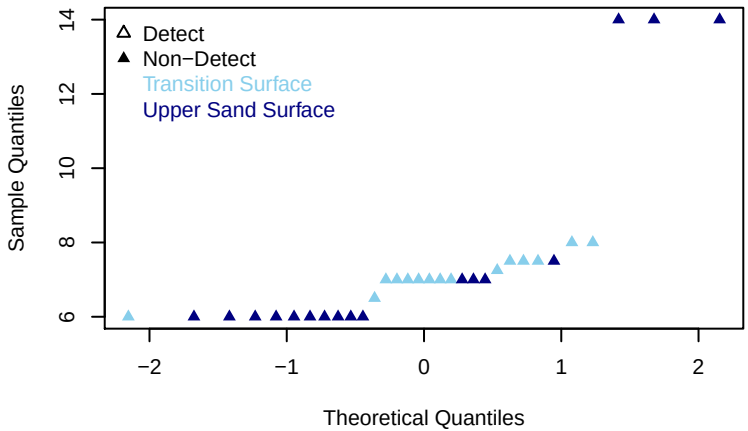
Trans Sub = Transition Surface
U.S. Surf = Upper Sand Surface

2,4−DB

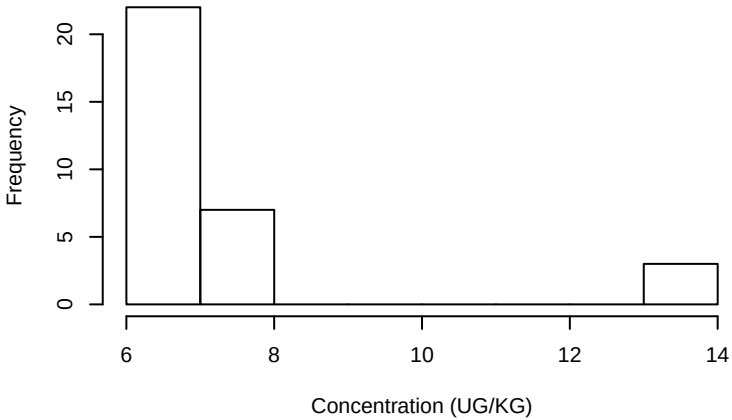
Box Plot



Normal Q−Q Plot



Histogram

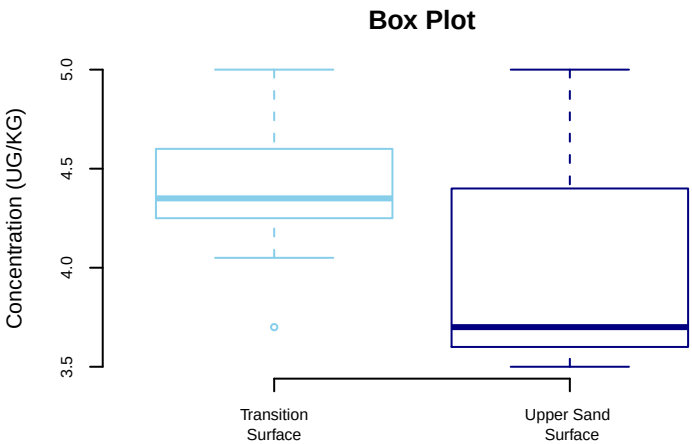


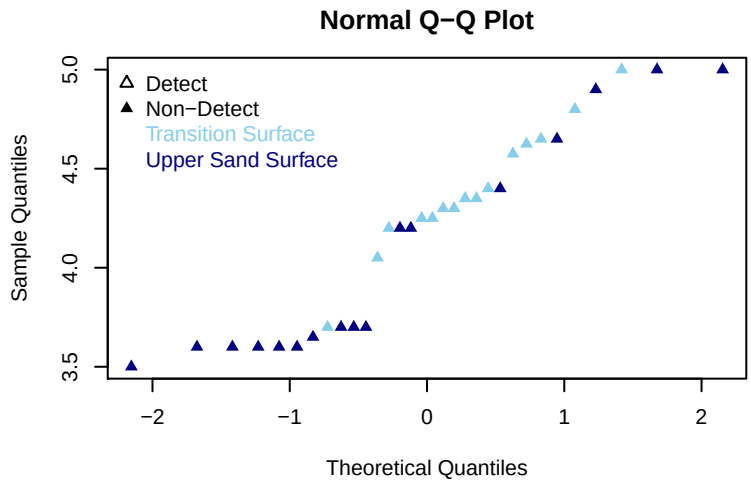
Summary Statistics

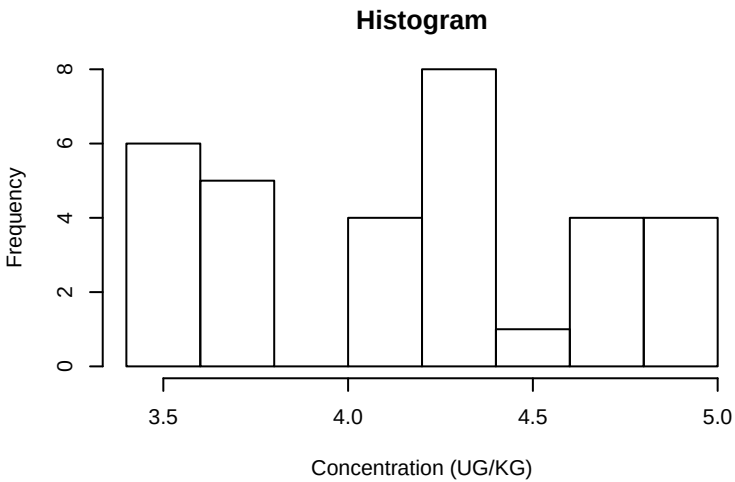
	Trans Surf	U.S. Surf
Minimum	6	6
25th Percentile	7	6
Median	7	6
Mean	7.2	7.7
75th Percentile	7.5	7
Maximum	8	14

Trans Sub = Transition Surface
U.S. Surf = Upper Sand Surface

DALAPON







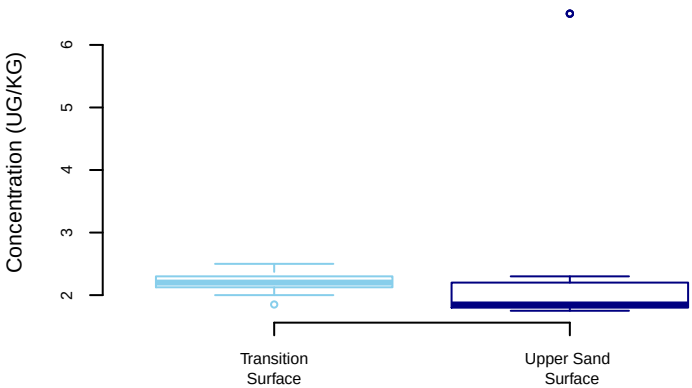
Summary Statistics

	Trans Surf	U.S. Surf
Minimum	3.7	3.5
25th Percentile	4.2	3.6
Median	4.3	3.7
Mean	4.4	4
75th Percentile	4.6	4.4
Maximum	5	5

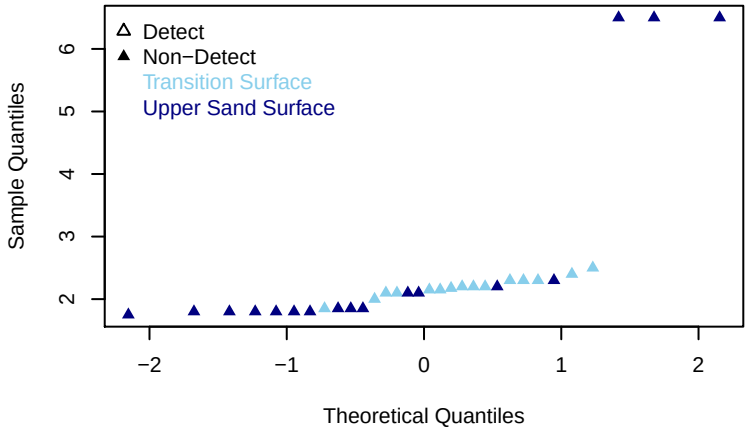
Trans Sub = Transition Surface
U.S. Surf = Upper Sand Surface

DICAMBA

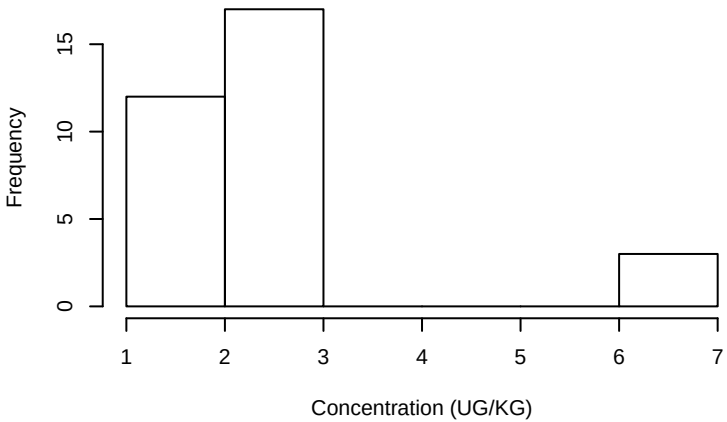
Box Plot



Normal Q−Q Plot



Histogram



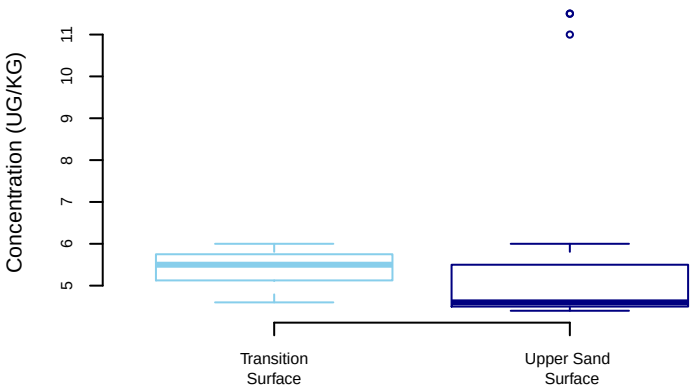
Summary Statistics

	Trans Surf	U.S. Surf
Minimum	1.9	1.8
25th Percentile	2.1	1.8
Median	2.2	1.9
Mean	2.2	2.7
75th Percentile	2.3	2.2
Maximum	2.5	6.5

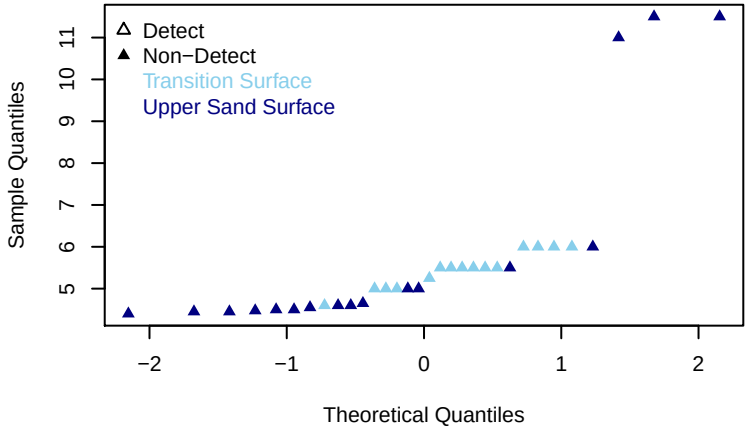
Trans Sub = Transition Surface
U.S. Surf = Upper Sand Surface

DICHLOROPROP

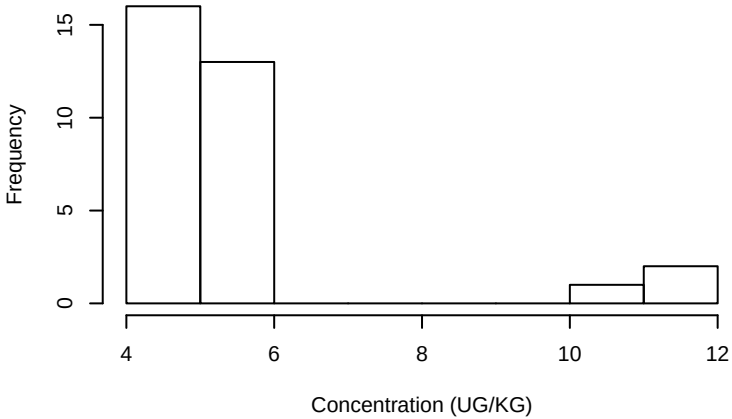
Box Plot



Normal Q−Q Plot



Histogram



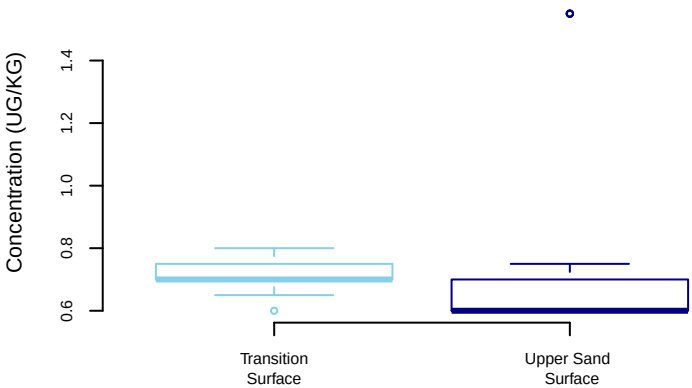
Summary Statistics

	Trans Surf	U.S. Surf
Minimum	4.6	4.4
25th Percentile	5.1	4.5
Median	5.5	4.6
Mean	5.5	5.9
75th Percentile	5.8	5.5
Maximum	6	12

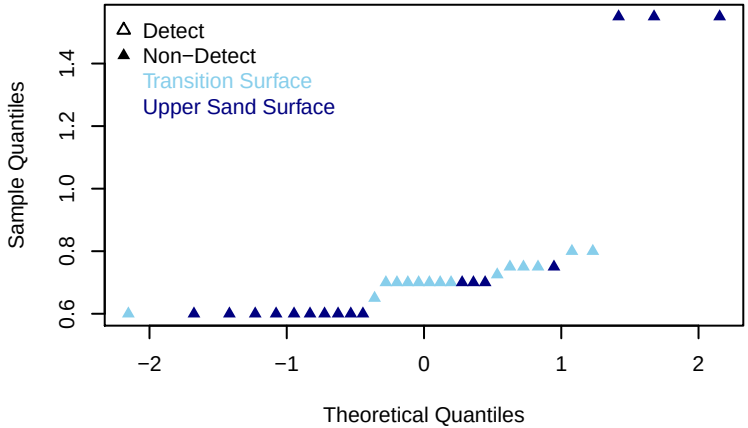
Trans Sub = Transition Surface
U.S. Surf = Upper Sand Surface

DINOSEB

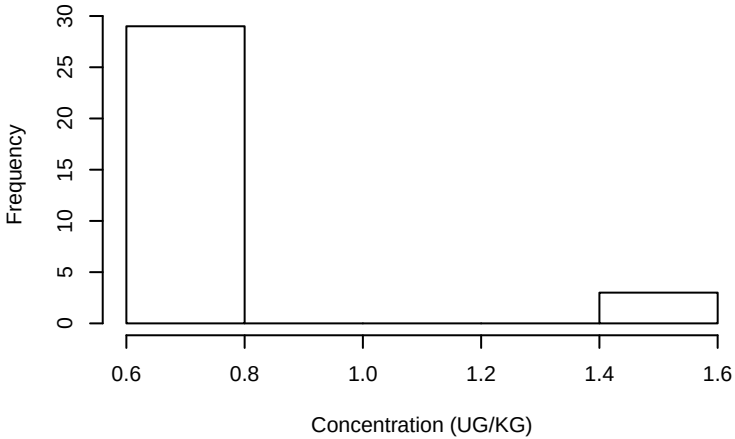
Box Plot



Normal Q−Q Plot



Histogram



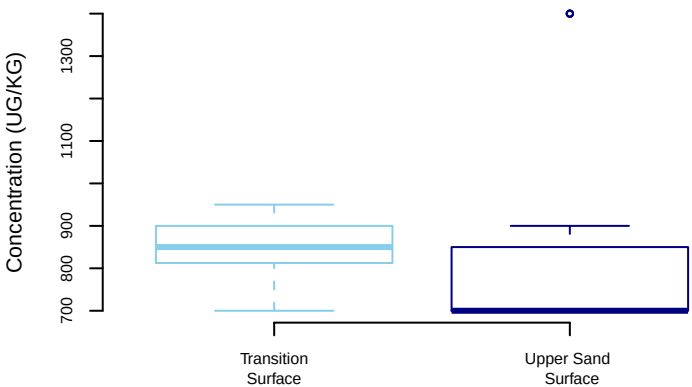
Summary Statistics

	Trans Surf	U.S. Surf
Minimum	0.6	0.6
25th Percentile	0.7	0.6
Median	0.7	0.6
Mean	0.71	0.79
75th Percentile	0.75	0.7
Maximum	0.8	1.6

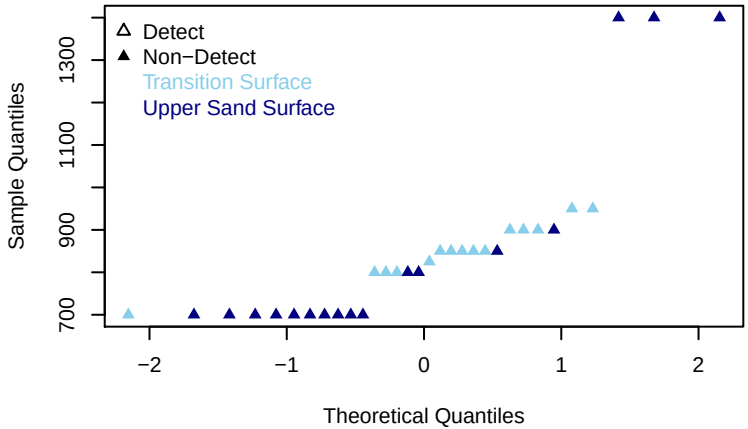
Trans Sub = Transition Surface
U.S. Surf = Upper Sand Surface

MCPA

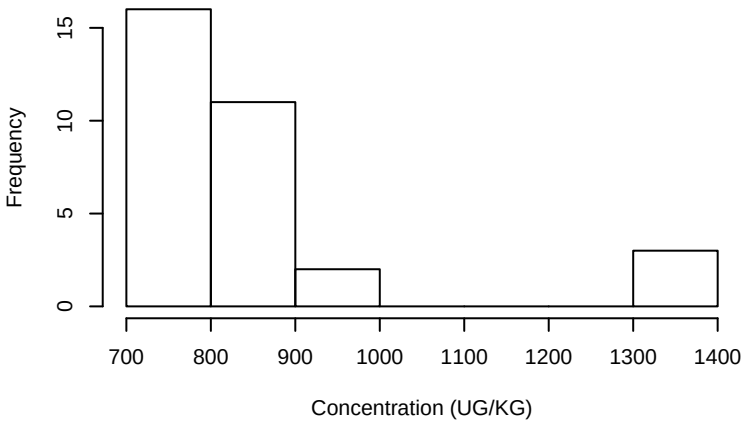
Box Plot



Normal Q−Q Plot



Histogram



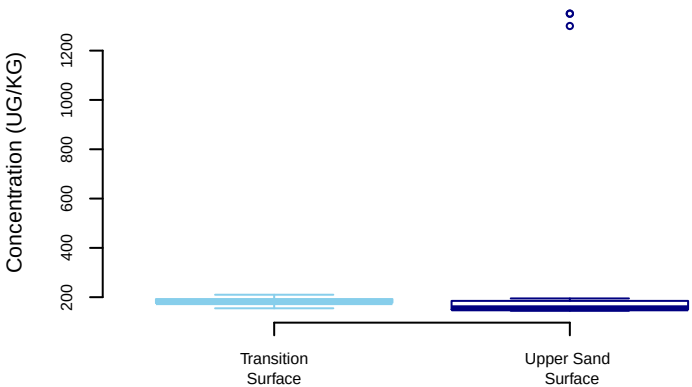
Summary Statistics

	Trans Surf	U.S. Surf
Minimum	700	700
25th Percentile	810	700
Median	850	700
Mean	850	860
75th Percentile	900	850
Maximum	950	1400

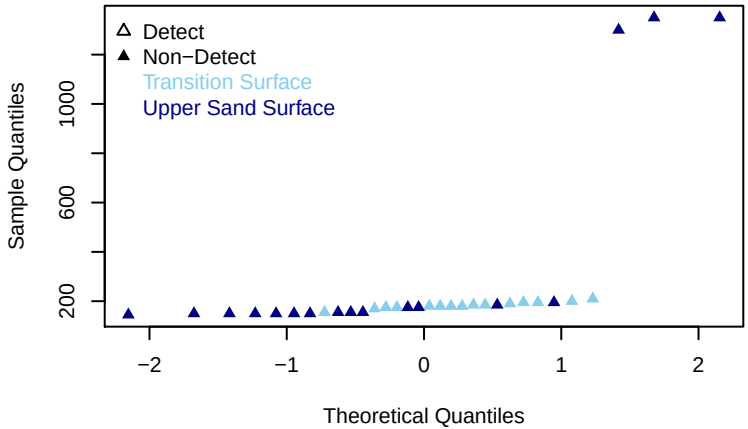
Trans Sub = Transition Surface
U.S. Surf = Upper Sand Surface

MCPP

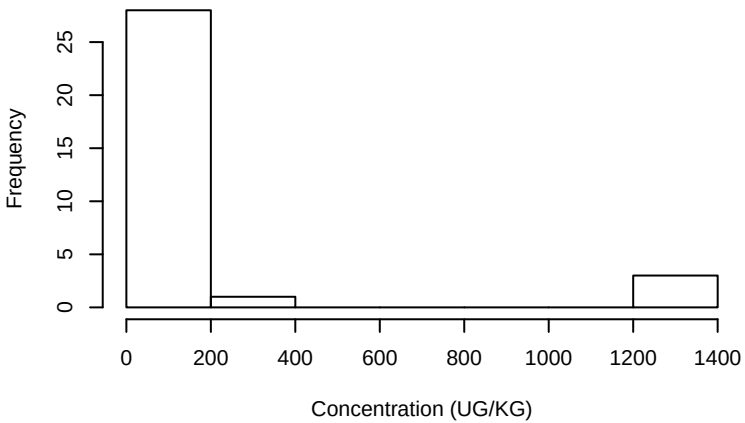
Box Plot



Normal Q−Q Plot



Histogram



Summary Statistics

	Trans Surf	U.S. Surf
Minimum	160	140
25th Percentile	180	150
Median	180	160
Mean	180	370
75th Percentile	190	180
Maximum	210	1400

Trans Sub = Transition Surface
U.S. Surf = Upper Sand Surface

A.4 HYPOTHESIS TESTING TO COMPARE DATA GROUPS

APPENDIX A.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. Table A.4.1 repeats the frequency of detection, data distribution conclusion (see discussion in Appendix A.2) and the appropriate test for each chemical subgroup. In Appendix A.2 only chemicals that were detected at least 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 total organic carbon 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.4.2 presents the p-value for the Kruskall Wallis ANOVA and the conclusion regarding the comparisons of the subgroups. Table A.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, 2006a, 1989). If either the Two Sample T-Test or the Gehan Test were conducted then the quantile test or upper ranks test (EPA, 1992b, 2006a) 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. 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.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 total organic carbon 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. However for pesticides and PAHs, with the exception of one sample of Benzo(a) anthracene and flouorenthene, no samples were detected in the subsurface of either geological soil group. In the Upper Sand surface soil 61 percent of the pesticides and PAHs that were detected at least once were detected in less than 50 percent of the samples; in the Transition surface soil 66 percent of the pesticides and PAHs that were detected at least once were detected in less than 50 percent of the samples. Therefore it is recommended that the Upper Sand surface soil and Upper Sand subsurface soil be combined as one data set and that the Transition surface soil and Transition subsurface soil be combined as another data set.

Table A.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	0/17	0/15	0/15	Nonparametric	NA	NA	NA	NA ONLY DETECTED IN ONE GROUP
4,4'-DDE	10/17	0/17	9/15	0/15	Nonparametric	NA	Normal	NA	Gehan
4,4'-DDT	7/17	0/17	1/15	0/15	Nonparametric	NA	Nonparametric	NA	Proportion
ENDOSULFAN I	1/17	0/17	0/15	0/15	Nonparametric	NA	NA	NA	NA ONLY DETECTED IN ONE GROUP
GAMMA-BHC (LINDANE)	1/17	0/17	0/15	0/15	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	Not Analyzed for	1/14	Not Analyzed for	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.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.4.3
Nonparametric Multiple Comparison Test Results
Naval Air Station, Brunswick, Maine

Parameter	P-Values for Nonparametric Multiple Comparisons					Conclusion
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.4.3
Nonparametric Multiple Comparison Test Results
Naval Air Station, Brunswick, Maine

Parameter	P-Values for Nonparametric Multiple Comparisons					Conclusion
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.4.3
Nonparametric Multiple Comparison Test Results
Naval Air Station, Brunswick, Maine

Parameter	P-Values for Nonparametric Multiple Comparisons					Conclusion
ZINC		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		
Miscellaneous Parameters						
TOTAL ORGANIC CARBON		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		0.00	1.00	0.00	
	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.

Table A.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.5 UPPER PREDICTION LIMITS

APPENDIX A.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.

Two types of individual comparison test will be available, either Upper Prediction Limit (UPL) or geochemical comparisons. Geochemical comparisons are discussed in Appendix A.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.4 (Upper Sand samples were treated as one group and Transition samples were treated as another group). Table A.5.1 and A.5.2 present the 95 percent UPLs for Upper Sand soils Transition Soil respectively. A UPL was calculated only if there were at least three detected concentrations for a specific chemical. .

Table A.5.1
Upper Prediction Limits Upper Sand Soils
Naval Air Station, Brunswick, Maine

Parameter	UPL	UPL Type
Inorganics(mg/kg)		
ALUMINUM	19400	Nonparametric
ANTIMONY	0.04	Nonparametric
ARSENIC	4.5	Nonparametric
BARIUM	15.9	Nonparametric
BERYLLIUM	0.69	Nonparametric
CADMIUM	0.05	Nonparametric
CALCIUM	1080	Nonparametric
CHROMIUM	15.3	Nonparametric
COBALT	4	Nonparametric
COPPER	6.7	Nonparametric
IRON	14400	Nonparametric
LEAD	17.5	Nonparametric
MAGNESIUM	1953.21	Normal
MANGANESE	267.41	Normal
MERCURY	0.08	Nonparametric
NICKEL	9.8	Normal
POTASSIUM	939.94	Normal
SILVER	0.21	Nonparametric
SODIUM	52.9	Nonparametric
VANADIUM	26.3	Nonparametric
ZINC	15.3	Nonparametric
PAHs (ug/kg)		
ANTHRACENE	7	Nonparametric
BENZO(A)ANTHRACENE	23	Nonparametric
BENZO(A)PYRENE	28	Nonparametric
BENZO(B)FLUORANTHENE	51	Nonparametric
BENZO(G,H,I)PERYLENE	10	Nonparametric
BENZO(K)FLUORANTHENE	12	Nonparametric
CHRYSENE	35	Nonparametric
DIBENZO(A,H)ANTHRACENE	6	Nonparametric
FLUORANTHENE	62	Nonparametric
INDENO(1,2,3-CD)PYRENE	39	Nonparametric
PHENANTHRENE	32	Nonparametric
PYRENE	64	Nonparametric
Pesticides (ug/kg)		
4,4'-DDD	1.1	Nonparametric
4,4'-DDE	3.6	Nonparametric
4,4'-DDT	3.4	Nonparametric
Miscellaneous Parameters (mg/kg)		
TOTAL ORGANIC CARBON	29000	Nonparametric

Table A.5.2
Upper Prediction Limits Transition Soils
Naval Air Station, Brunswick, Maine

Parameter	UPL	UPL Type
Inorganics(mg/kg)		
ALUMINUM	32328.1	Normal
ANTIMONY	0.06	Normal
ARSENIC	15.1	Nonparametric
BARIUM	100.12	Normal
BERYLLIUM	1.54	Normal
CADMIUM	0.06	Nonparametric
CALCIUM	3040	Nonparametric
CHROMIUM	58.94	Normal
COBALT	22.9	Normal
COPPER	37.73	Normal
IRON	46262.8	Normal
LEAD	17.86	Normal
MAGNESIUM	11500.9	Normal
MANGANESE	934.91	Normal
MERCURY	0.05	Nonparametric
NICKEL	50.64	Normal
POTASSIUM	6449.7	Normal
SELENIUM	1	Nonparametric
SILVER	0.74	Nonparametric
VANADIUM	71	Normal
ZINC	94.95	Normal
PAHs (ug/kg)		
BENZO(A)ANTHRACENE	5	Nonparametric
BENZO(B)FLUORANTHENE	10	Nonparametric
BENZO(G,H,I)PERYLENE	10	Nonparametric
CHRYSENE	9	Nonparametric
FLUORANTHENE	6	Nonparametric
INDENO(1,2,3-CD)PYRENE	10	Nonparametric
PHENANTHRENE	3	Nonparametric
PYRENE	6	Nonparametric
Pesticides (ug/kg)		
4,4'-DDE	1	Normal
4,4'-DDT	3.1	Nonparametric
Miscellaneous Parameters (mg/kg)		
TOTAL ORGANIC CARBON	27000	Nonparametric

A.6 GEOCHEMICAL UPPER PREDICITON LIMITS

APPENDIX A.6 GEOCHEMICAL ANALYSIS

As discussed in Appendix A.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 Background Threshold Values (BTVs) or geochemical comparisons. The BTVs for NAS Brunswick are presented in Appendix A.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.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 4) were used in the geochemical evaluation. Prediction limits were calculated for trace metals 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.6.1 and A.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 upper prediction (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% 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 thirty. 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 the 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.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 Eigenvalues greater than one should be retained.
- Examination of Scree Plot: Retain factors with eigenvalues 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 70percent).

