N60087.AR.002220
NAS BRUNSWICK
5090.3a

FINAL ENVIRONMENTAL CONDITION OF PROPERTY UPDATE INVESTIGATION TECHNICAL MEMORANDUM FOR EAST BRUNSWICK REMOTE RADIO TRANSMITTER SITE NAS BRUNSWICK ME

6/1/2010

TETRA TECH NUS

Environmental Condition of Property Update Investigation Technical Memorandum

for

East Brunswick Remote Radio Transmitter Site

Naval Air Station Brunswick
Brunswick, Maine

Naval Facilities Engineering Command Mid-Atlantic

Contract Number N62472-03-D-0057
Contract Task Order 127

June 2010

W5210638F

ENVIRONMENTAL CONDITION OF PROPERTY UPDATE INVESTIGATION TECHNICAL MEMORANDUM

FOR

EAST BRUNSWICK REMOTE RADIO TRANSMITTER SITE

NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE

COMPREHENSIVE LONG-TERM
ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT

Submitted to:
Naval Facilities Engineering Command Mid-Atlantic
9742 Maryland Avenue
Norfolk, Virginia 23511-3095

Submitted by:
Tetra Tech NUS, Inc.
234 Mall Boulevard, Suite 260
King of Prussia, Pennsylvania 19406

Contract Number N62472-03-D-0057
Contract Task Order 127

JUNE 2010

PREPARED UNDER THE DIRECTION OF:

JANE M. CONNET, P.G.
PROJECT MANAGER
TETRA TECH NUS, INC.
WILMINGTON, MASSACHUSETTS

APPROVED FOR SUBMISSION BY:

JOHN J. TREPANOWSKI, P.E.
PROGRAM MANAGER
TETRA TECH NUS, INC.
KING OF PRUSSIA, PENNSYLVANIA

TABLE OF CONTENTS

SECTION **PAGE**

1.0 INTRODUCTION 1-1
1.1 PROPERTY LOCATION AND DESCRIPTION 1-2
1.2 PROPERTY HISTORY 1-3
1.3 POTENTIAL CONTAMINANT SOURCE AREAS 1-5

2.0 FIELD INVESTIGATION ACTIVITIES 2-1
2.1 PROPERTY RECONNAISSANCE 2-1
2.2 TEST PIT EXCAVATION 2-1
2.3 SOIL BORING AND SUBSURFACE SOIL SAMPLING 2-2
2.4 MONITORING WELL INSTALLATION AND DEVELOPMENT 2-3
2.5 SURFACE SOIL SAMPLE COLLECTION 2-4
2.6 GROUNDWATER LEVEL MEASUREMENT 2-5
2.7 GROUNDWATER SAMPLE COLLECTION 2-5
2.8 SAMPLE LOCATION SURVEY 2-6
2.9 INVESTIGATION-DERIVED WASTE CHARACTERIZATION AND DISPOSAL 2-6
2.10 MODIFICATIONS TO THE SAP 2-6

3.0 INVESTIGATION RESULTS 3-1
3.1 GEOLOGY AND HYDROGEOLOGY 3-1
3.2 TEST PIT EXCAVATION RESULTS 3-2
3.3 COAXIAL CABLE RESULTS 3-3
3.4 SOIL SAMPLING RESULTS 3-3
3.4.1 Surface Soil 3-3
3.4.2 Subsurface Soil 3-4
3.5 GROUNDWATER RESULTS 3-5

4.0 SCREENING EVALUATION 4-1
4.1 PROJECT SCREENING LEVELS 4-1
4.2 BACKGROUND LEVELS 4-2
4.3 THE BURN AREA 4-3
4.3.1 Human Health Screening 4-3
4.3.2 Ecological Screening 4-4
4.4 SUMP PUMP DISCHARGE AREA 4-4
4.4.1 Human Health Screening 4-5
4.4.2 Ecological Screening 4-5
4.5 OILY STAINED SOIL AREA 4-6
4.5.1 Human Health Screening 4-6
4.5.2 Ecological Screening 4-7
4.6 SEPTIC TANK SYSTEM 4-7
4.7 THE ANTENNA FIELD 4-8
4.7.1 Human Health Screening 4-8
4.7.2 Ecological Screening 4-9
4.8 SMALL DEBRIS AREA 4-10
4.8.1 Human Health Screening 4-10
4.8.2 Ecological Screening 4-11
4.9 CONCEPTUAL SITE MODEL 4-11

5.0 CONCLUSIONS AND RECOMMENDATIONS 5-1
5.1 CONCLUSIONS 5-1
5.2 RECOMMENDATIONS 5-2

TABLE OF CONTENTS (Cont.)

TABLES

NUMBER

2-1 Sample Rationale
2-2 Well Depths, Screening Intervals, and Water Levels
2-3 Water Quality Data
3-1 Detected Analytical Results – Surface Soil – Human Health
3-2 Detected Analytical Results – Subsurface Soil – Human Health
3-3 Detected Analytical Results – Surface Soil – Ecological
3-4 Detected Analytical Results – Groundwater – Human Health
4-1 95% Upper Prediction Limits – Background – Upper Sands Soils

FIGURES

NUMBER

1-1 Site Location Map
1-2 Site Map
1-3 Former Buildings
1-4 Identified Potential Source Areas
2-1 Test Pit Locations
2-2 Sample Locations
2-3 Estimated Groundwater Contour Map – November 24, 2009
4-1 Conceptual Site Model

REFERENCES

APPENDICES

A FIELD FORMS
- A-1 Test Pit Logs
- A-2 Boring Logs
- A-3 Well Construction Diagrams
- A-4 Well Development Logs
- A-5 Well Inspection Forms
- A-6 Soil and Groundwater Sample Logs
- A-7 Field Modification Forms

B PHOTOS

C COAXIAL CABLE MEDEP MEMORANDUM

D SCREENING CRITERIA AND PROJECT SCREENING LEVELS
- D-1 Human Health Groundwater Criteria and PSLs
- D-2 Human Health Soil Criteria and PSLs
- D-3 Ecological Soil Criteria and PSLs

TABLE OF CONTENTS (Cont.)

APPENDICES (Cont.)

E ANALYTICAL RESULTS
- E-1 Analytical Results – Surface Soil – Human Health
- E-2 Analytical Results – Subsurface Soil – Human Health
- E-3 Analytical Results – Groundwater – Human Health
- E-4 Analytical Results – Surface Soil – Ecological
- E-5 Analytical Results – Blanks

F DATA VALIDATION MEMORANDA

G RESPONSES TO COMMENTS

Acronyms

ACM	Asbestos-Containing Material
AST	Aboveground Storage Tank
bgs	Below Ground Surface
BRAC	Base Realignment and Closure Act
CCME	Canadian Council and Ministers of the Environment
CD	Compact Disk
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CERFA	Community Environmental Response Facilitation Act
CLEAN	Comprehensive Long-Term Environmental Action Navy
CSM	Conceptual Site Model
CTO	Contract Task Order
DPT	Direct Push Technology
DO	Dissolved Oxygen
DoD	Department of Defense
DRO	Diesel Range Organics
EBS	Environmental Baseline Survey
ECP	Environmental Condition of Property
Eco-SSL	Ecological Soil Screening Level
EPA	U.S. Environmental Protection Agency
EPH	Extractable Petroleum Hydrocarbons
FMR	Field Modification Request
gpm	Gallons Per Minute
GPS	Global Positioning System
ID	Inside Diameter
IDW	Investigation-Derived Waste
LBP	Lead-based Paint
MEDEP	Maine Department of Environmental Protection
mg/kg	Milligrams per Kilogram
mL	Milliliter
MS	Matrix Spike
MSD	Matrix Spike Duplicate
NA	Not Applicable
NAS	Naval Air Station
NAVFAC	Naval Facilities Engineering Command
Navy	Department of the Navy
NOAA	National Oceanic and Atmospheric Administration
NPL	National Priorities List
NTU	Nephelometric Turbidity Unit
ORP	Oxidation-Reduction Potential
oz	Ounce
PAH	Polycyclic Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyl
PID	Photoionization Detector
PSL	Project Screening Level
PVC	Polyvinyl Chloride
QA	Quality Assurance
RAG	Maine Remedial Action Guidelines
RSL	Regional Screening Level
SAP	Sampling and Analysis Plan
SVOC	Semivolatile Organic Compounds
TAL	Target Analyte List

Acronyms (Continued)

µg/L	Micrograms per Liter
USGS	U.S. Geological Survey
UST	Underground Storage Tank
VOC	Volatile Organic Compounds

1.0 INTRODUCTION

This Technical Memorandum was prepared by Tetra Tech (Tetra Tech) for Naval Facilities Engineering Command (NAVFAC) Mid-Atlantic under the Comprehensive Long-Term Environmental Action Navy (CLEAN) Contract No. N62472-03-D-0057, Contract Task Order (CTO) 127. Work was performed under direction of the Base Realignment and Closure (BRAC) Program Management Office Northeast (PMO-NE). The Technical Memorandum presents the findings of the Environmental Condition of Property Update Investigation conducted in 2009 at the East Brunswick Remote Radio Transmitter Site (the property), Naval Air Station Brunswick (NASB) in Brunswick, Maine.

The purpose of the investigation was to collect data to assess the current environmental condition of property (ECP) to facilitate property transfer in support of BRAC mission requirements. Soil and groundwater samples were collected in potential contaminant source areas to determine if there were exceedances of selected screening criteria to support decision making for the property.

The Navy plans to transfer the property to the Town of Brunswick, Maine, as a Public Benefit Conveyance. The Department of Interior, National Park Service, is the sponsoring federal agency. The property is to be used for recreational purposes. Work was performed in accordance with the Sampling and Analysis Plan (SAP) (Tetra Tech, 2009a) that was developed in collaboration with the Project Team comprised of the Navy, the U.S. Environmental Protection Agency (EPA), Maine Department of Environmental Protection (MEDEP), and Tetra Tech.

This Technical Memorandum describes the field activities and presents results obtained during the field work conducted between October 2009 and November 2009. It is organized as follows:

- Section 1.0 presents the property location and description, a brief property history, and the identified potential contaminant source areas.

- Section 2.0 presents the field tasks performed in chronological order of execution and describes sample collection procedures and analytical parameters.

- Section 3.0 presents results of the test pit excavation, soil boring, and well installation activities as well as the analytical testing of environmental media.

- Section 4.0 presents a screening evaluation of data for human health and ecological risk, organized by potential source area, and an updated conceptual site model.

- Section 5.0 provides the conclusions and recommendations drawn from the field investigation.

Field forms are provided in Appendix A; photographs are in Appendix B; MEDEP's memorandum on coaxial cables is Appendix C; screening criteria are provided in Appendix D; full analytical results are in Appendix E; and data validation reports are included in Appendix F. Appendices are provided on CD.

1.1 PROPERTY LOCATION AND DESCRIPTION

The NASB is located in Brunswick, Maine, in Cumberland County in the mid-coastal area of Maine (Figure 1-1). NASB is situated just south of the Androscoggin River and is located north of several coves (Harps well, Buttermilk, and Woodward) which connect with Casco Bay.

East Brunswick Remote Radio Transmitter Site (the East Brunswick property or "the property") is located approximately 3.2 miles northeast of the Naval Air Station Brunswick (NASB) Main Station, north of Route 1 (Figure 1-2). The East Brunswick property is not part of the NASB National Priorities List (NPL) site. The property is a square-shaped tract of land encompassing 66.2 acres, with access via an unmarked dirt road known as Wilderness Way, off of Old Bath Road. There are no city-supplied sanitary sewer lines or water lines on the property. The area was formerly served by an on-site septic system (with a septic tank, distribution box, and leach field) and a shallow well point for water supply. No buildings are currently present, and only one small paved area remains. The property is an open area largely covered with grasses, shrubs, pine trees and wildflowers. Remnants of coaxial cables that connected the transmitter building to the various antennas were observed protruding from the ground at several locations. They are approximately one inch thick and often a few feet long and are presumed to be still buried in place, except where exposed. Small diameter (approximately 1/16 of an inch) copper ground screen wires also protrude a few inches from the ground around the former antenna locations. At several antenna locations, remnants of wooden poles and a small concrete pad (less than 2 feet [ft] square) are present (see photographs in Appendix B). A small headwall associated with a sump pump discharge point from the former Building 523 is present south of the paved area. The property currently appears to be used for passive recreation (such as dog walking, hiking, and birding) although there is evidence (clay pigeons; empty shell casings) that the property has also been used for skeet shooting. The topography is relatively flat with low hummocky areas.

The property is bounded by water-filled gravel pits to the north and east and by farmland and woods to the south and west. As described in the 2007 Community Environmental Restoration Facilitation Act (CERFA) Identification of Uncontaminated Property report, debris piles and dumping were observed on non-Navy adjacent property located to the southwest during a 2006 visual site inspection performed by Tetra Tech and the Navy; and during the 1996 Environmental Baseline Survey (EBS) conducted by HRP Associates, Inc. (HRP) on behalf of the Navy. Debris on that adjacent property included scrap metal,

rusted drums, tires, domestic waste, and construction debris. However, impacts to the property were not identified from these offsite areas.

1.2 PROPERTY HISTORY

The Navy's EBS for the East Brunswick property is the primary source of historical information on the former facility (HRP, 1996) along with historical information and public works and demolition drawings provided by the NASB Environmental Office. The East Brunswick property was pasture land prior to 1956. In 1956, the property was developed by the Navy as a radio communications facility, with a transmitter building (Building 523), a generator building (Building 524), and an array of antennas. The facility may have been used by Naval Weather Office Post in the mid-1980s for storage of building materials. Based on review of 1986 aerial photos, the antenna structures were removed prior to 1986.

Building 523 was cast concrete with a full basement. Building 524 was cast concrete, slab on grade. Few details about processes and operations at the transmitter station were identified in the EBS. It was assumed that typical office and building maintenance and some degree of electronics testing and repair were performed, as well as mechanical system and generator maintenance. Figure 1-3 shows the configuration of the former buildings and structures.

Dry-type wall-mounted transformers were observed on the first floor of Building 523, and fluorescent lighting was observed throughout the building in 1996. Due to the age of the building, polychlorinated biphenyl (PCB) -containing ballasts and electrical equipment would have been used in the building (HRP, 1996). PCB-containing equipment and PCB-contaminated transformers were removed from NASB by 1995; however the NASB transformer database does not document PCB-containing equipment removal or upgrades that occurred between the times when PCBs were banned (1979) and base-wide testing began (1988).

Two registered underground storage tanks (USTs) – a 550-gallon fuel oil tank and a 550-gallon diesel tank – were removed in 1989. Floor area drains in the basement of Building 523 drained to a sump with a sump pump in the basement boiler room (Figure 1-3). The sump discharged to a headwall structure at grade approximately 150 ft west of the building. Evidence of surficial contamination outside the buildings consisted of a small area of stained, oily soil at the south fence corner; discoloration of soil at the sump pump discharge area; and sparse vegetation near former antenna structures. Use of herbicides around antenna towers was hypothesized but was unsubstantiated.

HRP recommended surficial soil, subsurface soil, and groundwater sampling at several locations and installation of piezometers to confirm the inferred groundwater flow directions.

In July 1996, the Navy conducted a pre-demolition asbestos inspection. Pre-demolition asbestos abatement was conducted in September and October of 1998. Buildings 523 and 524 and the fencing were demolished in 1998. The septic tank was closed in place according to demolition plans. There was no information available about the demolition of the antenna array. Antenna cables, grounding cables, or subgrade components of former antenna towers were potentially present in the subsurface. The approximate locations of the former buildings, fencing, and former antennae are presented on Figure 1-4. Figure 1-4 also presents the locations of identified potential contaminant sources at East Brunswick, which are discussed below in Section 1.3.

In 1999, a draft final report of a 1995 cultural resources survey was issued (Louis Berger, 1999). As reported in the 2006 ECP Report, East Brunswick had a “low sensitivity” for both prehistoric and historic archaeological sites.

In 2006, the Navy issued the ECP Report for NASB. The subject of the report was the Main Station and, if information was available, off-property locations including the East Brunswick property. The report did not identify any new evidence of releases to the environment at East Brunswick.

In 2007, the Navy issued the CERFA Identification of Uncontaminated Property report for NASB. The study included the 2006 visual site inspection, interviews, and a review of historical aerial photos. The report divided the East Brunswick property into two areas—B-13 and A-6 (Figure 1-2):

- Area B-13 is the approximately 10-acre area encompassing the original fenced area that surrounded the buildings; and additional land outside the fenced area. The concerns in Area B-13 were the burn area; the septic system; stained soil; the discarded battery; possible lead-based paint (LBP) on former antenna towers; and other waste including wire cable, wood, and plastic debris.

- Area A-6 is the open area encompassing the remaining approximately 56 acres of the property. Concerns in Area A-6 included potential contaminant migration from Area B-13 and from solid waste on adjacent properties (scrap metal, rusted drums, tires, domestic waste, and construction debris), and possible LBP from antenna towers.

On November 6, 2008, an initial site walk of the property, primarily in the areas close to the former buildings, was conducted by the Navy, EPA, MEDEP, and Tetra Tech to begin the scoping process. The MEDEP and the Navy also conducted a site walk of October 15, 2009.

1.3 POTENTIAL CONTAMINANT SOURCE AREAS

The Project Team (Navy, EPA, and MEDEP representatives) identified the following potential contaminant source areas based on review of the 1996 EBS, the 2006 ECP Report, and/or the 2007 CERFA report, and observations during 2008 and 2009 site walks. Numbers 1 through 9 refer to the numbered potential source area locations shown on Figure 1-4.

1. The burn area along the road leading to Building 523 – This location west of Building 523 may have been used by Navy personnel or by trespassers for campfires or for burning trash. The burn area was present in 1996 and still evident in 2009. The area contains several utility poles and wire.

2. Sump pump discharge area – Former floor drains in Building 523 drained to a sump with a pump located in the basement. Plans show that the sump discharged to the headwall structure 150 ft west of the building.

3. Oily stained soil – In 1996, stained soil was present in one location outside the fence on the southeastern corner of the fenced area. This area was observed during the EBS, but was not found during the 2008 site walk. However, the area may have been re-graded after the buildings and the fence were demolished.

4. On-site septic system with septic tank, distribution box and leach field – The septic tank was reportedly closed in place during building demolition.

5. Discarded battery carcass in one discrete location – Originally noted in 2006, the battery was not observed in 2008. However, it is likely that the battery was removed when the fence was demolished.

6. Fuel oil UST that was removed in 1989 – Available documentation of removal was submitted to MEDEP, but did not indicate results of screening or confirmatory sampling, if performed.

7. Diesel UST that was removed in 1989 – Available documentation of removal was submitted to MEDEP, but did not indicate results of screening or confirmatory sampling, if performed.

8. Former antenna locations – The concern was that towers may have been coated with lead-based paint or at some point creosote-coated poles similar to telephone poles. Coaxial cables, copper grounding wires, and subgrade components were potentially still in place in the antenna field. The transmission cables were typically heavy coaxial type where the inner cable is insulated from the outer cable.

9. Small Debris Area – A small depression containing rusted cans and pails was identified by MEDEP during a site visit with the Navy on October 15, 2009. This area was added per the October 20, 2009, Scoping Session as documented in the SAP (Tetra Tech NUS, 2009).

Groundwater in the areas near the buildings, former tanks, septic system, and pump discharge area was also identified as a potential concern. No groundwater contamination was anticipated in the antenna areas because the potential contaminants of concern, lead in LBP, PCBs, and polycyclic aromatic hydrocarbons (PAHs), are considered to be relatively immobile (Dragun, 1988).

2.0 FIELD INVESTIGATION ACTIVITIES

This section presents a summary description of the field investigation activities that were conducted between October 2009 and November 2009 to support the ECP update at the property. The purpose of the investigation was to collect data to assess the current environmental condition of the property to support property transfer decisions in accordance with BRAC mission requirements. The field tasks completed during this investigation included the following:

- Site reconnaissance
- Test pit excavation
- Soil boring advancement
- Monitoring well installation and development
- Surface soil sampling
- Groundwater sampling
- Sample location and groundwater elevation survey
- Investigation-derived waste (IDW) characterization and disposal

The field activities that were performed are described in the following sections. Test pit excavation locations are shown in Figure 2-1; sample locations are shown in Figure 2-2. Sample rationales are summarized in Table 2-1.

2.1 PROPERTY RECONNAISSANCE

The property reconnaissance to select sample locations was conducted on October 28, 2009. Preliminary sample locations were staked in the field using global positioning system (GPS) coordinates gathered from field observations, maps, aerial photos, and public works drawings showing the construction and locations of the former buildings, antennas, and transmission cables and, the potential contaminant source areas. The Project Team members visited the property on October 29, 2009, to refine and concur on the sample locations.

2.2 TEST PIT EXCAVATION

Five tests pits, EB-TP01 through EB-TP05, were excavated on November 3, 2009 to evaluate potential contaminant source areas (Figure 2-1). Test pit logs are provided in Appendix A-1; photos are located in Appendix B. In addition, two small test pits (unlogged) were excavated to expose coaxial cables at locations specified by the MEDEP. One test pit excavation was located north of TP04. No cable was observed in the test pit. A second test pit was requested by MEDEP near TP05. Cable was located

within this test pit and MEDEP collected samples of the cable. No soil samples were collected during test pit excavation. The Navy, EPA, and MEDEP representatives were present during the majority of the test pit excavations. All excavations were backfilled with the native material by the end of the day.

2.3 SOIL BORING AND SUBSURFACE SOIL SAMPLING

Soil borings SB-01 through SB-06 were advanced using a GeoProbe® Model 6620DT direct push drill rig at locations shown in Figure 2-2. The borings were advanced to depths ranging from 10 to 26 ft below grade using temporary steel-threaded flush joint drilling rods. Subsurface soil samples were collected with a GeoProbe® Macro-Core® piston rod soil sampling system.

The Macro-Core® samples consisted of a 1.5-inch inside diameter, 5-ft long core barrel with a clear plastic liner. Soil samples were collected at 2-ft intervals in each boring. Soil samples were described using the Unified Soil Classification System and logged to provide a lithologic record of the subsurface materials. As each Macro-Core® sampler was opened, the soils were monitored for organic vapors using photoionization detector (PID), and an aliquot was collected for jar headspace screening. Soil sample screening results are summarized on soil boring logs (Appendix A-2). The borehole and the breathing zone of the field crews were periodically monitored for organic vapors, in accordance with the site-specific Health and Safety Plan (Tetra Tech NUS, 2009b).

The depths of subsurface soil samples were selected based on the PID reading or as judged by the geologist based on visual or olfactory observations. If there were no elevated PID readings or visual or olfactory observations indicating a particular interval to be the most contaminated, the soil near the water table was selected. In the case of the leach field soil boring, as there was no evidence of contamination down to the base of the leach field, the 2-foot interval at the base of the leach field was selected.

Soil boring locations were as follows:

- SB01 was advanced in the sump pump discharge area (at the end of the discharge pipe) to a depth of 22 ft below ground surface (bgs). One subsurface soil sample and a duplicate were collected at a depth of 13 to 15 ft bgs and analyzed for volatile organic compounds (VOCs), Semivolatile organic compounds (SVOCs), PCBs, and target analyte list (TAL) metals. Monitoring well MW03 was installed in this boring. Monitoring well diagrams are provided in Appendix A-3.

- SB02 was advanced beside the septic tank to a depth of 19 ft bgs. One subsurface soil sample was collected from a depth of 17 to 19 ft bgs and analyzed for VOCs, SVOCs, PCBs, and TAL metals.

- SB02A was advanced inside the septic tank to the bottom of the tank. One subsurface soil sample of sludge-like material was collected from the bottom of the septic tank at a depth of 9 to 10 ft bgs and analyzed for SVOCs, PCBs and TAL metals.

- SB03 was advanced in the southwest side of the leach field to a depth of 17 ft bgs. One subsurface soil sample was collected from a depth of 7 to 9 ft bgs (below the gravel layer) and analyzed for VOCs, SVOCs, PCBs, and TAL metals.

- SB04 was advanced in the north side of the leach field to a depth of 22 ft bgs. One subsurface soil sample was collected from a depth of 13 to 15 ft bgs and analyzed for VOCs, SVOCs, PCBs, and TAL metals. A monitoring well (MW02) was installed in this boring.

- SB05 was advanced at the location of the former fuel oil UST to a depth of 24 ft bgs. One subsurface soil sample and a duplicate sample were collected from a depth of 13 to 15 ft bgs and analyzed for VOCs, extractable petroleum hydrocarbons (EPHs), and SVOCs. A monitoring well (MW01) was installed in this boring.

- SB06 was advanced at the location of the former diesel oil UST to a depth of 26 ft bgs. One subsurface soil sample was collected from a depth of 17 to 19 ft bgs and analyzed for VOCs, EPHs, and SVOCs.

2.4 MONITORING WELL INSTALLATION AND DEVELOPMENT

Permanent monitoring wells were installed at three soil boring locations. MW01 was installed in the fuel oil UST area at the SB05 location due to low PID readings in the boring. MW02 was installed at SB04 in the leach field, which was the default location indicated in the SAP since there were no observations of contamination or elevated PID readings. MW03 was installed in SB01 at the sump pump discharge area. Monitoring well depths and screened intervals are summarized on Table 2-2.

Each monitoring well was constructed with one-inch inside diameter (ID), flush-threaded, Schedule 40 polyvinyl chloride (PVC) well casing and pre-packed machine-slotted well screen (0.010 inches slot openings), and bottom plugs. All well screens were 10 ft long, as shown on Table 2-2. A silica sand filter pre-pack screen was installed with sand to two ft above the top of each well screen, followed by a bentonite chip seal hydrated in-place to approximately 7 to 9 ft above the screened interval, and a sand drain layer above the bentonite seal. A steel outer protective casing (4-inch ID by 5-ft long) was installed around each new monitor well and surrounded by concrete (Quikrete®) to ground surface. Well

construction logs are provided in Appendix A-3. The horizontal and vertical locations of all wells were surveyed following the completion of well construction (see Section 2.6).