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 were 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 fact 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.6.1
Correlation Matrix for Trace Metals in Upper Sand Soils
Naval Air Station, Brunswick, Maine

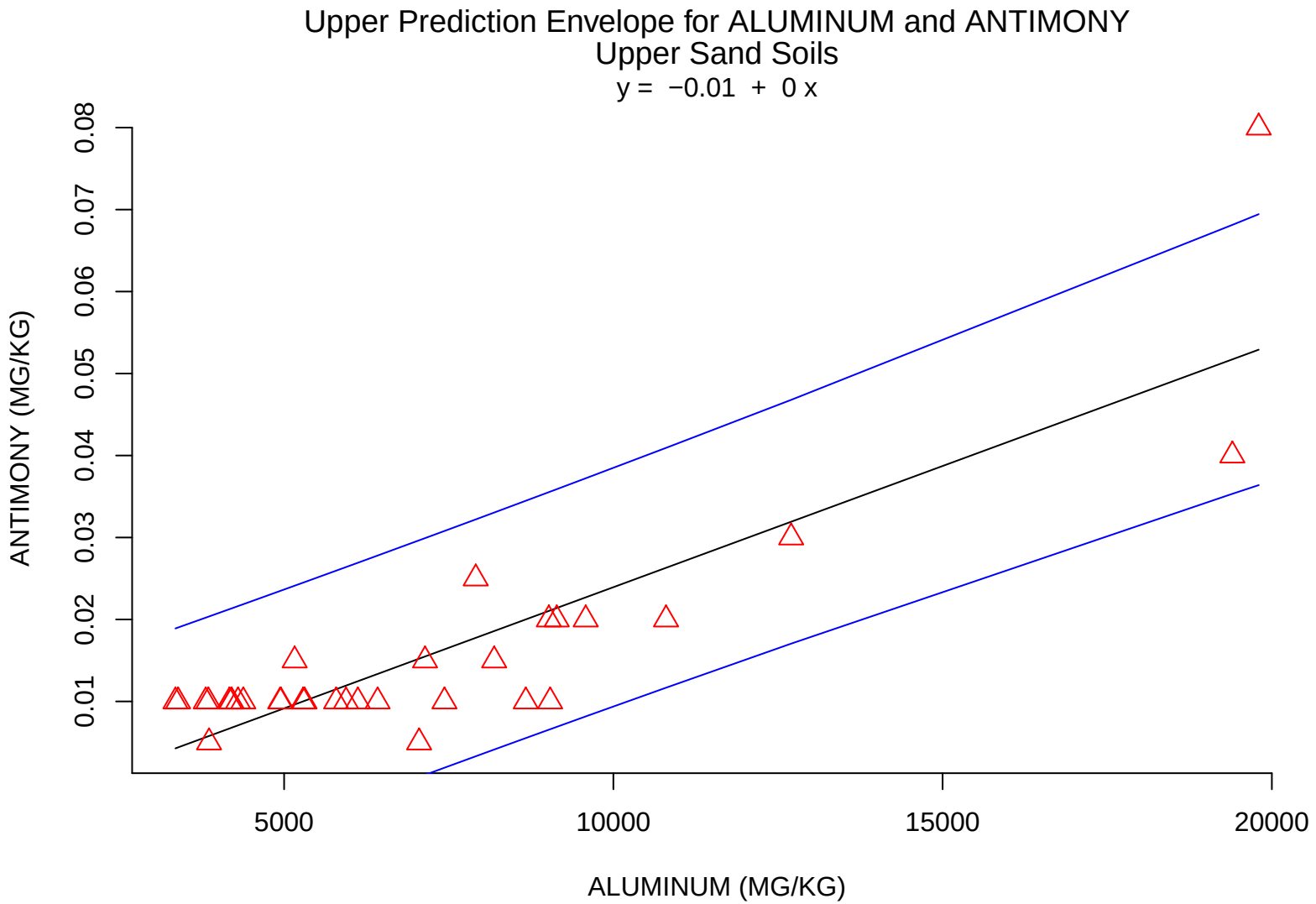
Parameter	Al	Sb	As	Ba	Be	Cd	Cr	Co	Cu	Fe	Mn	Ni	V	Zn
Al	1.00	**0.86**	0.18	0.20	**0.70**	0.51	**0.91**	-0.38	-0.47	**0.90**	-0.33	-0.39	**0.94**	0.11
Sb	**0.86**	1.00	0.27	0.29	0.47	0.65	**0.73**	-0.47	-0.51	**0.75**	-0.34	-0.46	**0.76**	-0.09
As	0.18	0.27	1.00	-0.06	0.15	0.40	0.02	-0.44	-0.14	0.09	-0.13	-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

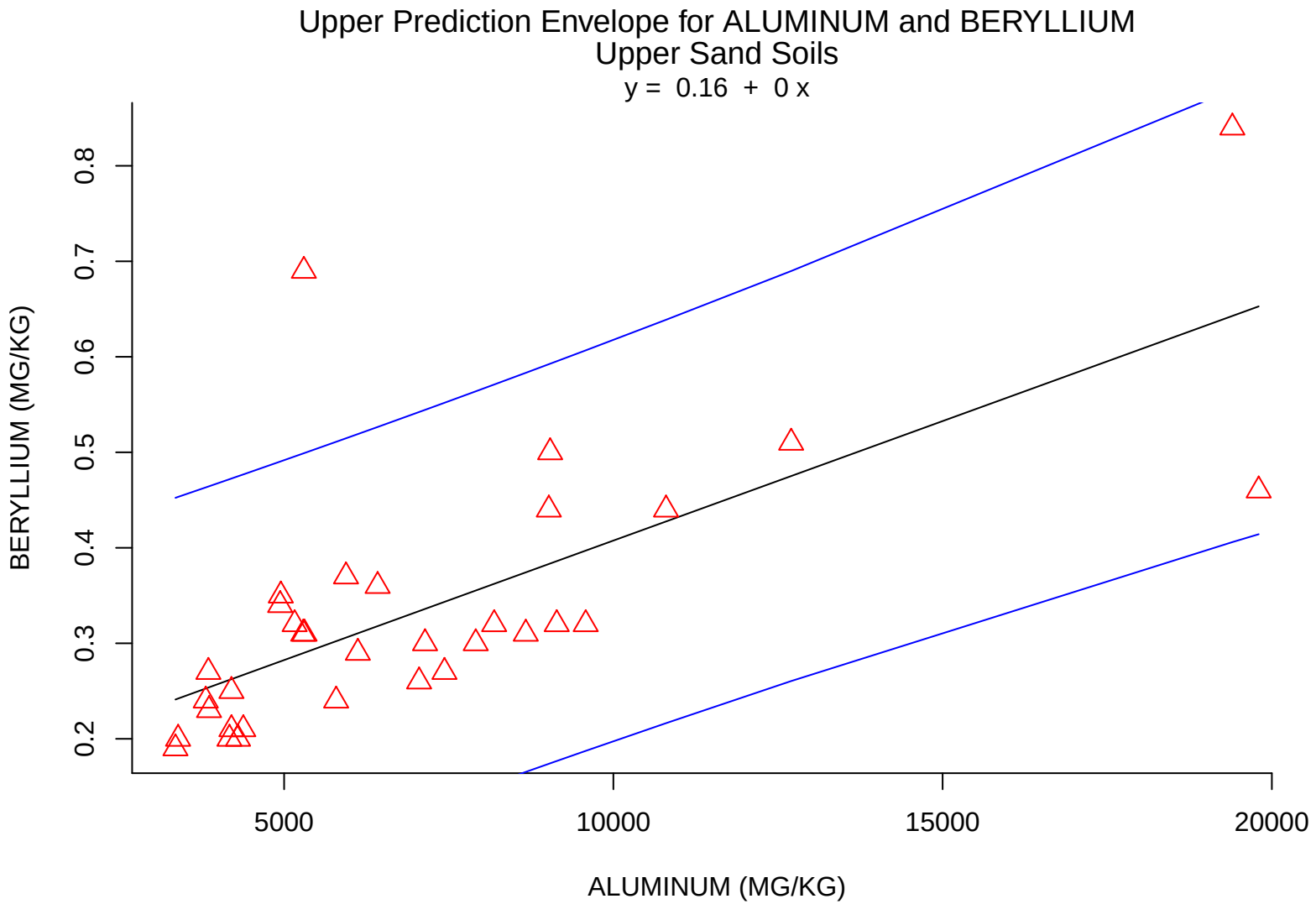
Shaded cells indicate a high correlation (greater than or equal to 0.70).

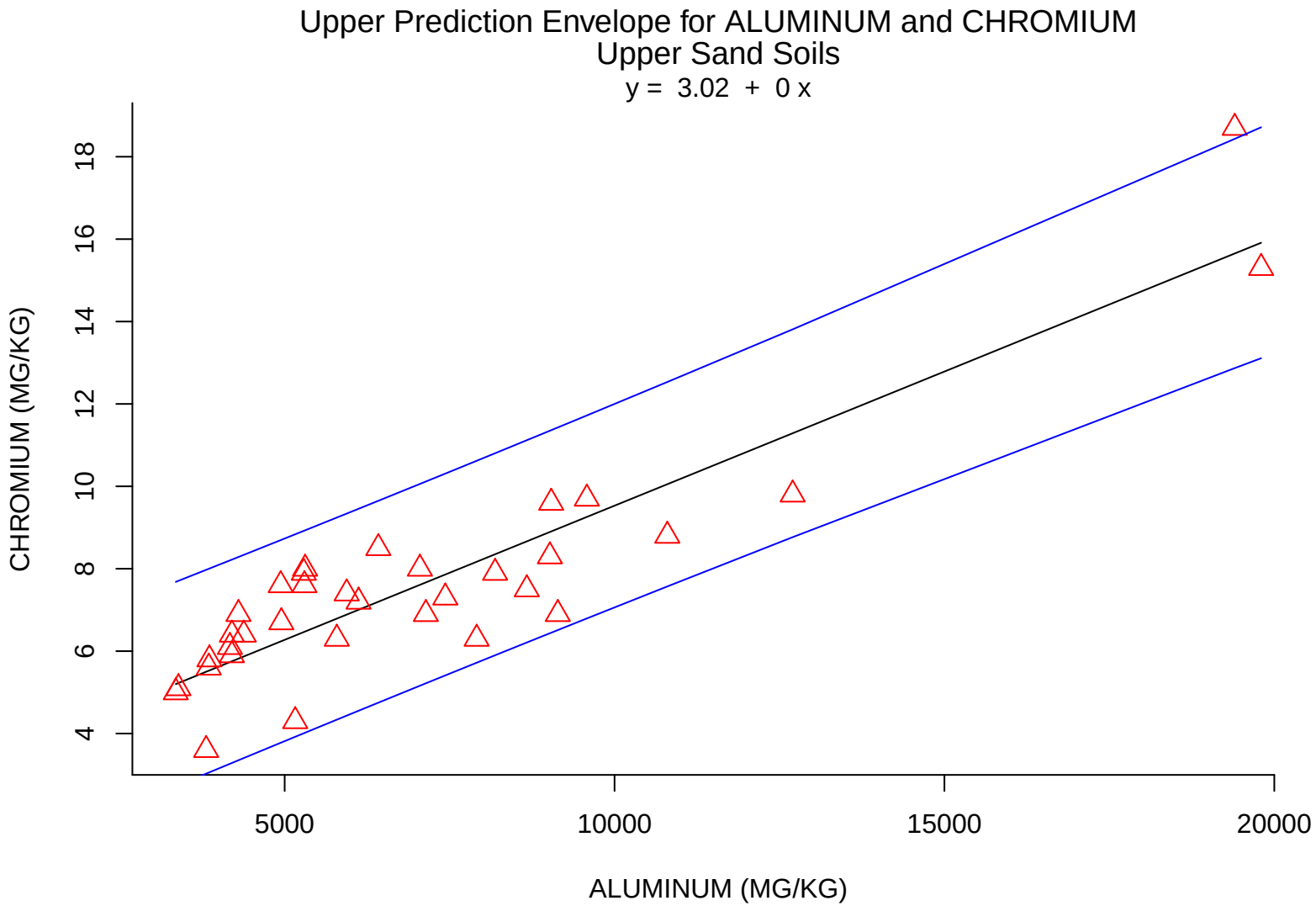
Table A.6.2
Correlation Matrix for Trace Metals in Transition Soils
Naval Air Station, Brunswick, Maine

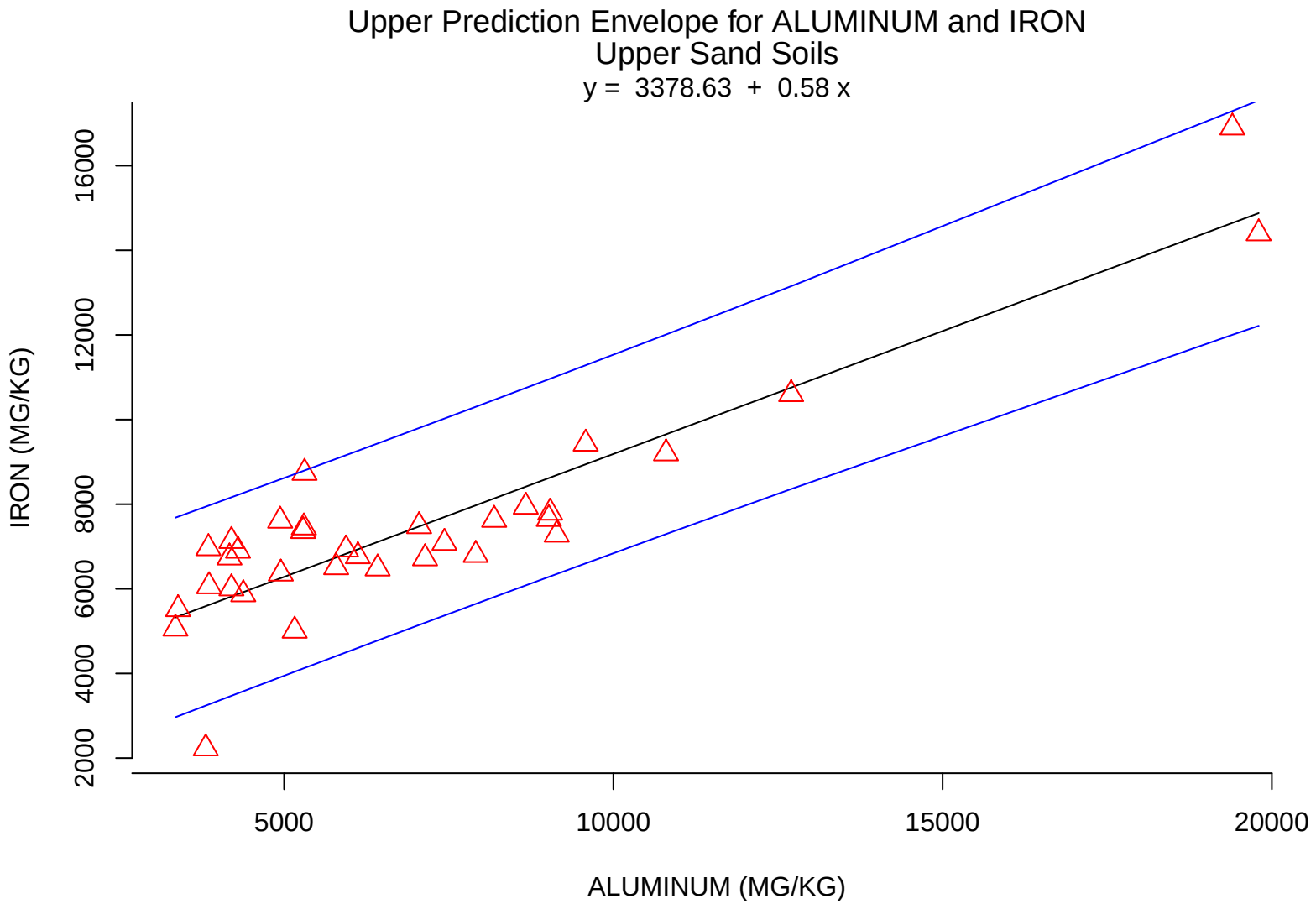
Parameter	Al	Sb	As	Ba	Be	Cd	Cr	Co	Cu	Fe	Mn	Ni	V	Zn
Al	1.00	0.53	0.51	**0.92**	**0.80**	0.54	**0.87**	0.70	0.47	**0.86**	0.69	0.68	**0.90**	**0.88**
Sb	0.53	1.00	0.44	0.66	0.42	0.31	0.65	0.55	0.55	0.63	0.56	0.58	0.65	0.62
As	0.51	0.44	1.00	0.67	0.53	0.50	**0.78**	0.67	**0.79**	**0.75**	**0.73**	**0.84**	**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

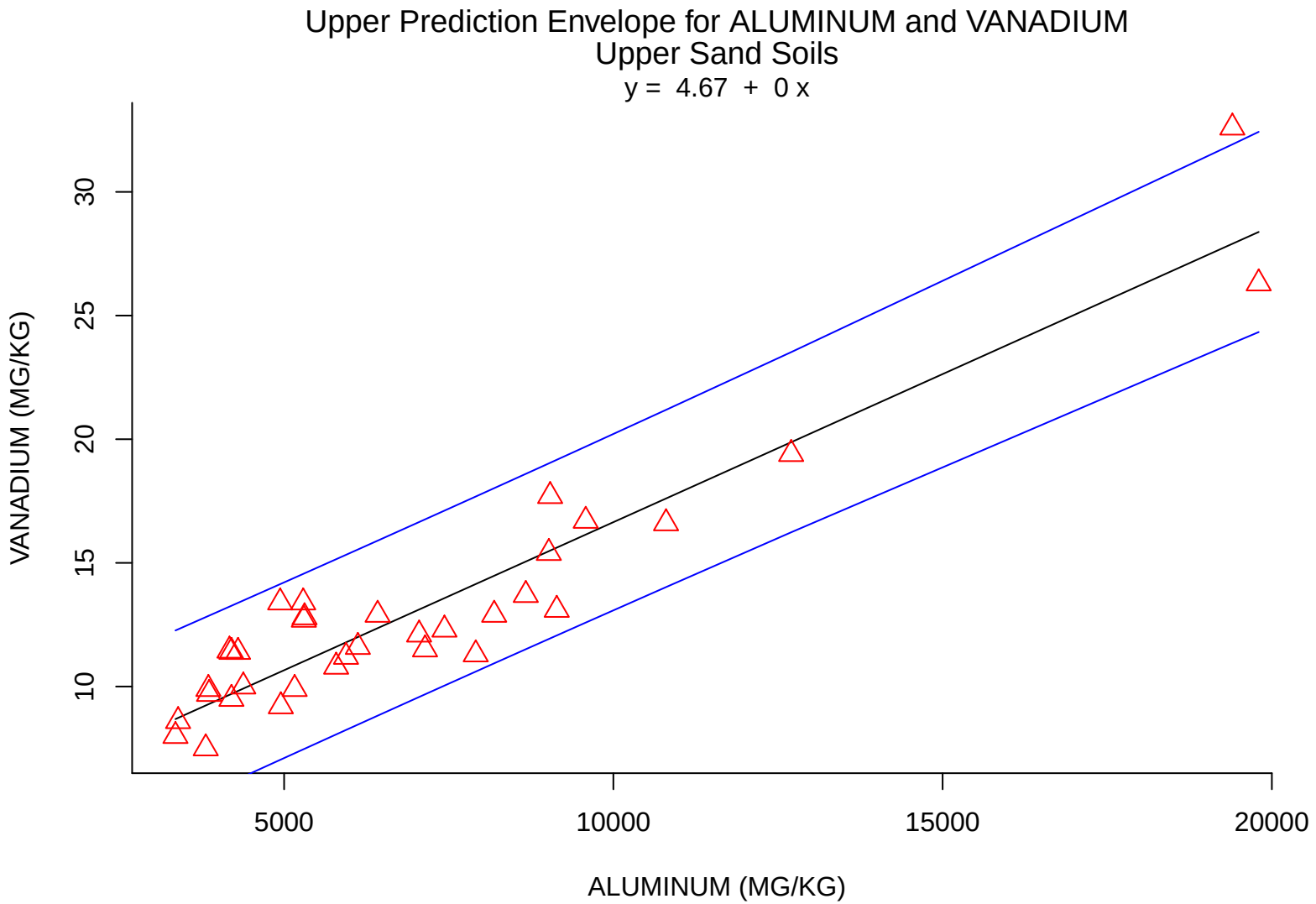
Shaded cells indicate a high correlation (greater than or equal to 0.70).

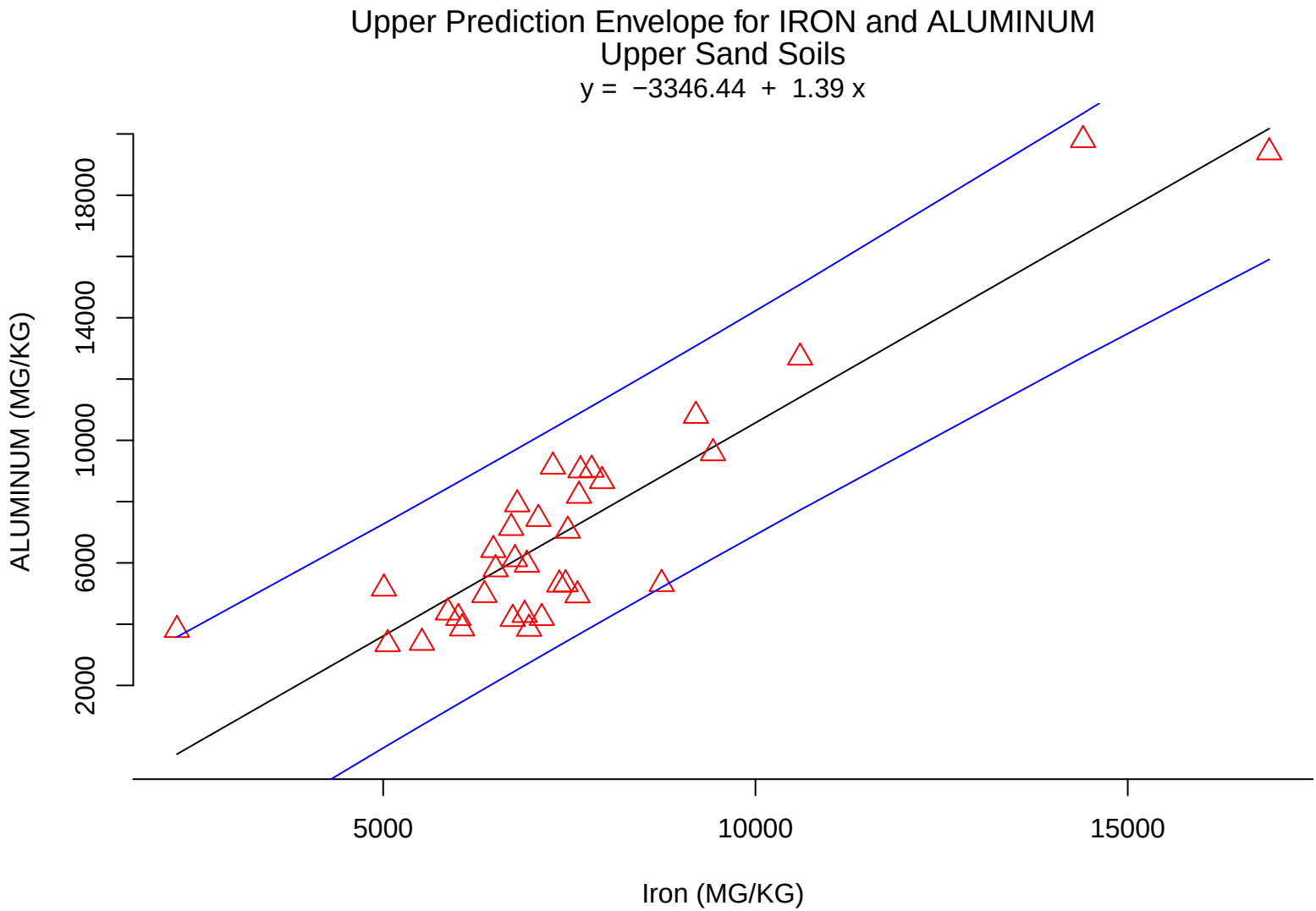

Upper Prediction Envelope for ALUMINUM and ANTIMONY
Upper Sand Soils
y = −0.01 + 0 x
ANTIMONY (MG/KG)
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
5000
10000
15000
20000
ALUMINUM (MG/KG)

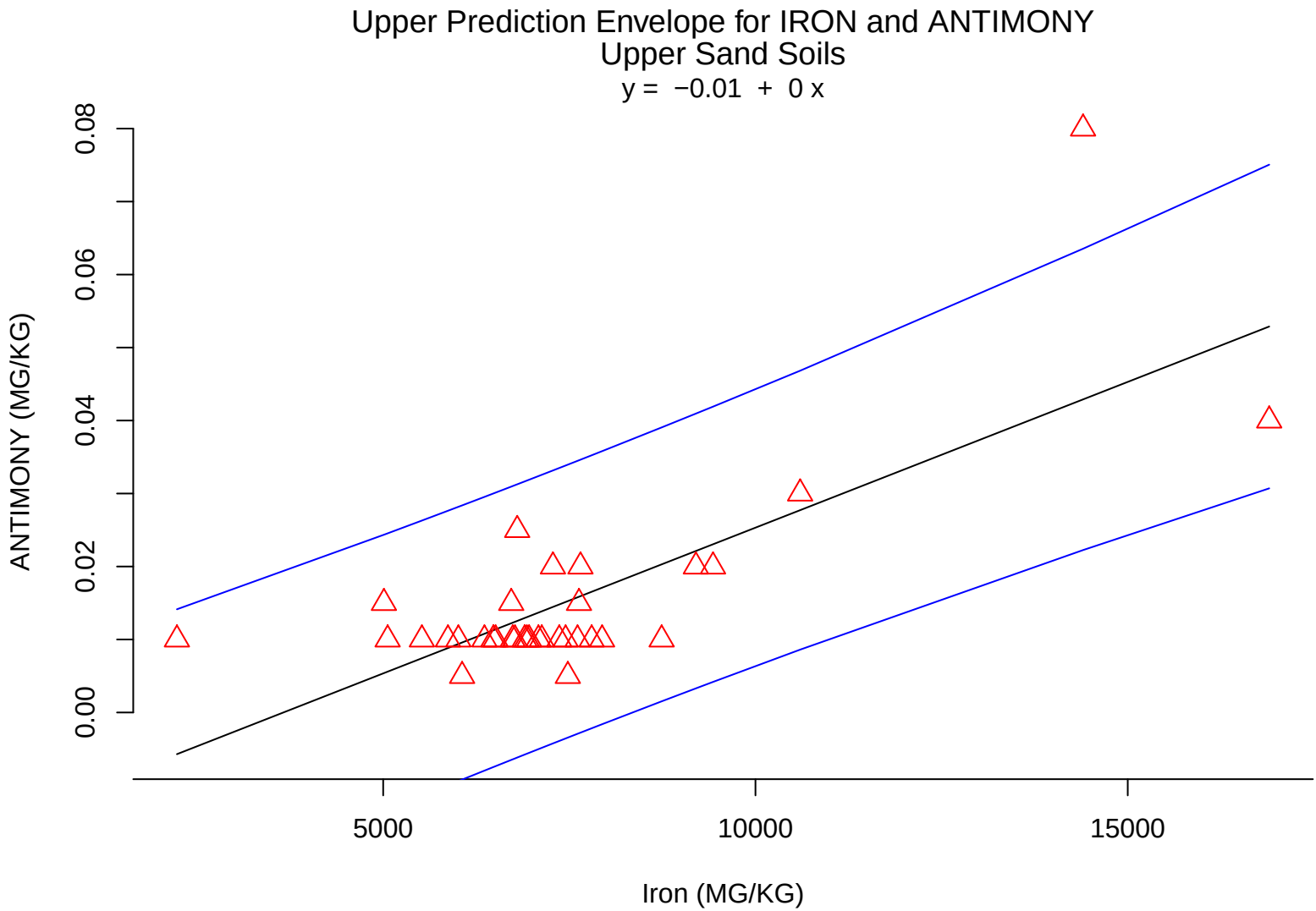

Upper Prediction Envelope for ALUMINUM and BERYLLIUM
Upper Sand Soils
y = 0.16 + 0 x
BERYLLIUM (MG/KG)
0.2
0.3
0.4
0.5
0.6
0.7
0.8
5000
10000
15000
20000
ALUMINUM (MG/KG)