Monitoring wells were developed on November 10, 2009, more than 48 hours after well installation, in accordance with the SAP. Well development logs are provided in Appendix A-4.

2.5 SURFACE SOIL SAMPLE COLLECTION

Nineteen surface soil samples were collected at locations as follows:

- Three from the burn area (EB-SS01, EB-SS01A, and EB-SS01B);
- One from the sump pump discharge headwall (EB-SS02) and one from the sump pump discharge pipe (EB-SS03);
- Twelve from four locations in the antenna field (EB-SS04A/B/C, EB-SS05A/B/C, EB-SS06A/B/C, and EB-SS07A/B/C);
- One from the oily stained area (EB-SS08); and
- One from the small debris area (EB-SS09).

Laboratory analyses for surface soil samples were based on the prior use of location and likely potential contaminants. Samples collected from the burn area were analyzed for SVOCs, PCBs and metals; samples from the sump pump area and oily stained area were analyzed for SVOCs, PCBs, and metals, samples collected from the debris area were analyzed for SVOCs and metals. Samples were collected from the ground surface to a depth of 12 inches below grade.

Samples collected from the antenna field were collected from ground surface to 4 inches below grade. At each antenna field location, the center sample (designated with an “A”) was targeted at the former antenna pole and was analyzed for SVOCs, PCBs, herbicides, and lead. The remaining antenna field samples (designated “B” or “C”) were placed at various locations within the “disturbed” areas as shown on aerial photos and analyzed for PCBs and lead.

Based on the field reconnaissance, the Project Team moved EB-SS05A/B/C from the original location selected in the SAP to a location in the field where remnants of a former sleeve antenna was found.

The battery carcass area was deleted from the sampling event because no evidence of battery disposal was observed in the field during the property reconnaissance, in accordance with provisions in the SAP.

2.6 GROUNDWATER LEVEL MEASUREMENT

Water levels in three wells were measured on November 24, 2009, to provide data for the development of groundwater contours and interpretation of flow direction. Groundwater level measurements were obtained using an electronic water-level indicator. Water level measurements in wells were recorded from the surveyed highest point of the top of the PVC riser (marked in black). Well Inspection forms are included in Appendix A-5. Water level measurements are provided in Table 2-2.

Water level measurements were used to generate a groundwater potentiometric contour map (Figure 2-3). The groundwater flow evaluation is summarized in Section 3.0.

2.7 GROUNDWATER SAMPLE COLLECTION

Groundwater samples were collected from each of the three newly-installed monitoring wells on November 24, 2009 (Figure 2-2). Groundwater samples were collected using the EPA low-flow purging and sampling procedure, as described in the SAP. Peristaltic pumps with dedicated ¼-inch ID teflon-lined tubing were used for groundwater sampling. The monitoring wells were purged at flow rates of 200 milliliters per minute (mL/min).

Water quality parameters were monitored during sampling including: pH, temperature, oxidation-reduction potential (ORP), specific conductance, and dissolved oxygen (DO) at three to ten minute intervals using an YSI 6-Series water quality meter. Turbidity was monitored with a LaMotte 2020 Turbidity Meter. Low-flow sampling continued until pH, temperature, specific conductance, and turbidity stabilized. The well was considered stable when consecutive readings differed less than 10 percent for ORP, DO, salinity and turbidity; differed less than 3 percent for temperature and specific conductance; and pH varied by +/-0.1 or less. Water quality parameters measured immediately prior to sample collection are summarized on Table 2-3. Purge water generated during groundwater sampling was containerized in one 55-gallon steel drum.

All wells reached stability before sampling. Groundwater samples collected from all monitoring wells were analyzed for the presence of VOCs by EPA Method 8260B, SVOCs by EPA Method 8270C SIM, EPHs by MEDEP Method 04-1.1, and total metals by EPA Method 6020 (mercury by Method 7470A). Groundwater sampling logs are provided in Appendix A-6.

2.8 SAMPLE LOCATION SURVEY

Following the field investigation, a sample location survey was performed to document the horizontal locations of all sample points and the vertical location of all monitoring wells. Survey control utilized the Maine State Grid coordinate NAD83 East Zone for horizontal datum and the NGVD1988 system for the vertical datum. Horizontal and vertical measurements were made relative to on-site control points. The tops of PVC well risers were measured +/- 0.01 foot vertically (Table 2-2).

2.9 INVESTIGATION-DERIVED WASTE CHARACTERIZATION AND DISPOSAL

IDW materials that were generated during the field investigation included drill cuttings, well purge water, decontamination fluids, and wash water from steam cleaning. IDW was containerized into 55-gallon drums, and containers of IDW were labeled with their point of origin and date collected. During the investigation, the IDW was stored in a secured conex box on the property. ENPRO Services, Inc. (ENPRO) was subcontracted to characterize, transport, and dispose of all IDW. On December 2, 2009, one drum of liquid IDW and one drum of soil IDW were removed from the East Brunswick property and transported to NASB Building 45 for temporary storage. The conex box was also removed from the facility on December 2, 2009. Disposal characterization samples were collected, and the IDW was determined to be non-hazardous waste based on analytical results. ENPRO transported the drums to its facility for disposal as non-hazardous waste on January 26, 2010.

2.10 MODIFICATIONS TO THE SAP

Three Field Modification Requests (FMRs) were issued for this field investigation (Appendix A-7).

- During the property reconnaissance, surface soil sample location SS05 was moved from the location identified in the SAP, to a location north of former Building 523, where clear evidence of a former antenna location was found. The Project Team concurred with this change.

- During the test pit excavation at TP02, the field crew did not identify the brick structure that was uncovered in the test pit as the distribution box. It was subsequently understood that the brick structure was the distribution box identified in the EBS. Instead of placing SB03 at the distribution box, SB03 was moved to the southwest side of the leach field with the agreement of MEDEP.

- The SAP called for collection of soil samples in 8-ounce (oz) jars (see worksheet 19 and table 17-1 of the SAP) but the field crew noticed that the laboratory had sent 4-oz jars. After discussion with the laboratory, it was decided that sample aliquots for the various analyses could be collected in 4-oz jars separately.

3.0 INVESTIGATION RESULTS

Findings of the investigation including geologic and hydrogeologic observations, test pit excavation results, and compounds detected in groundwater, surface soil, and subsurface soil samples are summarized in the following sections.

3.1 GEOLOGY AND HYDROGEOLOGY

This section presents a description of the geologic and hydrogeologic conditions as reported in the literature and observed on the property during the field investigation. The discussion is supported by field documentation including boring logs, groundwater measurement data sheets, and other information provided in Appendix A of this report.

The surficial geology on the property is mapped as braided stream alluvium which is a fluvial deposit comprised of sand and gravel according to the Maine Geological Survey (MGS) Surficial Geologic Map of the Brunswick, Maine Quadrangle (2001). Surficial materials are sandy. On an undated public works drawing of the property; soil borings installed in 1954 before the buildings were constructed are cited; materials were described as “2 ft of loamy sand underlain by fine, granular sand”. The six soil borings installed in 2009 confirm that the property has a loamy sand topsoil with fine granular sand from 1 to 24 ft below grade. The sand identified is consistent with the “Upper Sand” designation used to describe sandy material on NASB. Borings installed at the property did not go beyond a depth of 24 ft bgs. The MGS has mapped bedrock as gneiss and schists of the Cambrian/Ordovician Cushing Formation. None of the borings installed extended to bedrock.

The property is within the boundary of a Significant Sand and Gravel Aquifer capable of yielding greater than 10 gallons per minute (gpm) to water wells (MGS, 1999). The water table was encountered at depths ranging from 15 to 17.5 ft bgs in soil borings installed in the fall of 2009.

Groundwater flow direction was not determined in the EBS, but was inferred to flow toward natural ponds located south of the property (HRP, 1996). Based on a review of the Brunswick, Maine 7.5-Minute Topographic Quadrangle Map (U.S. Geological Survey [USGS], 1980), the EBS noted that the property was located in a “saddle”; and surface drainage was estimated to potentially flow in two directions: toward artificial gravel pit ponds northeast from the property and toward natural ponds located south of the property. The report indicated that a groundwater divide might exist in the central portion of the property.

One groundwater measurement round was completed on November 24, 2009, as part of the current investigation. Data are presented in Table 2-2. Groundwater elevations were used to generate

groundwater contour maps, provided as Figure 2-3. The general direction of groundwater flow in the vicinity of the three monitoring wells is from northwest to southeast.

3.2 TEST PIT EXCAVATION RESULTS

The Test Pit Excavation Logs are presented in Appendix A. Key observations are summarized as follows:

Test Pit EB-TP01 was excavated to locate the septic tank (see photos in Appendix B). The septic tank was found at the estimated location, approximately 3.5 ft bgs. The concrete tank measured 7 ft long, 3.5 ft wide, and 6.7 ft deep. The tank was found without a cover, and water and debris were observed inside. Piping leading into or out of the tank was not observed. Sand around the tank did not appear to be stained or impacted. No field screening, olfactory, or visual evidence of contamination was observed during the excavation. The septic tank excavation was backfilled in place; the opening and side of the tank were marked for subsequent drilling.

Test pit EB-TP02 was excavated in the vicinity of the reported “septic system distribution box” (see photos in Appendix B) based on information provided in the EBS. A brick structure observed in the northeastern portion of the excavation was not initially identified as a distribution box (see test pit log in Appendix A). However, based on review of photographs in the EBS, it was determined that the brick structure encountered was same structure identified the EBS as the distribution box. No field screening, olfactory, or visual evidence of contamination was observed during the excavation.

Test pit EB-TP03 was excavated in the vicinity of the “septic system leach field”. The trench was approximately 5 to 6 ft deep, 5 ft wide and nearly 40 ft long (photos 5 and 6, Appendix B). At the west end of the test pit, a gravelly layer was encountered at a depth of 2 to 6 ft bgs. The gravelly layer was interpreted to be the leach field. Copper wire was observed in the excavation. No field screening, olfactory, or visual evidence of contamination was observed during the excavation of test pit EB-TP03.

Test pit EB-TP04 was excavated in the burn area (see photos, Appendix B). This test pit confirmed that the black-stained soil with ash and the burned material are limited to the top 6 to 12 inches of the surface. Surface soil sample locations were staked around the test pit. No field screening, olfactory, or visual evidence of contamination was observed during the excavation other than the obvious stained soil.

Test pit EB-TP05 was excavated in the oily stained soil area (photo 8, Appendix B). No oil or staining was observed in the test pit. There was an area where both wood and darker soil were observed, and this location was staked for surface soil sampling. Copper wire was observed in the excavation. No field screening, olfactory, or visual evidence of contamination was observed during the excavation.

The excavator was used to uncover buried coaxial cable at two locations specified by the MEDEP. One excavation was located to the north of TP04; the other test pit was excavated to the east of TP05. Cable was not observed in the first test pit; cable was observed in the second. These small (<1 ft deep) excavations were not logged as test pits.

3.3 COAXIAL CABLE RESULTS

On November 4, 2009, representatives from the MEDEP collected samples from coaxial cables at two locations on the property. The cable layers generally consisted of an outer coated fiber, a layer of wound wire, an inner layer of coated twine, a metal sheath, a plastic sheath, a woven copper sheath, a "polymer" plastic core, and an inner copper wire. The samples were collected from different layers of the cables and composited; four were analyzed for PCBs and one was analyzed for lead. Lead was detected in the solid metal sheath layer (Layer 4) at a concentration of 240,000 milligrams per kilogram (mg/kg). PCBs were detected as Aroclor 1254 in Layer 1 (outer coated fiber layer) at 61 micrograms per kilogram (µg/kg) and in the Layer 3 (inner coated twine) sample at 97 µg/kg. MEDEP's memorandum regarding the coaxial cable sampling and results is presented in Appendix C.

3.4 SOIL SAMPLING RESULTS

Complete analytical results are provided in Appendix C. Tables 3-1 through 3-3 show detected results for surface soil and subsurface soil. Exceedances of screening criteria are highlighted in the tables. For human health, soil analytical results were screened against 1997 MEDEP Remedial Action Guidelines (RAGs), Residential Guidelines (with values divided by two to adjust for the potential presence of multiple contaminants at the property; EPA Regions 3, 6, and 9 Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites – Residential Soil values (EPA, 2009); and adjusted RSLs, reduced by a factor of 10. Surface soil samples were screened against selected ecological screening levels for each analyte as specified in the SAP. Screening criteria and background values are further described in Section 4.1.

3.4.1 <u>Surface Soil</u>

Surface soil sampling locations are shown on Figure 2-2. Surface soil samples were collected in the burn area, sump pump discharge area, oily stained area, the small debris area, and in the antenna field. Detected results are shown in bold in Table 3-1, and exceedances of human health screening criteria are highlighted. Table 3-3 presents detected results in bold, and exceedances of ecological screening levels are highlighted.

Twenty-two SVOCs were detected in samples from the burn area, the sump pump area, the antenna field, the oily stained area, and the small debris area. Five of these SVOCs were detected at

concentrations exceeding human health screening criteria: the PAHs benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene. In the antenna field, samples were analyzed for SVOCs only at the "A" location; exceedances of screening criteria were noted at locations SS05, SS06, and SS07 but not at SS04. SVOCs detected at concentrations exceeding ecological criteria included benzo(a)anthracene, benzo(b)fluoranthene, and chrysene.

PCBs were detected at concentrations exceeding human health screening criteria but less than 1 mg/kg in one surface soil sample from the sump pump area. PCBs were not detected in any other surface soil samples.

Herbicides were not reported above detection limits in any of the antenna field "A" samples.

Twenty-two metals were detected in surface soil. In the burn area, the sump pump area, the oily stained area, and the small debris area, metals detected at concentrations exceeding human health screening criteria included aluminum, antimony, arsenic, cadmium, chromium, cobalt, copper, iron, lead, manganese, and zinc. Copper, iron, lead, manganese, silver, vanadium, and zinc were detected at concentrations exceeding ecological screening criteria.

3.4.2 Subsurface Soil

Seven soil borings were advanced in the sump pump discharge area, the septic tank area, and former UST area. Field screening PID results from soil borings were generally 0.0 parts per million (ppm) total VOCs. Low levels were noted at SB04 (leach field) where PID readings ranged from 0.0 to 0.3 total volatiles; at SB05 (former fuel oil UST area) where PID results ranged from 0.1 to 0.7 ppm; and at SB06 (former diesel UST) where PID results ranged from 0.0 to 0.2. The highest field screening results were obtained from soil samples collected from soil boring SB05, located at the former UST area, where MW01 was installed.

Subsurface soil results are presented in Table 3-2. Detected results are bolded and exceedances of human health screening criteria are shaded. Subsurface soils were not evaluated with respect to ecological screening criteria.

The VOC carbon disulfide was detected at trace levels but not at a concentration exceeding screening criteria in the sump pump soil boring sample; a trace level of trichlorfluoromenthane in the leach field boring sample was the only other detected VOC in the subsurface soil samples.

The following SVOCs were detected in the sample collected inside the septic tank: 1,1-biphenyl; 2,4,6-trichlorophenol; 2-methylnaphthalene; 3&4-methylphenol; 4-chloroaniline; acenaphthene; anthracene; benzo(a)anthracene; benzo(a)pyrene; benzo(b)fluoranthene; benzo(g,h,i)perylene; benzo(k)fluoranthene; bis(2-ethylhexyl)phthalate; carbazole; chrysene; dibenzo(a,h)anthracene; dibenzofuran; fluoranthene; and fluorine. Only the PAHS benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene were detected at concentrations that exceed human health screening criteria.

The PCBs Aroclor-1242 and Aroclor-1260 were detected in the boring inside the septic tank at less than 1 mg/kg, but at concentrations slightly exceeding screening criteria. PCBs were not detected in any other subsurface soil samples.

The metals aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, mercury, nickel, potassium, silver, sodium; vanadium; zinc were detected in the soil borings in the sump pump discharge area and the septic system borings. In the sump pump area, and in the septic area, only the metals arsenic, cobalt and iron were detected in subsurface soil samples at concentrations that exceeded human health screening criteria.

3.5 GROUNDWATER RESULTS

Groundwater samples were collected from three newly installed wells in November 2009. Detected analytical results are bolded in Table 3-4; exceedances of screening criteria are shaded. Screening criteria are the Maine Maximum Exposure Guidelines (MEGs) for drinking water (2008); EPA Regions 3, 6, and 9 RSLs for Chemical Contaminants at Superfund Sites, Tap Water Values (EPA, 2009); and the adjusted RSL, reduced by a factor of 10. NASB background values for groundwater are not yet available.

Neither VOCs nor SVOCs were detected in groundwater samples collected from the monitoring wells.

EPH (C19-C36 Aliphatics) was detected in the sample from the UST area (MW02) at a concentration of 120 micrograms per Liter (µg/L), which is significantly below the screening criterion.

Eleven metals (aluminum, barium, beryllium, calcium, iron, magnesium, manganese, potassium, sodium, and vanadium) were detected in groundwater samples. Manganese was detected in the sample MW03, located in the sump pump discharge area. The concentration of 10 milligrams per Liter (mg/L), slightly exceeded the lowest residential screening criterion, the adjusted RSL. However, the concentration does not exceed the RSL or the MEG. As this is the only constituent detected above screening criteria, it is not considered a contaminant of concern. Based on these results, groundwater is not considered a medium of concern on the property.

4.0 SCREENING EVALUATION

The screening evaluation was performed to determine whether there were exceedances of screening criteria or background (for metals and PAHs only) for analytes detected in samples collected on the property. Exceedances, if present, were further evaluated on a site-specific basis using a line-of-evidence approach to support decisions for further evaluation or action. The potential factors and lines of evidence considered included the magnitude of exceedances; the number of exceedances and frequency of detections; the locations (spatial distribution) of exceedances with respect to the identified potential source areas; the potential for receptor exposures; and comparison to other appropriate screening criteria.

4.1 PROJECT SCREENING LEVELS

Project Screening Levels (PSLs) for this study are the lowest matrix-specific, risk-based or regulatory human health and ecological screening criteria selected. Laboratory analytical results (except for EPH, as discussed below) were screened against the human health PSLs for groundwater and subsurface soil, and against the human health and ecological PSLs for surface soil. The human health PSLs for groundwater are based on the following:

- Maine MEGs for drinking water (2008) (MCDC, 2008).
- EPA Regions 3, 6, and 9 RSLs for Chemical Contaminants at Superfund Sites – Tap Water values (EPA, 2009).

The human health PSLs for surface and subsurface soil are based on the following:

- MEDEP RAGs, Residential Guidelines (with values divided by two to adjust for the potential presence of multiple contaminants at the property) (MEDEP, 1997).
- MEDEP RAGs, Groundwater Guidelines (MEDEP, 1997).
- EPA Regions 3, 6, and 9 RSLs for Chemical Contaminants at Superfund Sites – Residential Soil values (EPA, 2009). Values for non-carcinogens were divided by 10 to represent target hazard quotients of 0.1.

The ecological PSLs for surface soil were selected in the following order of preference, based on availability:

- EPA Ecological Soil Screening Levels (Eco-SSL) (2008). The lower of the plant, invertebrate, or wildlife Eco-SSL was selected as the screening level.

- Canadian Council and Ministers of the Environment (CCME) Recommended Canadian Soil Quality Guidelines (2006) and supporting documents.

- The lower of the Oak Ridge National Laboratory (ORNL) plant or invertebrate benchmarks (Efroymson, et al., 1997a, 1997b).

- Lowest of National Oceanographic and Atmospheric Administration (NOAA) surface soil benchmarks (Buchman, 2008).

The groundwater human health screening criteria and PSLs are presented in Appendix D, Table D-1. The soil screening criteria and PSLs are presented in Appendix D, Table D-2 (human health) and Table D-3 (ecological).

The Massachusetts analytical method for EPH was used to assess petroleum compounds. MEDEP did not have MEGS or RAGs for EPH at the time the SAP was prepared but recently had published "August 14, 2009 Public Review Draft Remediation Guidelines for Petroleum Contaminated Sites in Maine" (MEDEP, 2009), which contains remediation guidelines for the Massachusetts EPH method petroleum hydrocarbon ranges. These guidelines were used to establish the PSLs for EPH, as follows:

- Soil PSLs were the draft MEDEP Tier 1 Cumulative Risk-based Soil Remediation Resident Guidelines for Petroleum Target Compounds and Fractions.

- Groundwater PSLs were the Tier 1 Statewide Groundwater And Drinking Water Remediation Guidelines For Petroleum-Related Compounds.

4.2 BACKGROUND LEVELS

Draft data for basewide background conditions in soil were used to evaluate the presence of detected metals and PAHs in soil at the Property. The NASB Background Study was conducted in 2009, and results for soil were issued on a preliminary basis in March (Tetra Tech, 2010). Chemicals of interest include metals, pesticides and herbicides, and PAHs, all of which may be present in media due to naturally occurring or anthropogenic processes and are not necessarily present due to a release of hazardous substances. Because of the presence of discrete areas and the low number of samples per area, a comparison of each sample analyte to its corresponding 95% Upper Prediction Limit (UPL) value

in the background data set was performed. The UPLs established for the Upper Sand geologic unit were used and are provided in Table 4-1 as well as in the analytical tables. The UPL is based on the null hypothesis that individual site concentrations are less than or equal to background (test form I). Concentrations from one site sample are compared to a threshold level that is statistically derived so as to include 95 percent of the background population. The 95% UPL is based on the t distribution if the data follow a normal distribution; otherwise, a nonparametric 95% UPL is estimated. Background UPL values are not yet available for groundwater.

4.3 THE BURN AREA

The burn area is a discrete area of stained soil and burned debris located along the north side of the road leading to former Building 523. This location may have been used by Navy personnel or by trespassers for campfires or for burning trash. The area is approximately 10 ft by 15 ft. The test pit confirmed that ash and burned materials are limited to the surface to a depth of 6 to 12 inches.

4.3.1 Human Health Screening

SVOCs and metals were detected above both screening criteria and background in the three surface soil samples from the burn area, as presented below.

BURN AREA – SURFACE SOIL
HUMAN HEALTH AND BACKGROUND EXCEEDANCES

SCREENING CRITERIA SAMPLE ID	MEDEP RES Soil RAG	1/2 MEDEP RES Soil RAG	EPA RSL Res Soil	Adjusted EPA RSL Res Soil NC	BKGD	EB-SO-SS01A-0012	EB-SO-SS01B-0012	EB-SO-SS01-0012
SVOCS (UG/KG)								
BENZO(A)ANTHRACENE			150	150	23	**140**	**1200**	**110**
BENZO(A)PYRENE	2000	1000	15	15	28	**80**	**390**	**44**
BENZO(B)FLUORANTHENE			150	150	51	**520**	**2300**	**280**
DIBENZO(A,H)ANTHRACENE			15	15	6	**14 J**	**70**	**6 J**
INDENO(1,2,3-CD)PYRENE			150	150	39	**75 J**	**220 J**	**31 J**
METALS (MG/KG)								
ANTIMONY			31	3.1	0.04	**0.19 J**	**10.4 J**	0.09 UJ
ARSENIC	10	5	0.39	0.39	4.5	**2.2**	**12.3**	**2.5**
CHROMIUM	950	475	230	23	15.3	**7.5**	**23.7**	**9.3**
COPPER	650	325	3100	310	6.7	**174**	**34600**	**125**
IRON			55000	5500	14400	**6490**	**16700**	**7660**
LEAD	375	187.5	400	400	17.5	**15.3**	**871**	**11**
ZINC	1500	750	23000	2300	15.3	**47.3**	**3140**	**55.8**

NOTES:
Shaded Black - Exceeds the lowest screening criterion and background
Shaded Gray - Exceeds the lowest screening criterion but not background

As shown, most of the exceedances are present in the sample SS01B. The sample was collected from an area that contained the stained soil, ash, burned wood fragments, and metal debris. The burn area is small, accessible, and well defined and can be addressed through removal of debris and visibly stained soil.

4.3.2 Ecological Screening

A similar set of PAHs and metals exceed both the selected ecological screening level and background as shown below:

BURN AREA – SURFACE SOIL ECOLOGICAL AND BACKGROUND EXCEEDANCES					
SCREENING CRITERIA SAMPLE ID	ECO SSL	BKGD	EB-SO-SS01A-0012	EB-SO-SS01B-0012	EB-SO-SS01-0012
SVOCS (UG/KG)					
BENZO(A)ANTHRACENE	1100	23	**140**	**1200**	**110**
BENZO(B)FLUORANTHENE	1100	51	**520**	**2300**	**280**
CHRYSENE	1100	35	**350**	**2200**	**240**
PYRENE	1100	64	**670**	**4200**	**560**
METALS (MG/KG)					
ANTIMONY	0.27	0.04	**0.19 J**	**10.4 J**	0.09 UJ
CADMIUM	0.36	0.05	**0.06 J**	**2.3**	**0.16**
COPPER	28	6.7	**174**	**34600**	**125**
LEAD	11	17.5	**15.3**	**871**	**11**
SILVER	4.2	0.21	**0.23 J**	**15.8**	**0.14 J**
ZINC	46	15.3	**47.3**	**3140**	**55.8**

NOTES:
Shaded Black - Exceeds the selected ecological screening criterion and background

There are a number of PAH compounds and metals detected at concentrations that exceeded the ecological screening levels and background. The impacted area is very small (approximately 10 ft by 15 ft) compared to the 66 acres of open space on the property, and the screening levels listed are conservative because they are based on risks to birds or mammals, which have much larger home ranges. The burn area is small, accessible, and well defined and can be addressed through removal of debris and visibly stained soil.