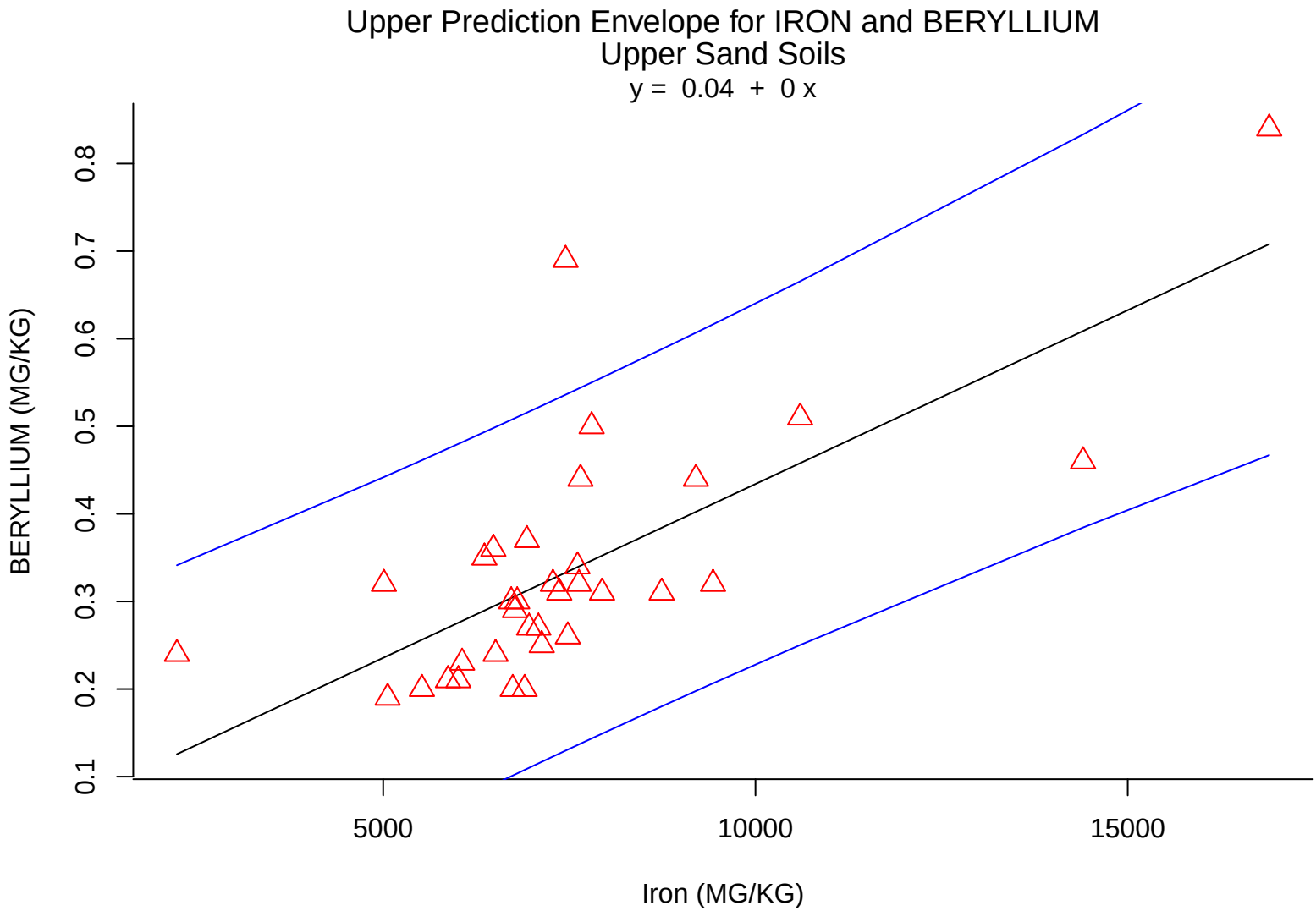

Upper Prediction Envelope for ALUMINUM and CHROMIUM
Upper Sand Soils
y = 3.02 + 0 x
CHROMIUM (MG/KG)
4
6
8
10
12
14
16
18
5000
10000
15000
20000
ALUMINUM (MG/KG)

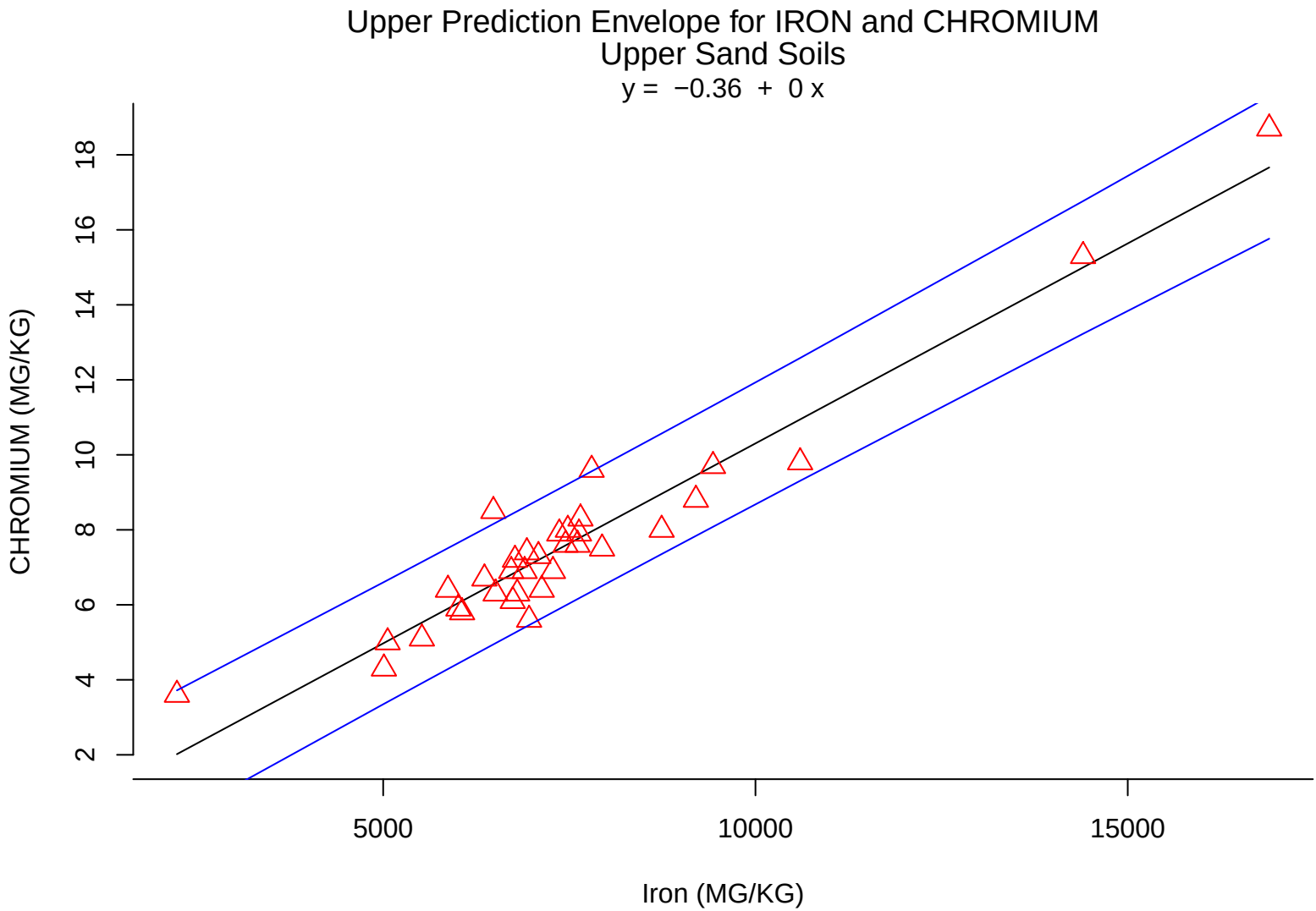

Upper Prediction Envelope for ALUMINUM and IRON
Upper Sand Soils
y = 3378.63 + 0.58 x
IRON (MG/KG)
2000
4000
6000
8000
12000
16000
5000
10000
15000
20000
ALUMINUM (MG/KG)

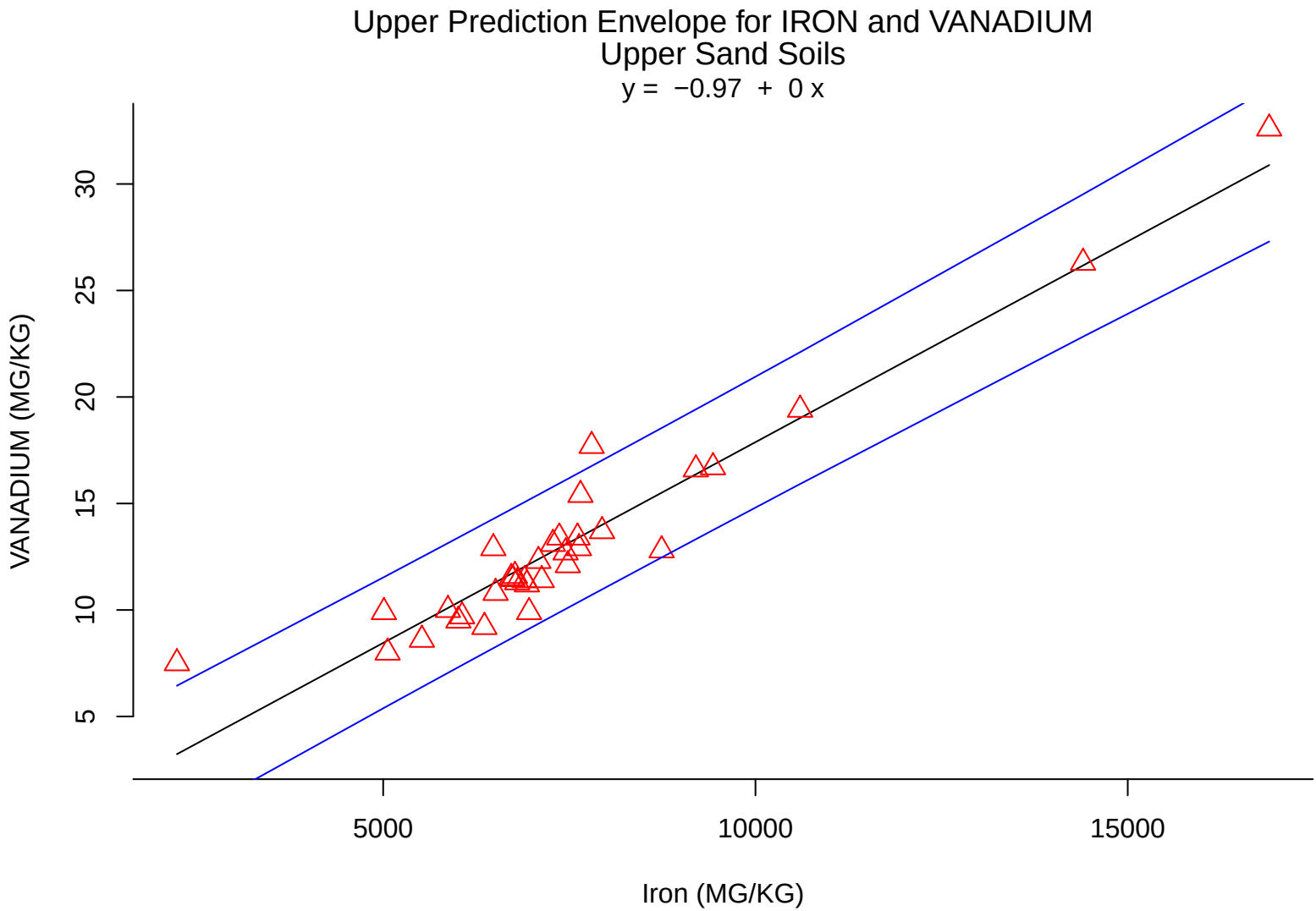

Upper Prediction Envelope for ALUMINUM and VANADIUM
Upper Sand Soils
y = 4.67 + 0 x
VANADIUM (MG/KG)
10
15
20
25
30
5000
10000
15000
20000
ALUMINUM (MG/KG)

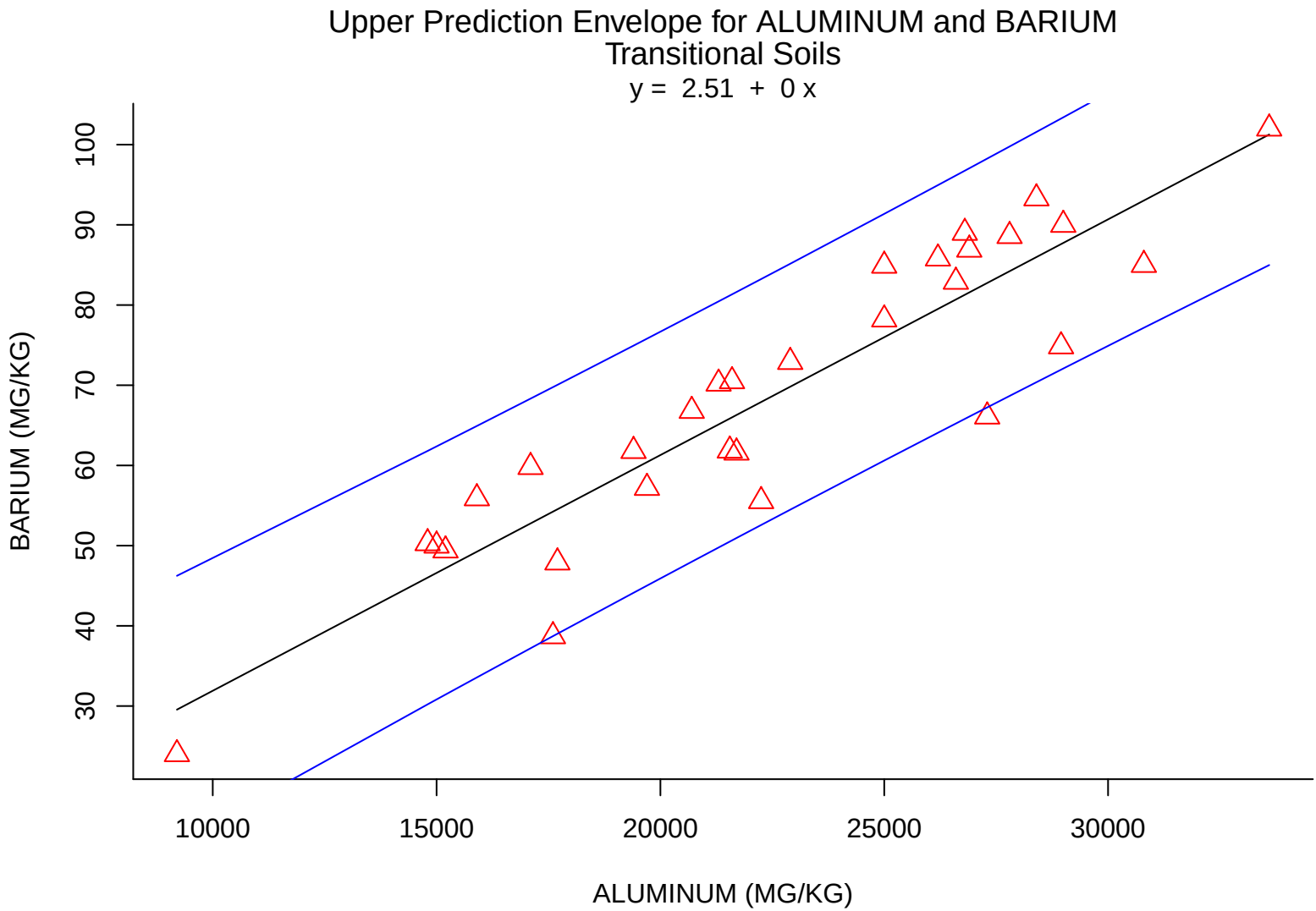

Upper Prediction Envelope for IRON and ALUMINUM
Upper Sand Soils
y = −3346.44 + 1.39 x
ALUMINUM (MG/KG)
2000
6000
10000
14000
18000
5000
10000
15000
Iron (MG/KG)

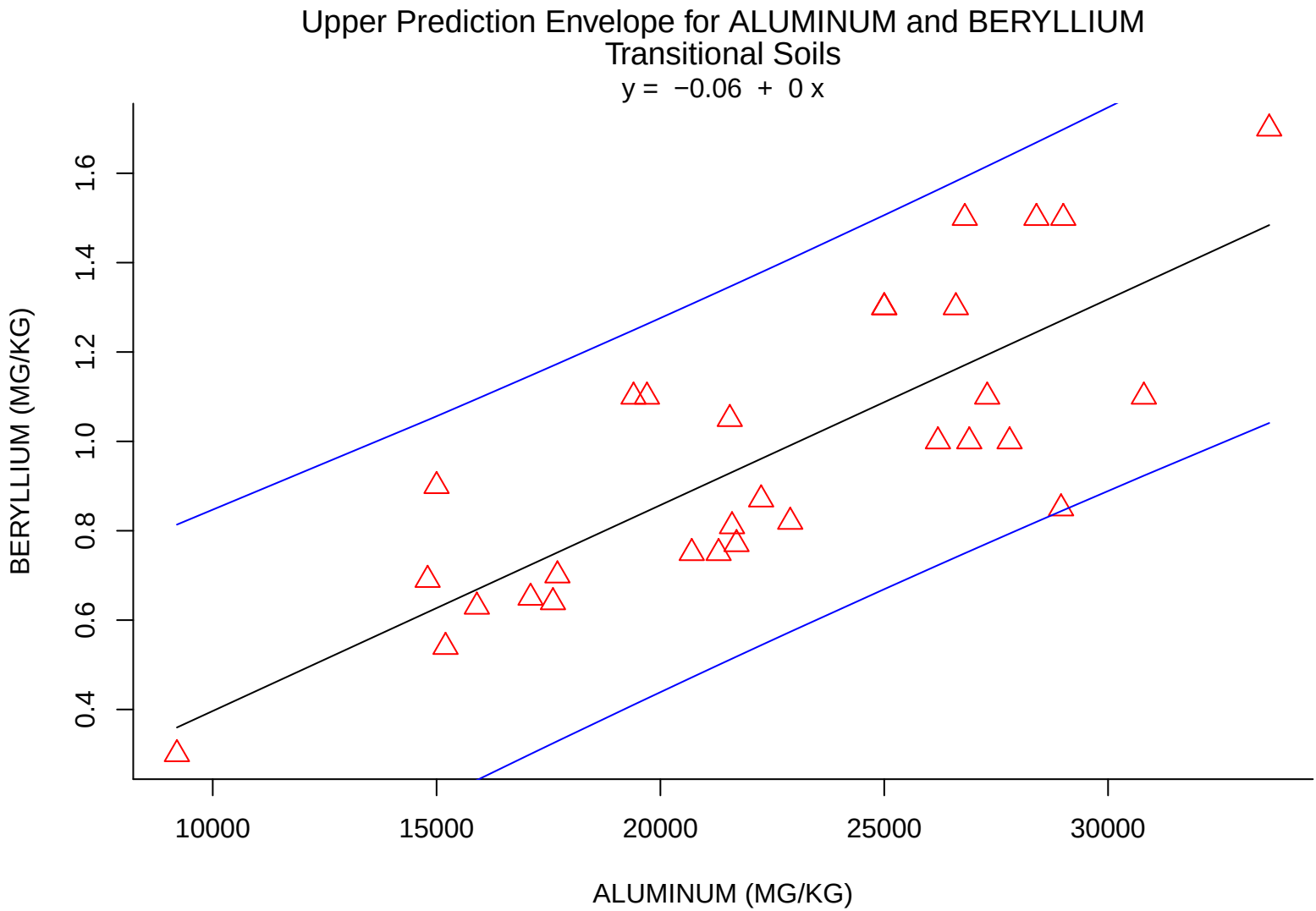

Upper Prediction Envelope for IRON and ANTIMONY
Upper Sand Soils
y = −0.01 + 0 x
ANTIMONY (MG/KG)
0.00
0.02
0.04
0.06
0.08
5000
10000
15000
Iron (MG/KG)

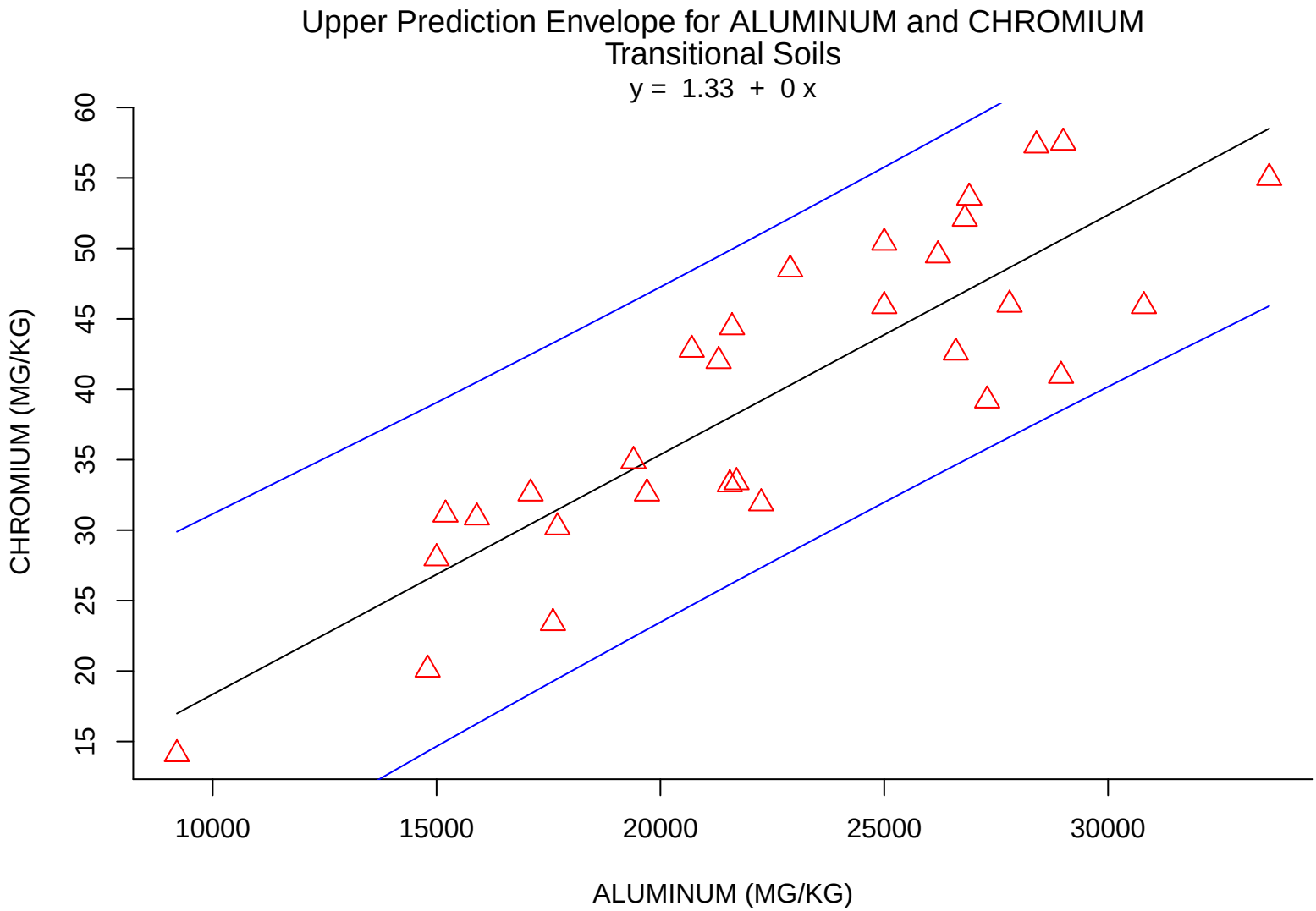

Upper Prediction Envelope for IRON and BERYLLIUM
Upper Sand Soils
y = 0.04 + 0 x
BERYLLIUM (MG/KG)
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
5000
10000
15000
Iron (MG/KG)

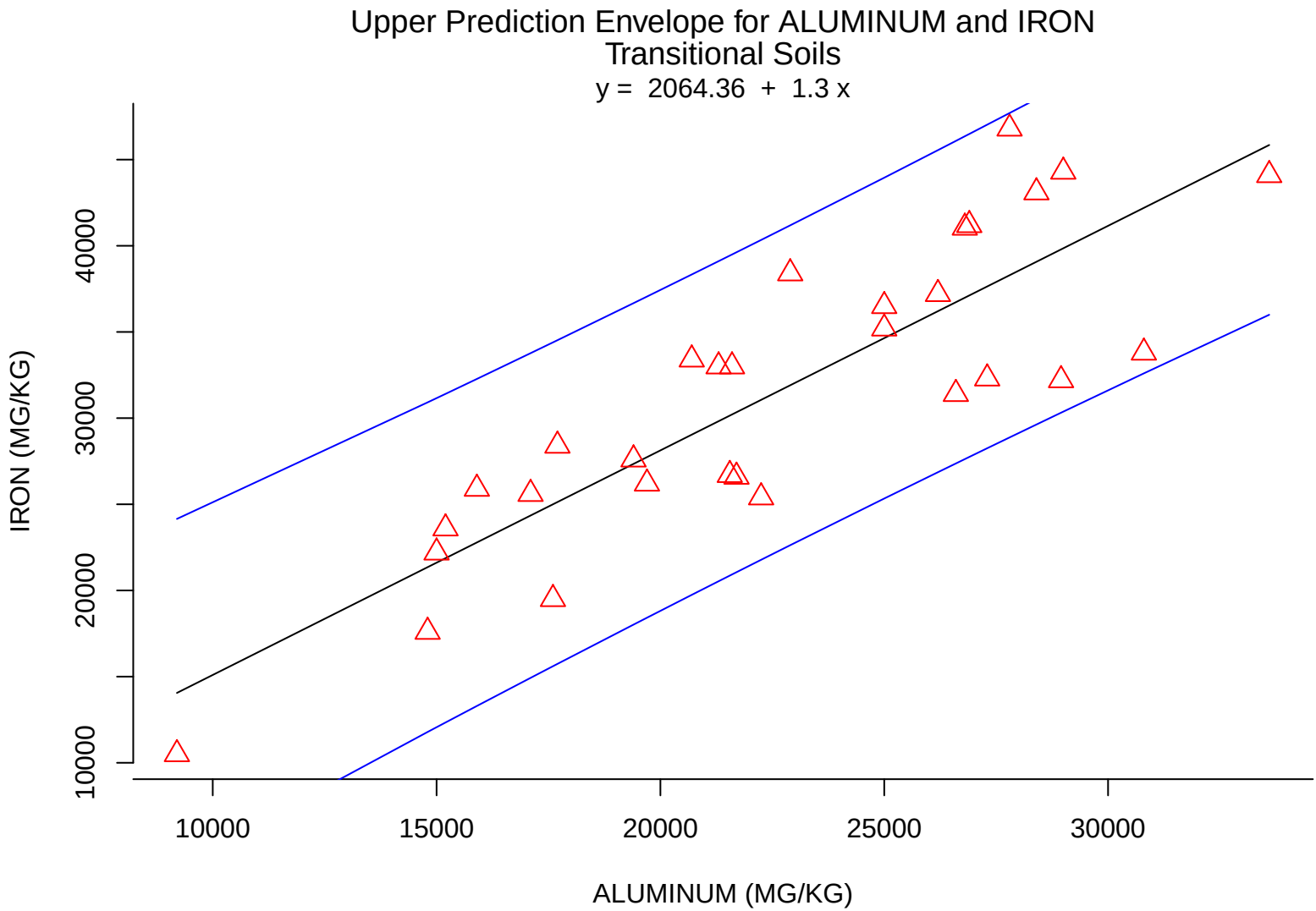

Upper Prediction Envelope for IRON and CHROMIUM
Upper Sand Soils
y = −0.36 + 0 x
CHROMIUM (MG/KG)
2
4
6
8
10
12
14
16
18
5000
10000
15000
Iron (MG/KG)