4.4 SUMP PUMP DISCHARGE AREA

Former floor and area drains in the basement of Building 523 drained to a sump with a pump, also in the basement. A surface soil sample was collected at the sump pump discharge headwall (EB-SS02) and another was collected at the end of the sump pump discharge pipe (EB-SS03). One subsurface soil sample was collected in SB01 at a depth of 13 to 15 ft bgs. Monitoring well MW03 was installed in SB01, screened from 12 to 22 ft bgs. A groundwater sample was collected from this well.

4.4.1 Human Health Screening

SVOCs, metals, and PCBs were detected above Human Health Screening criteria and background in the surface soil collected from the headwall. No analytes were detected in the subsurface at concentrations that exceeded screening criteria and background.

SUMP PUMP DISCHARGE AREA – SURFACE SOIL HUMAN HEALTH AND BACKGROUND EXCEEDANCE						
SCREENING CRITERIA SAMPLE ID	**MEDEP RES Soil RAG**	**1/2 MEDEP RES Soil RAG**	**EPA RSL RES Soil**	**Adjusted EPA RSL RES Soil NC**	**BKGD**	**EB-SO-SS02-0012**
SEMIVOLATILES (UG/KG)						
BENZO(A)ANTHRACENE			150	150	23	**2000 J**
BENZO(A)PYRENE	2000	1000	15	15	28	**1100**
BENZO(B)FLUORANTHENE			150	150	51	**2100**
DIBENZO(A,H)ANTHRACENE			15	15	13	**220**
INDENO(1,2,3-CD)PYRENE			150	150	39	**760 J**
METALS (MG/KG)						
COPPER	650	325	3100	310	6.7	**360**
PCBS (UG/KG)						
AROCLOR-1260			220	220		**240**

NOTES:
Shaded Black - Exceeds the lowest screening criterion and background

Five PAHs exceed screening criteria and background at this location. The low PCB detection is not significantly higher than the screening value. The concentration of copper exceeds the adjusted RSL value but not the Maine RAG or the RSL. This location is a small (approximately 2 ft by 10 ft), discrete area in a shallow channel that starts at the headwall. The detected analyte concentrations in the downstream sample 10 ft away did not exceed screening criteria or background, suggesting the contamination is localized at the headwall. The sump pump discharge area is a small and well-defined area that can be addressed through removal of surface soil in the channel near the headwall.

4.4.2 Ecological Screening

SVOCs and metals were detected at concentrations exceeding both the selected ecological screening levels and background in the surface soil sample at the headwall as shown below.

SUMP PUMP DISCHARGE AREA – SURFACE SOIL ECOLOGICAL AND BACKGROUND EXCEEDANCES			
SCREENING CRITERIA SAMPLE ID	**ECO SSL**	**BKGD**	**EB-SO-SS02-0012**
SEMIVOLATILES (UG/KG)			
BENZO(A)ANTHRACENE	1100	23	**2000 J**
BENZO(A)PYRENE	1100	28	**1100**
BENZO(B)FLUORANTHENE	1100	51	**2100**

SUMP PUMP DISCHARGE AREA – SURFACE SOIL ECOLOGICAL AND BACKGROUND EXCEEDANCES			
SCREENING CRITERIA SAMPLE ID	**ECO SSL**	**BKGD**	**EB-SO-SS02-0012**
CHRYSENE	1100	35	**1800 J**
PYRENE	1100	64	**3100 J**
METALS (MG/KG)			
CADMIUM	0.36	0.05	**1.5**
COPPER	28	6.7	**360**
LEAD	11	17.5	**85.7**
ZINC	46	15.3	**247**

NOTES:
Shaded Black - Exceeds the lowest screening criterion and background

There are a number of PAH compounds and metals detected at concentrations that exceeded the ecological screening levels. The impacted area is very small (10 ft by 2 ft) compared to the 66 acres of open space on the property, and the screening levels listed are very conservative for a small area, because they are based on risks to birds or mammals which have much larger home ranges. The sump pump discharge area is a small and well-defined area that can be addressed through a removal of surface soil in the channel near the headwall.

4.5 OILY STAINED SOIL AREA

In 1996, a small area of stained soil was present in one location outside the fence on the southeastern corner of the fenced area. This area was observed during the EBS, but was not found during the 2008 or 2009 site walks, and the area may have been re-graded when the buildings and the fence were demolished. One test pit (EB-TP05) was excavated in the area; no oily stain was observed during test pitting. Copper wire was observed in the excavation. One surface soil sample was collected from this area (EB-SS08). This surface soil location was selected with the Navy and MEDEP in the field during test based on observation of a dark area within the test pit.

4.5.1 Human Health Screening

Only one PAH was detected at a concentration exceeding both the screening criterion and background:

OILY STAINED SOIL– SURFACE SOIL HUMAN HEALTH AND BACKGROUND EXCEEDANCES						
SCREENING CRITERIA SAMPLE ID	MEDEP RES Soil	1/2 MEDEP RES Soil	EPA RSL RES Soil	Adjusted EPA RSL RES Soil NC	BKGD	EB-SO-SS08-0012
SVOCS (UG/KG)						
BENZO(A)PYRENE	2000	1000	15	15	28	**40**

Notes:
Shaded Black – exceeds lowest screening criterion and background

The concentration of benzo(a)pyrene in the sample was not above the MEDEP residential RAG or ½ the RAG. It is unlikely to present an unacceptable risk to human health under a recreational reuse scenario. No action is recommended for this area.

4.5.2 Ecological Screening

Lead and vanadium were detected in the sample at concentrations that exceeded the screening criteria, but not background. No analytes were detected at concentrations that exceeded both the ecological screening criteria and background concentrations. No action is recommended for this area

4.6 SEPTIC TANK SYSTEM

This septic system was comprised of a septic tank, a distribution box and a leach field. Four soil borings were installed within the septic tank system. Subsurface soils were collected adjacent to the septic tank, within the septic tank, and in the leach field. Sample results were screened against human health criteria only because there is not a complete exposure pathway for ecological receptors. Only the subsurface soil sample collected at the bottom of the septic tank (9 to 10 ft bgs) contained analytes at concentrations exceeding both screening criteria and background.

SEPTIC TANK – SUBSURFACE SOIL HUMAN HEALTH AND BACKGROUND EXCEEDANCES						
SCREENING CRITERIASAMPLE ID	MEDEP RES Soil RAGS	1/2 MEDEP RES Soil RAGS	EPA RSL RES Soil	Adjusted EPA RSL RES Soil Non Cancer	BKGD	EB-SO-SB02A-0910
SVOCS (UG/KG)						
BENZO(A)ANTHRACENE			150	150	23	**2400**
BENZO(A)PYRENE	2000	1000	15	15	28	**1600**
BENZO(B)FLUORANTHENE			150	150	51	**2400**
DIBENZO(A,H)ANTHRACENE			15	15	6	**320 J**
INDENO(1,2,3-CD)PYRENE			150	150	39	**1600**
PCBS (UG/KG)						
AROCLOR-1242			220	220		**580**
AROCLOR-1260			220	220		**560 J**

Notes:
Shaded Black – exceeds lowest screening criterion and background

Multiple PAHs and PCBs were detected in the sample inside the septic tank; however, they were not detected in the sample collected outside and adjacent to the tank or in groundwater. This sample represents sludge that is located within a buried concrete tank which is likely intact. There is an incomplete pathway for exposure for human receptors. Although it is apparent that there is no impact to

surrounding soil or groundwater, it is recommended that the concrete septic tank and any sludge be removed and disposed of properly.

4.7 THE ANTENNA FIELD

Four representative antenna locations were selected for surface soil sampling (SS04, SS05, SS06, and SS07).

4.7.1 Human Health Screening

There are approximately 21 former antenna pole locations on the 66 acre property and 4 representative areas were sampled for this study. No analytes were present in surface soil at concentrations that exceeded both screening criteria and background values except for several PAHs in the sample SS05A. Results are shown in the following table:

ANTENNA FIELD – SURFACE SOIL HUMAN HEALTH AND BACKGROUND EXCEEDANCES								
SCREENING CRITERIA SAMPLE ID	MEDEP RES Soil RAGS	1/2 MEDEP RES Soil RAGS	EPA RSL RES Soil	Adjusted EPA RSL RES Soil Non Cancer	BKGD	EB-SO-SS05A-0004	EB-SO-SS05A-0004-AVG	EB-SO-SS05A-0004-D
SVOCS (UG/KG)								
BENZO(A)ANTHRACENE			150	150	23	**220**	**210**	**200**
BENZO(A)PYRENE	2000	1000	15	15	28	**160**	**150**	**140**
BENZO(B)FLUORANTHENE			150	150	51	**1200 J**	**1200 J**	**1200**
DIBENZO(A,H)ANTHRACENE			15	15	6	**31**	**29**	**27**

Notes:
Shaded Black – exceeds lowest screening criterion and background

The four PAHs are present in surface soil at concentrations exceeding the residential screening criteria and background. The PAH soil sampling conducted in the antenna field was biased towards the immediate vicinity of the former poles because PAHs, if present, are likely due to weathering of utility poles that were used to support these antennas. The data collected to date do not suggest there is widespread PAH contamination across the antenna field because only one out of four sampled locations had levels above residential screening criteria. Because the utility poles are the presumed source of the PAHs, concentrations are likely to decrease with distance from the poles. PAH concentrations in the small areas (100 sq ft estimated) at the former pole locations are not representative of the 66-acre parcel as a whole. The area can be addressed through removal of the surface soil in the small area near the SS05A pole location.

4.7.2 Ecological Screening

The following SVOCs and lead were detected at two antenna locations at concentrations exceeding both the ecological SSL and background.

ANTENNA FIELD – SURFACE SOIL ECOLOGICAL AND BACKGROUND EXCEEDANCES							
SCREENING CRITERIA SAMPLE ID	Eco Screening Level	BKGD	EB-SO-SS05A-0004	EB-SO-SS05A-0004-AVG	EB-SO-SS05A-0004-D	EB-SO-SS06B-0004	EB-SO-SS06C-0004
SVOCS (UG/KG)							
BENZO(B)FLUORANTHENE	1100	51	**1200 J**	**1200 J**	**1200**	NA	NA
CHRYSENE	1100	35	**1200 J**	**1100 J**	**1000**	NA	NA
PYRENE	1100	64	**2800 J**	**2500 J**	**2200**	NA	NA
METALS (MG/KG)							
LEAD	11	17.5	**24.4**	**23.1**	**21.8**	**30.7**	**38.2**

Notes:
Shaded Black- Exceeds Screening Criteria and Background

PAHs at one antenna location and lead at two antenna locations were detected at concentrations that exceeded their respective screening levels and background. The screening levels are based on risk to wildlife and are very conservative. Although individual sample points can be compared to screening levels based on risks to wildlife, this comparison is very conservative because the potentially impacted area is likely to be much smaller that the home ranges for small mammals and birds. Because the concentrations are within an order of magnitude of the screening level, risks to mammals and birds are not expected when the following items are taken into account: 1) the impacted site would only account for a small percentage of the home range for wildlife so the actual exposure point concentration would likely be lower than the screening level; 2) the screening levels were developed using conservative exposure assumptions so risks would be lower using average exposure assumptions; and 3) the screening levels were developed using no observed adverse effects levels (NOAELs) but risks are also evaluated using lowest observed adverse effects levels, which are higher than NOAELs. The concentrations listed above are lower than the invertebrate screening level for PAHs (18,000 mg/kg) and the plant and invertebrate screening levels for lead (120 mg/kg and 1,700 mg/kg, respectively). Although there is not a plant screening level, data in the Eco-SSL document for PAHs indicates that concentrations of PAHs in the low mg/kg range are not expected to impact plants (EPA, 2008). Therefore, the chemical concentrations in the Antenna Field are not significantly impacting plants, invertebrates, or wildlife at the site. No action is recommended for the antenna field surface soil due to ecological concerns.

4.8 SMALL DEBRIS AREA

A small depression containing rusted cans and pails was identified site visit on October 15, 2009 ("Small Debris Area"). One surface soil sample was collected at the small debris area (SS09).

4.8.1 Human Health Screening

As shown in the following table, the results for the surface soil collected at the small debris area, its duplicate, and the average value indicate exceedances of both screening criteria and background for one PAH and multiple metals.

SMALL DEBRIS AREA – SURFACE SOIL HUMAN HEALTH AND BACKGROUND EXCEEDANCES								
SCREENING CRITERIA SAMPLE ID	MEDEP RES Soil RAG	1/2 MEDEP RES Soil RAG	EPA RSL Res Soil	Adjusted EPA RSL RES Soil NC	BKGD	EB-SO-SS09-0012	EB-SO-SS09-0012- AVG	EB-SO-SS09-0012-D
SVOCS (UG/KG)								
BENZO(A)PYRENE	2000	1000	15	15	28	**29**	**29**	NA
METALS (MG/KG)								
ARSENIC	10	5	0.39	0.39	4.5	**12.9 J**	**7.9 J**	**2.9 J**
CADMIUM	27	13.5	70	7	0.05	**8.6 J**	**5.05 J**	**1.5 J**
CHROMIUM	950	475	230	23	15.3	**23.8 J**	**18.35 J**	**12.9 J**
COBALT			23	2.3	4	**7.4 J**	**5.3 J**	**3.2 J**
COPPER	650	325	3100	310	6.7	**41.3 J**	**183.15 J**	**325 J**
IRON			55000	5500	14400	**116000 J**	**62370 J**	**8740 J**
LEAD	375	187.5	400	400	17.5	**431 J**	**255.1 J**	**79.2 J**
MANGANESE			1800	180	267.41	**552 J**	**383.5 J**	**215 J**
ZINC	1500	750	23000	2300	15.3	**4840 J**	**2547 J**	**254 J**

NOTES:
Shaded Black- Exceeds Screening Criteria and Background
Shaded Gray- Exceeds Screening Criteria but not Background

Benzo(a)pyrene was detected in the sample at a level that is within the same order of magnitude as the RSL, and essentially at the background level. The results of the field duplicate analysis exceeded the QC limits for arsenic, cadmium, chromium, cobalt, copper, iron, lead, manganese, and zinc; the positive results in samples EB-SO-SS09-0012 and its duplicate are usable as estimated values for which the bias is indeterminate. Corroded metal debris is present at the location and may account for the heterogeneity of the metals in the samples. The maximum concentrations of most of the metals only slightly exceed the adjusted RSLs or background values, but not the RSL, and iron is an essential nutrient and not of concern. Because the small debris area is a discrete and well-defined area, it can be addressed through removal of the debris and adjacent surface soil.

4.8.2 Ecological Screening

Metals detected at concentrations above both the selected ecological screening level and background are shown in the following table:

SMALL DEBRIS AREA – SURFACE SOIL ECOLOGICAL AND BACKGROUND EXCEEDANCES					
SCREENING CRITERIA SAMPLE ID	Eco Screening Level	BKGD	EB-SO-SS09-0012	EB-SO-SS09-0012-AVG	EB-SO-SS09-0012-D
METALS (MG/KG)					
ANTIMONY	0.27	0.04	**1.4 J**	**0.79 J**	**0.18 J**
CADMIUM	0.36	0.05	**8.6 J**	**5.05 J**	**1.5 J**
COPPER	28	6.7	**41.3 J**	**183.15 J**	**325 J**
LEAD	11	17.5	**431 J**	**255.1 J**	**79.2 J**
MANGANESE	220	267.41	**552 J**	**383.5 J**	**215 J**
SELENIUM	0.52		**2.1**	**1.1725 J**	0.49 UJ
ZINC	46	15.3	**4840 J**	**2547 J**	**254 J**

NOTES:
Shaded Black- Exceeds Screening Criteria and Background

There are a number metals detected at concentrations that exceeded the ecological screening levels and background. The impacted area is very small (approximately 12 ft by 12 ft) compared to the 66 acres of open space on the property, and the screening levels listed are conservative because they are based on risks to birds or mammals, which have much larger home ranges. Because the small debris area is a discrete and well-defined area, it can be addressed through removal of the debris and adjacent surface soil.

4.9 CONCEPTUAL SITE MODEL

The Conceptual Site Model developed for the site has been updated based on the investigation. Initially, potential sources of contamination included the burn area, the sump pump discharge, the oily stained soil, possible discharge of hazardous substances to the septic system, a discarded battery carcass, former antenna paints or pole coatings, leakage from the former USTs, and a small debris area. Based on the new information, the oily stained soil does not appear to be a source, the battery carcass is no longer present, and field and analytical results suggest that only very minor leakage or spillage from the fuel and diesel USTs occurred. Paint chips or evidence of lead-based paint or PCBs associated with paint at the antenna towers were not observed in the field or detected in laboratory samples. Lead was detected at concentrations generally at or slightly above background levels, except in the burn area and the small debris area, where metal was present. A potential source of lead is exposed, deteriorated coaxial cable that contains a lead shield layer (layer 4). However, coaxial cables are only exposed sporadically across the 66 acre property, and exposed copper grounding wires appear to be limited to the areas close to the

former antenna towers. Also wooden poles similar to telephone poles were more likely present at the antenna locations, and weathering of these poles may account for PAHs identified at several antenna “A” locations. Herbicides were not reported in the antenna field samples.

The environmental media of interest were initially identified as surface soil, subsurface soil, and groundwater. Based on the results of the study, groundwater is not a medium of concern. Only one analyte, manganese, was detected in groundwater at a concentration that exceeds the lowest screening criterion, the adjusted RSL, but not the RSL or the MEG. It is not considered a contaminant of concern.

Surface soil has been impacted by discharges (sump pump discharge area), and disposal (burn area and small debris area) and weathering of wooden poles, but it appears to be limited to localized areas. Given the hummocky nature of the area, the widespread vegetation, and the permeable soil, significant transport via wind or overland runoff is not likely. Also there was no evidence that flaking lead-based paint chips from metal towers were present.

Based on soil boring results, subsurface soil has not been impacted by contaminants as a result of leaks or discharges to the subsurface (e.g., USTs or septic system, or sump pump discharge), or by leaching from the surface to the subsurface via rain infiltration. While multiple PAHs and PCBs were detected in the sample inside the septic tank, they were not detected in the sample collected outside and adjacent to the tank. Similarly, while PAHs and PCBs were detected in the sump pump discharge area in surface soil, they were not reporting in subsurface soils or groundwater. Negative impact to subsurface soil or groundwater is not anticipated given that most of the contaminants identified are not highly mobile.

Potential ecological receptors for contaminants in surface soil include terrestrial invertebrates, terrestrial plants, terrestrial vertebrates, reptiles, and amphibians. Potential human receptors for contaminants in surface soil include construction workers, hypothetical industrial workers, child and adult trespassers, child and adult recreational users, and hypothetical residents.

5.0 CONCLUSIONS AND RECOMMENDATIONS

This Technical Memorandum describes the field activities and presents findings of the investigation conducted at the East Brunswick Remote Radio Transmitter Site in October and November 2009 to assess the current environmental condition of the property in preparation for transfer for recreational use.

5.1 CONCLUSIONS

The following conclusions are drawn from information collected during the field investigation and the screening evaluation.

- The property contains several small, discrete areas of surface soil with PAHs, metals, and at one location, PCBs, at concentrations exceeding residential human health and ecological screening criteria and background. These areas include the burn area, the sump pump discharge area, and the small debris area, and one of four selected representative former antenna locations.

- The oily stained soil, the battery carcass, the fuel and diesel USTs, and the septic system are not considered potential source areas based on results of this investigation. Although testing indicated that there are contaminants in the septic sludge contained within the concrete septic tank, adjacent subsurface soil and groundwater at the tank or in the leach field have not been impacted.

- PAHs were present at concentrations exceeding human health screening criteria and background in surface soil near the former antenna pole in one of four representative samples (SS05A). The data collected to date do not suggest there is widespread PAH contamination across the antenna field because only one out of four sampled locations had levels exceeding residential screening criteria. The utility poles are the presumed source of the PAHs, and concentrations are likely to decrease with distance from the poles. PAH concentrations in the small areas (100 sq ft estimated) at the former pole locations are not representative of the 66-acre parcel as a whole.

- The chemical concentrations in the antenna field are not a significant impact to plants, invertebrates, or wildlife on the 66 acre property based on further ecological screening analysis.

- Paint chips or evidence of LBP or PCBs associated with paint at the antenna towers were not observed in the field or detected in laboratory samples. Lead was detected generally at or slightly above background levels, except in the burn area and the small debris area, where deteriorated metal was present.

- Copper grounding wires are still present at the former antenna locations as are buried, and in some locations exposed, coaxial cables. Exposed, deteriorated coaxial cable contains a lead shield layer (layer 4) and is a potential source of lead. However, coaxial cables are only exposed sporadically across the 66 acre property, and lead was only detected at levels exceeding human health screening criteria at the burn area and the small debris area, which contain deteriorated metal debris. Exposed copper grounding wires appear to be limited to the areas close to the former antenna towers.

- Subsurface soil and groundwater have not been impacted in the UST area. Low levels of petroleum constituents and PID readings detected in soil confirmed that the soil borings had been placed in the correct location and suggest that no significant release likely occurred.

- The environmental media of interest were initially identified as surface soil, subsurface soil, and groundwater. Based on the results of the study, groundwater is not a medium of concern. Only one analyte, manganese, was detected in groundwater at a concentration that exceeded the lowest screening criterion, the adjusted RSL, but not the RSL or the MEG.

- Surface soil has been impacted by discharges (sump pump discharge area), and disposal (burn area and small debris area) and possibly weathering of wooden poles (antenna field), but impact is limited to very small localized areas. Given the hummocky nature of the area, the widespread vegetation, and the permeable soil, significant transport via wind or overland runoff is not likely.

- Based on soil boring results, subsurface soil has not been impacted by contaminants as a result of leaks or discharges to the subsurface (e.g. USTs or septic system, or sump pump discharge), or by leaching from the surface to the subsurface via rain infiltration. While multiple PAHs, various metals, and PCBs were detected in the sample collected inside the septic tank, they were not detected in the sample collected outside and adjacent to the tank. Similarly, while PAHs and PCBs were detected in concentrations exceeding screening criteria and background in the sump pump discharge area in surface soil, they were not reported at elevated concentrations in subsurface soils or groundwater.

5.2 RECOMMENDATIONS

The Navy recommends the following actions based on the results of the ECP Update Investigation of the former East Brunswick Remote Radio Transmitter Site. The Navy proposes to conduct removal of soil and solid waste at discrete areas for overall risk reduction in order to expedite property transfer for recreational use.

- At the burn area, visibly stained soil and solid waste should be removed to mitigate potential risk associated with the PAHs and metals in surface soil.

- At the sump pump discharge area, the surface soil adjacent to the headwall and in the drainage ditch should be removed to reduce potential risk associated with PAHs and PCBs. The 10-ft long piping extending from the headwall to MW03 should also be removed as solid waste.

- No action is recommended at the oily stained soil area.

- No action is recommended for the septic system distribution box and leach field areas. The concrete septic tank and any sludge should be removed and properly disposed.

- No action is recommended for the discarded battery carcass, which was likely removed during building demolition.

- No action is recommended for area that contained the fuel oil UST and the diesel UST, both of which were removed in 1989.

- At antenna field location SS05A, surface soil (0-6 in.) in the area of the former antenna pole location (approximately 100 square feet) should be removed.

- Coaxial cables are still in place in the subsurface on the property and are exposed at some locations. The exposed coaxial cables represent physical hazards, and the property recipient should be notified of the presence of the cables in the transfer documents.

- Copper grounding wires are present in the ground and are partially exposed at the antenna tower locations. Exposed copper wires represent physical hazards, and the property recipient should be notified of the presence of the wires in the transfer documents.

- At the small debris area, solid waste and associated surface soil should be removed.

- No action is recommended for subsurface soil or groundwater based on the findings of this study.

TABLES

TABLE 2-1
SAMPLE RATIONALE
EAST BRUNSWICK REMOTE RADIO TRANSMITTER SITE
NAVAL AIR STATION BRUNSWICK, MAINE

Identified Potential Contaminant Source Area	Location	Sample Type	Sampling Rationale
1. Burn Area	TP04 SS01 SS01A SS01B	Surface Soil	A "Burn Area" west of former Building 523 with stained soil and burned solid waste was identified in 1996 and is still present. A test pit was excavated to estimate the depth of staining. Three surface soil samples were collected in the burn area.
2. Sump Pump Discharge - Headwall	SS02	Surface Soil	A "Sump Pump Discharge" point was identified in the EBS southwest of former Building 523. Two floor drains and two area drains in the basement discharged to a sump in the basement boiler room (demolished but located approximately 10-11 ft below grade). The sump discharged to a headwall southwest of the building, and stained soil was noted there in 1996. A surface soil sample was collected at the headwall.
2. Sump Pump Discharge - Pipe	SS03	Surface Soil	A discharge pipe angled off from the headwall. The pipe was found and a surface soil sample was collected at the discharge point.
2. Sump Pump Discharge – End of Pipe	SB01 MW03	Sub-surface Soil Groundwater	A soil boring was advanced to the water table at the discharge pipe (SS03) in the Sump Pump Discharge. Soil was screened with a PID. A subsurface soil sample was collected above the water table. One monitoring well was installed to assess groundwater water quality at the discharge point.
3. Oily Stained Soil Area	SS08 TP05	Surface Soil	"Oily Stained Soil" was noted in the EBS on the southeastern corner of Building 523, but was not observed during the 2008 or 2009 site walks. The area may have been regraded. A test pit was excavated even though staining was not observed. A surface soil sample was collected.
4. Septic System – Inside Tank	SB02A TP01	Sub-surface soil	After uncovering the tank and the contents during the test pit excavation, a boring was placed into the concrete tank and advanced to refusal at the bottom of the tank. A sample was collected from the material at the bottom of the tank.
4. Septic System – Outside Tank	SB02	Sub-surface Soil	Disposal into the drain/septic system may have occurred during the operational period of Building 523. A boring was advanced to 19 feet below ground surface (bgs) adjacent to the tank and soil was screened with a PID. A subsurface soil sample was collected at the water table.
4. Septic System-Distribution Box	TP02	None Collected	Evidence of a brick structure observed in the northeastern portion of the excavation was not initially identified as a distribution box (see test pit log in Appendix A). However, based on review of photographs in the EBS, it was determined that the brick structure encountered was same structure identified the EBS as the distribution box. The proposed boring was moved to the leach field.
4. Septic System-Leach Field	SB03	Sub-surface Soil	A test pit was advanced in the location of the leach field (see TP03 below). This boring was placed on the approximate end of the leach field. Soil was screened with a PID and a subsurface soil sample was collected from the bottom of the leach field.

TABLE 2-1
SAMPLE RATIONALE
EAST BRUNSWICK REMOTE RADIO TRANSMITTER SITE
NAVAL AIR STATION BRUNSWICK, MAINE

Identified Potential Contaminant Source Area	Location	Sample Type	Sampling Rationale
4. Septic System-Leach Field	SB04 MW02 TP03	Sub-surface Soil Groundwater	A boring was advanced to 22 feet bgs in the leach field and soil was screened with PID. A subsurface soil sample was collected from the water table. A well was installed in SB04 to assess groundwater water quality in the vicinity of the leach field.
5. Battery Carcass Area	Deleted	Deleted	A discarded battery carcass area was noted in the EBS, but was not observed during the 2008 site walk or 2009 reconnaissance. This area was likely regarded. A surface soil (0 to 1 foot bgs) sample was not collected since evidence of disposal was not observed during reconnaissance.
6. Former UST (fuel oil)	SB05 MW01	Sub-surface Soil Groundwater	A 550-gallon fuel oil UST was removed in 1989. MEDEP was notified. A boring was advanced to 24 feet bgs; and soil was screened with a PID. One subsurface soil sample was collected at the interval with a reading on the PID. A monitoring well was installed to assess groundwater water quality in the vicinity of the former USTs.
7. Former UST (diesel oil)	SB06	Sub-surface Soil	A 550-gallon diesel UST was removed in 1989. MEDEP was notified. A boring was advanced to 26 feet bgs and soil was screened with a PID. One subsurface soil sample was collected from the interval at the water table.
8. Antenna Field	SS04A - SS04C	Surface Soil	Former antenna towers might have been made of wooden (potentially treated) poles or have been metal and painted with lead-based paint. Three surface soil samples from 0 to 4 inches bgs were collected. One sample was collected at the approximate center of the disturbed areas surrounding the former sleeve antenna tower location (A) and two (B and C) were collected within the disturbed areas as estimated from GPS coordinates, aerial photographs, and field observations. Exact sample locations were staked in the field with concurrence of the Navy and the regulators.
8. Antenna Field	SS05A - SS05C	Surface Soil	Three surface soil samples from 0 to 4 inches bgs were collected in the location of a former sleeve antenna. These samples were originally proposed in the location of an inverted cone antenna, but the location was moved based on comments from MEDEP and with concurrence of Navy and EPA).
8. Antenna Field	SS06A - SS06C	Surface Soil	Three surface soil samples from 0 to 4 inches bgs were collected in the location of a conical monopole antenna.
8. Antenna Field	SS07A - SS07C	Surface Soil	Three surface soil samples from 0 to 4 inches bgs were collected in the location of a former high take off angle antenna and sleeve antenna.
9. Small Debris Area	SS010	Surface Soil	One surface soil sample was collected from a small debris area identified in the field.

TABLE 2-2
WELL DEPTHS, SCREENED INTERVALS, AND WATER LEVELS
EAST BRUNSWICK REMOTE RADIO TRANSMITTER SITE
NAVAL AIR STATION BRUNSWICK, MAINE

Well Number	Location	Well Screen Interval (ft bgs)	Elevation of Measuring Point (feet NAVD88)	Depth to Water November 24, 2009 (feet below measuring point)	Ground Water Elevation November 24, 2009 (feet NAVD88)
MW-01	Former UST/AST Area	14-24	33.90	19.14	14.76
MW-02	Septic System Leach Field	12-22	32.11	16.31	15.80
MW-03	Sump Pump Discharge Area	12-22	31.65	16.28	15.37

Notes:
NAVD88 - North American Vertical Datum of 1988
bgs - below ground surface

TABLE 2-3
WATER QUALITY DATA
EAST BRUNSWICK REMOTE RADIO TRANSMITTER SITE
NAVAL AIR STATION BRUNSWICK, MAINE

Well Number	Location	Date	Time	Temperature (degrees Celsius)	pH	Conductivity (uS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Turbidity (NTU)
MW-01	Former UST/AST Area	11/24/2009	0925	10.56	6.95	173	9.30	108.6	0.73
MW-02	Septic System Leach Field	11/24/2009	0931	9.91	5.13	22	8.36	260.1	2.0
MW-03	Sump Pump Discharge Area	11/24/2009	1151	9.58	5.46	22	9.20	219.3	2.71

Notes:
uS/cm = Micro siemens per centimeter
mg/L = Milligrams per liter
mV = Millivolts
NTU = Nephelometric turbidity unit

TABLE 3-1
DETECTED ANALYTICAL RESULTS - SURFACE SOIL - HUMAN HEALTH
EAST BRUNSWICK REMOTE RADIO TRANSMITTER SITE
NAVAL AIR STATION BRUNSWICK, MAINE

IDENTIFIED POTENTIAL CONTAMINANT SOURCE AREA:						BURN AREA			SUMP PUMP		ANTENNA FIELD								ANTENNA FIELD								OILY STAIN			SMALL DEBRIS		
SAMPLE ID						EB-SO-SS01A-0012	EB-SO-SS01B-0012	EB-SO-SS01-0012	EB-SO-SS02-0012	EB-SO-SS03-0012	EB-SO-SS04A-0004	EB-SO-SS04B-0004	EB-SO-SS04C-0004	EB-SO-SS05A-0004	EB-SO-SS05A-0004-AVG	EB-SO-SS05A-0004-D	EB-SO-SS05B-0004	EB-SO-SS05C-0004	EB-SO-SS06A-0004	EB-SO-SS06A-0004-AVG	EB-SO-SS06A-0004-D	EB-SO-SS06B-0004	EB-SO-SS06C-0004	EB-SO-SS07A-0004	EB-SO-SS07B-0004	EB-SO-SS07C-0004	EB-SO-SS08-0012	EB-SO-SS08-0012-AVG	EB-SO-SS08-0012-D	EB-SO-SS09-0012	EB-SO-SS09-0012-AVG	EB-SO-SS09-0012-D
LOCATION ID						EB-SO-SS01A	EB-SO-SS01B	EB-SO-SS01	EB-SO-SS02	EB-SO-SS03	EB-SO-SS04A	EB-SO-SS04B	EB-SO-SS04C	EB-SO-SS05A	EB-SO-SS05A	EB-SO-SS05A	EB-SO-SS05B	EB-SO-SS05C	EB-SO-SS06A	EB-SO-SS06A	EB-SO-SS06A	EB-SO-SS06B	EB-SO-SS06C	EB-SO-SS07A	EB-SO-SS07B	EB-SO-SS07C	EB-SO-SS08	EB-SO-SS08	EB-SO-SS08	EB-SO-SS09	EB-SO-SS09	EB-SO-SS09
SAMPLE DATE						11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09
TOP DEPTH (FT)						0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BOTTOM DEPTH (FT)						1.0	1.0	1.0	1.0	1.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	1.0	1.0	1.0	1.0	1.0	1.0
SACODE						NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	AVG	DUP	NORMAL	NORMAL	ORIG	AVG	DUP	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	AVG	DUP	ORIG	AVG	DUP
SCREENING CRITERIA	MEDEP RES Soil RAG	1/2 MEDEP RES Soil	EPA RSL RES Soil	Adjusted EPA RSL RES Soil NC	BKGD	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	FD	NM	NM	NM	NM	FD	NM	NM	NM	NM	NM	NM	NM	FD	NM	NM	FD
SEMIVOLATILES (UG/KG)																																
2-METHYLNAPHTHALENE			310000	31000		2 U	**99**	2 U	**67**	2 U	2 UJ	NA	NA	2 U	2 U	2 U	NA	NA	3 U	3 U	3 U	NA	NA	2 U	NA	NA	2 UJ	2 UJ	NA	2 UJ	2 UJ	NA
ACENAPHTHENE			3400000	340000		**6 J**	**90**	**8 J**	**420**	2 U	2 U	NA	NA	**7 J**	**6 J**	**5 J**	NA	NA	2 U	2 U	2 U	NA	NA	2 U	NA	NA	2 U	2 U	NA	2 U	2 U	NA
ACENAPHTHYLENE			3400000	340000		**33**	**160**	**18 J**	1 U	**3 J**	1 UJ	NA	NA	**120**	**110**	**100**	NA	NA	**3 J**	**3.5 J**	**4 J**	NA	NA	**6 J**	NA	NA	1 UJ	1 UJ	NA	1 UJ	1 UJ	NA
ANTHRACENE			17000000	1700000	7	**39**	**200**	**390**	**700**	**3 J**	1 U	NA	NA	**85**	**81.5**	**78**	NA	NA	**2 J**	**2 J**	**2 J**	NA	NA	**5 J**	NA	NA	**14 J**	**14 J**	NA	**8 J**	**8 J**	NA
BENZALDEHYDE			7800000	780000		130 UJ	190 UJ	120 UJ	130 UJ	140 UJ	140 U	NA	NA	120 UJ	120 UJ	120 UJ	NA	NA	140 UJ	145 UJ	150 UJ	NA	NA	**160 J**	NA	NA	130 U	130 U	NA	**380 J**	**380 J**	NA
BENZO(A)ANTHRACENE			150	150	23	**140**	**1200**	**110**	**2000 J**	**18 J**	**10 J**	NA	NA	**220**	**210**	**200**	NA	NA	**19 J**	**18.5 J**	**18 J**	NA	NA	**23**	NA	NA	**61**	**61**	NA	**33**	**33**	NA
BENZO(A)PYRENE	2000	1000	15	15	28	**80**	**390**	**44**	**1100**	**12 J**	**11 J**	NA	NA	**160**	**150**	**140**	NA	NA	**14 J**	**13.5 J**	**13 J**	NA	NA	**15 J**	NA	NA	**40**	**40**	NA	**29**	**29**	NA
BENZO(B)FLUORANTHENE			150	150	51	**520**	**2300**	**280**	**2100**	**27**	**36**	NA	NA	**1200 J**	**1200 J**	**1200**	NA	NA	**31**	**30.5**	**30**	NA	NA	**70**	NA	NA	**120**	**120**	NA	**55**	**55**	NA
BENZO(G,H,I)PERYLENE			1700000	170000	10	**35**	**110**	**14 J**	**590**	**4 J**	12 UJ	NA	NA	**75**	**66.5**	**58**	NA	NA	**8 J**	**4.5 J**	2 U	NA	NA	**8 J**	NA	NA	15 UJ	15 UJ	NA	21 UJ	21 UJ	NA
BENZO(K)FLUORANTHENE			1500	1500	12	**150**	**730**	**80**	**710**	**6 J**	**4 J**	NA	NA	**450 J**	**355 J**	**260 J**	NA	NA	**9 J**	**7.5 J**	**6 J**	NA	NA	**17 J**	NA	NA	**34**	**34**	NA	**14 J**	**14 J**	NA
BIS(2-ETHYLHEXYL)PHTHALATE	1220000	610000	35000	35000		**200 J**	150 UJ	100 U	110 U	110 U	110 U	NA	NA	100 U	100 U	100 U	NA	NA	120 U	120 U	120 U	NA	NA	110 U	NA	NA	110 U	110 U	NA	**140 J**	**140 J**	NA
CARBAZOLE						120 U	**220 J**	**270 J**	**390**	120 U	130 U	NA	NA	110 U	110 U	110 U	NA	NA	130 U	135 U	140 U	NA	NA	120 U	NA	NA	120 U	120 U	NA	120 U	120 U	NA
CHRYSENE			15000	15000	35	**350**	**2200**	**240**	**1800 J**	**11 J**	**28**	NA	NA	**1200 J**	**1100 J**	**1000**	NA	NA	**12 J**	**11 J**	**10 J**	NA	NA	**45**	NA	NA	**110**	**110**	NA	**39**	**39**	NA
DIBENZO(A,H)ANTHRACENE			15	15	6	**14 J**	**70**	**6 J**	**220**	**4 J**	**3 J**	NA	NA	**31**	**29**	**27**	NA	NA	**4 J**	**4 J**	**4 J**	NA	NA	**4 J**	NA	NA	**12 J**	**12 J**	NA	2 U	2 U	NA
DIBENZOFURAN						87 U	**280 J**	82 U	**190 J**	89 U	91 U	NA	NA	81 U	80.5 U	80 U	NA	NA	94 U	95 U	96 U	NA	NA	87 U	NA	NA	87 U	87 U	NA	84 U	84 U	NA
FLUORANTHENE			2300000	230000	62	**880**	**5400**	**950**	**3800**	**42**	**73**	NA	NA	**3600**	**3500**	**3400**	NA	NA	**39**	**36.5**	**34**	NA	NA	**150**	NA	NA	**440**	**440**	NA	**65**	**65**	NA
FLUORENE			2300000	230000		**6 J**	**64**	**25**	**260**	4 U	4 U	NA	NA	**12 J**	**9.5 J**	**7 J**	NA	NA	4 U	4 U	4 U	NA	NA	4 U	NA	NA	**5 J**	**5 J**	NA	3 U	3 U	NA
INDENO(1,2,3-CD)PYRENE			150	150	39	**75 J**	**220 J**	**31 J**	**760 J**	13 UJ	24 UJ	NA	NA	**140 J**	**130 J**	**120 J**	NA	NA	13 UJ	13 UJ	13 UJ	NA	NA	14 UJ	NA	NA	**58 J**	**58 J**	NA	**40 J**	**40 J**	NA
NAPHTHALENE	245000	122500	3900	3900		**11 J**	**380 J**	**6 J**	**180**	3 U	3 U	NA	NA	**4 J**	**4 J**	**4 J**	NA	NA	3 U	3 U	3 U	NA	NA	3 U	NA	NA	3 U	3 U	NA	**3 J**	**3 J**	NA
PHENANTHRENE			1700000	170000	32	**320**	**2300**	**570**	**3200**	**22 J**	**35**	NA	NA	**1100**	**955**	**810**	NA	NA	**20 J**	**19 J**	**18 J**	NA	NA	**65**	NA	NA	**180**	**180**	NA	**54**	**54**	NA
PYRENE			1700000	170000	64	**670**	**4200**	**560**	**3100 J**	**31**	**62**	NA	NA	**2800 J**	**2500 J**	**2200**	NA	NA	**31**	**30.5**	**30**	NA	NA	**99**	NA	NA	**280**	**280**	NA	**67**	**67**	NA
METALS (MG/KG)																																
ALUMINUM			77000	7700	19400	**7810**	**6070**	**6140**	**9230**	**10200**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**8570**	**8980**	**9390**	**6480**	**7945**	**9410**
ANTIMONY			31	3.1	0.04	**0.19 J**	**10.4 J**	0.09 UJ	**0.18 J**	0.04 UJ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.06 UJ	0.065 UJ	0.07 UJ	**1.4 J**	**0.79 J**	**0.18 J**
ARSENIC	10	5	0.39	0.39	4.5	**2.2**	**12.3**	**2.5**	**2.9**	**2.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1.5**	**1.65**	**1.8**	**12.9 J**	**7.9 J**	**2.9 J**
BARIUM	10000	5000	15000	1500	15.9	**9.2**	**40.3**	**14**	**13.4**	**13**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**11**	**11.3**	**11.6**	**115 J**	**64.85 J**	**14.7 J**

BLACK SHADING-AT LEAST ONE CRITERION EXCEEDED; BOLD-DETECTED;
U-NOT DETECTED; J-QUANTITATION APPROXIMATE; R-REJECTED; NA-NOT ANALYZED

TABLE 3-1
DETECTED ANALYTICAL RESULTS - SURFACE SOIL - HUMAN HEALTH
EAST BRUNSWICK REMOTE RADIO TRANSMITTER SITE
NAVAL AIR STATION BRUNSWICK, MAINE

IDENTIFIED POTENTIAL CONTAMINANT SOURCE AREA:						**BURN AREA**			**SUMP PUMP**		**ANTENNA FIELD**								**ANTENNA FIELD**								**OILY STAIN**			**SMALL DEBRIS**		
SAMPLE ID						EB-SO-SS01A-0012	EB-SO-SS01B-0012	EB-SO-SS01-0012	EB-SO-SS02-0012	EB-SO-SS03-0012	EB-SO-SS04A-0004	EB-SO-SS04B-0004	EB-SO-SS04C-0004	EB-SO-SS05A-0004	EB-SO-SS05A-0004-AVG	EB-SO-SS05A-0004-D	EB-SO-SS05B-0004	EB-SO-SS05C-0004	EB-SO-SS06A-0004	EB-SO-SS06A-0004-AVG	EB-SO-SS06A-0004-D	EB-SO-SS06B-0004	EB-SO-SS06C-0004	EB-SO-SS07A-0004	EB-SO-SS07B-0004	EB-SO-SS07C-0004	EB-SO-SS08-0012	EB-SO-SS08-0012-AVG	EB-SO-SS08-0012-D	EB-SO-SS09-0012	EB-SO-SS09-0012-AVG	EB-SO-SS09-0012-D
LOCATION ID						EB-SO-SS01A	EB-SO-SS01B	EB-SO-SS01	EB-SO-SS02	EB-SO-SS03	EB-SO-SS04A	EB-SO-SS04B	EB-SO-SS04C	EB-SO-SS05A	EB-SO-SS05A	EB-SO-SS05A	EB-SO-SS05B	EB-SO-SS05C	EB-SO-SS06A	EB-SO-SS06A	EB-SO-SS06A	EB-SO-SS06B	EB-SO-SS06C	EB-SO-SS07A	EB-SO-SS07B	EB-SO-SS07C	EB-SO-SS08	EB-SO-SS08	EB-SO-SS08	EB-SO-SS09	EB-SO-SS09	EB-SO-SS09
SAMPLE DATE						11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09
TOP DEPTH (FT)						0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BOTTOM DEPTH (FT)						1.0	1.0	1.0	1.0	1.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	1.0	1.0	1.0	1.0	1.0	1.0
SACODE						NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	AVG	DUP	NORMAL	NORMAL	ORIG	AVG	DUP	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	AVG	DUP	ORIG	AVG	DUP
SCREENING CRITERIA	MEDEP RES Soil RAG	1/2 MEDEP RES Soil	EPA RSL RES Soil	Adjusted EPA RSL RES Soil NC	BKGD	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	FD	NM	NM	NM	NM	FD	NM	NM	NM	NM	NM	NM	NM	FD	NM	NM	FD
BERYLLIUM	4	2	160	16	0.69	**0.4 J**	**0.39 J**	**0.4 J**	**0.5**	**0.45 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.42 J**	**0.44 J**	**0.46 J**	**0.34 J**	**0.375 J**	**0.41 J**
CADMIUM	27	13.5	70	7	0.05	**0.06 J**	**2.3**	**0.16**	**1.5**	**0.06 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.03 UJ	**0.0325 J**	**0.05 J**	**8.6 J**	**5.05 J**	**1.5 J**
CALCIUM					1080	**657 J**	**1400 J**	**758 J**	**502 J**	**326 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**462 J**	**468 J**	**474 J**	**811 J**	**702.5 J**	**594 J**
CHROMIUM	950	475	230	23	15.3	**7.5**	**23.7**	**9.3**	**13.9**	**8.2**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**7.8**	**7.9**	**8**	**23.8 J**	**18.35 J**	**12.9 J**
COBALT			23	2.3	4	**2.8**	**3.8**	**3.5**	**3.6**	**2.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**2.8**	**2.9**	**3**	**7.4 J**	**5.3 J**	**3.2 J**
COPPER	650	325	3100	310	6.7	**174**	**34600**	**125**	**360**	**4.2**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**5.8**	**6**	**6.2**	**41.3 J**	**183.15 J**	**325 J**
IRON			55000	5500	14400	**6490**	**16700**	**7660**	**9050**	**8540**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**7220**	**7430**	**7640**	**116000 J**	**62370 J**	**8740 J**
LEAD	375	187.5	400	400	17.5	**15.3**	**871**	**11**	**85.7**	**9.7**	**13**	**9.6**	**13.3**	**24.4**	**23.1**	**21.8**	**7.5**	**6.9**	**13.4**	**12.65**	**11.9**	**30.7**	**38.2**	**9.8**	**12.3**	**10.7**	**15.5**	**14.05**	**12.6**	**431 J**	**255.1 J**	**79.2 J**
MAGNESIUM					1953	**1170**	**1130**	**1780**	**1130**	**608**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1020**	**1040**	**1060**	**1040**	**1090**	**1140**
MANGANESE			1800	180	267	**153**	**243**	**156**	**230**	**230**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**167 J**	**162.5 J**	**158 J**	**552 J**	**383.5 J**	**215 J**
MERCURY	60	30	23	2.3	0.08	**0.02 J**	**0.15**	0.01 U	**0.08**	**0.04**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.02 J**	**0.02 J**	**0.02 J**	**0.35**	**0.385**	**0.42**
NICKEL	3800	1900	1500	150	9.8	**8**	**11.8**	**8.3**	**9**	**3.7 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**5.9**	**5.9**	**5.9**	**16.9 J**	**12.85 J**	**8.8**
POTASSIUM					940	**488**	**839**	**857**	**422**	**263**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**395**	**425**	**455**	**342**	**392**	**442**
SELENIUM	950	475	390	39		0.3 UJ	0.64 UJ	0.24 UJ	0.52 U	0.64 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.49**	**0.3375 J**	0.37 UJ	**2.1**	**1.1725 J**	0.49 UJ
SILVER	950	475	390	39	0.21	**0.23 J**	**15.8**	**0.14 J**	**0.27 J**	**0.09 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.06 U	0.06 U	0.06 U	**0.42 J**	**0.315 J**	**0.21 J**
SODIUM					52.9	**54.5 J**	**216**	**55.2 J**	**47.5 J**	**37.3 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**43 J**	**44.85 J**	**46.7 J**	**44 J**	**49.6 J**	**55.2 J**
VANADIUM			390	39	26.3	**13.4**	**17.9**	**13.9**	**17.3**	**16.2**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**13.4**	**14**	**14.6**	**15**	**15.6**	**16.2**
ZINC	1500	750	23000	2300	15.3	**47.3**	**3140**	**55.8**	**247**	**26**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**27.4**	**28.9**	**30.4**	**4840 J**	**2547 J**	**254 J**
PCBS (UG/KG)																																
AROCLOR-1260			220	220		NA	NA	NA	**240**	7.1 U	7 U	6.8 U	7.4 U	6.3 U	6.3 U	6.3 U	7 U	6.5 U	7.4 UJ	7.4 UJ	7.4 U	8.7 U	9.1 U	6.8 U	6.7 U	7.3 U	6.6 U	6.6 U	NA	NA	NA	NA
TOTAL AROCLOR	2200	1100				NA	NA	NA	**240**	3.1 U	3 U	3 U	3.2 U	2.7 U	2.7 U	2.7 U	3 U	2.8 U	3.2 U	3.2 U	3.2 U	3.8 U	3.9 U	2.9 U	2.9 U	3.2 U	2.9 U	2.9 U	NA	NA	NA	NA

NOTES:
BKGD - Upper Sand Background Value - 95% Upper Prediction Limit (UPL)
EPA - U.S. Environmental Protection Agency
MEDEP - Maine Department of Environmental Protection
MG/KG - Milligrams per kilogram
NC - Non
RAG - Remedial Action Guideline
RES - Residential
RSL - Regional Screening Level, Residential Direct Contact Soil
UG/KG - Micrograms per kilogram

BLACK SHADING-AT LEAST ONE CRITERION EXCEEDED; BOLD-DETECTED;
U-NOT DETECTED; J-QUANTITATION APPROXIMATE; R-REJECTED; NA-NOT ANALYZED

TABLE 3-2
DETECTED ANALYTICAL RESULTS - SUBSURFACE SOIL- HUMAN HEALTH
EAST BRUNSWICK REMOTE RADIO TRANSMITTER SITE
NAVAL AIR STATION BRUNSWICK, MAINE