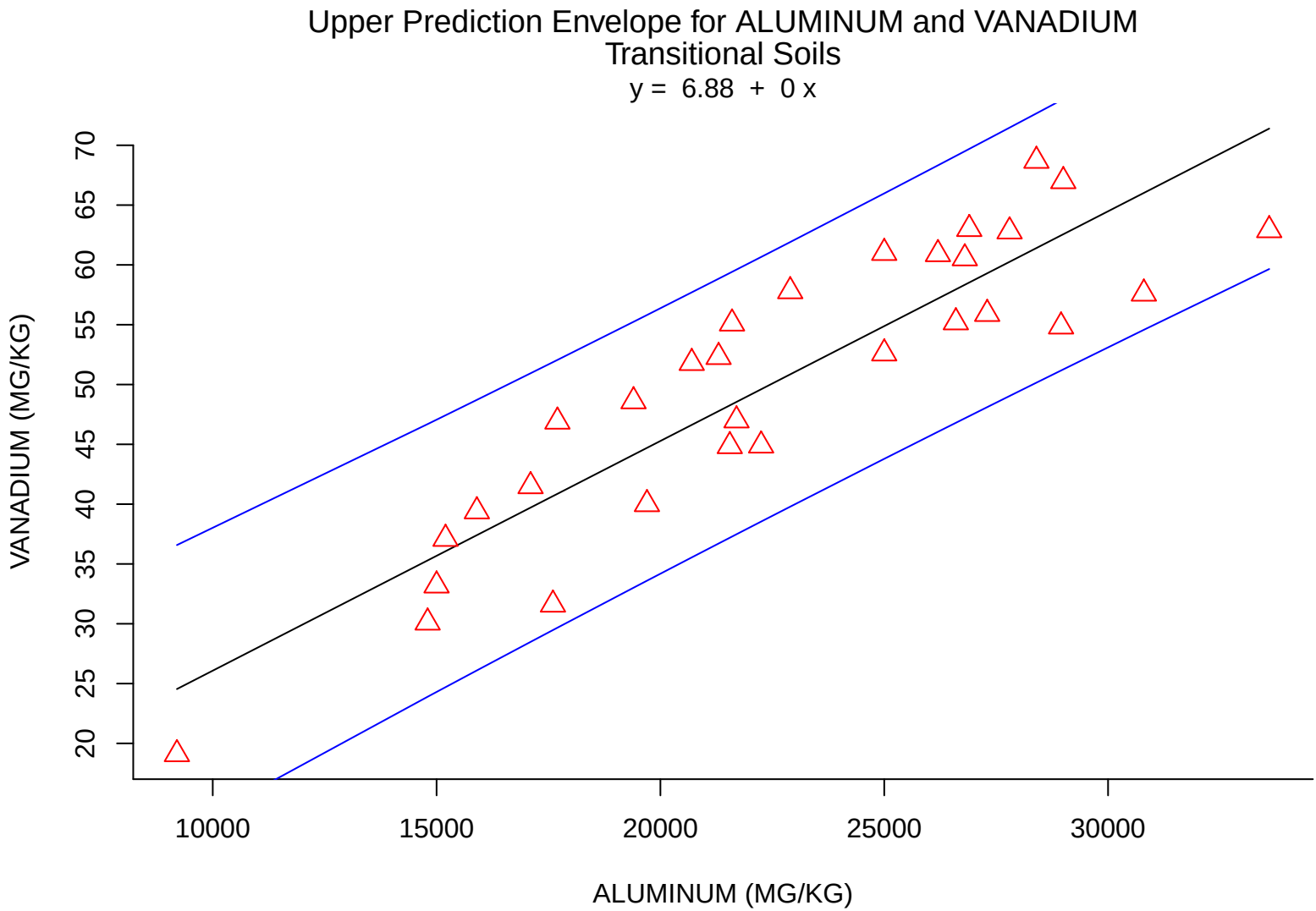

Upper Prediction Envelope for IRON and VANADIUM
Upper Sand Soils
y = −0.97 + 0 x
VANADIUM (MG/KG)
5
10
15
20
25
30
5000
10000
15000
Iron (MG/KG)

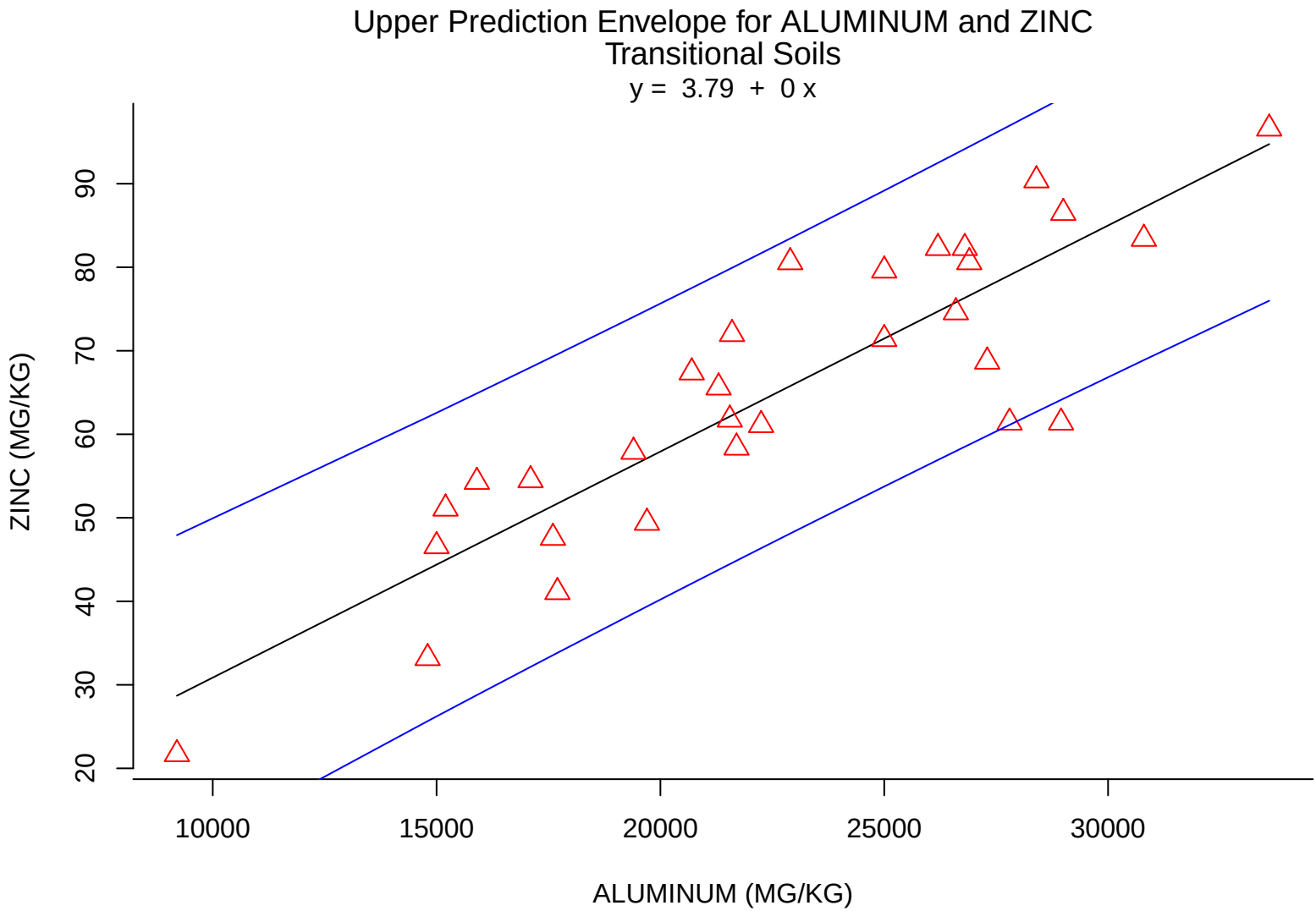

Upper Prediction Envelope for ALUMINUM and BARIUM
Transitional Soils
y = 2.51 + 0 x
BARIUM (MG/KG)
30
40
50
60
70
80
90
100
10000
15000
20000
25000
30000
ALUMINUM (MG/KG)

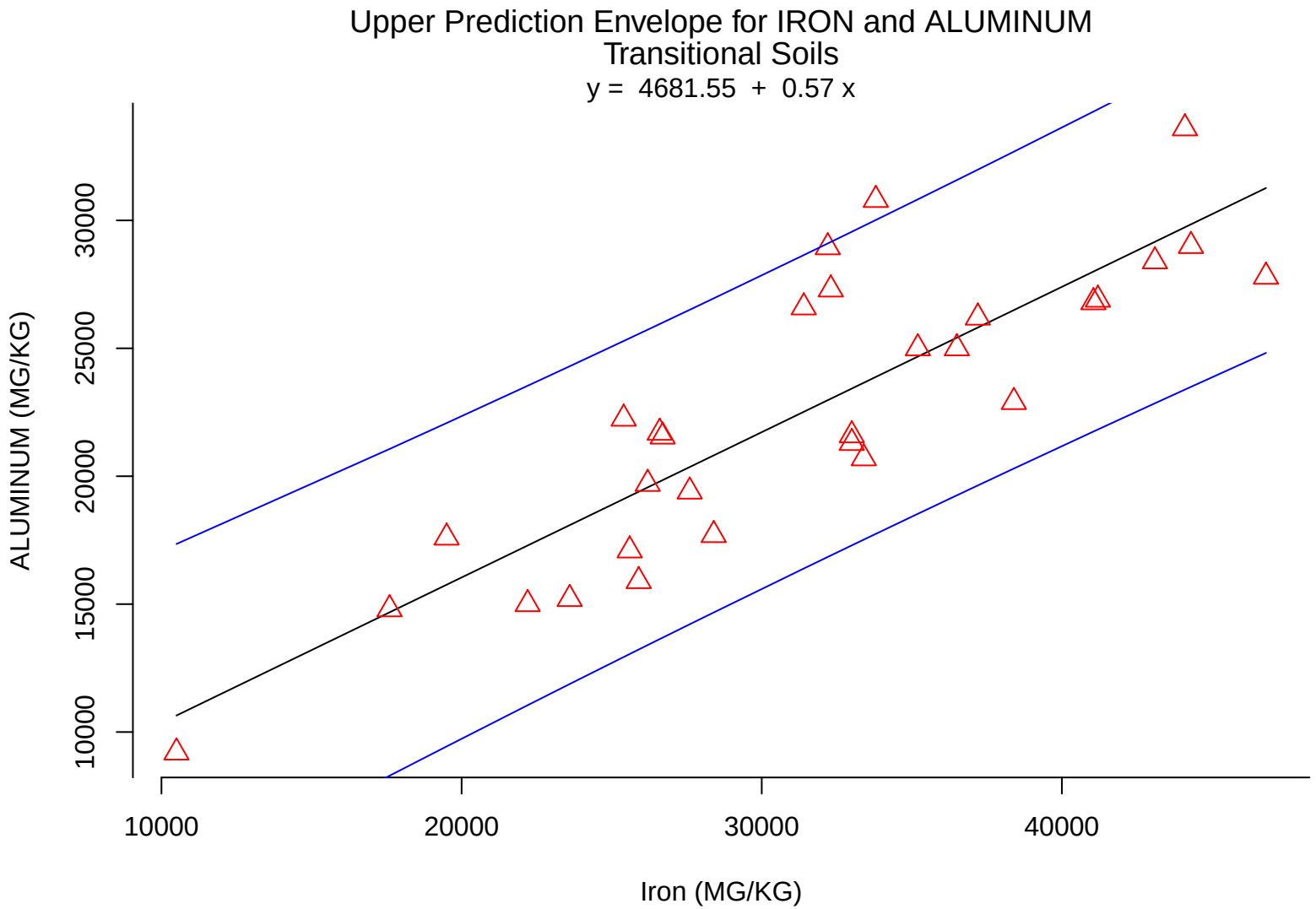

Upper Prediction Envelope for ALUMINUM and BERYLLIUM
Transitional Soils
y = −0.06 + 0 x
BERYLLIUM (MG/KG)
0.4
0.6
0.8
1.0
1.2
1.4
1.6
10000
15000
20000
25000
30000
ALUMINUM (MG/KG)

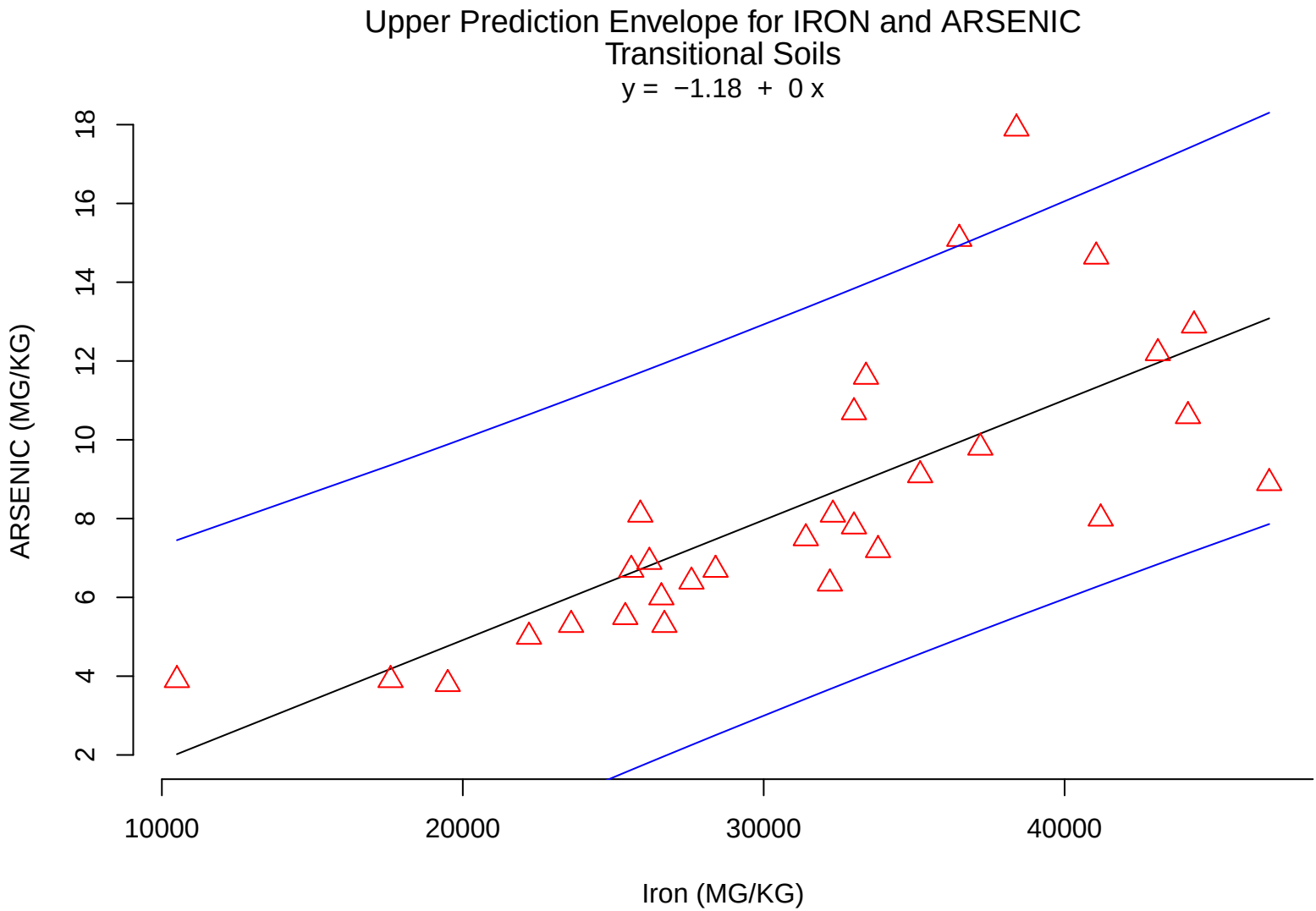

Upper Prediction Envelope for ALUMINUM and CHROMIUM
Transitional Soils
y = 1.33 + 0 x
CHROMIUM (MG/KG)
15
20
25
30
35
40
45
50
55
60
10000
15000
20000
25000
30000
ALUMINUM (MG/KG)

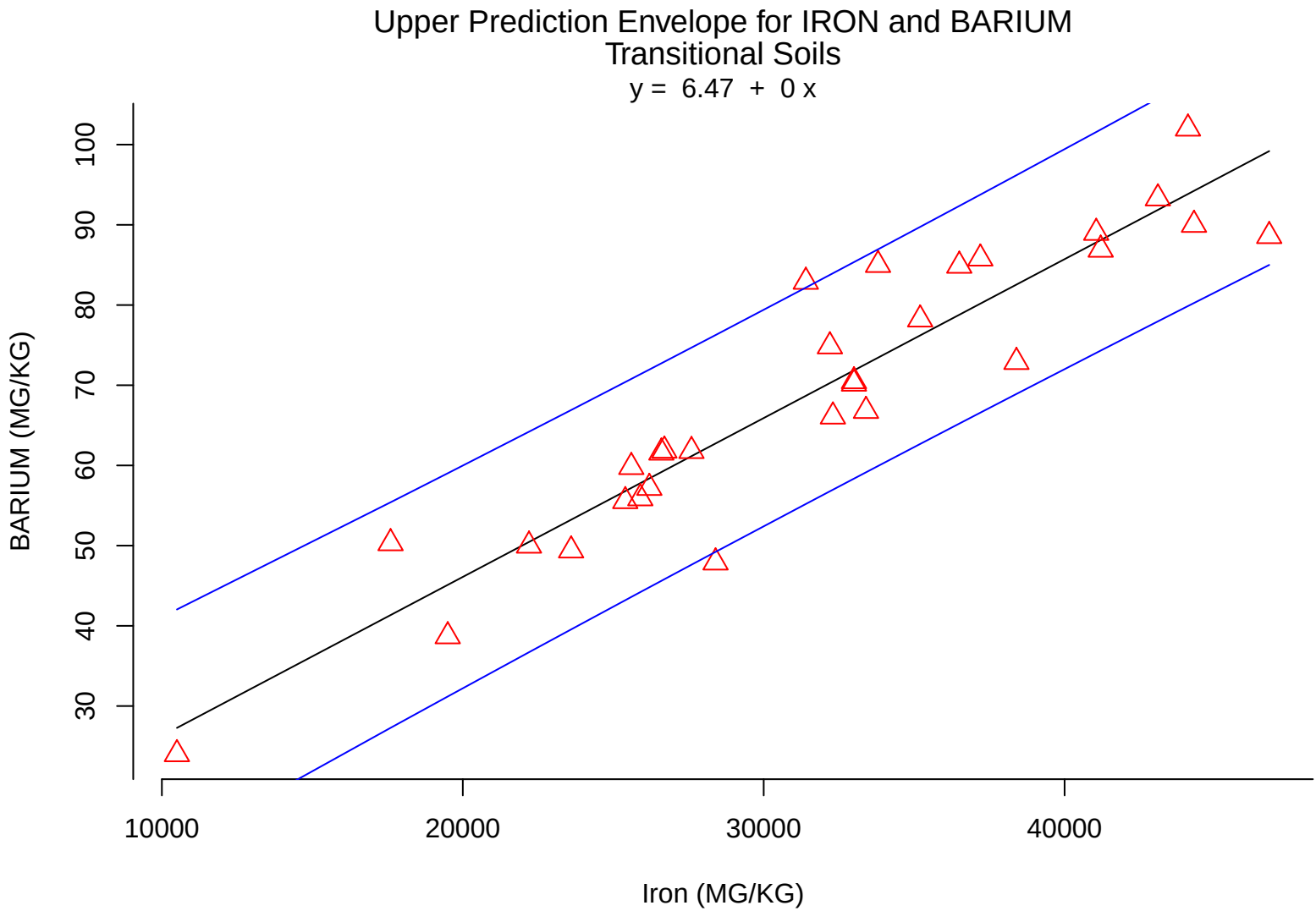

Upper Prediction Envelope for ALUMINUM and IRON
Transitional Soils
y = 2064.36 + 1.3 x
IRON (MG/KG)
10000
20000
30000
40000
10000
15000
20000
25000
30000
ALUMINUM (MG/KG)

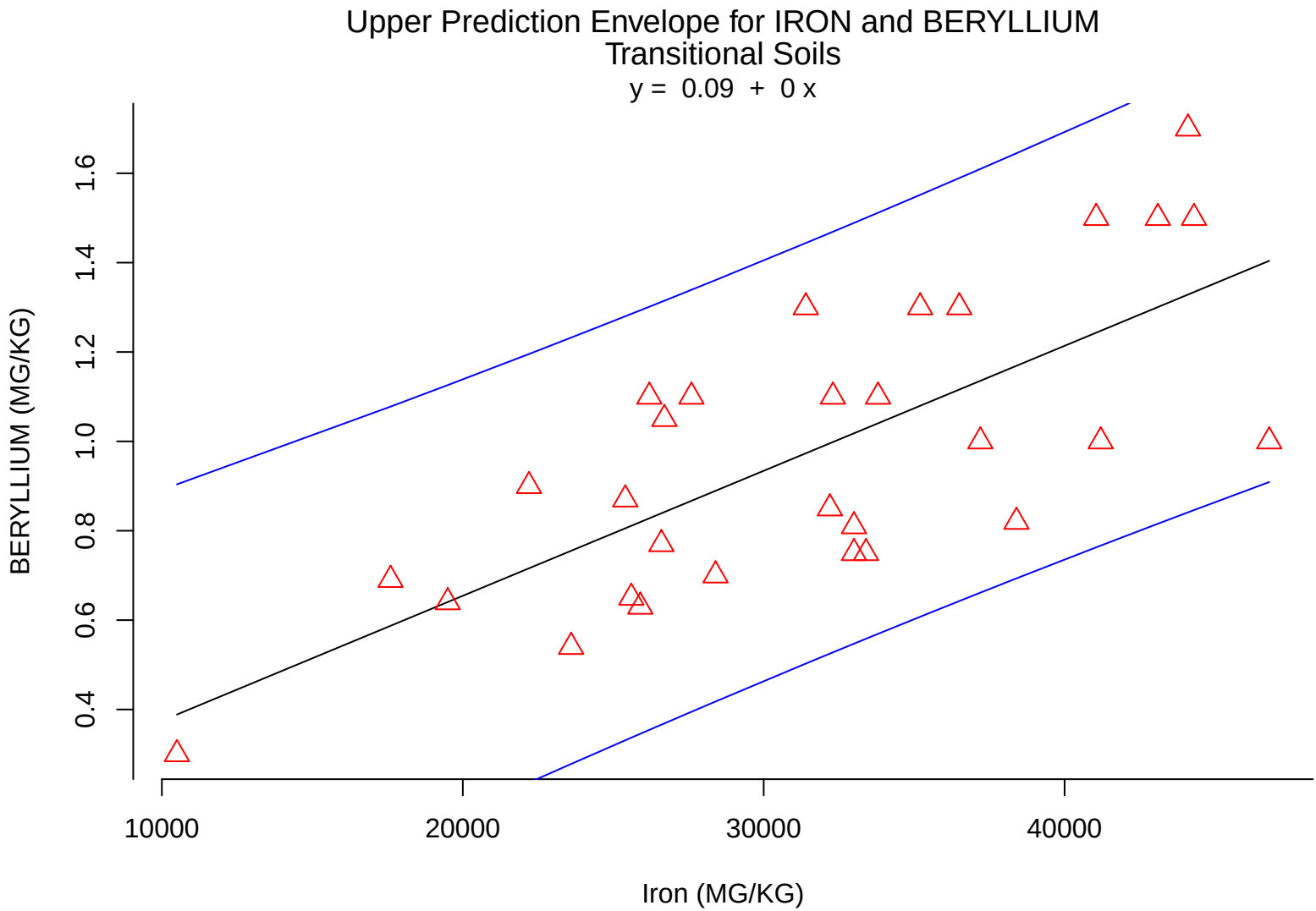

Upper Prediction Envelope for ALUMINUM and VANADIUM
Transitional Soils
y = 6.88 + 0 x
VANADIUM (MG/KG)
20
25
30
35
40
45
50
55
60
65
70
10000
15000
20000
25000
30000
ALUMINUM (MG/KG)

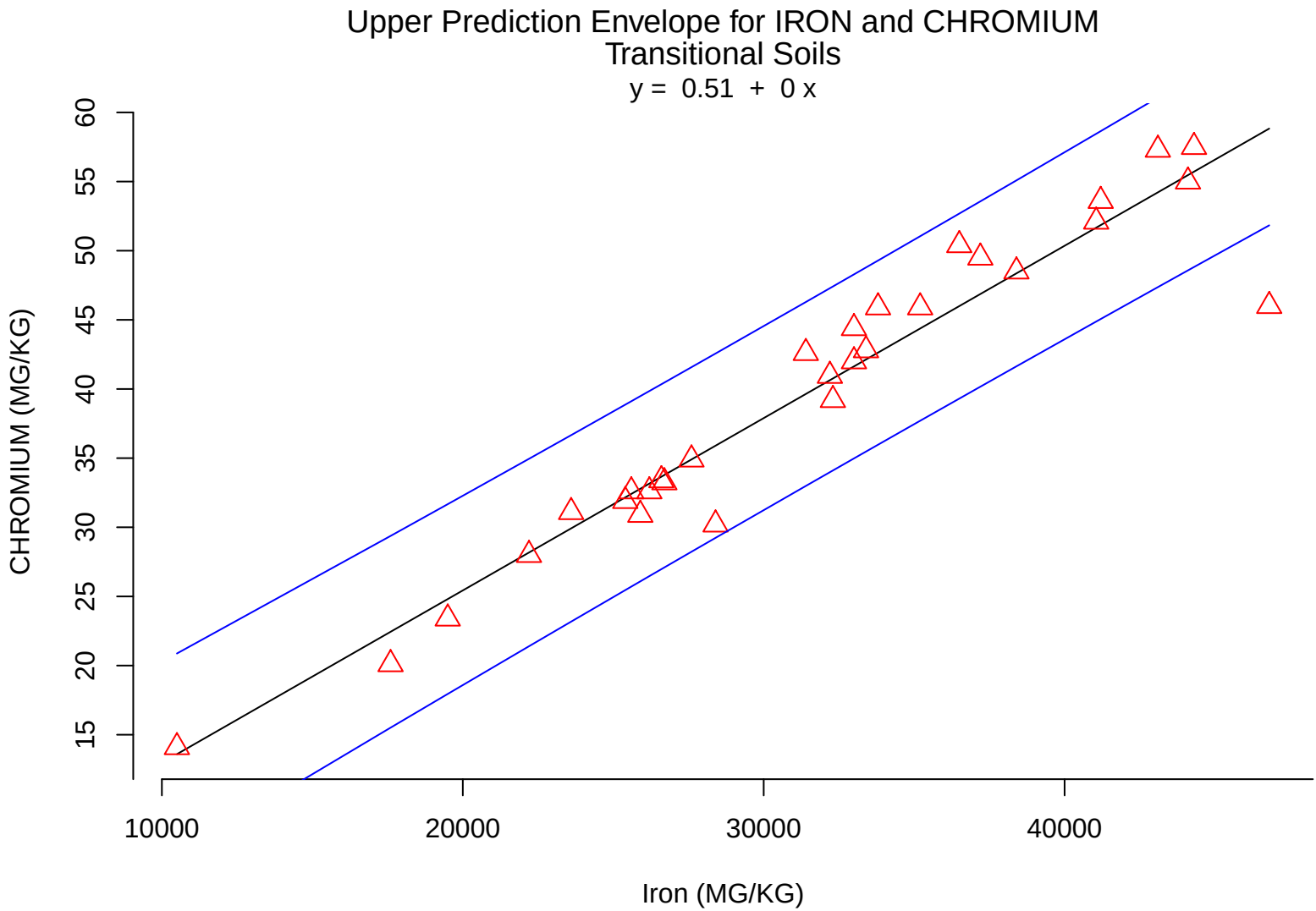

Upper Prediction Envelope for ALUMINUM and ZINC
Transitional Soils
y = 3.79 + 0 x
ZINC (MG/KG)
20
30
40
50
60
70
80
90
10000
15000
20000
25000
30000
ALUMINUM (MG/KG)