IDENTIFIED POTENTIAL CONTAMINANT SOURCE AREA:						SUMP PUMP			SEPTIC SYSTEM				FORMER UST		
SAMPLE ID						EB-SO-SB01-1315	EB-SO-SB01-1315-AVG	EB-SO-SB01-1315-D	EB-SO-SB02A-0910	EB-SO-SB02-1719	EB-SO-SB03-0709	EB-SO-SB04-1315	EB-SO-SB05-1315	EB-SO-SB05-1315-AVG	EB-SO-SB06-1719
LOCATION ID						EB-SO-SB01	EB-SO-SB01	EB-SO-SB01	EB-SO-SB02A	EB-SO-SB02	EB-SO-SB03	EB-SO-SB04	EB-SO-SB05	EB-SO-SB05	EB-SO-SB06
SAMPLE DATE						11/05/09	11/05/09	11/05/09	11/05/09	11/05/09	11/05/09	11/05/09	11/06/09	11/06/09	11/05/09
TOP DEPTH (FT)						13.0	13.0	13.0	9.0	17.0	7.0	13.0	13.0	13.0	17.0
BOTTOM DEPTH (FT)						15.0	15.0	15.0	10.0	19.0	9.0	15.0	15.0	15.0	19.0
SACODE						ORIG	AVG	DUP	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	AVG	NORMAL
SCREENING CRITERIA	MEDEP RES Soil RAG	1/2 MEDEP RES Soil RAG	EPA RSL RES Soil	Adjusted EPA RSL RES Soil NC	BKGD										NM
VOLATILES (UG/KG)															
CARBON DISULFIDE			670000	67000		**0.8 J**	**0.80 J**	1 U	NA	0.8 U	0.9 U	0.9 U	0.6 U	0.60 U	0.7 U
TRICHLOROFLUOROMETHANE			800000	80000		0.8 U	0.90 U	1 U	NA	1 U	1 U	**2 J**	0.7 U	0.70 U	0.8 U
TOTAL CHLORINATED VOCS						0.759 U	0.919 U	1.08 U	NA	0.931 U	1.05 U	**2 J**	0.709 U	0.709 U	0.831 U
SEMIVOLATILES (UG/KG)															
1,1-BIPHENYL			3900000	390000		82 UJ	82 UJ	NA	**300 J**	82 UJ	76 UJ	80 UJ	74 UJ	74 UJ	80 UJ
2,4,6-TRICHLOROPHENOL			61000	6100		170 U	170 U	NA	**680**	180 UJ	160 U	170 U	160 UJ	160 UJ	170 UJ
2-METHYLNAPHTHALENE			310000	31000		2 UJ	2 UJ	NA	**650 J**	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ
3&4-METHYLPHENOL						210 U	210 U	NA	**22000**	210 UJ	200 U	200 U	190 UJ	190 UJ	200 UJ
4-CHLOROANILINE			2400	2400		130 UJ	130 UJ	NA	**250 J**	130 UJ	120 UJ	130 UJ	120 UJ	120 UJ	130 UJ
ACENAPHTHENE			3400000	340000		2 U	2 U	NA	**790**	2 U	2 U	2 U	2 U	2 U	2 U
ANTHRACENE			17000000	1700000	7	1 U	1 U	NA	**890**	1 U	1 U	1 U	1 U	1 U	1 U
BENZO(A)ANTHRACENE			150	150	23	2 U	2 U	NA	**2400**	2 U	2 U	2 U	2 U	2 U	2 U
BENZO(A)PYRENE	2000	1000	15	15	28	4 U	4 U	NA	**1600**	4 U	3 U	4 U	3 U	3 U	4 U
BENZO(B)FLUORANTHENE			150	150	51	3 U	3 U	NA	**2400**	3 U	2 U	3 U	2 U	2 U	3 U
BENZO(G,H,I)PERYLENE			1700000	170000	10	15 UJ	15 UJ	NA	**410 J**	120 UJ	110 UJ	110 UJ	100 UJ	100 UJ	110 UJ
BENZO(K)FLUORANTHENE			1500	1500	12	3 U	3 U	NA	**830**	4 U	3 U	3 U	3 U	3 U	3 U
BIS(2-ETHYLHEXYL)PHTHALATE	1220000	610000	35000	35000		110 UJ	110 UJ	NA	**1500 J**	110 UJ	100 UJ	110 UJ	99 UJ	99 UJ	110 UJ
CARBAZOLE						120 UJ	120 UJ	NA	**740**	120 UJ	120 UJ	120 UJ	110 UJ	110 UJ	120 UJ
CHRYSENE			15000	15000	35	2 U	2 U	NA	**2200**	2 U	2 U	2 U	2 U	2 U	2 U

BLACK SHADING-AT LEAST ONE CRITERION EXCEEDED; BOLD-DETECTED;
U-NOT DETECTED; J-QUANTITATION APPROXIMATE; R-REJECTED; NA-NOT ANALYZED

TABLE 3-2
DETECTED ANALYTICAL RESULTS - SUBSURFACE SOIL- HUMAN HEALTH
EAST BRUNSWICK REMOTE RADIO TRANSMITTER SITE
NAVAL AIR STATION BRUNSWICK, MAINE

IDENTIFIED POTENTIAL CONTAMINANT SOURCE AREA:						SUMP PUMP			SEPTIC SYSTEM				FORMER UST		
SAMPLE ID						EB-SO-SB01-1315	EB-SO-SB01-1315-AVG	EB-SO-SB01-1315-D	EB-SO-SB02A-0910	EB-SO-SB02-1719	EB-SO-SB03-0709	EB-SO-SB04-1315	EB-SO-SB05-1315	EB-SO-SB05-1315-AVG	EB-SO-SB06-1719
LOCATION ID						EB-SO-SB01	EB-SO-SB01	EB-SO-SB01	EB-SO-SB02A	EB-SO-SB02	EB-SO-SB03	EB-SO-SB04	EB-SO-SB05	EB-SO-SB05	EB-SO-SB06
SAMPLE DATE						11/05/09	11/05/09	11/05/09	11/05/09	11/05/09	11/05/09	11/05/09	11/06/09	11/06/09	11/05/09
TOP DEPTH (FT)						13.0	13.0	13.0	9.0	17.0	7.0	13.0	13.0	13.0	17.0
BOTTOM DEPTH (FT)						15.0	15.0	15.0	10.0	19.0	9.0	15.0	15.0	15.0	19.0
SACODE						ORIG	AVG	DUP	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	AVG	NORMAL
SCREENING CRITERIA	MEDEP RES Soil RAG	1/2 MEDEP RES Soil RAG	EPA RSL RES Soil	Adjusted EPA RSL RES Soil NC	BKGD										NM
DIBENZO(A,H)ANTHRACENE			15	15	6	2 U	2 U	NA	**320 J**	2 U	2 U	2 U	2 U	2 U	2 U
DIBENZOFURAN						89 UJ	89 UJ	NA	**580**	89 UJ	82 UJ	86 UJ	80 UJ	80 UJ	87 UJ
FLUORANTHENE			2300000	230000	62	2 U	2 U	NA	**5200**	2 U	2 U	2 U	2 U	2 U	2 U
FLUORENE			2300000	230000		4 U	4 U	NA	**520**	4 U	3 U	4 U	3 U	3 U	4 U
INDENO(1,2,3-CD)PYRENE			150	150	39	2 UJ	2 UJ	NA	**1600**	6 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ
NAPHTHALENE	245000	122500	3900	3900		3 U	3 U	NA	**660**	3 U	3 U	3 U	3 U	3 U	3 U
PHENANTHRENE			1700000	170000	32	2 U	2 U	NA	**5100**	2 U	2 U	2 U	2 U	2 U	2 U
PYRENE			1700000	170000	64	2 U	2 U	NA	**4600 J**	2 U	2 U	2 U	2 U	2 U	2 U
TOTAL PAHS						3.06 UJ	3.06 UJ	NA	**30200 J**	9.53 UJ	8.47 UJ	8.65 UJ	7.88 UJ	7.88 UJ	8.65 UJ
METALS (MG/KG)															
ALUMINUM			77000	7700	19400	**4450**	**4450**	NA	**5220**	**3580**	**3430**	**4100**	NA	NA	NA
ANTIMONY			31	3.1	0.04	0.02 UJ	0.02 UJ	NA	**2.6 J**	0.02 UJ	0.02 UJ	0.02 UJ	NA	NA	NA
ARSENIC	10	5	0.39	0.39	4.5	**1.1**	**1.1**	NA	**2.9**	**1.6**	**1.2**	**1.4**		NA	NA
BARIUM	10000	5000	15000	1500	15.9	**14.4**	**14.4**	NA	**30**	**13.3**	**10.8**	**12.9**	NA	NA	NA
BERYLLIUM	4	2	160	16	0.69	**0.32 J**	**0.32 J**	NA	**0.33 J**	**0.25 J**	**0.23 J**	**0.29 J**	NA	NA	NA
CADMIUM	27	13.5	70	7	0.05	0.01 UJ	0.01 UJ	NA	**3.6**	0.02 UJ	0.02 UJ	0.02 UJ	NA	NA	NA
CALCIUM					1080	**827 J**	**827 J**	NA	**4720 J**	**762 J**	**784 J**	**808 J**	NA	NA	NA
CHROMIUM	950	475	230	23	15.3	**7.4**	**7.4**	NA	**12.5**	**6.4**	**6.2**	**6.7**	NA	NA	NA
COBALT			23	2.3	4	**3.5**	**3.5**	NA	**3.3**	**3.5**	**3**	**3.2**	NA	NA	NA
COPPER	650	325	3100	310	6.7	**5.4**	**5.4**	NA	**212**	**5.6**	**6**	**6.2**	NA	NA	NA

BLACK SHADING-AT LEAST ONE CRITERION EXCEEDED; BOLD-DETECTED;
U-NOT DETECTED; J-QUANTITATION APPROXIMATE; R-REJECTED; NA-NOT ANALYZED

TABLE 3-2
DETECTED ANALYTICAL RESULTS - SUBSURFACE SOIL- HUMAN HEALTH
EAST BRUNSWICK REMOTE RADIO TRANSMITTER SITE
NAVAL AIR STATION BRUNSWICK, MAINE

IDENTIFIED POTENTIAL CONTAMINANT SOURCE AREA:						SUMP PUMP			SEPTIC SYSTEM				FORMER UST		
SAMPLE ID						EB-SO-SB01-1315	EB-SO-SB01-1315-AVG	EB-SO-SB01-1315-D	EB-SO-SB02A-0910	EB-SO-SB02-1719	EB-SO-SB03-0709	EB-SO-SB04-1315	EB-SO-SB05-1315	EB-SO-SB05-1315-AVG	EB-SO-SB06-1719
LOCATION ID						EB-SO-SB01	EB-SO-SB01	EB-SO-SB01	EB-SO-SB02A	EB-SO-SB02	EB-SO-SB03	EB-SO-SB04	EB-SO-SB05	EB-SO-SB05	EB-SO-SB06
SAMPLE DATE						11/05/09	11/05/09	11/05/09	11/05/09	11/05/09	11/05/09	11/05/09	11/06/09	11/06/09	11/05/09
TOP DEPTH (FT)						13.0	13.0	13.0	9.0	17.0	7.0	13.0	13.0	13.0	17.0
BOTTOM DEPTH (FT)						15.0	15.0	15.0	10.0	19.0	9.0	15.0	15.0	15.0	19.0
SACODE						ORIG	AVG	DUP	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	AVG	NORMAL
SCREENING CRITERIA	MEDEP RES Soil RAG	1/2 MEDEP RES Soil RAG	EPA RSL RES Soil	Adjusted EPA RSL RES Soil NC	BKGD										NM
IRON			55000	5500	14400	**7010**	**7010**	NA	**6760**	**5730**	**5390**	**6270**	NA	NA	NA
LEAD	375	187.5	400	400	17.5	**2.2**	**2.2**	NA	**92.5**	**2.3**	**2.4**	**2.5**	NA	NA	NA
MAGNESIUM					1953.21	**1800**	**1800**	NA	**1560**	**1550**	**1440**	**1670**	NA	NA	NA
MANGANESE			1800	180	267.41	**100 J**	**100 J**	NA	**124 J**	**133 J**	**138 J**	**134 J**	NA	NA	NA
MERCURY	60	30	23	2.3	0.08	0.01 U	0.01 U	NA	**0.84**	0.01 U	0.01 U	0.01 U	NA	NA	NA
NICKEL	3800	1900	1500	150	9.8	**7.8**	**7.8**	NA	**15**	**8**	**7.4**	**7.5**	NA	NA	NA
POTASSIUM					940	**1090**	**1090**	NA	**617**	**735**	**728**	**929**	NA	NA	NA
SILVER	950	475	390	39	0.21	0.07 U	0.07 U	NA	**0.94 J**	0.06 U	0.06 U	0.05 U	NA	NA	NA
SODIUM					52.9	**67.5 J**	**67.5 J**	NA	**143**	**50.2 J**	**64.2 J**	**61.4 J**	NA	NA	NA
VANADIUM			390	39	26.3	**12**	**12**	NA	**11.4**	**9.4**	**8.6**	**10.9**	NA	NA	NA
ZINC	1500	750	23000	2300	15.3	**15.9**	**15.9**	NA	**294**	**13.1**	**14.3**	**14.2**	NA	NA	NA
PCBS (UG/KG)															
AROCLOR-1242			220	220		6 U	6 U	NA	**580**	5.7 U	5.9 U	6.3 U	NA	NA	NA
AROCLOR-1260			220	220		6.2 UJ	6.2 UJ	NA	**560 J**	5.8 UJ	6.1 UJ	6.5 UJ	NA	NA	NA
TOTAL AROCLOR	2200	1100				2.7 U	2.7 U	NA	**1100**	2.5 U	2.6 U	2.8 U	NA	NA	NA

NOTES:

BKGD - Upper Sand Background Value - 95% Upper Prediction Limit (UPL)

EPA - U.S. Environmental Protection Agency

MEDEP - Maine Department of Environmental Protection

MG/KG - Milligrams per kilogram

NC - Non Cancer

RAG - Remedial Action Guideline

RES - Residential

RSL - Regional Screening Level, Residential Direct Contact Soil

UG/KG - Micrograms per kilogram

BLACK SHADING-AT LEAST ONE CRITERION EXCEEDED; BOLD-DETECTED;
U-NOT DETECTED; J-QUANTITATION APPROXIMATE; R-REJECTED; NA-NOT ANALYZED

TABLE 3-3
DETECTED ANALYTICAL RESULTS - SURFACE SOIL - ECOLOGICAL
EAST BRUNSWICK REMOTE RADIO TRANSMITTER SITE
NAVAL AIR STATION BRUNSWICK, MAINE

IDENTIFIED POTENTIAL CONTAMINANT SOURCE AREA:			BURN AREA			SUMP PUMP		ANTENNA FIELD								ANTENNA FIELD								OILY STAIN			SMALL DEBRIS		
SAMPLE ID			EB-SO-SS01A-0012	EB-SO-SS01B-0012	EB-SO-SS01-0012	EB-SO-SS02-0012	EB-SO-SS03-0012	EB-SO-SS04A-0004	EB-SO-SS04B-0004	EB-SO-SS04C-0004	EB-SO-SS05A-0004	EB-SO-SS05A-0004-AVG	EB-SO-SS05A-0004-D	EB-SO-SS05B-0004	EB-SO-SS05C-0004	EB-SO-SS06A-0004	EB-SO-SS06A-0004-AVG	EB-SO-SS06A-0004-D	EB-SO-SS06B-0004	EB-SO-SS06C-0004	EB-SO-SS07A-0004	EB-SO-SS07B-0004	EB-SO-SS07C-0004	EB-SO-SS08-0012	EB-SO-SS08-0012-AVG	EB-SO-SS08-0012-D	EB-SO-SS09-0012	EB-SO-SS09-0012-AVG	EB-SO-SS09-0012-D
LOCATION ID			EB-SO-SS01A	EB-SO-SS01B	EB-SO-SS01	EB-SO-SS02	EB-SO-SS03	EB-SO-SS04A	EB-SO-SS04B	EB-SO-SS04C	EB-SO-SS05A	EB-SO-SS05A	EB-SO-SS05A	EB-SO-SS05B	EB-SO-SS05C	EB-SO-SS06A	EB-SO-SS06A	EB-SO-SS06A	EB-SO-SS06B	EB-SO-SS06C	EB-SO-SS07A	EB-SO-SS07B	EB-SO-SS07C	EB-SO-SS08	EB-SO-SS08	EB-SO-SS08	EB-SO-SS09	EB-SO-SS09	EB-SO-SS09
SAMPLE DATE			11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09
TOP DEPTH (FT)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BOTTOM DEPTH (FT)			1.0	1.0	1.0	1.0	1.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	1.0	1.0	1.0	1.0	1.0	1.0
SACODE			NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	AVG	DUP	NORMAL	NORMAL	ORIG	AVG	DUP	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	AVG	DUP	ORIG	AVG	DUP
SCREENING CRITERIA	ECO SSL	BKGD	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	FD	NM	NM	NM	NM	FD	NM	NM	NM	NM	NM	NM	NM	FD	NM	NM	FD
SEMIVOLATILES (UG/KG)																													
2-METHYLNAPHTHALENE	29000		2 U	**99**	2 U	**67**	2 U	2 UJ	NA	NA	2 U	2 U	2 U	NA	NA	3 U	3 U	3 U	NA	NA	2 U	NA	NA	2 UJ	2 UJ	NA	2 UJ	2 UJ	NA
ACENAPHTHENE	29000		**6 J**	**90**	**8 J**	**420**	2 U	2 U	NA	NA	**7 J**	**6 J**	**5 J**	NA	NA	2 U	2 U	2 U	NA	NA	2 U	NA	NA	2 U	2 U	NA	2 U	2 U	NA
ACENAPHTHYLENE	29000		**33**	**160**	**18 J**	1 U	**3 J**	1 UJ	NA	NA	**120**	**110**	**100**	NA	NA	**3 J**	**3.5 J**	**4 J**	NA	NA	**6 J**	NA	NA	1 UJ	1 UJ	NA	1 UJ	1 UJ	NA
ANTHRACENE	29000	8	**39**	**200**	**390**	**700**	**3 J**	1 U	NA	NA	**85**	**81.5**	**78**	NA	NA	**2 J**	**2 J**	**2 J**	NA	NA	**5 J**	NA	NA	**14 J**	**14 J**	NA	**8 J**	**8 J**	NA
BENZALDEHYDE			130 UJ	190 UJ	120 UJ	130 UJ	140 UJ	140 U	NA	NA	120 UJ	120 UJ	120 UJ	NA	NA	140 UJ	145 UJ	150 UJ	NA	NA	**160 J**	NA	NA	130 U	130 U	NA	**380 J**	**380 J**	NA
BENZO(A)ANTHRACENE	1100	23	**140**	**1200**	**110**	**2000 J**	**18 J**	**10 J**	NA	NA	**220**	**210**	**200**	NA	NA	**19 J**	**18.5 J**	**18 J**	NA	NA	**23**	NA	NA	**61**	**61**	NA	**33**	**33**	NA
BENZO(A)PYRENE	1100	28	**80**	**390**	**44**	**1100**	**12 J**	**11 J**	NA	NA	**160**	**150**	**140**	NA	NA	**14 J**	**13.5 J**	**13 J**	NA	NA	**15 J**	NA	NA	**40**	**40**	NA	**29**	**29**	NA
BENZO(B)FLUORANTHENE	1100	51	**520**	**2300**	**280**	**2100**	**27**	**36**	NA	NA	**1200 J**	**1200 J**	**1200**	NA	NA	**31**	**30.5**	**30**	NA	NA	**70**	NA	NA	**120**	**120**	NA	**55**	**55**	NA
BENZO(G,H,I)PERYLENE	1100	10	**35**	**110**	**14 J**	**590**	**4 J**	12 UJ	NA	NA	**75**	**66.5**	**58**	NA	NA	**8 J**	**4.5 J**	2 U	NA	NA	**8 J**	NA	NA	15 UJ	15 UJ	NA	21 UJ	21 UJ	NA
BENZO(K)FLUORANTHENE	1100	13	**150**	**730**	**80**	**710**	**6 J**	**4 J**	NA	NA	**450 J**	**355 J**	**260 J**	NA	NA	**9 J**	**7.5 J**	**6 J**	NA	NA	**17 J**	NA	NA	**34**	**34**	NA	**14 J**	**14 J**	NA
BIS(2-ETHYLHEXYL)PHTHALATE	925		**200 J**	150 UJ	100 U	110 U	110 U	110 U	NA	NA	100 U	100 U	100 U	NA	NA	96 U	97.5 U	99 U	NA	NA	89 U	NA	NA	89 U	89 U	NA	86 U	86 U	NA
CARBAZOLE			120 U	**220 J**	**270 J**	**390**	120 U	130 U	NA	NA	110 U	110 U	110 U	NA	NA	120 U	120 U	120 U	NA	NA	110 U	NA	NA	110 U	110 U	NA	**140 J**	**140 J**	NA
CHRYSENE	1100	35	**350**	**2200**	**240**	**1800 J**	**11 J**	**28**	NA	NA	**1200 J**	**1100 J**	**1000**	NA	NA	130 U	135 U	140 U	NA	NA	120 U	NA	NA	120 U	120 U	NA	120 U	120 U	NA
DIBENZO(A,H)ANTHRACENE	1100	6	**14 J**	**70**	**6 J**	**220**	**4 J**	**3 J**	NA	NA	**31**	**29**	**27**	NA	NA	**12 J**	**11 J**	**10 J**	NA	NA	**45**	NA	NA	**110**	**110**	NA	**39**	**39**	NA
DIBENZOFURAN	200000		87 U	**280 J**	82 U	**190 J**	89 U	91 U	NA	NA	81 U	80.5 U	80 U	NA	NA	**4 J**	**4 J**	**4 J**	NA	NA	**4 J**	NA	NA	**12 J**	**12 J**	NA	2 U	2 U	NA
FLUORANTHENE	29000	62	**880**	**5400**	**950**	**3800**	**42**	**73**	NA	NA	**3600**	**3500**	**3400**	NA	NA	94 U	95 U	96 U	NA	NA	87 U	NA	NA	87 U	87 U	NA	84 U	84 U	NA
FLUORENE	29000		**6 J**	**64**	**25**	**260**	4 U	4 U	NA	NA	**12 J**	**9.5 J**	**7 J**	NA	NA	**39**	**36.5**	**34**	NA	NA	**150**	NA	NA	**440**	**440**	NA	**65**	**65**	NA
INDENO(1,2,3-CD)PYRENE	1100	39	**75 J**	**220 J**	**31 J**	**760 J**	13 UJ	24 UJ	NA	NA	**140 J**	**130 J**	**120 J**	NA	NA	**167 J**	**156 J**	**145 J**	NA	NA	**431 J**	NA	NA	**1160 J**	**1160 J**	NA	**342 J**	**342 J**	NA
NAPHTHALENE	29000		**11 J**	**380 J**	**6 J**	**180**	3 U	3 U	NA	NA	**4 J**	**4 J**	**4 J**	NA	NA	13 UJ	13 UJ	13 UJ	NA	NA	14 UJ	NA	NA	**58 J**	**58 J**	NA	**40 J**	**40 J**	NA
PHENANTHRENE	29000	32	**320**	**2300**	**570**	**3200**	**22 J**	**35**	NA	NA	**1100**	**955**	**810**	NA	NA	3 U	3 U	3 U	NA	NA	3 U	NA	NA	3 U	3 U	NA	**3 J**	**3 J**	NA
PHENOL	20000		170 U	240 UJ	160 U	170 U	180 U	180 U	NA	NA	160 U	160 U	160 U	NA	NA	**20 J**	**19 J**	**18 J**	NA	NA	**65**	NA	NA	**180**	**180**	NA	**54**	**54**	NA
PYRENE	1100	64	**670**	**4200**	**560**	**3100 J**	**31**	**62**	NA	NA	**2800 J**	**2500 J**	**2200**	NA	NA	180 U	185 U	190 U	NA	NA	170 U	NA	NA	170 U	170 U	NA	160 U	160 U	NA
TOTAL PAHS			**3330 J**	**20100 J**	**3330 J**	**21000 J**	**183 J**	**262 J**	NA	NA	**11200 J**	**10400 J**	**9610 J**	NA	NA	**31**	**30.5**	**30**	NA	NA	**99**	NA	NA	**280**	**280**	NA	**67**	**67**	NA

BLACK SHADING-AT LEAST ONE CRITERION EXCEEDED; BOLD-DETECTED;
U-NOT DETECTED; J-QUANTITATION APPROXIMATE; R-REJECTED; NA-NOT ANALYZED

TABLE 3-3
DETECTED ANALYTICAL RESULTS - SURFACE SOIL - ECOLOGICAL
EAST BRUNSWICK REMOTE RADIO TRANSMITTER SITE
NAVAL AIR STATION BRUNSWICK, MAINE

IDENTIFIED POTENTIAL CONTAMINANT SOURCE AREA:			BURN AREA			SUMP PUMP		ANTENNA FIELD								ANTENNA FIELD								OILY STAIN			SMALL DEBRIS		
SAMPLE ID			EB-SO-SS01A-0012	EB-SO-SS01B-0012	EB-SO-SS01-0012	EB-SO-SS02-0012	EB-SO-SS03-0012	EB-SO-SS04A-0004	EB-SO-SS04B-0004	EB-SO-SS04C-0004	EB-SO-SS05A-0004	EB-SO-SS05A-0004-AVG	EB-SO-SS05A-0004-D	EB-SO-SS05B-0004	EB-SO-SS05C-0004	EB-SO-SS06A-0004	EB-SO-SS06A-0004-AVG	EB-SO-SS06A-0004-D	EB-SO-SS06B-0004	EB-SO-SS06C-0004	EB-SO-SS07A-0004	EB-SO-SS07B-0004	EB-SO-SS07C-0004	EB-SO-SS08-0012	EB-SO-SS08-0012-AVG	EB-SO-SS08-0012-D	EB-SO-SS09-0012	EB-SO-SS09-0012-AVG	EB-SO-SS09-0012-D
LOCATION ID			EB-SO-SS01A	EB-SO-SS01B	EB-SO-SS01	EB-SO-SS02	EB-SO-SS03	EB-SO-SS04A	EB-SO-SS04B	EB-SO-SS04C	EB-SO-SS05A	EB-SO-SS05A	EB-SO-SS05A	EB-SO-SS05B	EB-SO-SS05C	EB-SO-SS06A	EB-SO-SS06A	EB-SO-SS06A	EB-SO-SS06B	EB-SO-SS06C	EB-SO-SS07A	EB-SO-SS07B	EB-SO-SS07C	EB-SO-SS08	EB-SO-SS08	EB-SO-SS08	EB-SO-SS09	EB-SO-SS09	EB-SO-SS09
SAMPLE DATE			11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09
TOP DEPTH (FT)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BOTTOM DEPTH (FT)			1.0	1.0	1.0	1.0	1.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	1.0	1.0	1.0	1.0	1.0	1.0
SACODE			NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	AVG	DUP	NORMAL	NORMAL	ORIG	AVG	DUP	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	AVG	DUP	ORIG	AVG	DUP
SCREENING CRITERIA	ECO SSL	BKGD	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	FD	NM	NM	NM	NM	FD	NM	NM	NM	NM	NM	NM	NM	FD	NM	NM	FD
METALS (MG/KG)															NA	**192 J**	**181 J**	**169 J**	NA	NA	**507 J**	NA	NA	**1350 J**	**1350 J**	NA	**407 J**	**407 J**	NA
ALUMINUM		19400	**7810**	**6070**	**6140**	**9230**	**10200**	NA	NA	NA	NA	NA	NA	NA															
ANTIMONY	0.27	0.04	**0.19 J**	**10.4 J**	0.09 UJ	**0.18 J**	0.04 UJ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**8570**	**8980**	**9390**	**6480**	**7945**	**9410**
ARSENIC	18	4.5	**2.2**	**12.3**	**2.5**	**2.9**	**2.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.06 UJ	0.065 UJ	0.07 UJ	**1.4 J**	**0.79 J**	**0.18 J**
BARIUM	330	15.9	**9.2**	**40.3**	**14**	**13.4**	**13**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1.5**	**1.65**	**1.8**	**12.9 J**	**7.9 J**	**2.9 J**
BERYLLIUM	21	0.69	**0.4 J**	**0.39 J**	**0.4 J**	**0.5**	**0.45 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**11**	**11.3**	**11.6**	**115 J**	**64.85 J**	**14.7 J**
CADMIUM	0.36	0.05	**0.06 J**	**2.3**	**0.16**	**1.5**	**0.06 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.42 J**	**0.44 J**	**0.46 J**	**0.34 J**	**0.375 J**	**0.41 J**
CALCIUM		1080	**657 J**	**1400 J**	**758 J**	**502 J**	**326 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.03 UJ	**0.0325 J**	**0.05 J**	**8.6 J**	**5.05 J**	**1.5 J**
CHROMIUM	26	15.3	**7.5**	**23.7**	**9.3**	**13.9**	**8.2**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**462 J**	**468 J**	**474 J**	**811 J**	**702.5 J**	**594 J**
COBALT	13	4	**2.8**	**3.8**	**3.5**	**3.6**	**2.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**7.8**	**7.9**	**8**	**23.8 J**	**18.35 J**	**12.9 J**
COPPER	28	6.7	**174**	**34600**	**125**	**360**	**4.2**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**2.8**	**2.9**	**3**	**7.4 J**	**5.3 J**	**3.2 J**
IRON		14400	**6490**	**16700**	**7660**	**9050**	**8540**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**5.8**	**6**	**6.2**	**41.3 J**	**183.15 J**	**325 J**
LEAD	11	17.5	**15.3**	**871**	**11**	**85.7**	**9.7**	**13**	**9.6**	**13.3**	**24.4**	**23.1**	**21.8**	**7.5**	NA	NA	NA	NA	NA	NA	NA	NA	NA	**7220**	**7430**	**7640**	**116000 J**	**62370 J**	**8740 J**
MAGNESIUM		1953	**1170**	**1130**	**1780**	**1130**	**608**	NA	NA	NA	NA	NA	NA	NA	**6.9**	**13.4**	**12.65**	**11.9**	**30.7**	**38.2**	**9.8**	**12.3**	**10.7**	**15.5**	**14.05**	**12.6**	**431 J**	**255.1 J**	**79.2 J**
MANGANESE	220	267	**153**	**243**	**156**	**230**	**230**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1020**	**1040**	**1060**	**1040**	**1090**	**1140**
MERCURY	12	0.08	**0.02 J**	**0.15**	0.01 U	**0.08**	**0.04**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**167 J**	**162.5 J**	**158 J**	**552 J**	**383.5 J**	**215 J**
NICKEL	38	9.8	**8**	**11.8**	**8.3**	**9**	**3.7 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.02 J**	**0.02 J**	**0.02 J**	**0.35**	**0.385**	**0.42**
POTASSIUM		940	**488**	**839**	**857**	**422**	**263**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**5.9**	**5.9**	**5.9**	**16.9 J**	**12.85 J**	**8.8**
SELENIUM	0.52		0.3 UJ	0.64 UJ	0.24 UJ	0.52 U	0.64 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**395**	**425**	**455**	**342**	**392**	**442**
SILVER	4.2	0.21	**0.23 J**	**15.8**	**0.14 J**	**0.27 J**	**0.09 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.49**	**0.3375 J**	0.37 UJ	**2.1**	**1.1725 J**	0.49 UJ
SODIUM		52.9	**54.5 J**	**216**	**55.2 J**	**47.5 J**	**37.3 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.06 U	0.06 U	0.06 U	**0.42 J**	**0.315 J**	**0.21 J**
VANADIUM	7.8	26.3	**13.4**	**17.9**	**13.9**	**17.3**	**16.2**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**43 J**	**44.85 J**	**46.7 J**	**44 J**	**49.6 J**	**55.2 J**
ZINC	46	15.3	**47.3**	**3140**	**55.8**	**247**	**26**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**13.4**	**14**	**14.6**	**15**	**15.6**	**16.2**
PCBS (UG/KG)															NA	NA	NA	NA	NA	NA	NA	NA	NA	**27.4**	**28.9**	**30.4**	**4840 J**	**2547 J**	**254 J**
AROCLOR-1260	33000		NA	NA	NA	**240**	7.1 U	7 U	6.8 U	7.4 U	6.3 U	6.3 U	6.3 U	7 U	6.5 U	7.4 UJ	7.4 UJ	7.4 U	8.7 U	9.1 U	6.8 U	6.7 U	7.3 U	6.6 U	6.6 U	NA	NA	NA	NA
TOTAL AROCLOR	33000		NA	NA	NA	**240**	3.1 U	3 U	3 U	3.2 U	2.7 U	2.7 U	2.7 U	3 U	2.8 U	3.2 U	3.2 U	3.2 U	3.8 U	3.9 U	2.9 U	2.9 U	3.2 U	2.9 U	2.9 U	NA	NA	NA	NA

NOTES:
BKGD - Upper Sand Background Value - 95% Upper Prediction Limit (UPL)
EPA - U.S. Environmental Protection Agency
MEDEP - Maine Department of Environmental Protection
MG/KG - Milligrams per kilogram
NC - Non Cancer
RAG - Remedial Action Guideline
RES - Residential
RSL - Regional Screening Level, Residential Direct Contact Soil
UG/KG - Micrograms per kilogram

BLACK SHADING-AT LEAST ONE CRITERION EXCEEDED; BOLD-DETECTED;
U-NOT DETECTED; J-QUANTITATION APPROXIMATE; R-REJECTED; NA-NOT ANALYZED

TABLE 3-4
DETECTED ANALYTICAL RESULTS - GROUNDWATER
EAST BRUNSWICK REMOTE RADIO TRANSMITTER SITE
NAVAL AIR STATION BRUNSWICK, MAINE

IDENTIFIED POTENTIAL CONTAMINANT SOURCE AREA:					**UST**	**SEPTIC SYSTEM**			**SUMP PUMP**
SAMPLE ID					EB-GW-MW01-112409	EB-GW-MW02-112409	EB-GW-MW02-112409-AVG	EB-GW-MW02-112409-D	EB-GW-MW03-112409
LOCATION ID					EB-MW01	EB-MW02	EB-MW02	EB-MW02	EB-MW03
SAMPLE DATE					11/24/09	11/24/09	11/24/09	11/24/09	11/24/09
TOP DEPTH (FT)									
BOTTOM DEPTH (FT)									
SACODE					NORMAL	ORIG	AVG	DUP	NORMAL
QC TYPE	PSL	MEG	EPA RSL	Adjusted EPA RSL	NM	NM	NM	FD	NM
EPH MADEP (UG/L)									
C19-C36 ALIPHATICS	10000	10000			94 U	**120**	**85**	100 U	94 U
METALS (UG/L)									
ALUMINUM	1430	1430	37000	3700	12.5 U	**203 J**	**289.5 J**	**376**	**81.6 J**
BARIUM	730	2000	7300	730	**26.4**	**9.1**	**9.25**	**9.4**	**4.8 J**
BERYLLIUM	7.3		73	7.3	0.05 U	**0.09 J**	**0.09 J**	**0.09 J**	0.05 U
CALCIUM					**24300**	**1340**	**1335**	**1330**	**1280**
IRON	2600		26000	2600	6.4 UJ	**258 J**	**274.5 J**	**291 J**	31 UJ
MAGNESIUM					**1700**	**348**	**358**	**368**	**268**
MANGANESE	88	500	880	88	5 UJ	**54.7**	**55.65**	**56.6**	**210**
POTASSIUM					**6330**	486 UJ	493 UJ	500 UJ	452 UJ
SODIUM	20000	20000			**3810**	**1650**	**1655**	**1660**	**1540**
VANADIUM	18		180	18	**0.91 J**	**1.8 J**	**1.38 J**	**0.96 J**	**1.4 J**
ZINC	1100	2000	11000	1100	1.73 U	**2.8 J**	**2.7 J**	**2.6 J**	1.73 U

PSL - Project Action Limit

EPA - U.S. Environmental Protection Agency

RSL - Regional Screening Level, Residential Direct Contact Soil

ug/L - Micrograms per liter

MEG - Maine Maximum Exposure Guidelines.

BLACK SHADING-AT LEAST ONE CRITERION EXCEEDED; BOLD-DETECTED;
U-NOT DETECTED; J-QUANTITATION APPROXIMATE; R-REJECTED; NA-NOT ANALYZED

TABLE 4-1
95 % UPPER PREDICTION LIMITS BACKGROUND - UPPER SANDS SOILS
EAST BRUNSWICK REMOTE RADIO TRANSMITTER SITE
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

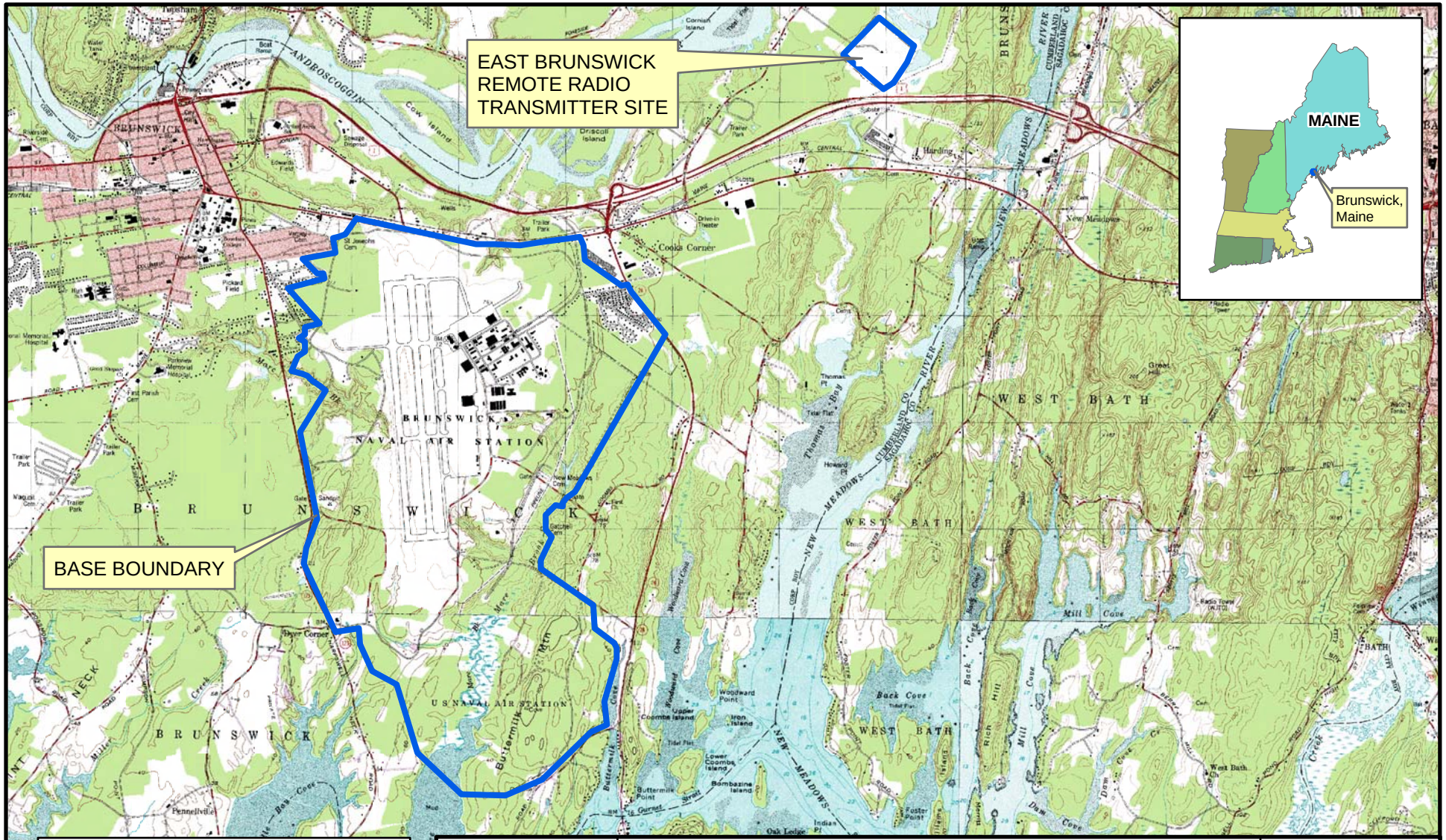
Notes:

95% UPL - Upper Prediction Limit

A statistically derived value that includes 95 percent of the background population. The 95% UPL is based on the t distribution if the data follow a normal distribution; otherwise, a nonparametric 95% UPL is estimated.

FIGURES

I:\01074\1504\EBRUN_TRANS_LOCUS.MXD DWM 03/17/10



Source: USGS 7.5 Minute Quadranngles: Orrs Island (1978); Brunswick (1980); Bath (1980); and Phippsburg(1957)

0 0.5 1 2 Miles

Tetra Tech NUS, Inc.

SITE LOCATION MAP
EAST BRUNSWICK REMOTE RADIO TRANSMITTER SITE
NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE

SCALE	
AS NOTED	
FILE	
I\..\EBRUN_TRANS_LOCUS.MXD	
REV	DATE
0	03/17/10
FIGURE NUMBER	
1-1	

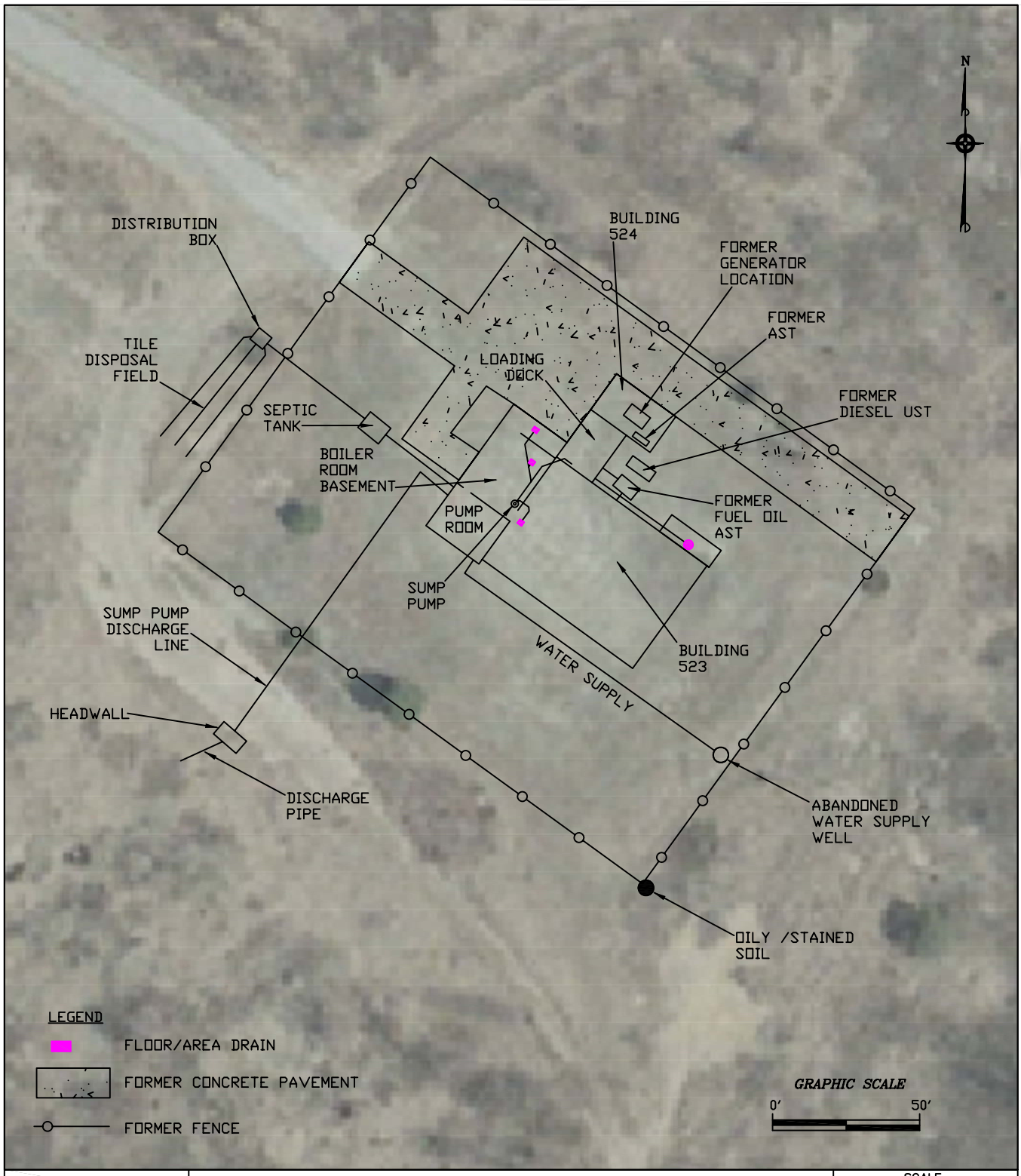
I:\01074\1504\EBRUN_TRANS_SITE_MAP.MXD DWM 03/23/10

Tetra Tech NUS, Inc.

SITE MAP
EAST BRUNSWICK REMOTE RADIO TRANSMITTER SITE
NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE

SCALE	AS NOTED
FILE	\..\EBRUN_TRANS_SITE_MAP.MXD
REV	0
DATE	03/23/10
FIGURE NUMBER	1-2

I:\01074\1504\EBRUN_TRANS_FORM_BLDS.DWG DWM 03/23/10

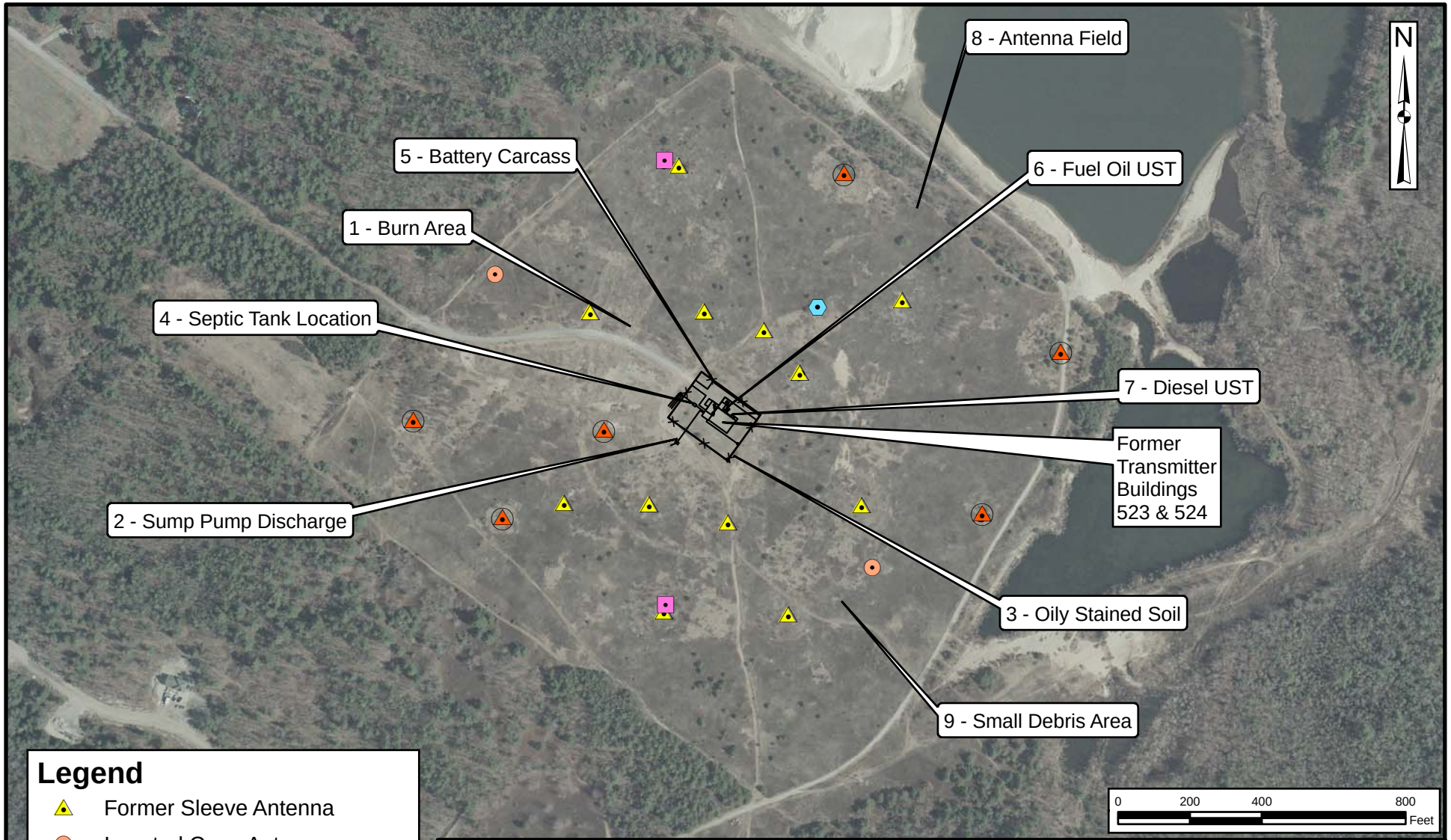


Tetra Tech NUS, Inc.

FORMER BUILDINGS
EAST BRUNSWICK REMOTE RADIO TRANSMITTER SITE
NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE

SCALE	
AS NOTED	
FILE	
\..\EBRUN_TRANS_FORM_BLDS.DWG	
REV	DATE
0	03/23/10
FIGURE NUMBER	
1-3	

I:\01074\1504\EBRUN_TRANS_PSA.MXD DWM 03/23/10

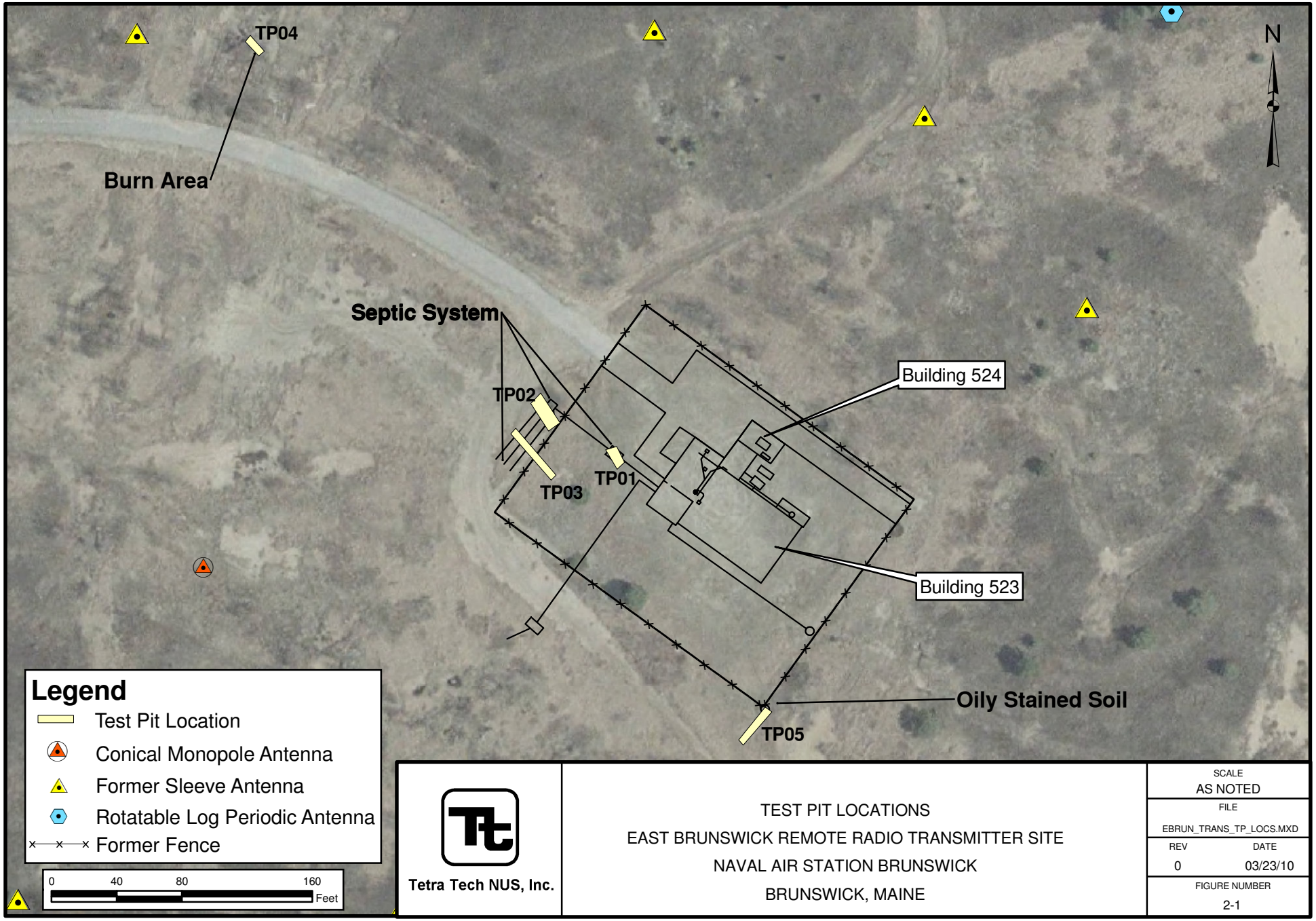


Tetra Tech NUS, Inc.