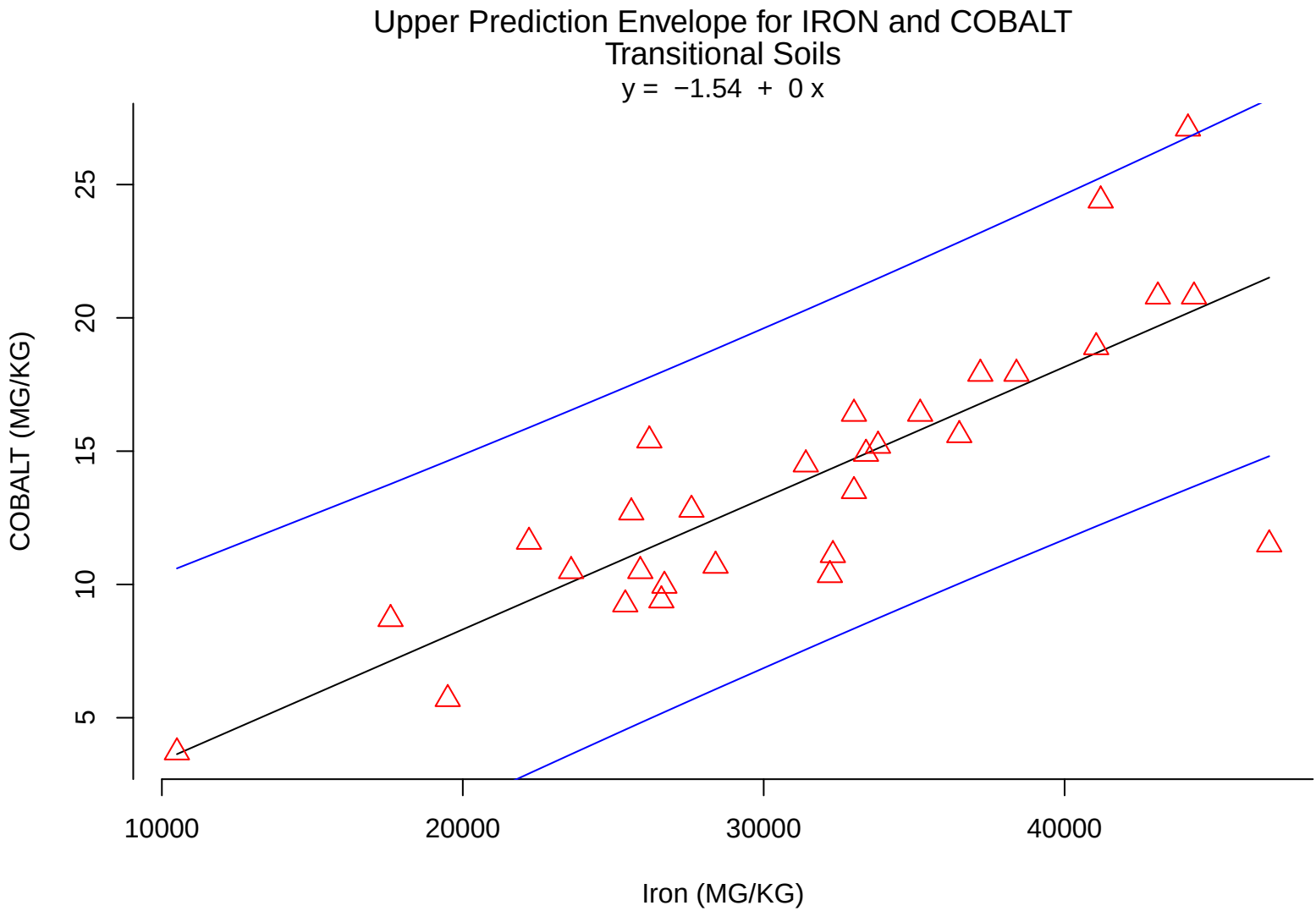

Upper Prediction Envelope for IRON and ALUMINUM
Transitional Soils
y = 4681.55 + 0.57 x
ALUMINUM (MG/KG)
10000
15000
20000
25000
30000
10000
20000
30000
40000
Iron (MG/KG)

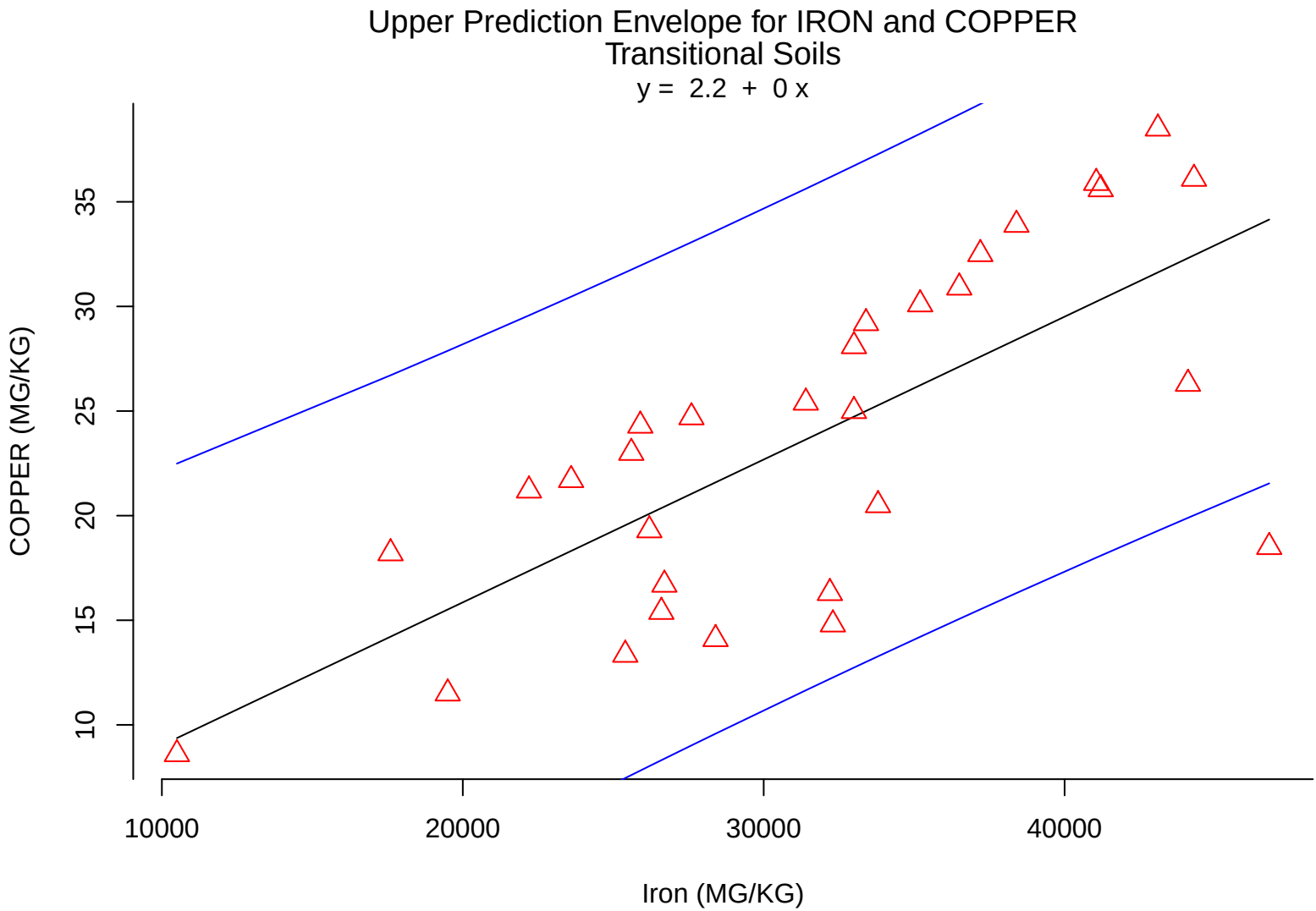

Upper Prediction Envelope for IRON and ARSENIC
Transitional Soils
y = −1.18 + 0 x
ARSENIC (MG/KG)
2
4
6
8
10
12
14
16
18
10000
20000
30000
40000
Iron (MG/KG)

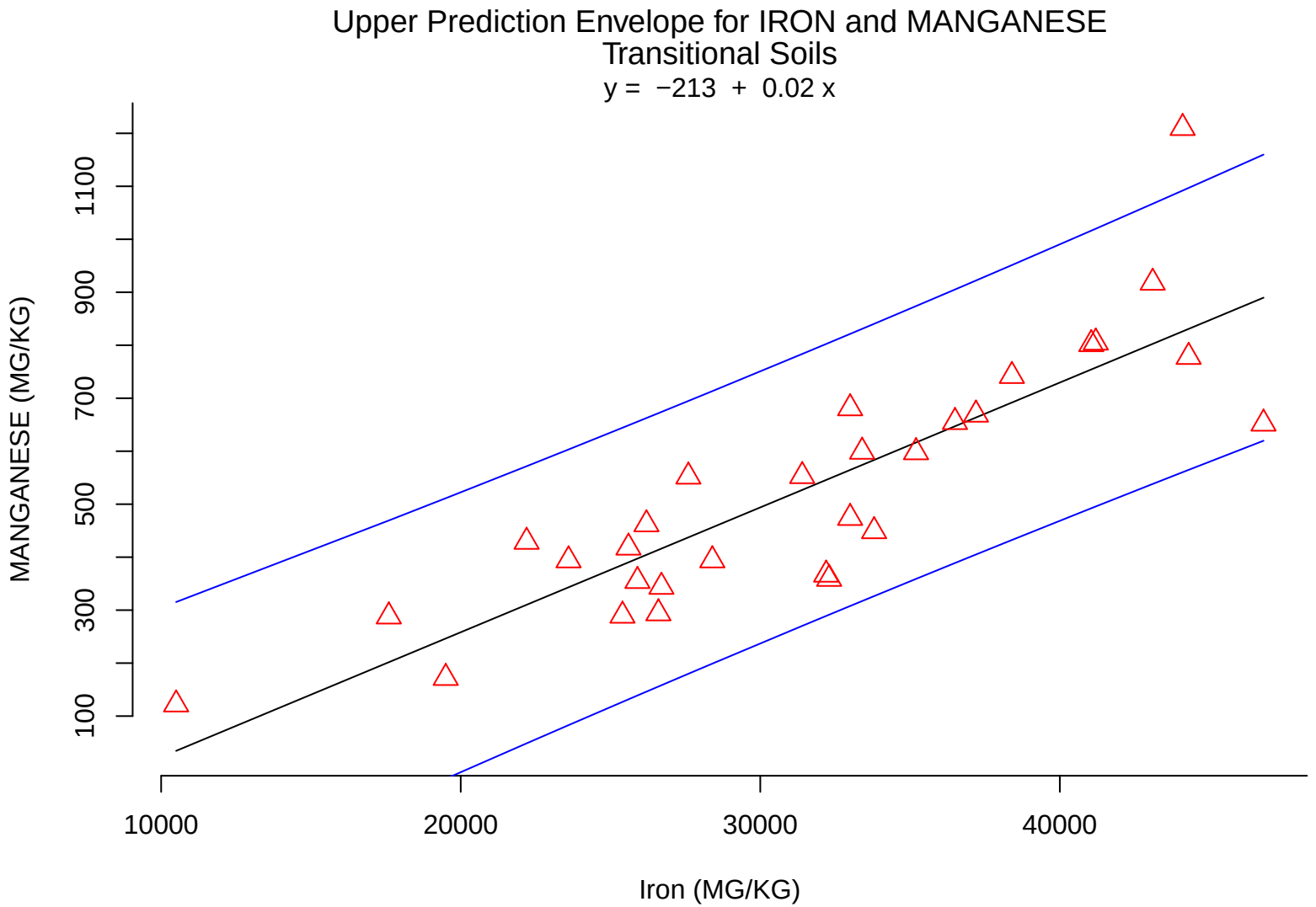

Upper Prediction Envelope for IRON and BARIUM
Transitional Soils
y = 6.47 + 0 x
BARIUM (MG/KG)
30
40
50
60
70
80
90
100
10000
20000
30000
40000
Iron (MG/KG)

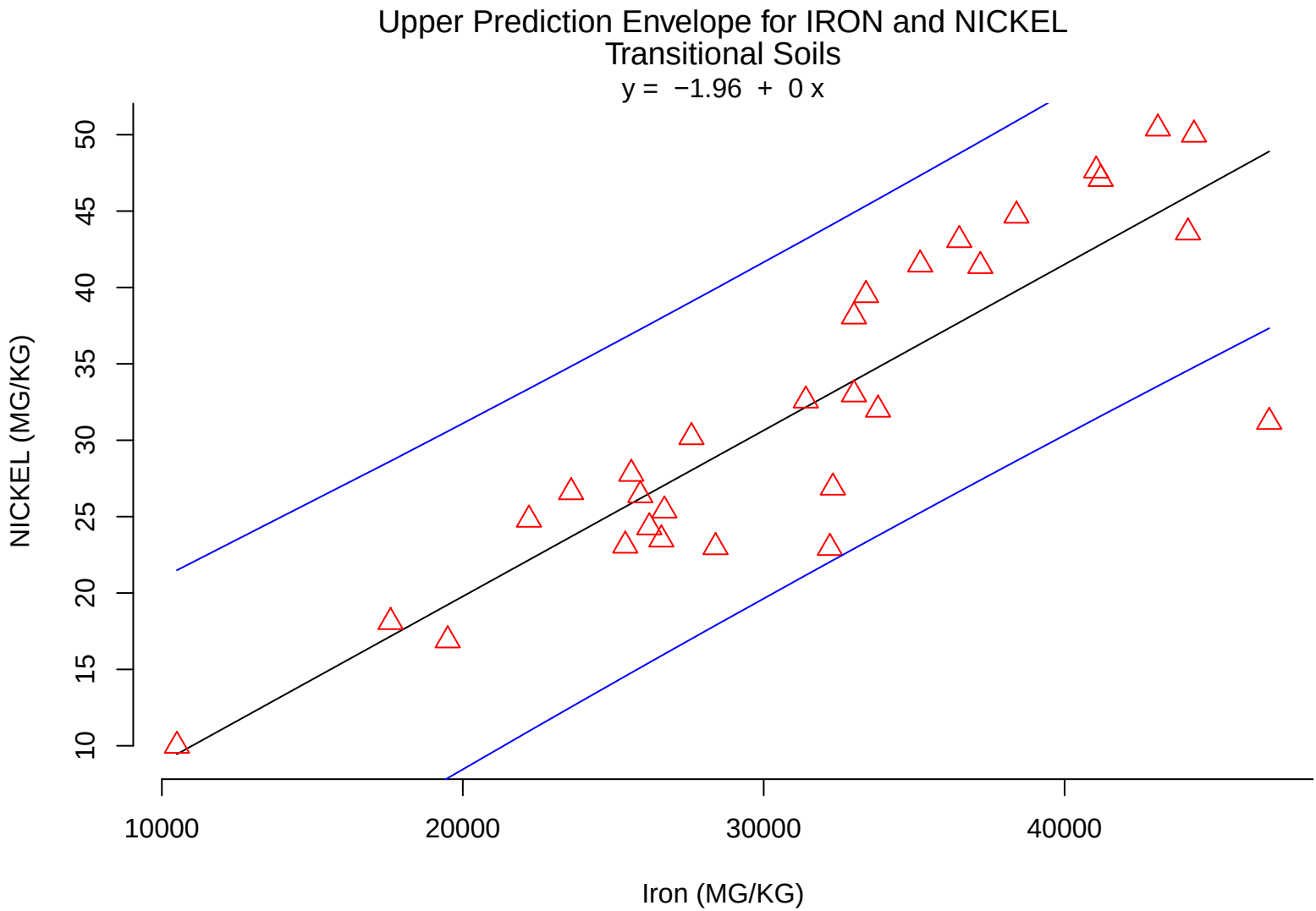

Upper Prediction Envelope for IRON and BERYLLIUM
Transitional Soils
y = 0.09 + 0 x
BERYLLIUM (MG/KG)
0.4
0.6
0.8
1.0
1.2
1.4
1.6
10000
20000
30000
40000
Iron (MG/KG)

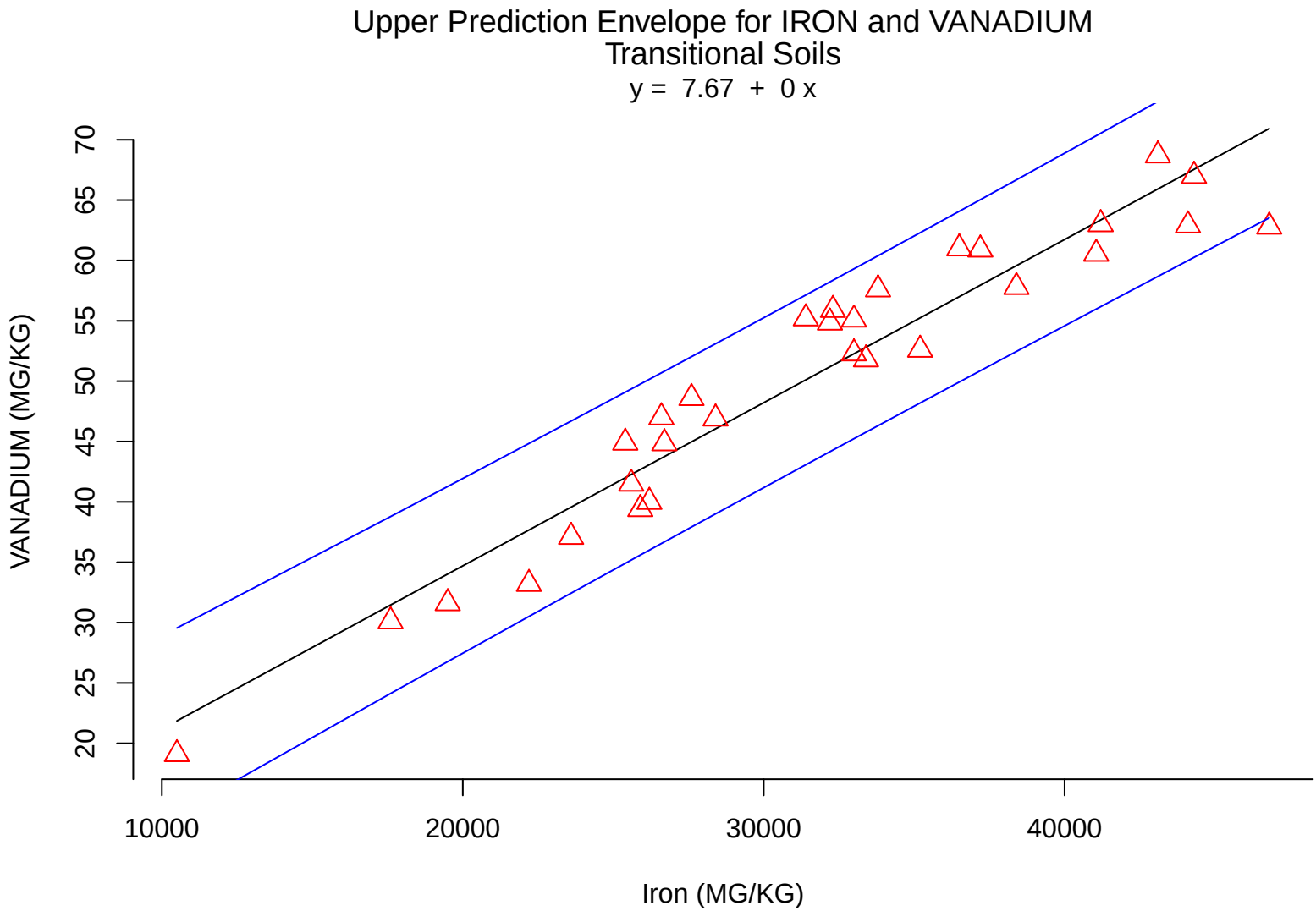

Upper Prediction Envelope for IRON and CHROMIUM
Transitional Soils
y = 0.51 + 0 x
CHROMIUM (MG/KG)
15
20
25
30
35
40
45
50
55
60
10000
20000
30000
40000
Iron (MG/KG)

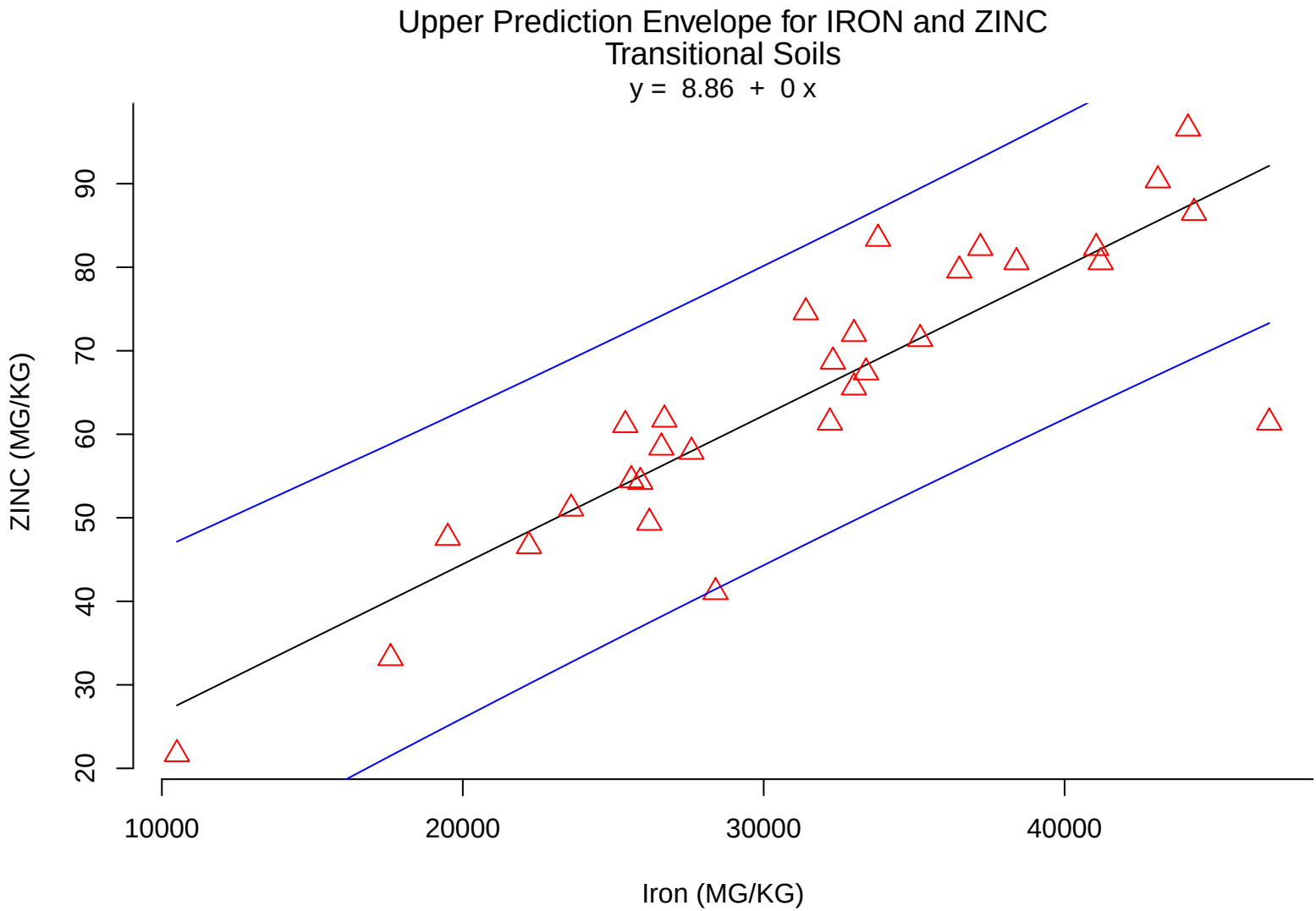

Upper Prediction Envelope for IRON and COBALT
Transitional Soils
y = −1.54 + 0 x
COBALT (MG/KG)
5
10
15
20
25
10000
20000
30000
40000
Iron (MG/KG)


Upper Prediction Envelope for IRON and COPPER
Transitional Soils
y = 2.2 + 0 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 + 0.02 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 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 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 x
ZINC (MG/KG)
20
30
40
50
60
70
80
90
10000
20000
30000
40000
Iron (MG/KG)

APPENDIX B

DATA QUALITY REVIEW

APPENDIX B

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) (Tetra Tech, 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. 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-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 2 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). 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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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.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.

APPENDIX C

FIELD LOGS

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

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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

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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

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Fax: (207) 775-4029

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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:

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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

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Fax: (207) 775-4029

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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]
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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

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[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)

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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)

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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	apmy 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											
18-09 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										clean - colorless
	- collected dissolved metals grab sample.										

Acceptance Criteria: <0.3 ft (drawdown)	Temp	Spec. Cond.	pH	ORP	DO	Turbidity
	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-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.						

TtNUS Form 0013

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									

TtNUS Form 0013

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									

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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								

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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

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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									

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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						

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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'	

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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

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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	" "

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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

TtNUS Form 0013

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					

TtNUS Form 0013

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.								