IDENTIFIED POTENTIAL SOURCE AREAS
EAST BRUNSWICK REMOTE RADIO TRANSMITTER SITE
NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE

SCALE	
AS NOTED	
FILE	
\..\EBRUN_TRANS_PSA.MXD	
REV	DATE
0	03/23/10
FIGURE NUMBER	
1-4	

I:\01074\1504\EBRUN_TRANS_TP_LOCS.MXD DWM 03/23/10

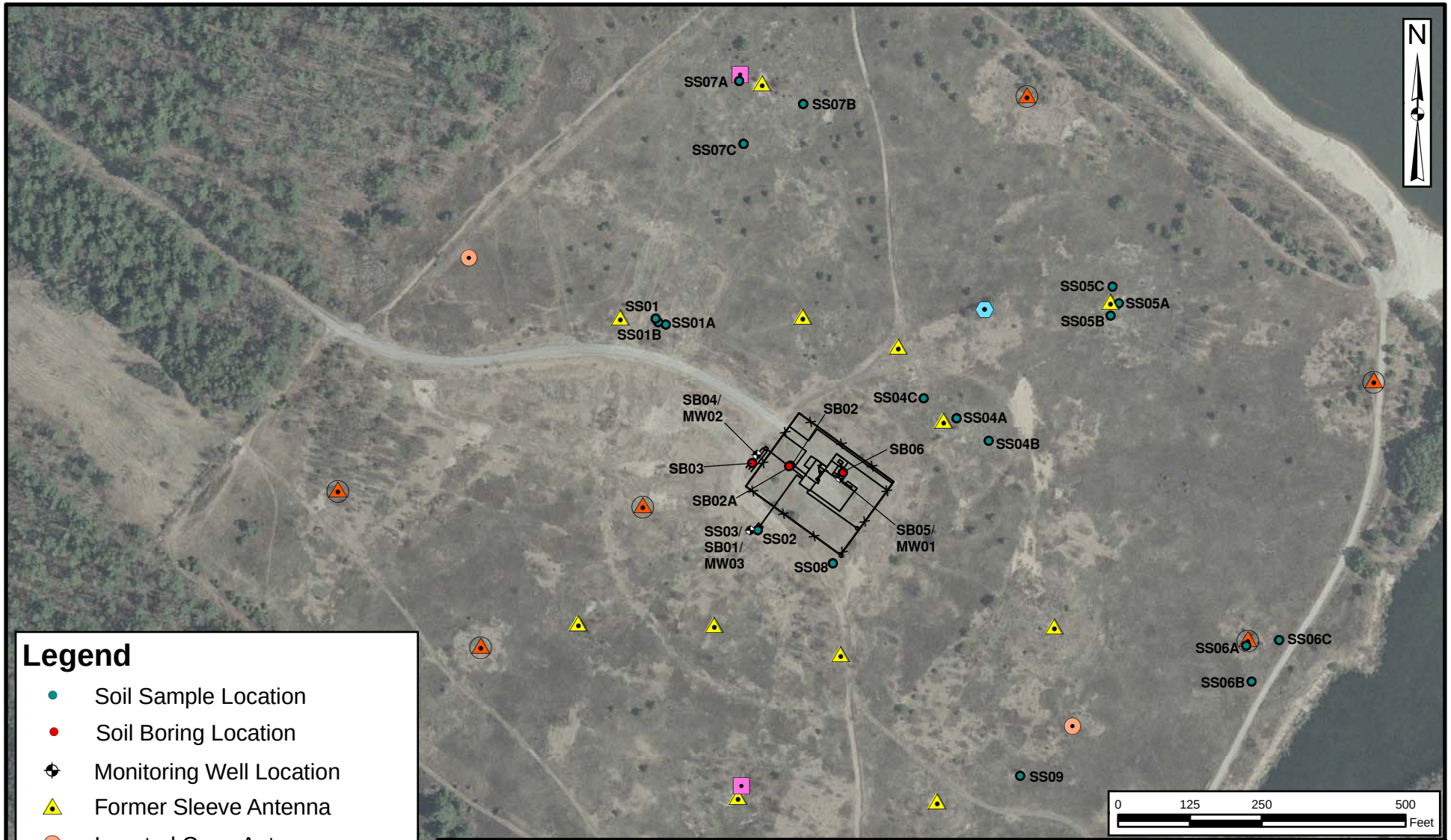


Tetra Tech NUS, Inc.

TEST PIT LOCATIONS
EAST BRUNSWICK REMOTE RADIO TRANSMITTER SITE
NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE

SCALE	
AS NOTED	
FILE	
EBRUN_TRANS_TP_LOCS.MXD	
REV	DATE
0	03/23/10
FIGURE NUMBER	
2-1	

I:\01074\15049\EBRUN_TRANS_SAMP_LOCS.MXD DWM 03/23/10



Legend

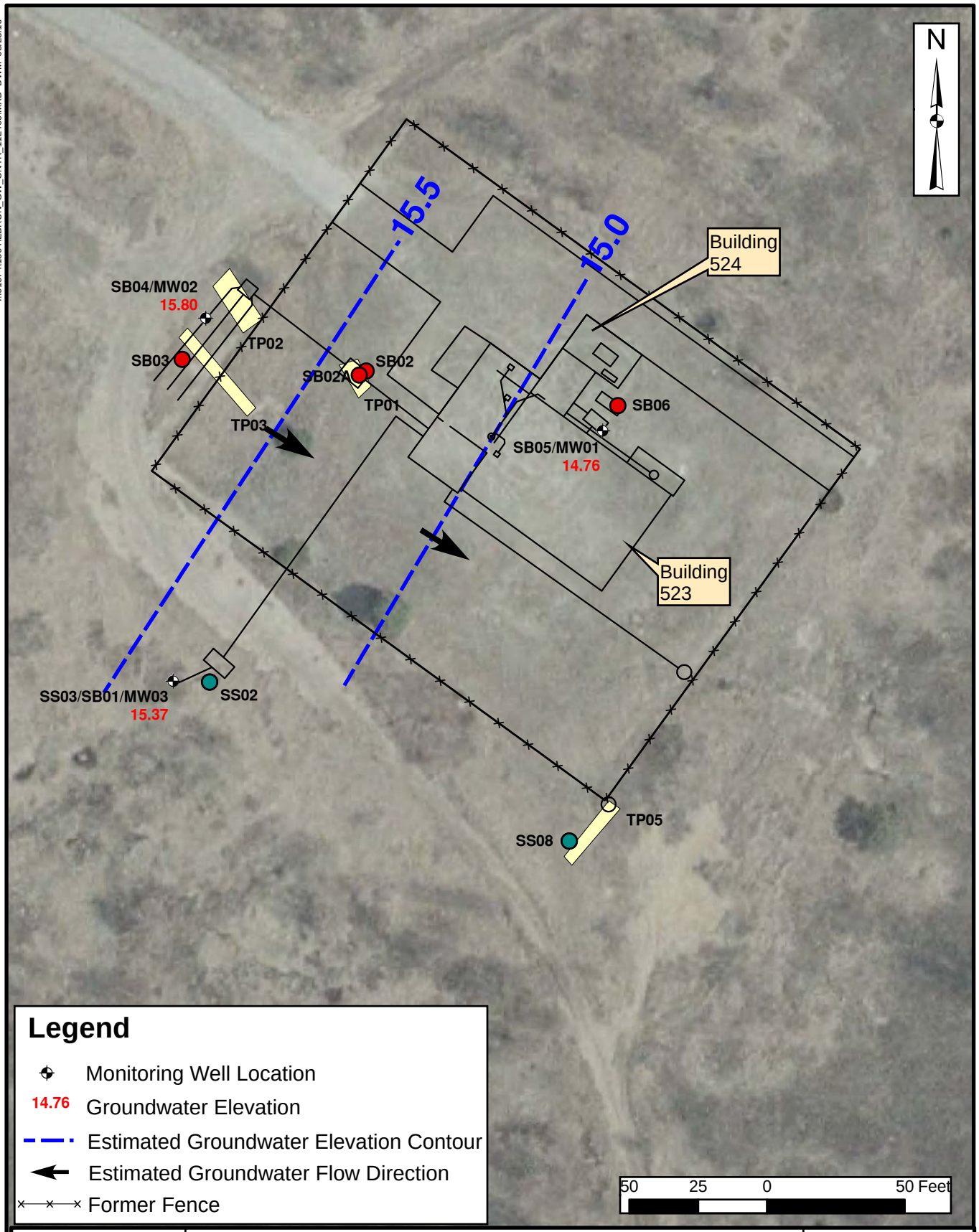
- Soil Sample Location
- Soil Boring Location
- Monitoring Well Location
- Former Sleeve Antenna
- Inverted Cone Antenna
- Conical Monopole Antenna
- High Take Off Angle Antenna
- Rotatable Log Periodic Antenna
- Former Fence

Tetra Tech NUS, Inc.

SAMPLE LOCATIONS
EAST BRUNSWICK REMOTE RADIO TRANSMITTER SITE
NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE

SCALE	AS NOTED
FILE	\..\EBRUN_TRANS_SAMP_LOCS.MXD
REV	0
DATE	03/23/10
FIGURE NUMBER	2-2

I:\01074\1504\EBRUN_GW_CNTR_112409.MXD DWM 03/23/10

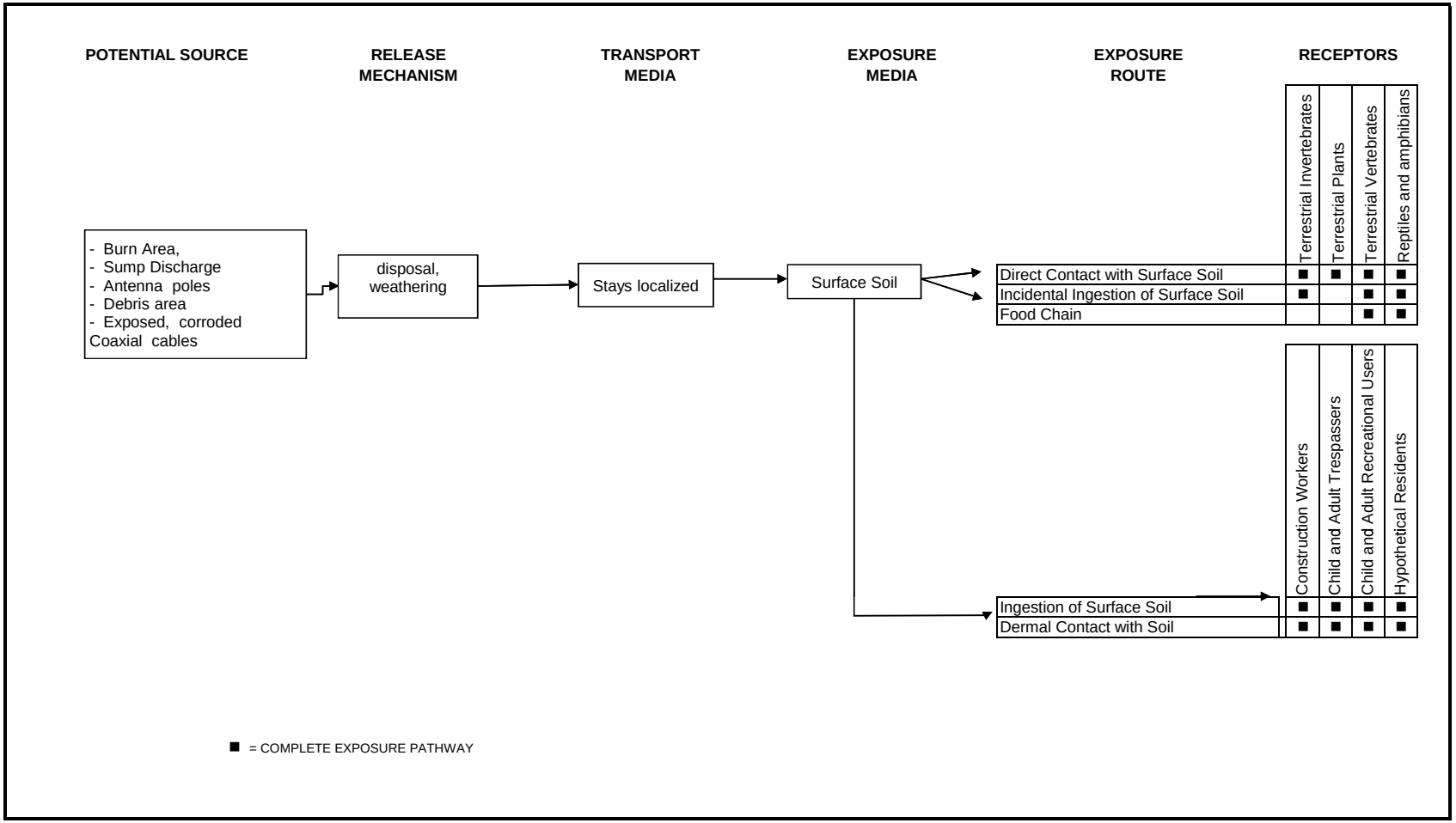


Tetra Tech NUS, Inc.

ESTIMATED GROUNDWATER CONTOUR MAP - NOVEMBER 24, 2009
EAST BRUNSWICK REMOTE RADIO TRANSMITTER SITE
NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE

SCALE	AS NOTED
FILE	\..\EBRUN_GW_CNTR_112409.MXD
REV	0
DATE	03/23/10
FIGURE NUMBER	2-3

FIGURE 4-1
CONCEPTUAL SITE MODEL
EAST BRUNSWICK REMOTE RADIO TRANSMITTER SITE
NAVAL AIR STATION BRUNSWICK, MAINE



REFERENCES

REFERENCES

Buchman, M. F., 2006. NOAA Screening Quick Reference Tables, NOAA HAZMAT Report 99-1, Seattle, WA, Coastal Protection and Restoration Division, National Oceanic and Atmospheric Administration. http://response.restoration.noaa.gov/cpr/sediment/squirt/squirt.html.

CCME (Canadian Council of Ministers of the Environment), 1997. Recommended Canadian Soil Quality Guidelines. Winnipeg, Manitoba.

Dragun, 1998. James Dragun, The Soil Chemistry of Hazardous Materials, Hazardous Materials Control Research institute, Silver Spring Maryland.

Efroymson, R.A., M. E. Will, and G. W. Suter. 1997a. Toxicological Benchmarks for Screening Contaminants of Potential Concern for Effects on Soil Litter Invertebrates and Heterotrophic Processes, 1997 Revision, ES/ER/TM-126-R2, Oak Ridge National Laboratory, Oak Ridge, Tennessee.

Efroymson, R.A., M. E. Will, G. W. Suter, and A.C. Wooten. 1997b. Toxicological Benchmarks for Screening Contaminants of Potential Concern for Effects on Terrestrial Plants, 1997 Revision, Oak Ridge National Laboratory, Oak Ridge, Tennessee.

EPA, 2008. Multi-year documents with Ecological Soil Screening Levels for individual chemicals. http://www.epa.gov/ecotox/ecossl/.

EPA, 2009. EPA Regions 3, 6, and 9 RSLs for Chemical Contaminants at Superfund Sites. http://epa-prgs.ornl.gov/chemicals/index.shtml. May.

HRP Associates, Inc. (HRP), 1996. Environmental Baseline Survey (EBS), East Brunswick Facility, Naval Air Station Brunswick. November.

Louis Berger (Louis Berger & Associates, Inc.), 1999. Draft Final Cultural Resources Survey, U.S. Naval Air Station Brunswick, ME. Prepared for BCM Engineers, Inc. April.

Maine CDC (Maine Center for Disease Control), 2008. Maximum Exposure Guidelines (MEG) for Drinking Water. Maine Department of Human Services. December.

Maine Geological Survey (MGS), 2001. MGS 2001 surficial geologic map of the Brunswick, Maine Quadrangle.

MEDEP, 2007. Remedial Action Guidelines (RAGs) for Contaminated Soils. http://www.maine.gov/dep/rwm/vrap/. May.

MEDEP, 2009. August 14, 2009 Public Review Draft Remediation Guidelines for Petroleum Contaminated Sites in Maine. Maine Department of Environmental Protection, Bureau of Remediation & Waste Management. August.

NAVFAC-Mid-Atlantic (Naval Facilities Engineering Command Mid-Atlantic), 2006. Final (Revision 2) Environmental Condition of Property (ECP) Report for the Naval Air Station, Brunswick, Maine. May.

NAVFAC-Mid-Atlantic, 2007. CERFA Identification of Uncontaminated Property at the Naval Air Station Brunswick, Maine. June.

Tetra Tech NUS, 2009a. Final Sampling and Analysis Plan, Environmental Condition of Property Update Investigation, ECP Item 02, East Brunswick Remote Radio Transmitter Site, Naval Air Station Brunswick Brunswick, Maine. October.

Tetra Tech NUS, 2009b. Health and Safety Plan for Environmental Condition of Property Update Investigation at the East Brunswick Remote Radio Transmitter Site Naval Air Station Brunswick, Brunswick, Maine. October

Tetra Tech, 2010. Soil Background Study for Naval Air Station Brunswick, Brunswick Maine, March.

U.S. Geologic Survey, 1980. Brunswick Maine 7.5-Minute Topographic Quandrangle Map.

APPENDIX A

FIELD FORMS

APPENDIX A-1

TEST PIT LOGS

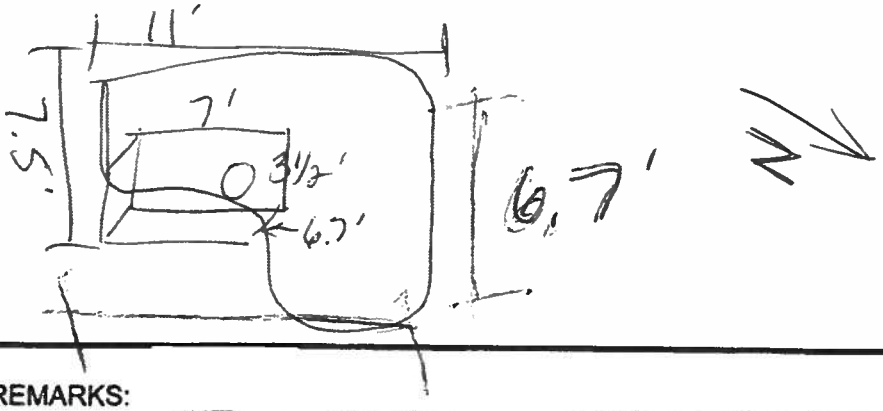
Tetra Tech NUS, Inc.

TEST PIT LOG

PROJECT NAME: E. Brunswick Radio
PROJECT NUMBER: 112G01074
LOCATION: Septic tank
TEST PIT No.: 01
DATE: 11/4/09
GEOLOGIST: R Clark, B Geringer

Depth (Ft.)	Lithology Change (Depth/Ft.)	MATERIAL DESCRIPTION: Soil/Waste Characteristics (lithology, density, color, etc.)	USCS	Remarks	PID/FID READING: Source (ppm)	PID/FID READING: BZ (ppm)
0-1		top soil		found	0	0
1-10'		Brown VF-F Sand		tank	0	0
		trace R gravel		3½ ft		
		up to 1½" dry		bgs - open		
		trace Silt		top!		
		water in tank		water in		
		leak at seam		tank - rubble		
		halfway down		in tank in		
				6½ ft bgs		
				tank		
				6.7 ft deep		
				3 ft wide		
				7 ft long		
				concrete		
				did not see		
				any piping		

TEST PIT CROSS SECTION AND / OR PLAN VIEW



REMARKS:

PHOTO LOG:

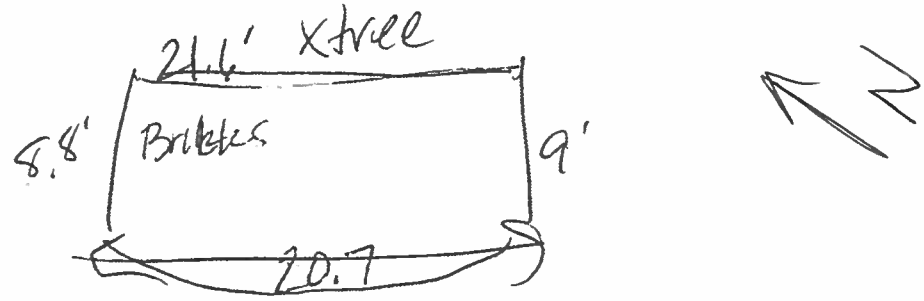
Tetra Tech NUS, Inc.

TEST PIT LOG

PROJECT NAME: E. Brunswick Radio
PROJECT NUMBER: 112G01074
LOCATION: D BOX
TEST PIT No.: 02
DATE: 11/4/09
GEOLOGIST: R Clark

Depth (Ft.)	Lithology Change (Depth/Ft.)	MATERIAL DESCRIPTION: Soil/Waste Characteristics (lithology, density, color, etc.)	USCS	Remarks	PID/FID READING: Source (ppm)	BZ (ppm)
0-1		topsoil		did not find D Box found Brick (chimney?)	0	0
1-4		Brown VF-F SAND Dry				

TEST PIT CROSS SECTION AND / OR PLAN VIEW



REMARKS:

PHOTO LOG:

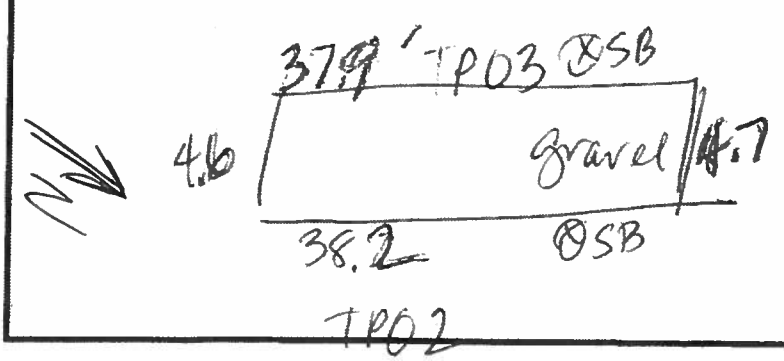
Tetra Tech NUS, Inc.

TEST PIT LOG

PROJECT NAME: E. Brunswick Radio
PROJECT NUMBER: 112G01074
LOCATION: Leach field
TEST PIT No.: 03
DATE: 11/4/09
GEOLOGIST: R. Clark

Depth (Ft.)	Lithology Change (Depth/Ft.)	MATERIAL DESCRIPTION: Soil/Waste Characteristics (lithology, density, color, etc.)	USCS	Remarks	PID/FID READING: Sources (ppm)	PID/FID READING: BZ (ppm)
0-1		Top Soil			0	0
1-6		Brown f-m SAND		found		
		from end to 10'		one piece		
		from end - then		clay pipe		
		gravelly from		in 1½ ft		
		2-6' bgs.		long		
		dry		toward		
				gravel		
				area -		
				likely		
				leach field		

TEST PIT CROSS SECTION AND / OR PLAN VIEW



REMARKS:

PHOTO LOG:

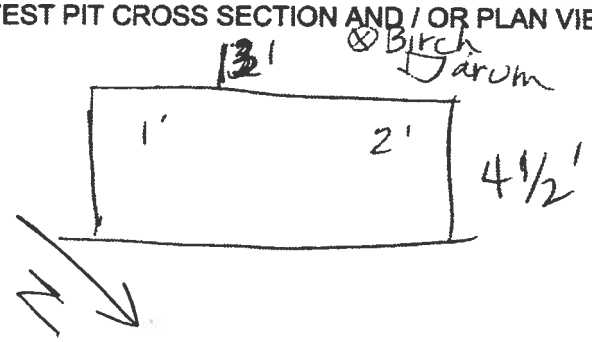
Tetra Tech NUS, Inc.

TEST PIT LOG

PROJECT NAME: E. Brunswick Radio
PROJECT NUMBER: 42G01074
LOCATION: Burn Area
TEST PIT No.: 04
DATE: 11/4/09
GEOLOGIST: R. Clark

Depth (Ft.)	Lithology Change (Depth/Ft.)	MATERIAL DESCRIPTION: Soil/Waste Characteristics (lithology, density, color, etc.)	USCS	Remarks	PID/FID READING: Source (ppm)	PID/FID READING: BZ (ppm)
0-6"		0-3" ~~at~~ burn		burn area	0	0
		material new		very shallow		
0-12"		SSD1A		at surface		
		0-12" burn soil near		will collect		
24"		drum.		SS sample		
				in undisturbed		
				area		

TEST PIT CROSS SECTION AND / OR PLAN VIEW



REMARKS:

PHOTO LOG:

Tetra Tech NUS, Inc.