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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.**

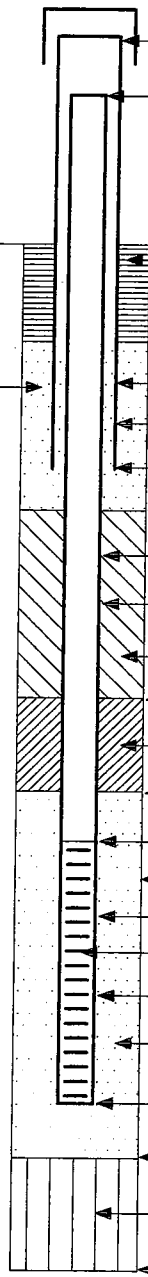
PROJECT NAME: NASB – Background Study
PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB- Brunswick, ME
WELL NO: NASB-BG-MW01
CLIENT: U.S. Navy
BORING NO: NASB-BG-SB01
CONTRACTOR: MAI
DRILLER: S. Brown
BORING LOCATION:
LOGGED BY: C. Fellows
DATE: 8/20/09
CHECKED BY:
DATE:

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:

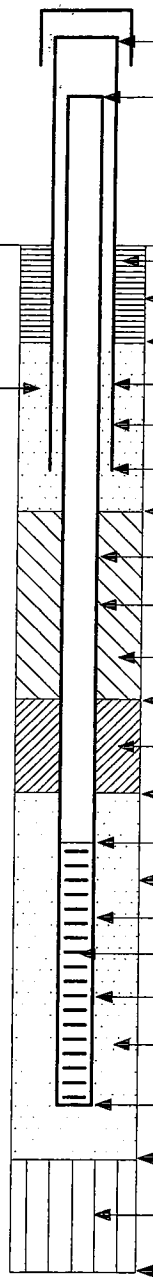
PAGE: 1 OF 1

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

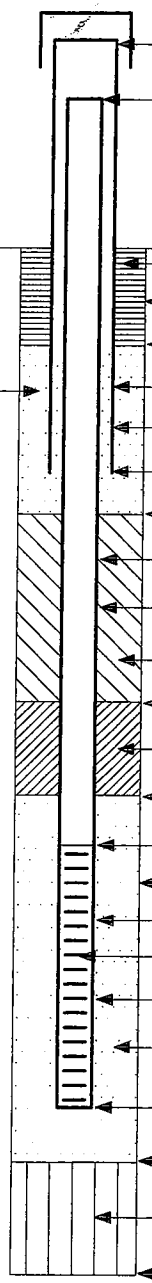
GENERAL NOTE:

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:

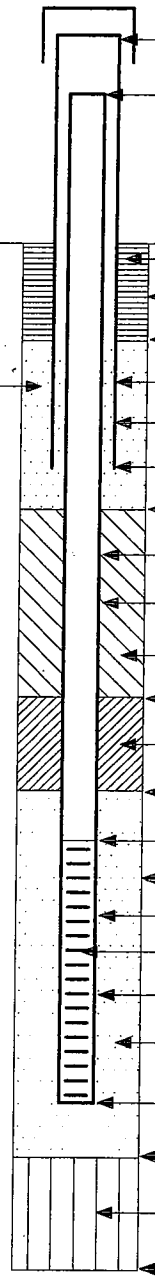
PAGE: 1 OF 1

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

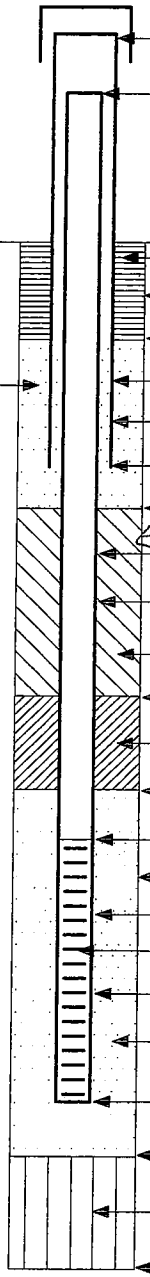
GENERAL NOTE:

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:

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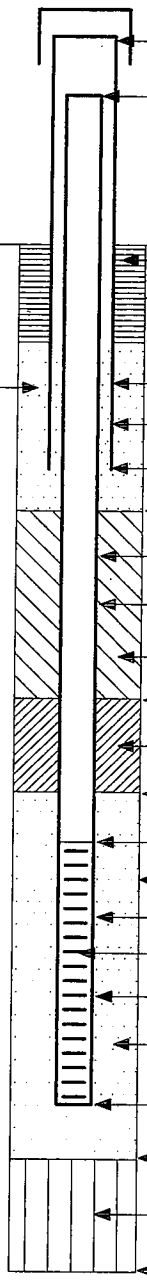
ELEVATION TOP OF PROTECTIVE CASING

ELEVATION TOP OF RISER PIPE

GROUND ELEVATION

SAND DRAIN LAYER



LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	3.18
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:

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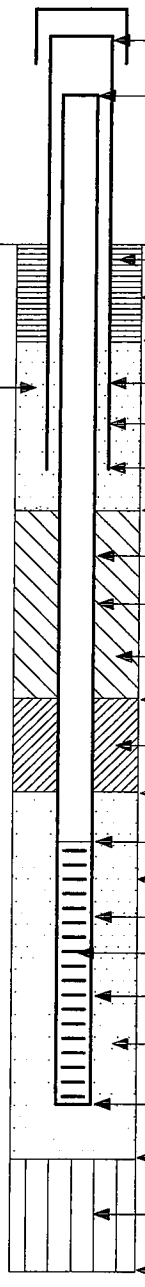
ELEVATION TOP OF PROTECTIVE CASING

ELEVATION TOP OF RISER PIPE

GROUND ELEVATION

SAND DRAIN LAYER



LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	3.5
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:

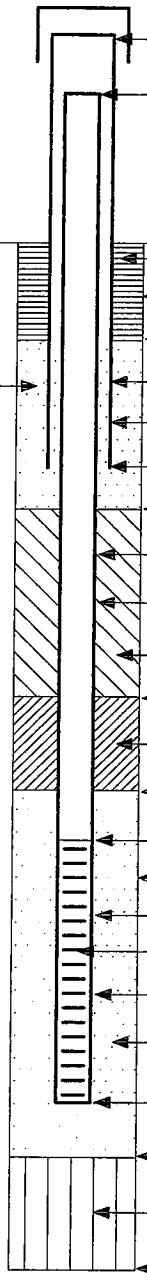
PAGE: 1 OF 1

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:

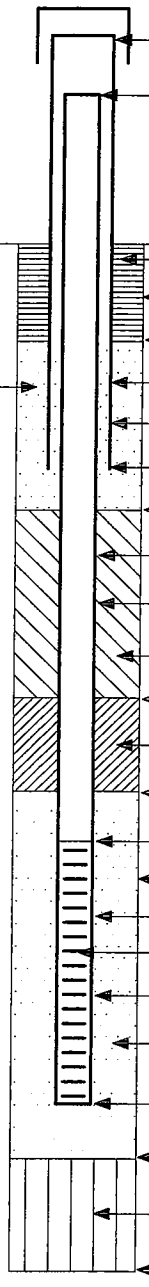
PAGE: 1 OF 1

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.**

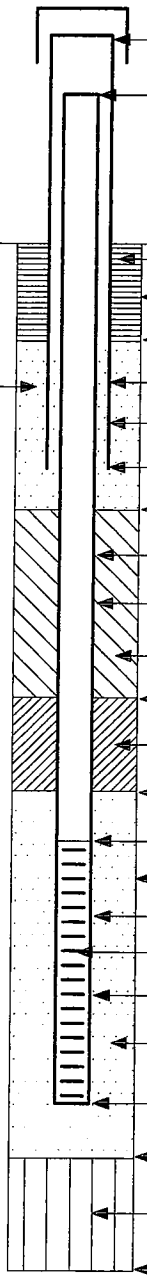
PROJECT NAME: NASB – Background Study
PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB- Brunswick, ME
WELL NO: NASB-BG-MW10
CLIENT: U.S. Navy
BORING NO: NASB-BG-SB10
CONTRACTOR: MAI
DRILLER: S. Brown
BORING LOCATION:
LOGGED BY: C. Fellows
DATE: 8/17/09
CHECKED BY:
DATE:

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:

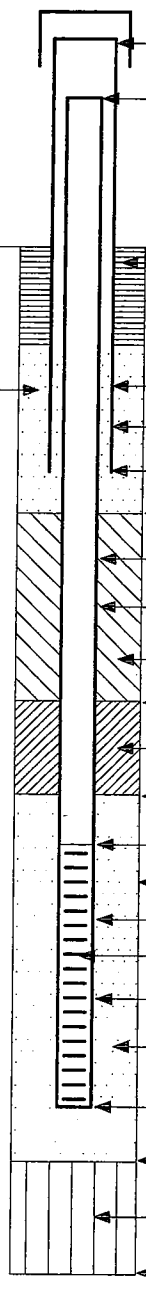
PAGE: 1 OF 1

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:

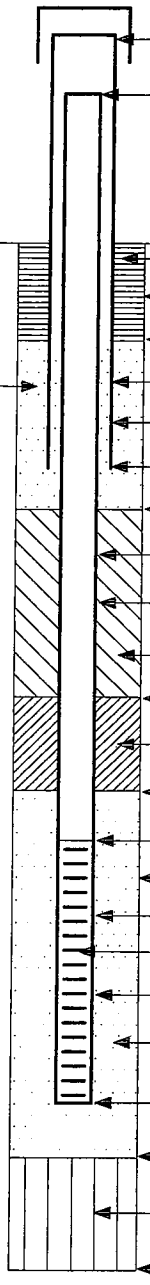
PAGE: 1 OF 1

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:

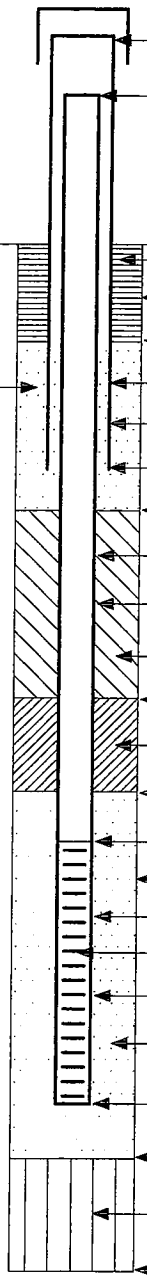
PAGE: 1 OF 1

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

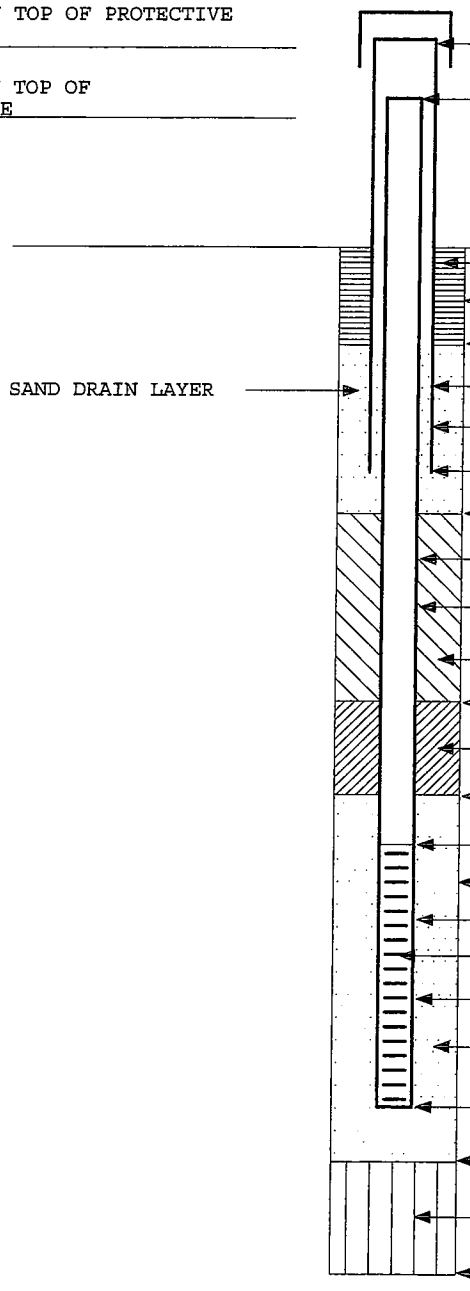
GENERAL NOTE:

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:

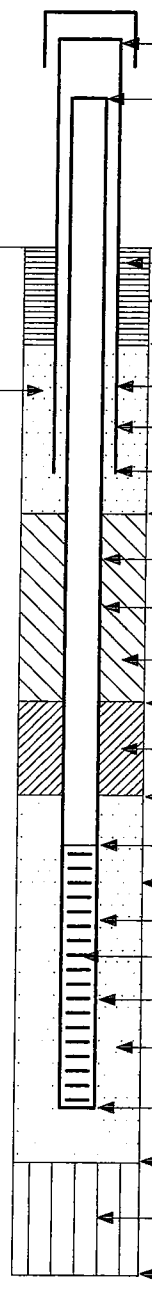
PAGE: 1 OF 1

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.**

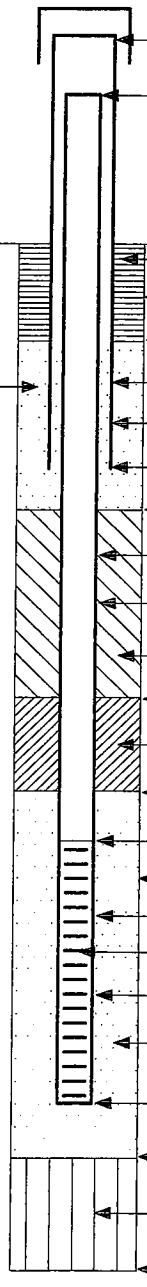
PROJECT NAME: NASB – Background Study	PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB- Brunswick, ME	WELL NO: NASB-BG-MW17
CLIENT: U.S. Navy	BORING NO: NASB-BG-SB17
CONTRACTOR: MAI — DRILLER: S. Brown	BORING LOCATION:
LOGGED BY: C. Fellows — DATE: 8/25/09	
CHECKED BY: — DATE:	PAGE: 1 OF 1

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:

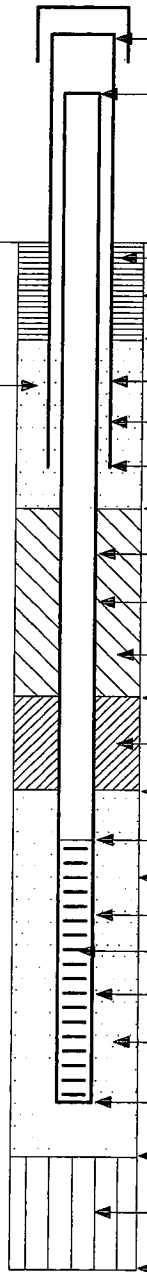
PAGE: 1 OF 1

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.**

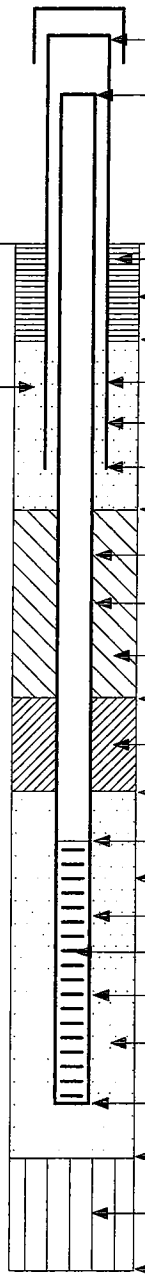
PROJECT NAME: NASB – Background Study
PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB- Brunswick, ME
WELL NO: NASB-BG-MW19
CLIENT: U.S. Navy
BORING NO: NASB-BG-SB19
CONTRACTOR: MAI
DRILLER: S. Brown
BORING LOCATION:
LOGGED BY: C. Fellows
DATE: 8/13/09
CHECKED BY:
DATE:

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.**

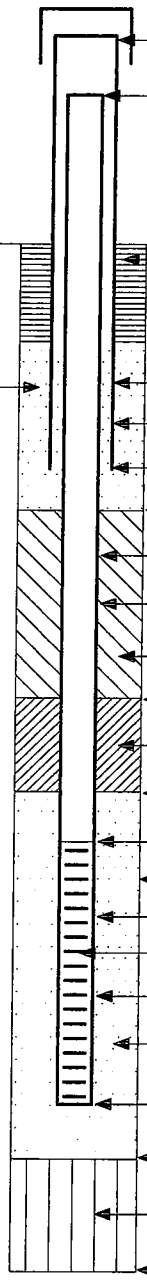
PROJECT NAME: NASB – Background Study
PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB – Brunswick, ME
WELL NO: NASB-BG--MW21
CLIENT: U.S. Navy
BORING NO: NASB-BG--SB21
CONTRACTOR: MAI
DRILLER: S. Brown
BORING LOCATION:
LOGGED BY: C. Fellows
DATE: 8/14/09
CHECKED BY:
DATE:

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:

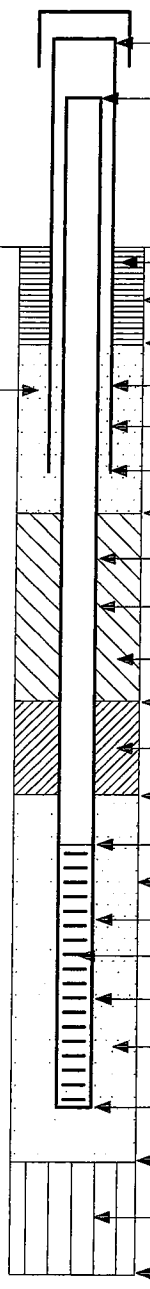
PAGE: 1 OF 1

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:

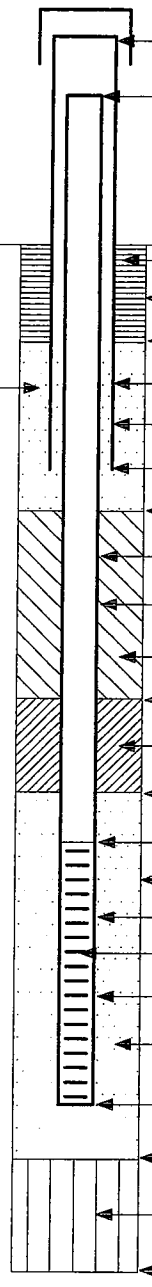
PAGE: 1 OF 1

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.**

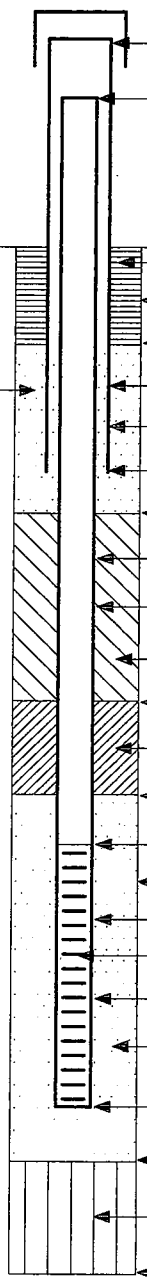
PROJECT NAME: NASB – Background Study
PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB- Brunswick, ME
WELL NO: NASB-BG-MW25
CLIENT: U.S. Navy
BORING NO: NASB-BG-SB25
CONTRACTOR: MAI
DRILLER: S. Brown
BORING LOCATION:
LOGGED BY: C. Fellows
DATE: 8/14/09
CHECKED BY:
DATE:
PAGE: 1 OF 1

ELEVATION TOP OF PROTECTIVE CASING

ELEVATION TOP OF RISER PIPE

GROUND ELEVATION

SAND DRAIN LAYER



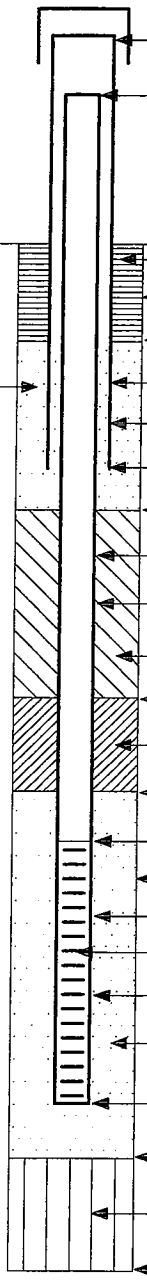
LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	3.2
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	2.72
TYPE OF SURFACE SEAL	Bentonite Chips (med)
DIA. SURFACE SEAL BGS (In.)	6in
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	6in
I.D. OF PROTECTIVE CASING (In.)	4.3
TYPE OF PROTECTIVE CASING	Steel Guard 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.**

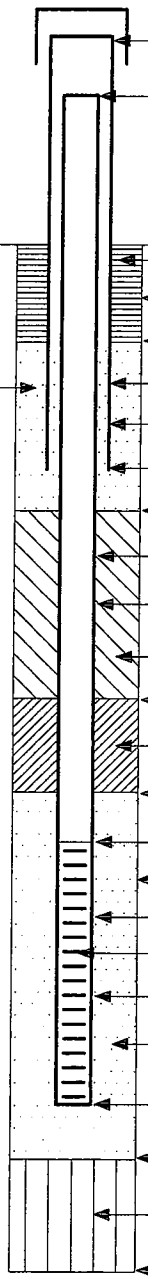
PROJECT NAME: NASB – Background Study
PROJECT NO: 112G00958 / 0510
PROJECT LOCATION: NASB- Brunswick, ME
WELL NO: NASB-BG-MW27
CLIENT: U.S. Navy
BORING NO: NASB-BG-SB20
CONTRACTOR: MAI
DRILLER: S. Brown
BORING LOCATION:
LOGGED BY: C. Fellows
DATE: 8/19/09
CHECKED BY:
DATE:

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:

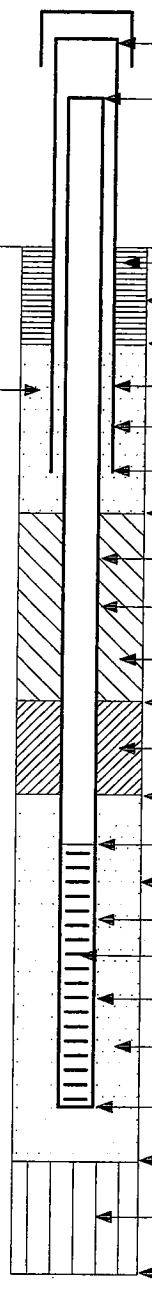
PAGE: 1 OF 1

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:

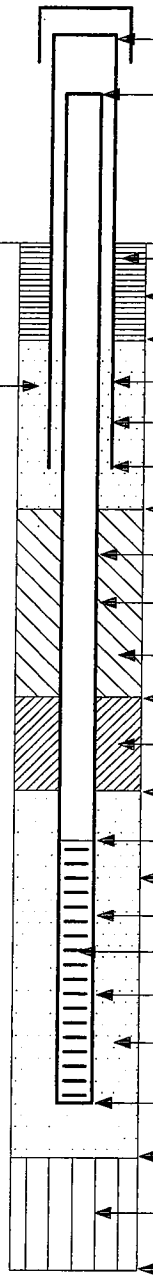
PAGE: 1 OF 1

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:	

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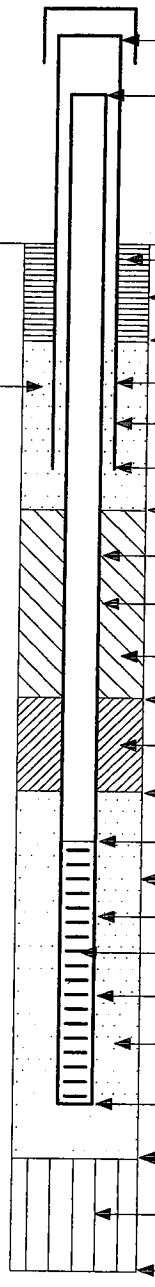


ELEVATION TOP OF PROTECTIVE CASING	
ELEVATION TOP OF RISER PIPE	
GROUND ELEVATION	
LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	2.6
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	2.37
TYPE OF SURFACE SEAL	SAND
DIA. SURFACE SEAL BGS (In.)	3.25
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	3.0
I.D. 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:

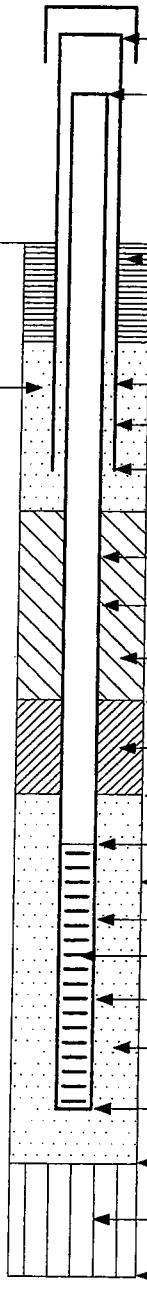
PAGE: 1 OF 1

ELEVATION TOP OF PROTECTIVE CASING

ELEVATION TOP OF RISER PIPE

GROUND ELEVATION

SAND DRAIN LAYER



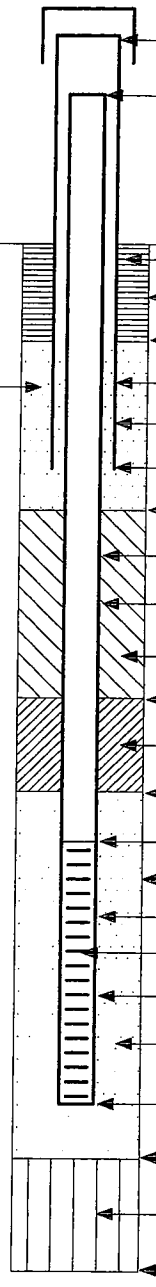
LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	2.5
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	2.28
TYPE OF SURFACE SEAL	SAND
DIA. SURFACE SEAL BGS (In.)	3.25
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	3.0
I.D. OF PROTECTIVE CASING (In.)	4.25
TYPE OF PROTECTIVE CASING	Steel
DEPTH BOTTOM OF PROTECTIVE 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:	

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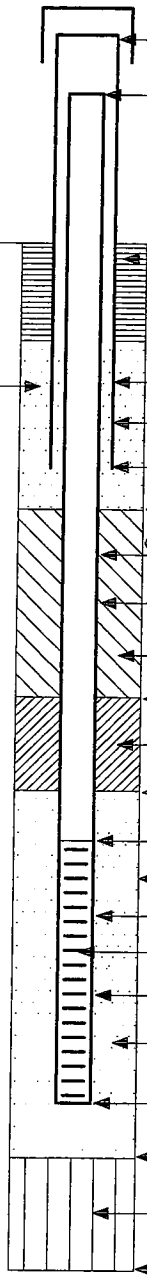


ELEVATION TOP OF PROTECTIVE CASING	
ELEVATION TOP OF RISER PIPE	
GROUND ELEVATION	
LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	2.96'
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	2.64
TYPE OF SURFACE SEAL	Silica Sand (20-40)
DIA. SURFACE SEAL BGS (In.)	6in (Sand)
DEPTH TO BOTTOM OF SURFACE 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:

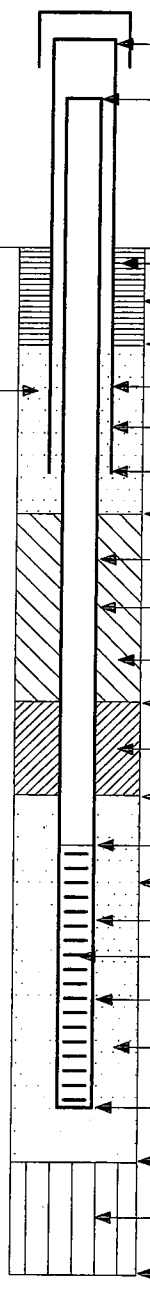
PAGE: 1 OF 1

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:

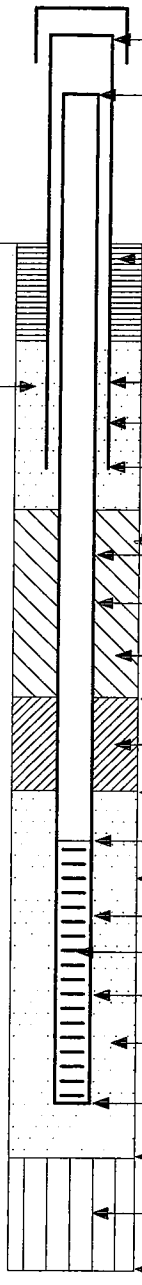
PAGE: 1 OF 1

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.)	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:

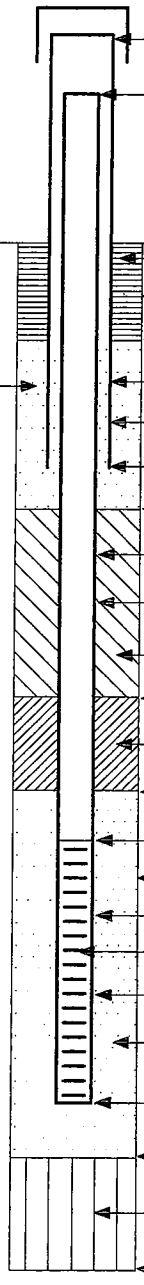
PAGE: 1 OF 1

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:

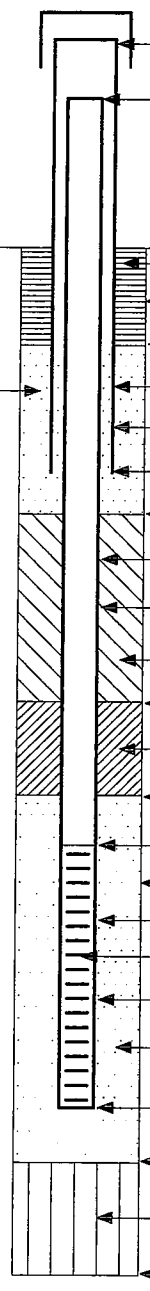
PAGE: 1 OF 1

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:

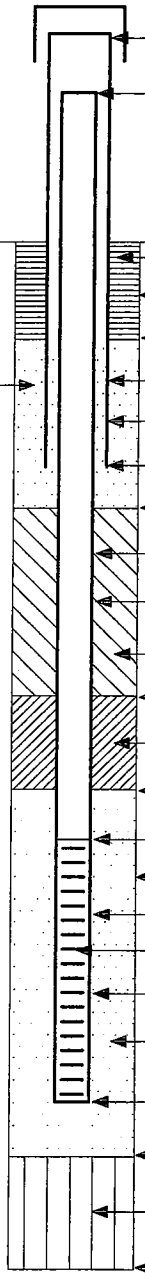
PAGE: 1 OF 1

ELEVATION TOP OF PROTECTIVE CASING

ELEVATION TOP OF RISER PIPE

GROUND ELEVATION

SAND DRAIN LAYER



LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	3.0
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:

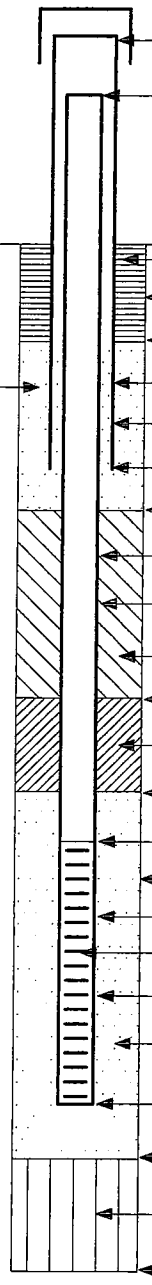
PAGE: 1 OF 1

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.)	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:

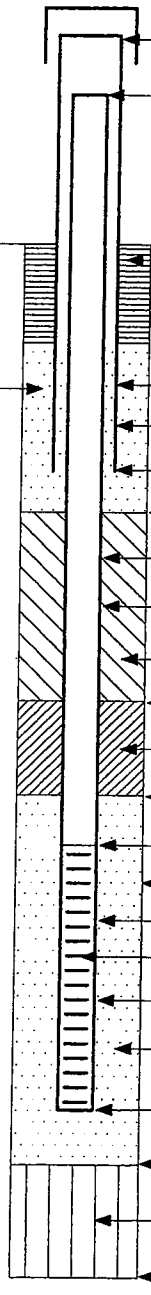
1. Entry of 0.00 for Ground Elevation, Elev. Top of Riser Pipe & Elev. Top of Protective Casing Indicates that Surveyed Ground Elevation Not Available.

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

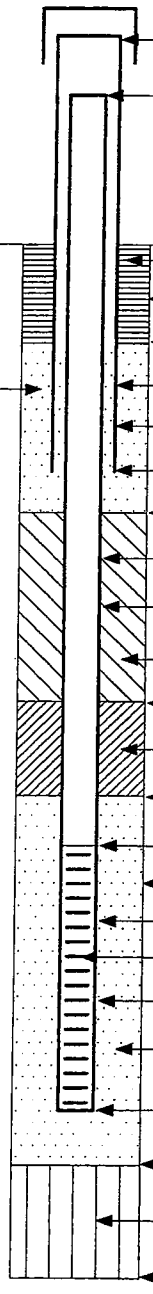
GENERAL NOTE:

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.

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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.

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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.

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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.

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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.

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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.

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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.

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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.

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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'						

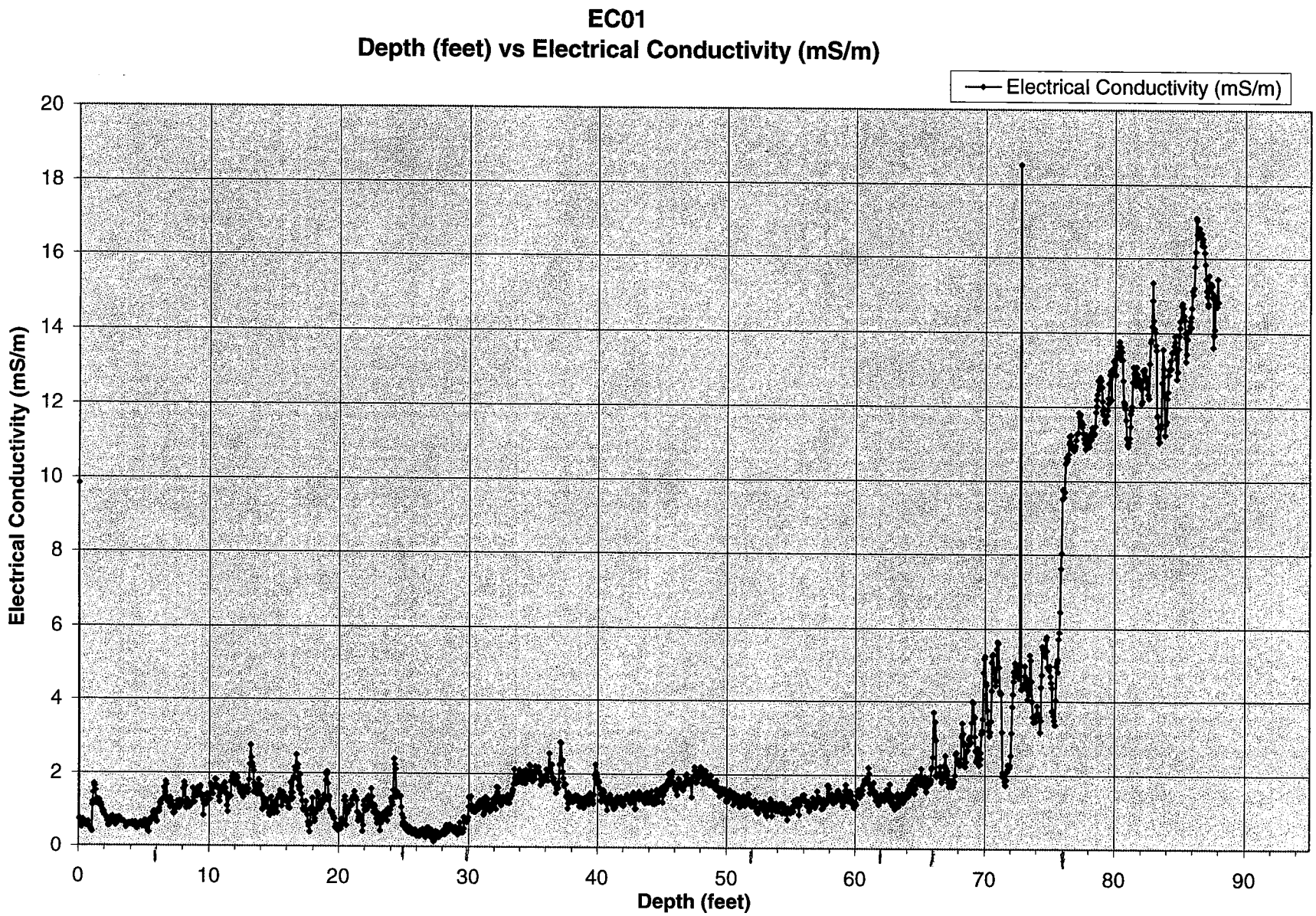
TYPE OF DRILLING RIG: Geoprobe
METHOD OF ADVANCING BORING: DPT
METHOD OF SOIL SAMPLING: Dual-Tube
METHOD OF ROCK CORING: NA
GROUNDWATER LEVELS:
OTHER OBSERVATIONS: See pg. 1

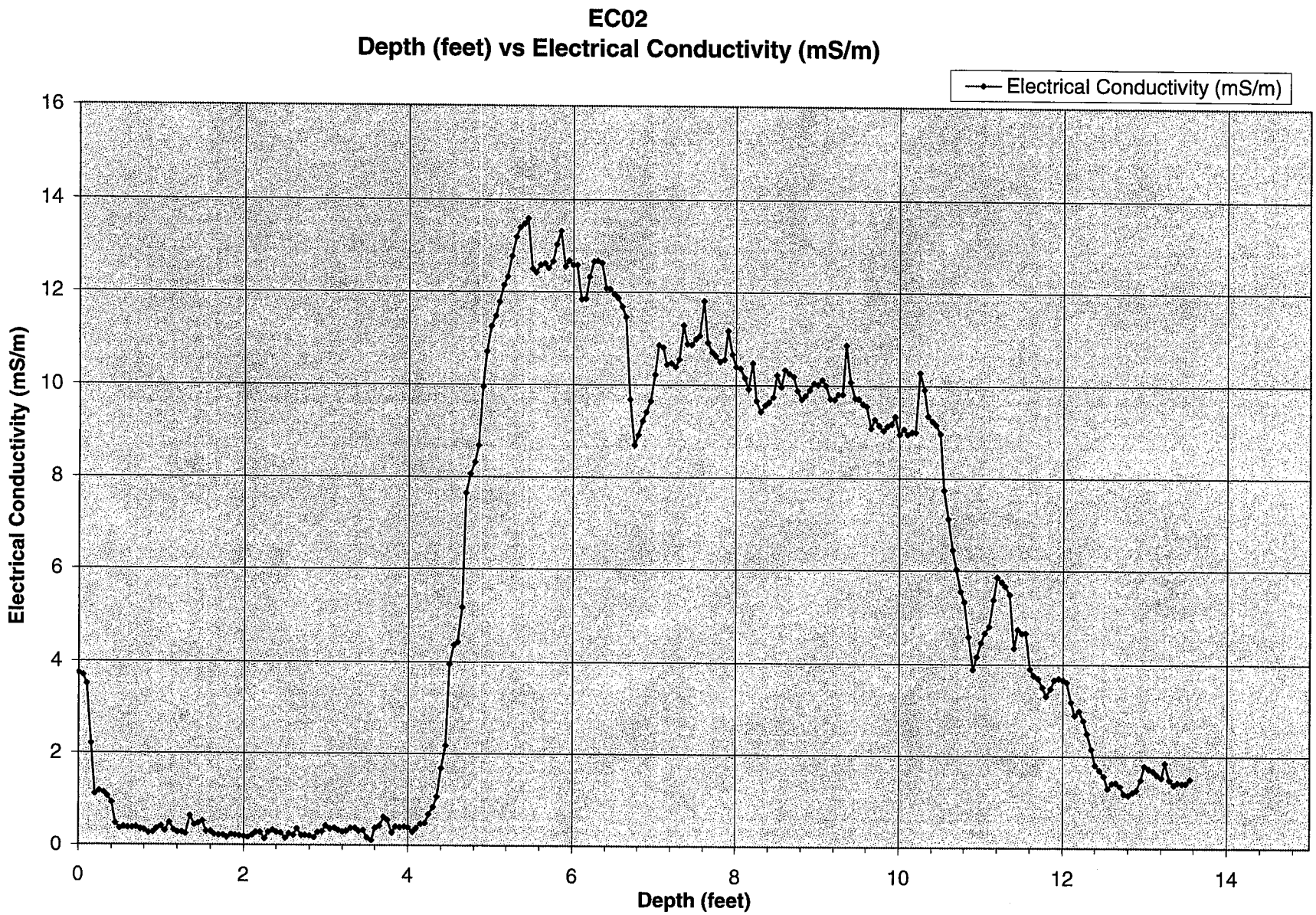
screen 20-30

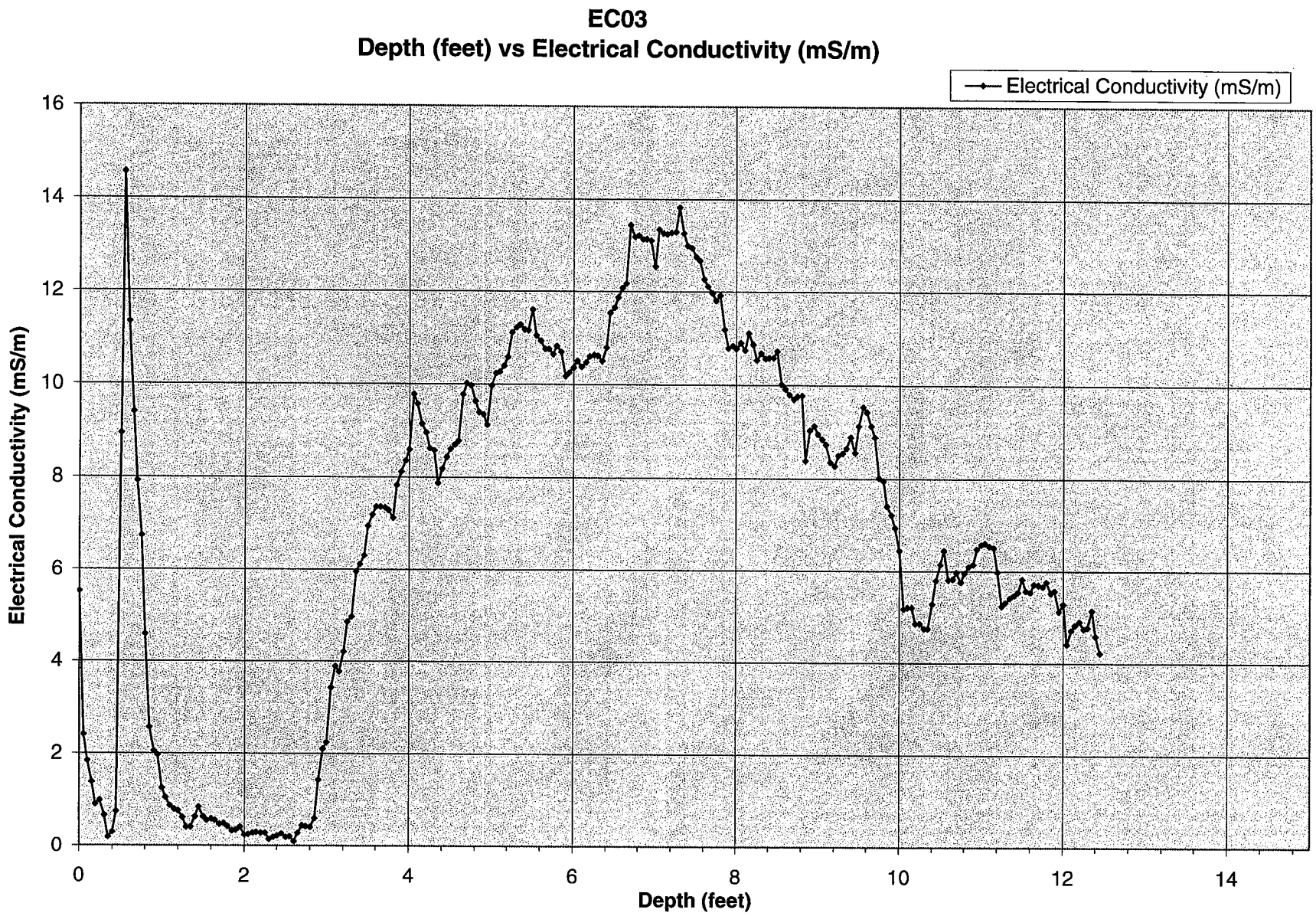
BORING NO.: SB40

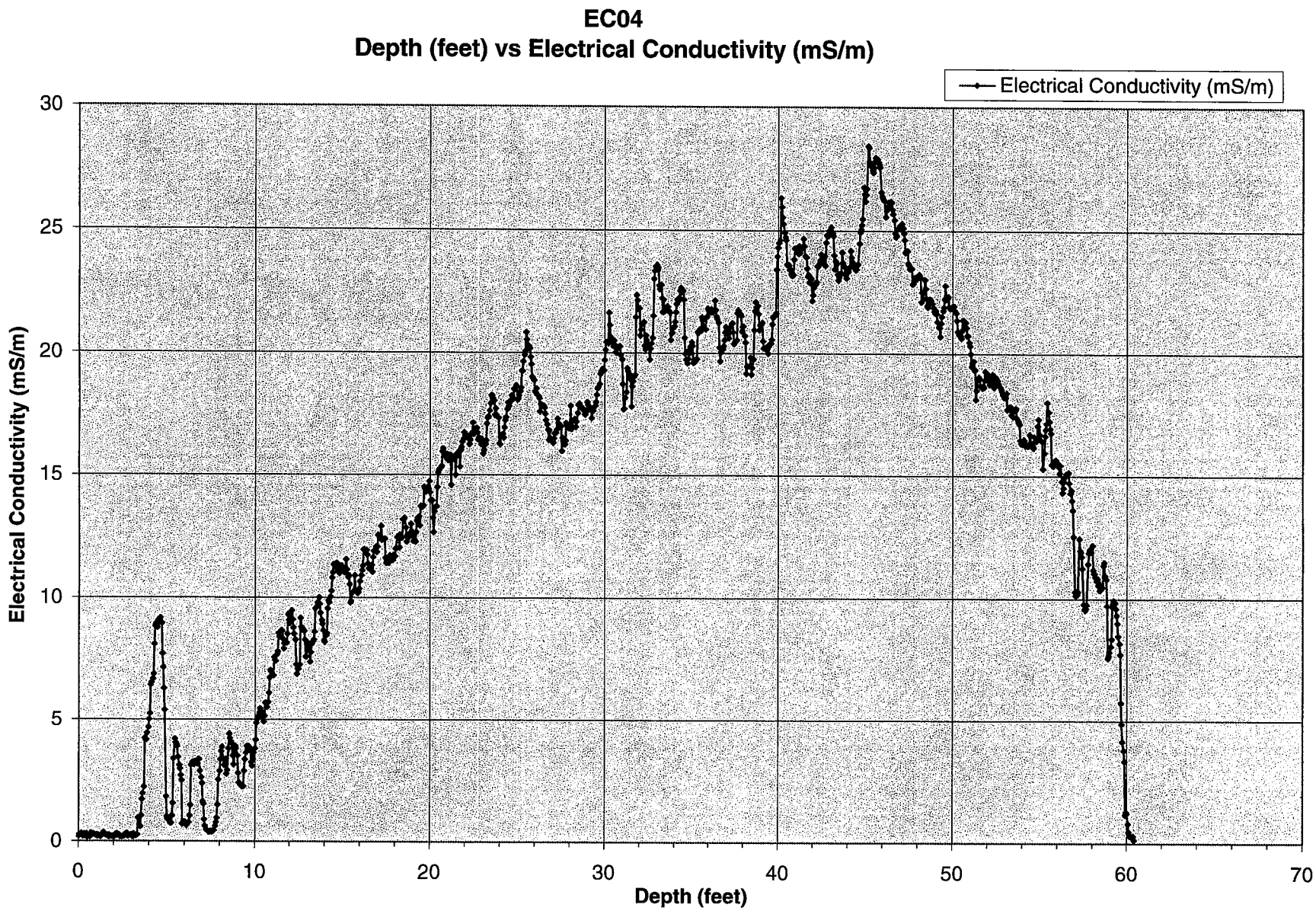
Tetra Tech NUS, Inc.

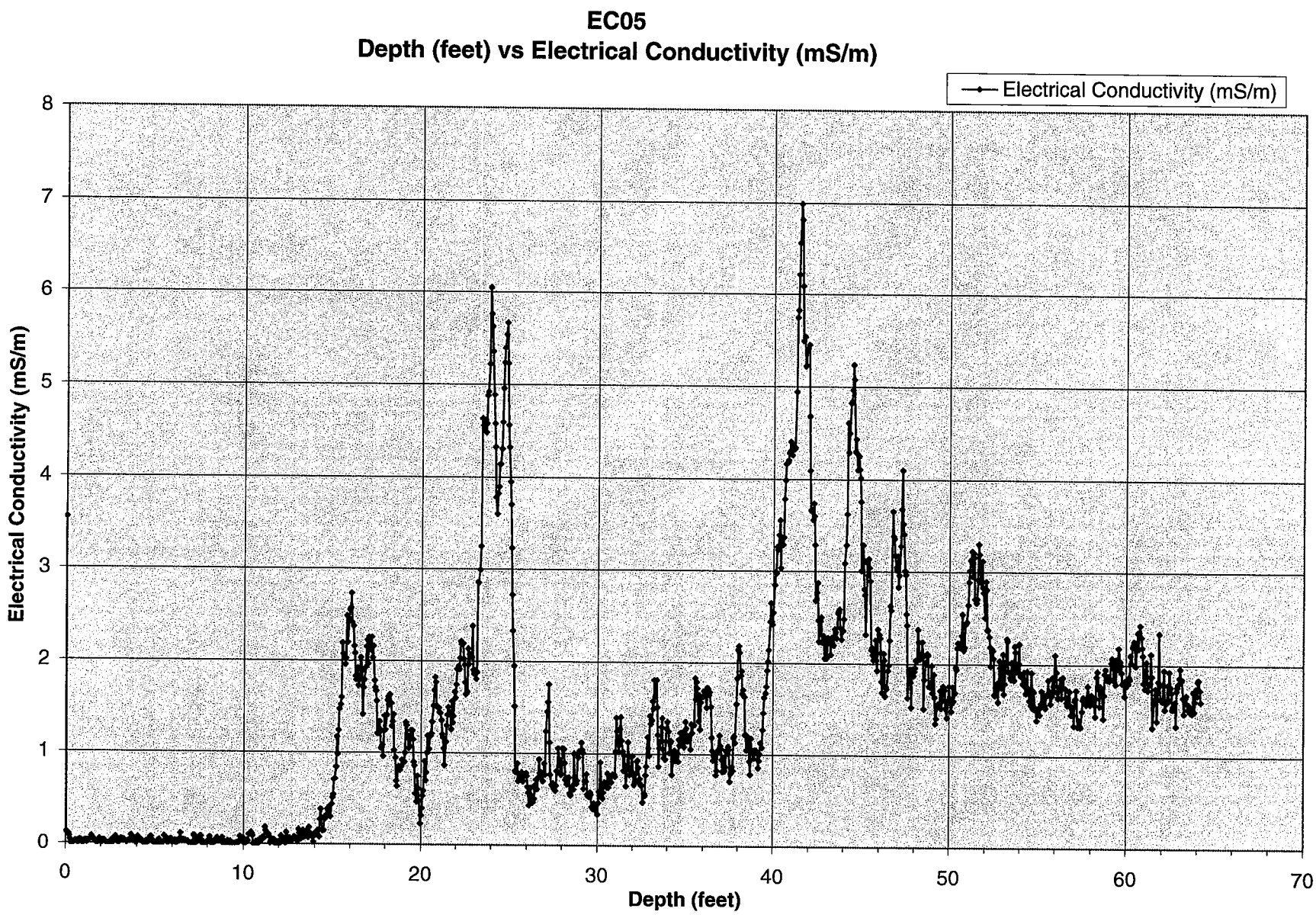
TtNUS Form 0018

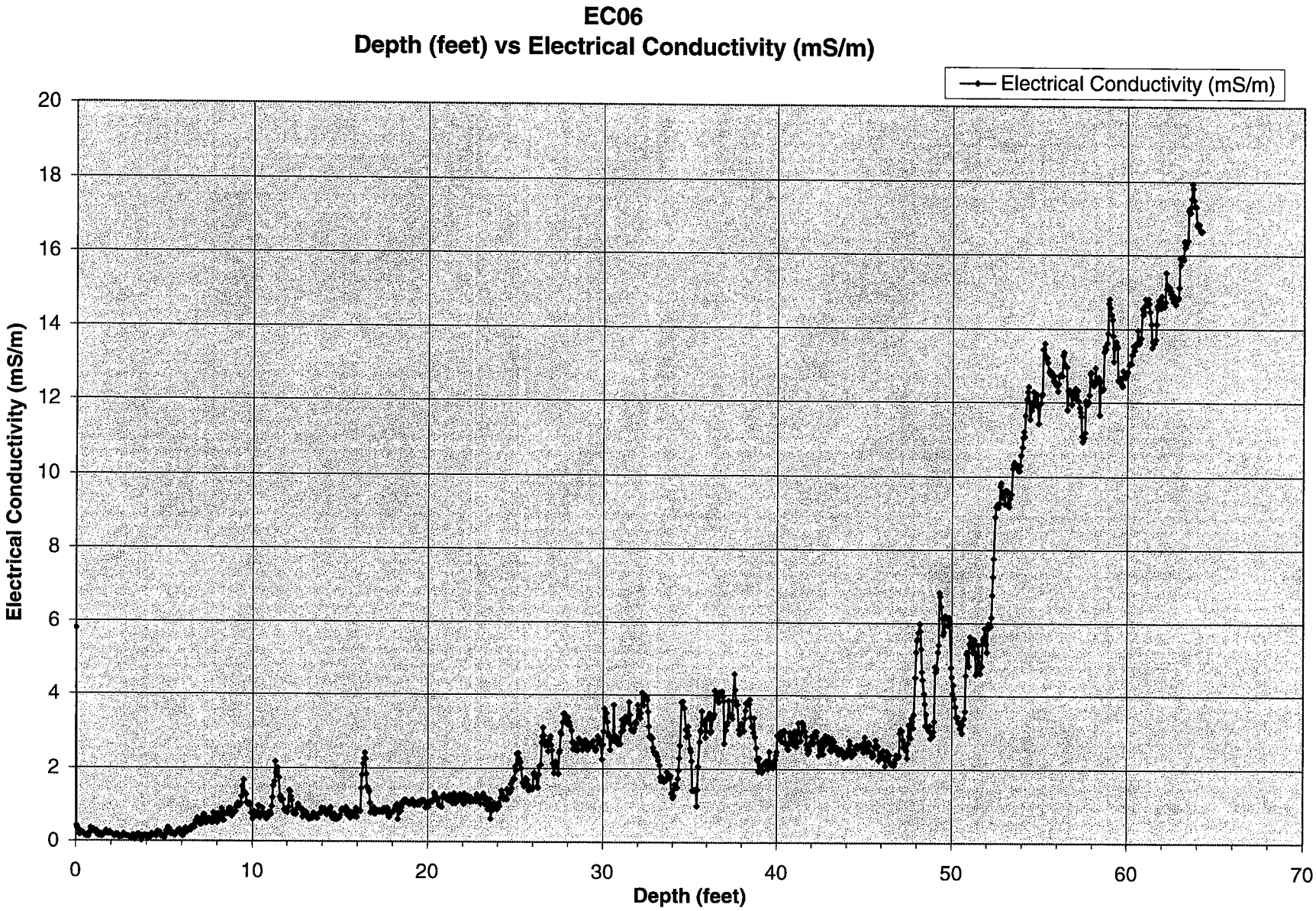

EC01
Depth (feet) vs Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
0
2
4
6
8
10
12
14
16
18
20
0
10
20
30
40
50
60
70
80
90
Depth (feet)

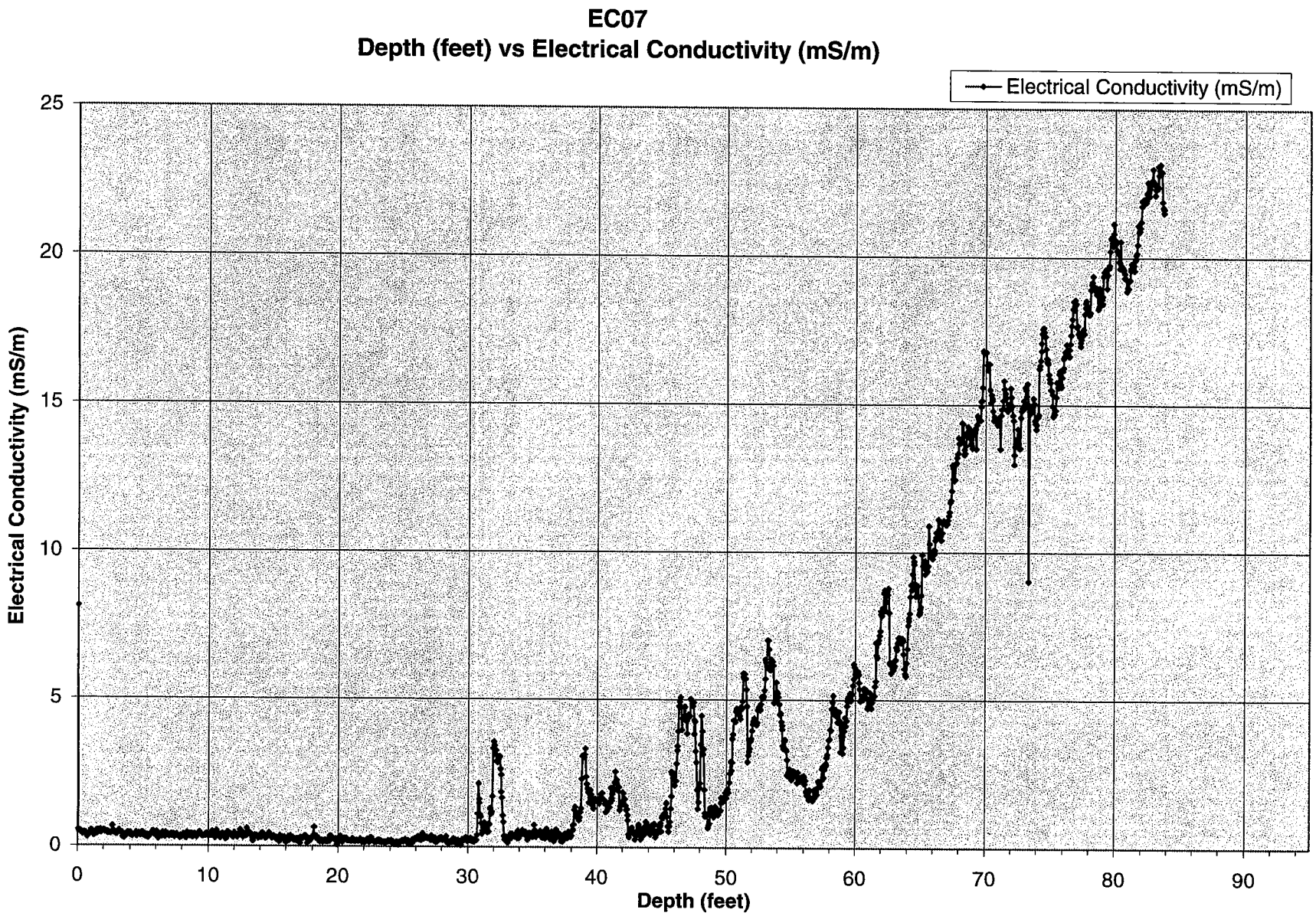

EC02
Depth (feet) vs Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
Depth (feet)
0
2
4
6
8
10
12
14
16
0
2
4
6
8
10
12
14

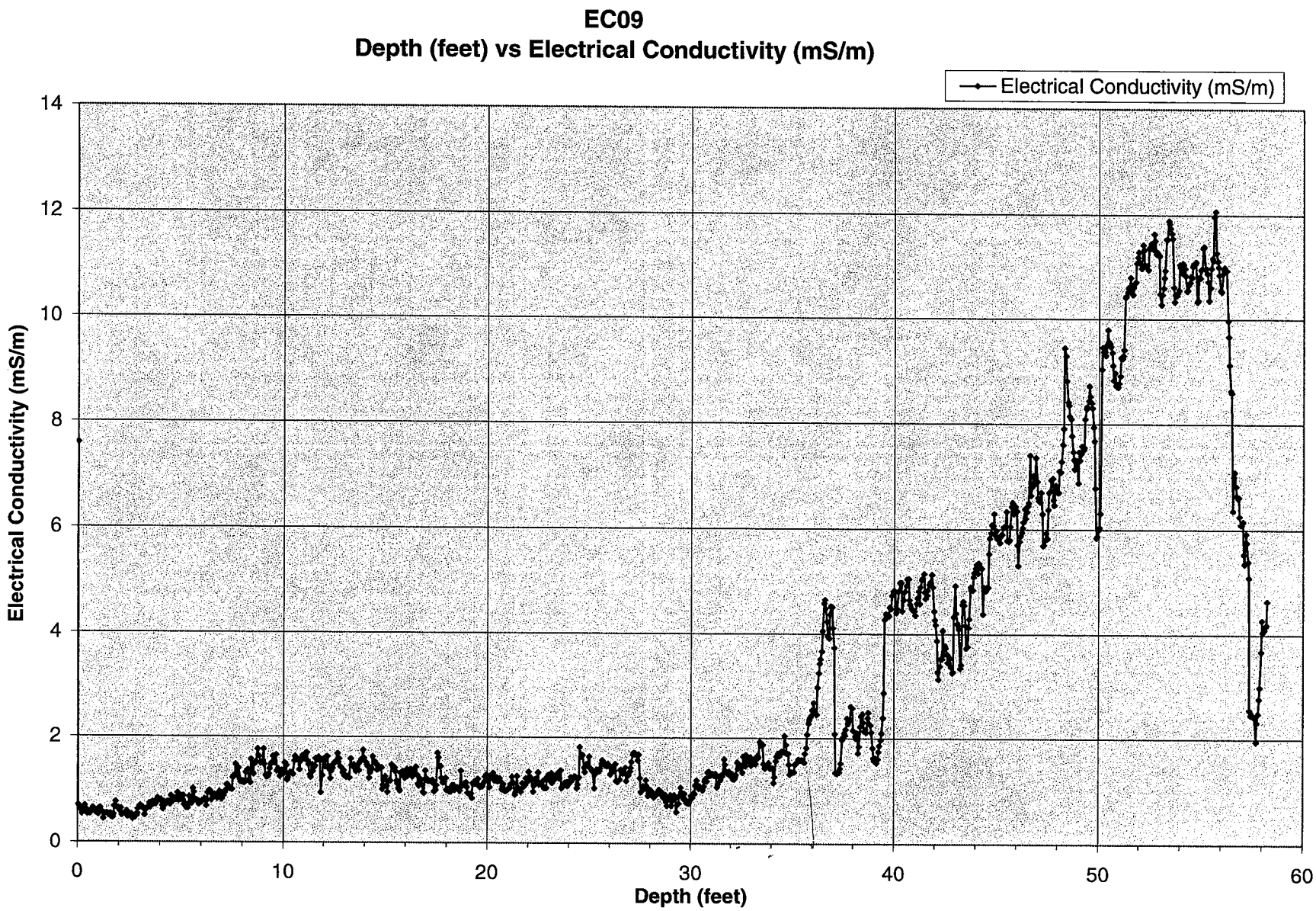

EC03
Depth (feet) vs Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
Depth (feet)
0
2
4
6
8
10
12
14
16
0
2
4
6
8
10
12
14

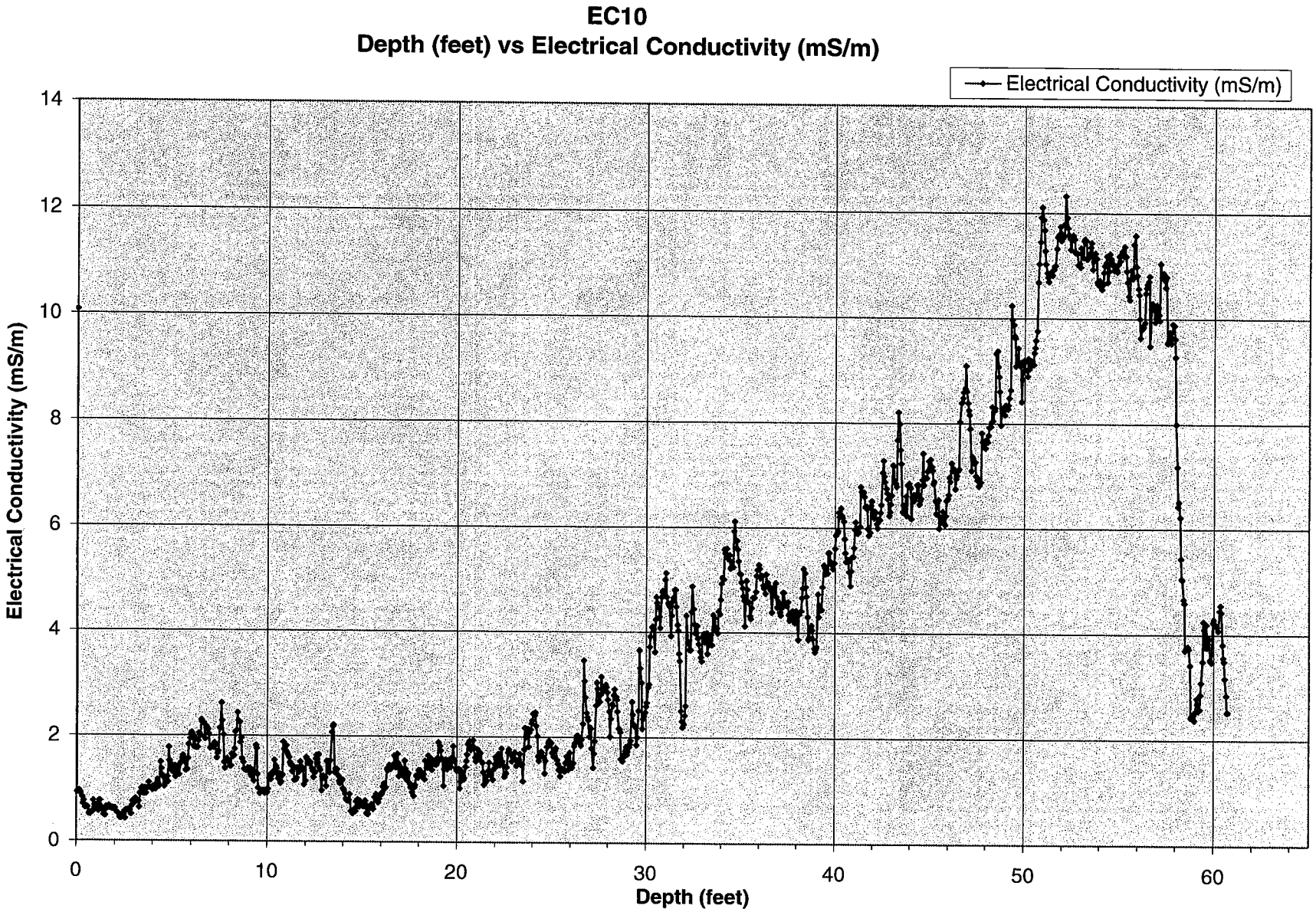

EC04
Depth (feet) vs Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
Depth (feet)
0
5
10
15
20
25
30
0
10
20
30
40
50
60
70

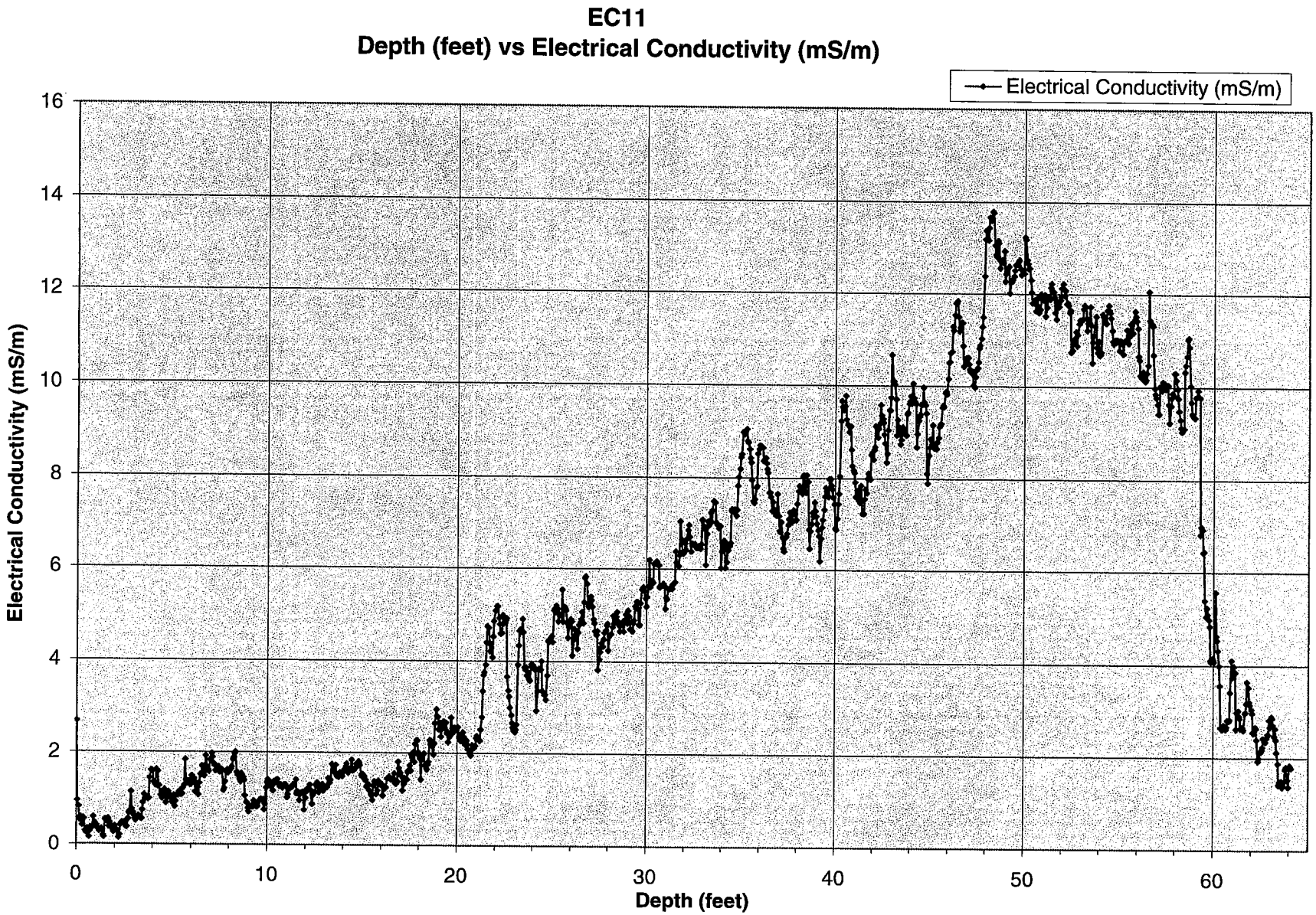

EC05
Depth (feet) vs Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
0
1
2
3
4
5
6
7
8
0
10
20
30
40
50
60
70
Depth (feet)

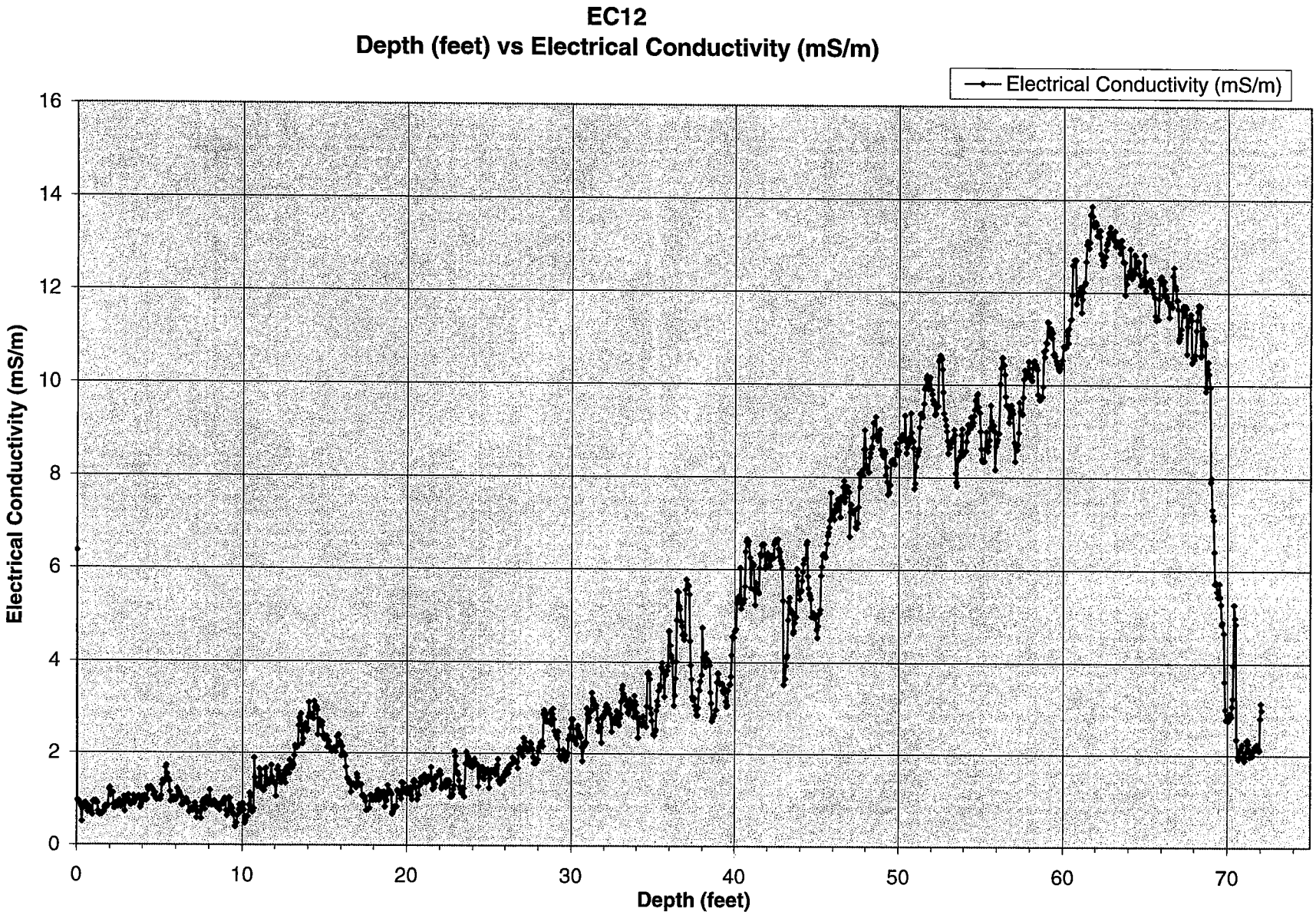

EC06
Depth (feet) vs Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
Electrical Conductivity (mS/m)
Depth (feet)
0
2
4
6
8
10
12
14
16
18
20
0
10
20
30
40
50
60
70


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

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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								

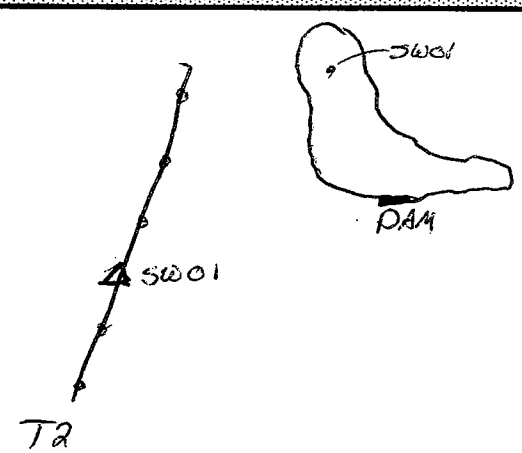
SAMPLE COLLECTION INFORMATION:

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):

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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								

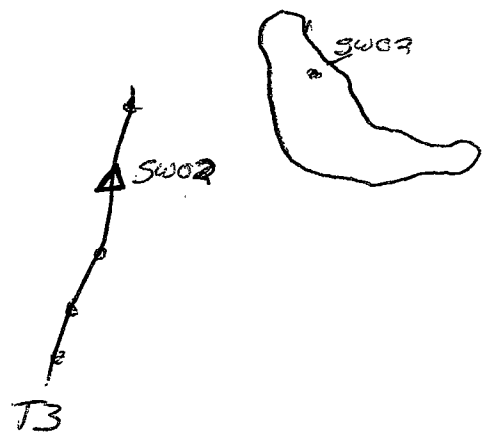
SAMPLE COLLECTION INFORMATION:

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

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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	

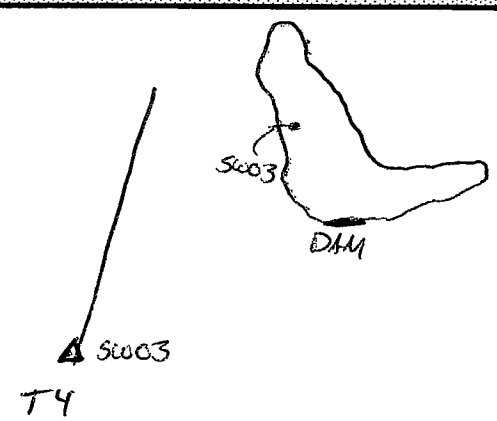
SAMPLE COLLECTION INFORMATION:

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):

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SURFACE WATER SAMPLE LOG SHEET

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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	

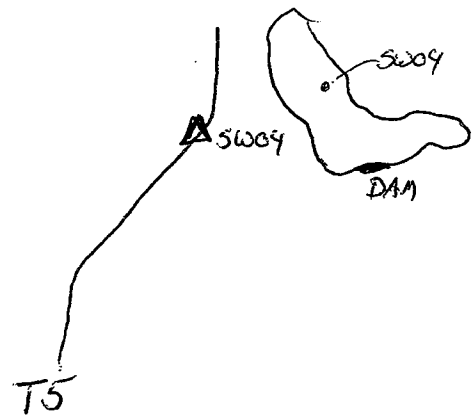
SAMPLE COLLECTION INFORMATION:

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):

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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	

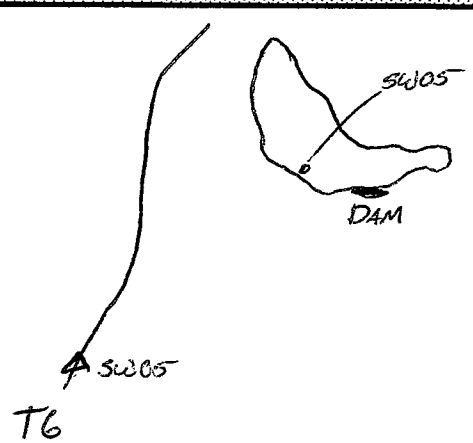
SAMPLE COLLECTION INFORMATION:

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):

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SURFACE WATER SAMPLE LOG SHEET

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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								

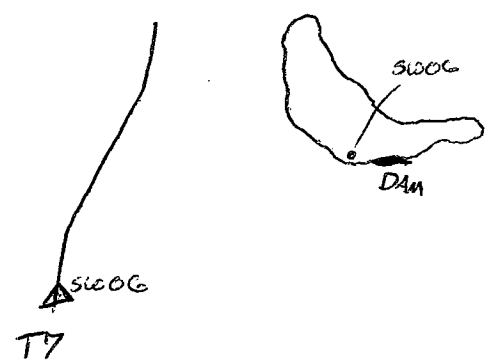
SAMPLE COLLECTION INFORMATION:

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):

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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:

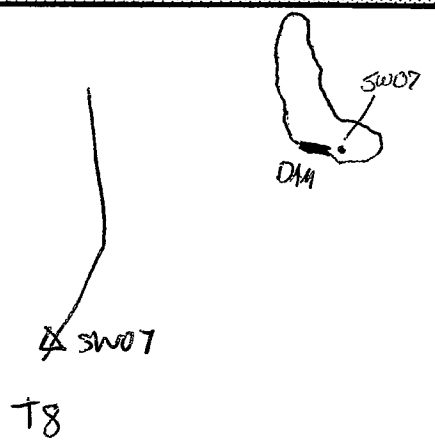
	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other
Date: 9/8/09								
Time: 0940								
Depth: 2.1	clear colorless	6.95	186	11.51	3.46	8.85	0.12	
Method: Kemmerer								

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								

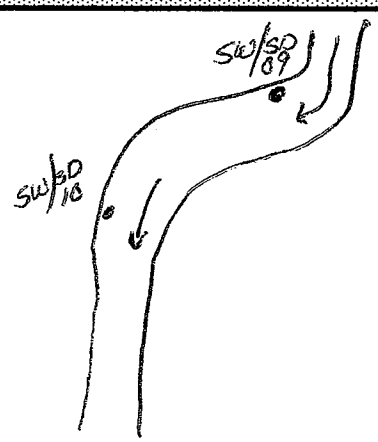
SAMPLE COLLECTION INFORMATION:

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	—	

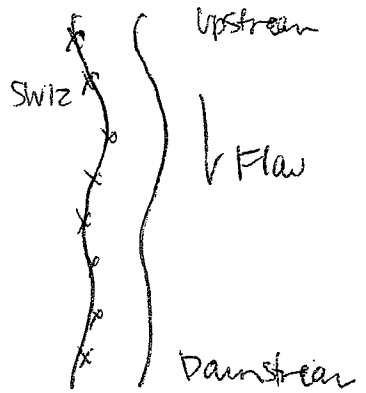
SAMPLE COLLECTION INFORMATION:

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

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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	—	

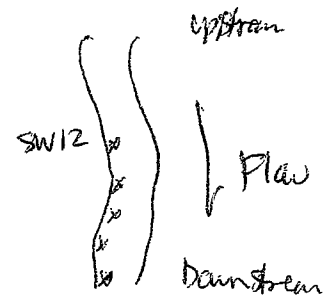
SAMPLE COLLECTION INFORMATION:

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	—	

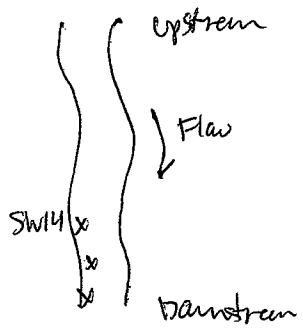
SAMPLE COLLECTION INFORMATION:

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:								

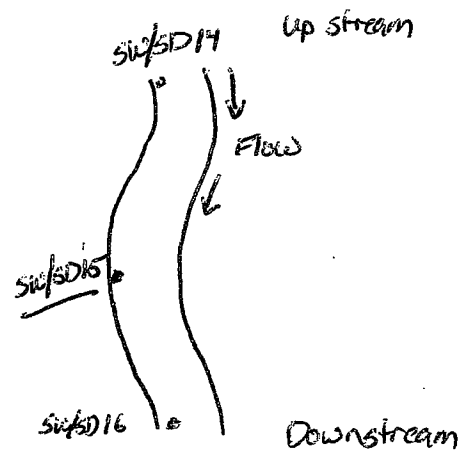
SAMPLE COLLECTION INFORMATION:

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								

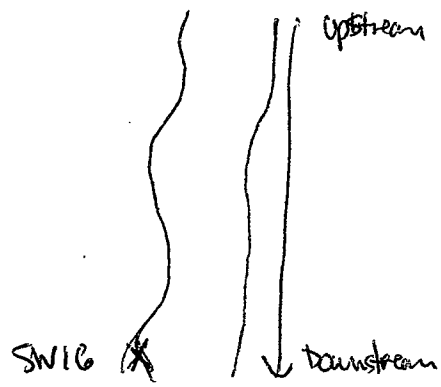
SAMPLE COLLECTION INFORMATION:

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:

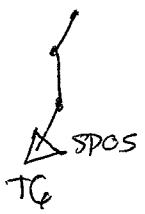
	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date:				
Method:				
Monitor Readings (Range in ppm):				

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:

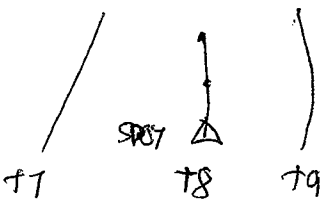
Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

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:

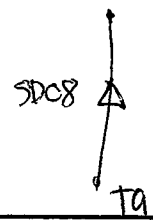
Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

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):				

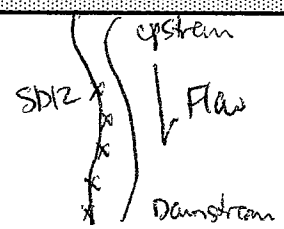
SAMPLE COLLECTION INFORMATION:

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):				

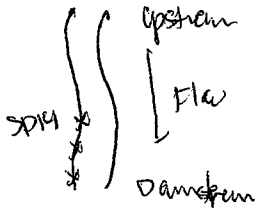
SAMPLE COLLECTION INFORMATION:

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):				

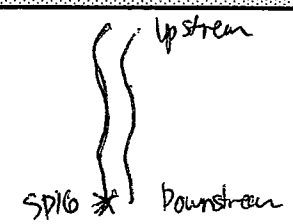
SAMPLE COLLECTION INFORMATION:

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													
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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													
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	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						

TtNUS Form 0024

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					

TtNUS Form 0024

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						

TtNUS Form 0024

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~~						

TtNUS Form 0024

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							

TtNUS Form 0024

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						

TtNUS Form 0024

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													
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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													
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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													
	pm													
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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:	
		/				AM: PM:	
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		/				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:	

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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.: 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:	

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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.: 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:	
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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.: 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:	
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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:	

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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				

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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	

TtNUS Form 0006

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				

TtNUS Form 0006

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
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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	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
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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
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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
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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
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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	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
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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	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	

PAILY PAY
Sheets
20 dbl
sided

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	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	

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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	

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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	

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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	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	

APPENDIX D

DATABASE