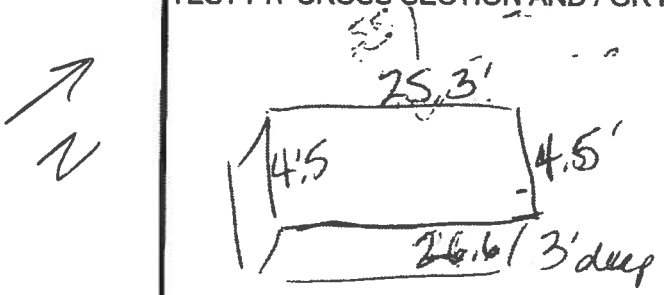
TEST PIT LOG

PROJECT NAME: E. Brunswick Radio
PROJECT NUMBER: 112G01074
LOCATION: oil stain

TEST PIT No.: 5
DATE: 11/4/09
GEOLOGIST: R Clark

Depth (Ft.)	Lithology Change (Depth/Ft.)	MATERIAL DESCRIPTION: Soil/Waste Characteristics (lithology, density, color, etc.)	USCS	Remarks	PID/FID READING: Sources (ppm)	PID/FID READING: BZ (ppm)
0-1		top soil DK brown		No oily	0	0
1-3		Brown VF-F SAND		stain		
		dry, trace silt		observed		
		wood frag.				
				marked SS		
				location		
				above a		
				dark area		
				where		
				wood was		
				found		
				at end		
				of TP		

TEST PIT CROSS SECTION AND / OR PLAN VIEW



Staked SS at loc where dark soil + wood were found

REMARKS:

PHOTO LOG:

APPENDIX A-2

BORING LOGS

BORING LOG FOR: SB-01 (Sump Pump Discharge Area)		BORING NO.: NASB-EB-SB-01
PROJECT NO: 112G01074-1503		START DATE: 11/05/2009
LOGGED BY: R. Clark	TRANSCRIBED BY: BG	COMPLETION DATE: 11/05/2009
DRILLED BY (Company/Driller): MAI/S.Brown		MON. WELL NO.: NASB-EB-MW-03
GRD. SURFACE ELEVATION: 29.51 ft MSL	ELEVATION FROM: NAVD 88	CHECKED BY: C. Race

DEPTH (FEET) 0	BLOWS PER 6" NA	SAMP REC./ SAMP LENG.(in)	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.)	HEAD SPACE SCREENING DATA = [FID/PID, (PPM)]
1				TOPSOIL		Dark Brown	0-8" - TOPSOIL	SM	Dry	PID - 0.6
		24 / 36		UPPER SAND UNIT		Brown/ Light Brown	8-24" - SAND (very fine to fine), trace silt Iron staining at top, transitions from brown to	SP		PID - 0.0
3							light brown at bottom of interval			
		24 / 24				Light Brown	0-18" - Same as above			PID - 0.0
5							18-24" - SAND (fine to medium), trace silt			
		18 / 24				Brown	0-18" - SAND (fine to coarse)	SW	Damp	PID - 0.0
7										
		18 / 24					0-18" - SAND (fine to medium), trace coarse sand			PID - 0.0
9										
		14 / 24					0-14" - Same as above			PID - 0.0
11										
		16 / 24					0-16" - Same as above - some Iron stained lenses			PID - 0.0
13										
		15 / 24	1400 EB-SO-SB01-1315 EB-SO-SBDUP01				0-15" - Same as above - wet at bottom of run			PID - 0.0
15									Wet	

TYPE OF DRILLING RIG:	Geoprobe DT6200		Tetra Tech NUS, Inc.
METHOD OF ADVANCING BORING:	DPT		
METHOD OF SOIL SAMPLING:	Dual Tube		
METHOD OF ROCK CORING:	NA		
GROUNDWATER LEVELS:	NA		
OTHER OBSERVATIONS::		BORING NO.: SB-01	PAGE: 1 OF 2

BORING LOG FOR: SB-01 (Sump Pump Discharge Area)		BORING NO.: NASB-EB-SB-01
PROJECT NO: 112G01074-1503		START DATE: 11/05/2009
LOGGED BY: R. Clark	TRANSCRIBED BY: BG	COMPLETION DATE: 11/05/2009
DRILLED BY (Company/Driller): MAI/S.Brown		MON. WELL NO.: NASB-EB-MW-03
GRD. SURFACE ELEVATION: 29.51 ft MSL	ELEVATION FROM: NAVD 88	CHECKED BY: C. Race

DEPTH (FEET)	BLOWS PER 6" NA	SAMP REC./ SAMP LENG.(in)	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.)	HEAD SPACE SCREENING DATA = [FID/PID, (PPM)]
		18/24		UPPER SAND UNIT		Brown	0-18" - Same as above	SW	Wet	PID - 0.0
17										
		46/60					0-46" - Same as above - coarse sand at bottom 1"			
19										
21										
23				EOB @ 22' bgs						

TYPE OF DRILLING RIG:	Geoprobe DT6200		Tetra Tech NUS, Inc.
METHOD OF ADVANCING BORING:	DPT		
METHOD OF SOIL SAMPLING:	Dual Tube		
METHOD OF ROCK CORING:	NA		
GROUNDWATER LEVELS:	NA		
OTHER OBSERVATIONS::		BORING NO.: SB-01	PAGE: 2 OF 2

BORING LOG FOR: SB-02 (Adjacent to Septic Tank)

PROJECT NO: 112G01074-1503

LOGGED BY: R. Clark

DRILLED BY (Company/Driller): MAI/S.Brown

GRD. SURFACE ELEVATION: 31.81 ft MSL

TRANSCRIBED BY: BG

ELEVATION FROM: NAVD 88

BORING NO.: NASB-EB-SB-02

START DATE: 11/05/2009

COMPLETION DATE: 11/05/2009

MON. WELL NO.: NA

CHECKED BY: C. Race

DEPTH (FEET) 0	BLOWS PER 6" NA	SAMP REC./ SAMP LENG.(in)	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.)	HEAD SPACE SCREENING DATA = [FID/PID, (PPM)]
1				TOP SOIL		Dark Brown	0-8" - TOPSOIL - Silty fine SAND	SM	Dry	PID - 0.0
3		20 / 36		UPPER SAND UNIT		Brown	8-20" - SAND (fine)	SP		PID - 0.0
5		12 / 24					0-12" - Same as above			PID - 0.0
7		12 / 24					0-12" - Same as above			PID - 0.0
9		14 / 24					0-14" - Same as above - Dark lens 4" from bottom of run			PID - 0.0
11		16 / 24					0-8" - Same as above 8-16" - SAND (fine to medium)		Damp	PID - 0.0
13		14 / 24					0-16" - Same as above			PID - 0.0
15		18 / 24					0-15" - Same as above			PID - 0.0

TYPE OF DRILLING RIG: Geoprobe DT6200

METHOD OF ADVANCING BORING: DPT

METHOD OF SOIL SAMPLING: Dual Tube

METHOD OF ROCK CORING: NA

GROUNDWATER LEVELS: NA

OTHER OBSERVATIONS::

Tetra Tech NUS, Inc.

BORING NO.: SB-02

BORING LOG FOR: SB-02		BORING NO.: NASB-EB-SB-02
PROJECT NO: 112G01074-1503		START DATE: 11/05/2009
LOGGED BY: R. Clark	TRANSCRIBED BY: BG	COMPLETION DATE: 11/05/2009
DRILLED BY (Company/Driller): MAI/S.Brown		MON. WELL NO.: NA
GRD. SURFACE ELEVATION: 31.81 ft MSL	ELEVATION FROM: NAVD 88	CHECKED BY: C. Race

DEPTH (FEET)	BLOWS PER 6" NA	SAMP REC./ SAMP LENG.(in)	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.)	HEAD SPACE SCREENING DATA = [FID/PID, (PPM)]
		12/24		UPPER SAND UNIT		Brown	0-12" - Same as above	SP	Damp	PID - 0.0
17										
		12/24	0900 EB-SO-SB02-1719				0-12" - Same as above		Wet	PID - 0.0
19										
				EOB @ 19' bgs						

TYPE OF DRILLING RIG:	Geoprobe DT6200		Tetra Tech NUS, Inc.
METHOD OF ADVANCING BORING:	DPT		
METHOD OF SOIL SAMPLING:	Dual Tube		
METHOD OF ROCK CORING:	NA		
GROUNDWATER LEVELS:	NA		
OTHER OBSERVATIONS::		BORING NO.: SB-02	PAGE: 2 OF 2

BORING LOG FOR: SB-02A (Inside Septic Tank)		BORING NO.: NASB-EB-SB-02A
PROJECT NO: 112G01074-1503		START DATE: 11/05/2009
LOGGED BY: R. Clark	TRANSCRIBED BY: BG	COMPLETION DATE: 11/05/2009
DRILLED BY (Company/Driller): MAI/S.Brown		MON. WELL NO.: NA
GRD. SURFACE ELEVATION: 31.50 ft MSL	ELEVATION FROM: NAVD 88	CHECKED BY: C. Race

DEPTH (FEET)	BLOWS PER 6" NA	SAMP REC./ SAMP LENG. (in)	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.)	HEAD SPACE SCREENING DATA = [FID/PID, (PPM)]
0										
1		0 / 60		FILL			0-60" - No Recovery			
3										
5										
		24 / 60	0815 EB-SO-SB02A-0910	Inside Septic Tank/FILL		Brown	0-15" - SAND (fine to very fine)			
7										
9										
				Bottom of tank		Black	15-24" - Sludge		Sludge-strong sewerage odor	
11				EOB @ 10' bgs						

TYPE OF DRILLING RIG:	Geoprobe	Tetra Tech NUS, Inc.
METHOD OF ADVANCING BORING:	DPT	
METHOD OF SOIL SAMPLING:	Macrocore	
METHOD OF ROCK CORING:	NA	
GROUNDWATER LEVELS:	NA	
OTHER OBSERVATIONS::	BORING NO.: SB-02A	PAGE: 1 OF 1

BORING LOG FOR: SB-03 (SW of Leach Field Test Pit)		BORING NO.: NASB-EB-SB-03
PROJECT NO: 112G01074-1503		START DATE: 11/05/2009
LOGGED BY: R. Clark	TRANSCRIBED BY: BG	COMPLETION DATE: 11/05/2009
DRILLED BY (Company/Driller): MAI/S.Brown		MON. WELL NO.: NA
GRD. SURFACE ELEVATION: 29.81 ft MSL	ELEVATION FROM: NAVD 88	CHECKED BY: C. Race

DEPTH (FEET) 0	BLOWS PER 6" NA	SAMP REC./ SAMP LENG.(in)	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.)	HEAD SPACE SCREENING DATA = [FID/PID, (PPM)]
1		21/36		TOPSOIL		Dark Brown Brown	0-4" - Topsoil 4-21" - SAND (very fine to fine), trace silt	SM SP	Dry	PID - 0.0
3				UPPER SAND UNIT						PID - 0.0
5		5/24					0-5" - Same as above and GRAVEL (sub-angular to sub-rounded), up to 1" in diameter	GW		PID - 0.0
7		5/24					0-5" - SAND (fine), trace silt	SP		PID - 0.0
9		14/24	0955 EB-SO-SB03-0709				0-14" - Same as above			PID - 0.0
11		14/24					0-14" - Same as above, dark coarse sand lens at 10"			PID - 0.0
13		15/24					0-15" - Same as above			PID - 0.0
15		14/24					0-14" - Same as above		Damp	PID - 0.0

TYPE OF DRILLING RIG:	Geoprobe DT6200		Tetra Tech NUS, Inc.
METHOD OF ADVANCING BORING:	DPT		
METHOD OF SOIL SAMPLING:	Dual Tube		
METHOD OF ROCK CORING:	NA		
GROUNDWATER LEVELS:	NA		
OTHER OBSERVATIONS::		BORING NO.: SB-03	PAGE: 1 OF 2

BORING LOG FOR: SB-03		BORING NO.: NASB-EB-SB-03
PROJECT NO: 112G01074-1503		START DATE: 11/05/2009
LOGGED BY: R. Clark	TRANSCRIBED BY: BG	COMPLETION DATE: 11/05/2009
DRILLED BY (Company/Driller): MAI/S.Brown		MON. WELL NO.: NA
GRD. SURFACE ELEVATION: 29.81 ft MSL	ELEVATION FROM: NAVD 88	CHECKED BY: C. Race

DEPTH (FEET)	BLOWS PER 6" NA	SAMP REC./ SAMP LENG.(in)	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.)	HEAD SPACE SCREENING DATA = [FID/PID, (PPM)]
		18/24		UPPER SAND UNIT		Brown	0-18" - Same as above	SP	Wet	PID - 0.0
17										
				EOB @ 17' bgs						

TYPE OF DRILLING RIG:	Geoprobe DT6200	Tetra Tech NUS, Inc.
METHOD OF ADVANCING BORING:	DPT	
METHOD OF SOIL SAMPLING:	Dual Tube	
METHOD OF ROCK CORING:	NA	
GROUNDWATER LEVELS:	NA	
OTHER OBSERVATIONS::	BORING NO.: SB-03	PAGE: 2 OF 2

BORING LOG FOR: SB-04 (Leach Field Area)		BORING NO.: NASB-EB-SB-04
PROJECT NO: 112G01074-1503		START DATE: 11/05/2009
LOGGED BY: R. Clark	TRANSCRIBED BY: BG	COMPLETION DATE: 11/05/2009
DRILLED BY (Company/Driller): MAI/S.Brown		MON. WELL NO.: NASB-EB-MW-02
GRD. SURFACE ELEVATION: 30.08 ft MSL	ELEVATION FROM: NAVD 88	CHECKED BY: C. Race

DEPTH (FEET) 0	BLOWS PER 6" NA	SAMP REC./ SAMP LENG.(in)	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.)	HEAD SPACE SCREENING DATA = [FID/PID, (PPM)]
1				TOPSOIL		Dark Brown	0-6" - TOPSOIL 6-24" - SAND (very fine to fine), trace silt	SM SP	Dry	PID - 0.3
		24 / 36		UPPER SAND UNIT		Brown				PID - 0.0
3										
		7 / 24					0-7" - Same as above and GRAVEL (sub-angular to sub-rounded), up to 1" in diameter	GW		PID - 0.0
5										
		1 / 24					First run = 0-1" - gravel in shoe			NA
7		7 / 24					Second run = 0-7" - Same as above			PID - 0.0
		0 / 24					First run = No Recovery	SP		NA
9		16 / 24					Second run = 0-16" - SAND (fine to medium) trace coarse sand			PID - 0.1
		4 / 24					First run = 0-4" - Same as above			PID - 0.0
11		14 / 24					Second run = 0-14" - Same as above			
		18 / 24					0-18" - SAND (very fine to fine, some medium)		Damp	PID - 0.0
13										
		18 / 24	1300 EB-SO-SB04-1315 LAB QC - VOCs				0-18" - Same as above			PID - 0.1
15										

TYPE OF DRILLING RIG:	Geoprobe DT6200		Tetra Tech NUS, Inc.
METHOD OF ADVANCING BORING:	DPT		
METHOD OF SOIL SAMPLING:	Dual Tube		
METHOD OF ROCK CORING:	NA		
GROUNDWATER LEVELS:	NA		
OTHER OBSERVATIONS::		BORING NO.: SB-04	PAGE: 1 OF 2

BORING LOG FOR: SB-04 (Leach Field Area)		BORING NO.: NASB-EB-SB-04
PROJECT NO: 112G01074-1503		START DATE: 11/05/2009
LOGGED BY: R. Clark	TRANSCRIBED BY: BG	COMPLETION DATE: 11/05/2009
DRILLED BY (Company/Driller): MAI/S.Brown		MON. WELL NO.: NASB-EB-MW-02
GRD. SURFACE ELEVATION: 30.08 ft MSL	ELEVATION FROM: NAVD 88	CHECKED BY: C. Race

DEPTH (FEET)	BLOWS PER 6" NA	SAMP REC./ SAMP LENG.(in)	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.)	HEAD SPACE SCREENING DATA = [FID/PID, (PPM)]
		18/24		UPPER SAND UNIT		Brown	0-18" - Same as above	SP	Wet	PID - 0.0
17										
		38/60					0-18" - Same as above			
19							18-25" - Same as above, with coarse sand lenses			
							25-28" - SAND (fine) 28-38" - SAND (very fine to fine)			
21										
23				EOB @ 22' bgs						

TYPE OF DRILLING RIG:	Geoprobe DT6200		Tetra Tech NUS, Inc.
METHOD OF ADVANCING BORING:	DPT		
METHOD OF SOIL SAMPLING:	Dual Tube		
METHOD OF ROCK CORING:	NA		
GROUNDWATER LEVELS:	NA		
OTHER OBSERVATIONS::		BORING NO.: SB-04	PAGE: 2 OF 2

BORING LOG FOR: SB-05 (Former Diesel UST Area)		BORING NO.: NASB-EB-SB-05
PROJECT NO: 112G01074-1503		START DATE: 11/06/2009
LOGGED BY: R. Clark	TRANSCRIBED BY: BG	COMPLETION DATE: 11/06/2009
DRILLED BY (Company/Driller): MAI/S.Brown		MON. WELL NO.: NASB-EB-MW-01
GRD. SURFACE ELEVATION: 31.79 ft MSL	ELEVATION FROM: NAVD 88	CHECKED BY: C. Race

DEPTH (FEET) 0	BLOWS PER 6" NA	SAMP REC./ SAMP LENG.(in)	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.)	HEAD SPACE SCREENING DATA = [FID/PID, (PPM)]
1		14 / 36		UPPER SAND UNIT		Brown	0-14" - SAND (fine to medium), trace coarse sand and silt	SW	Dry	PID - 0.3
3										PID - 0.3
5		12 / 24					0-12" - Same as above			PID - 0.2
7		14 / 18 1 / 24					Run 1 = 0-12" - Same as above 12-14" - concrete - refusal, moved boring Run 2 = 0-1" - concrete			PID - 0.1
9		0 / 24 18 / 24					no recovery, moved boring Run 3 = 0-18" - SAND (very fine to medium), trace silt			PID - 0.3
11		18 / 24					0-18" - Same as above			PID - 0.4
13		19 / 24					0-19" - SAND (medium), trace silt, trace fine and coarse sand	SP		PID - 0.6
15		16 / 24	0900 EB-SO-SB05-1315 EB-SO-SBDUP02 Lab QC - EPH				0-16" - Same as above			PID - 0.7

TYPE OF DRILLING RIG:	Geoprobe DT6200	Tetra Tech NUS, Inc.
METHOD OF ADVANCING BORING:	DPT	
METHOD OF SOIL SAMPLING:	Dual Tube	
METHOD OF ROCK CORING:	NA	
GROUNDWATER LEVELS:	NA	
OTHER OBSERVATIONS::	BORING NO.: SB-01	PAGE: 1 OF 2

BORING LOG FOR: SB-01 (Former Diesel UST Area)		BORING NO.: NASB-EB-SB-05
PROJECT NO: 112G01074-1503		START DATE: 11/06/2009
LOGGED BY: R. Clark	TRANSCRIBED BY: BG	COMPLETION DATE: 11/06/2009
DRILLED BY (Company/Driller): MAI/S.Brown		MON. WELL NO.: NASB-EB-MW-01
GRD. SURFACE ELEVATION: 31.79 ft MSL	ELEVATION FROM: NAVD 88	CHECKED BY: C. Race

DEPTH (FEET)	BLOWS PER 6" NA	SAMP REC./ SAMP LENG.(in)	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.)	HEAD SPACE SCREENING DATA = [FID/PID, (PPM)]
		16/24		UPPER SAND UNIT		Brown	0-18" - Same as above	SP	Damp	PID - 0.4
17										
		17/24				Light Brown	0-2" - Same as above, iron staining 2-17" - Same as above		Wet	PID - 0.4
19										
		46/60				Brown	0-42" - SAND (fine to medium), iron stained lenses throughout			
21										
23										
							42-46" - SAND (medium to coarse)			
				EOB @ 24' bgs						

TYPE OF DRILLING RIG:	Geoprobe DT6200		Tetra Tech NUS, Inc.
METHOD OF ADVANCING BORING:	DPT		
METHOD OF SOIL SAMPLING:	Dual Tube		
METHOD OF ROCK CORING:	NA		
GROUNDWATER LEVELS:	NA		
OTHER OBSERVATIONS::		BORING NO.: SB-05	PAGE: 2 OF 2

BORING LOG FOR: SB-06 (Former Fuel Oil UST Area)

BORING NO.: NASB-EB-SB-06

PROJECT NO: 112G01074-1503

START DATE: 11/05/2009

LOGGED BY: R. Clark

TRANSCRIBED BY: BG

COMPLETION DATE: 11/05/2009

DRILLED BY (Company/Driller): MAI/S.Brown

MON. WELL NO.: NA

GRD. SURFACE ELEVATION: 31.70 ft MSL

ELEVATION FROM: NAVD 88

CHECKED BY: C. Race

DEPTH (FEET)	BLOWS PER 6" NA	SAMP REC./ SAMP LENG.(in)	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.)	HEAD SPACE SCREENING DATA = [FID/PID, (PPM)]
0										
1		18/36		TOPSOIL CONCRETE		Dark Brown	0-6" - TOPSOIL 6-10" - Concrete	SM	Dry	PID - 0.2
3				UPPER SAND UNIT		Brown	10-18" - SAND (fine to medium), trace silt and gravel	SP		PID - 0.1
5		15/24					0-15" - Same as above			PID - 0.0
7		14/24					0-14" - Same as above			PID - 0.2
9		20/24				Light Brown	0-20" - SAND (fine to medium)			PID - 0.0
11		18/24					0-18" - Same as above			PID - 0.2
13		18/24					0-18" - Same as above - trace coarse sand			PID - 0.2
15		17/24					0-17" - Same as above			PID - 0.1

TYPE OF DRILLING RIG:	Geoprobe DT6200
METHOD OF ADVANCING BORING:	DPT
METHOD OF SOIL SAMPLING:	Dual Tube
METHOD OF ROCK CORING:	NA
GROUNDWATER LEVELS:	NA
OTHER OBSERVATIONS::	

Tetra Tech NUS, Inc.

BORING NO.: SB-06

BORING LOG FOR: SB-06 (Former Fuel Oil UST Area)		BORING NO.: NASB-EB-SB-06
PROJECT NO: 112G01074-1503		START DATE: 11/05/2009
LOGGED BY: R. Clark	TRANSCRIBED BY: BG	COMPLETION DATE: 11/05/2009
DRILLED BY (Company/Driller): MAI/S.Brown		MON. WELL NO.: NAS
GRD. SURFACE ELEVATION: 31.70 ft MSL	ELEVATION FROM: NAVD 88	CHECKED BY: C. Race

DEPTH (FEET)	BLOWS PER 6" NA	SAMP REC./ SAMP LENG.(in)	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.)	HEAD SPACE SCREENING DATA = [FID/PID, (PPM)]
		16/24		UPPER SAND UNIT		Light Brown	0-16" - Same as above	SP	Dry	PID - 0.0
17										
		15/24	1500 EB-SO-SB06-1719				0-15"-Same as above, heavy iron staining at 18' (approximately 4" wide)		Wet	PID - 0.2
19										
		24/24					0-4" - Silty SAND (very fine), iron staining 4-24" - SAND (fine)	SM SP		
21										
		46/60				Brown	0-22" - SAND (fine)			
23							22-24" - Same as above, iron staining			
						Dark Brown	24-46" - Same as above, trace coarse to medium sand			
25										
				EOB @ 26' bgs						

TYPE OF DRILLING RIG:	Geoprobe DT6200		Tetra Tech NUS, Inc.
METHOD OF ADVANCING BORING:	DPT		
METHOD OF SOIL SAMPLING:	Dual Tube		
METHOD OF ROCK CORING:	NA		
GROUNDWATER LEVELS:	NA		
OTHER OBSERVATIONS::		BORING NO.: SB-06	PAGE: 2 OF 2

APPENDIX A-3

WELL CONSTRUCTION DIAGRAMS

OVERBURDEN MONITORING WELL CONSTRUCTION LOG **TETRA TECH NUS, INC.**

PROJECT NAME:	NASB – East Brunswick Remote Radio Transmitter Site	PROJECT NO:	112G01074
PROJECT LOCATION:	Brunswick, Maine	WELL NO:	NASB-EB-MW-01
CLIENT:	NAVFAC Mid-Atlantic	BORING NO:	NASB-EB-SB-05
CONTRACTOR:	MAI Environmental	DRILLER:	S. Brown
LOGGED BY:	R. Clark	DATE:	11/06/09
CHECKED BY:	C. Race	DATE:	3/11/10

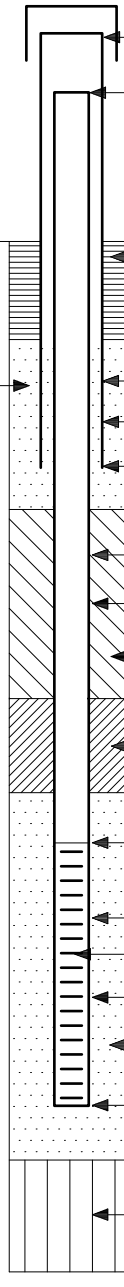
BORING LOCATION:
N: 397244.7
E: 3027064.3

PAGE: 1 OF 1

ELEVATION TOP OF PROTECTIVE CASING 34.08 ft

ELEVATION TOP OF RISER PIPE 33.90 ft

GROUND ELEVATION 31.79 ft



LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	2.29
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	2.11
TYPE OF SURFACE SEAL	Cement
DIA. SURFACE SEAL BGS (In.)	24
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	2
I.D. OF PROTECTIVE CASING (In.)	4.5
TYPE OF PROTECTIVE CASING	Steel Casing
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	3
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	3.5
RISER PIPE (In.) I.D.: 1”	O.D.: 1.25
TYPE OF RISER PIPE	Schedule 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Not Applicable
DEPTH TOP OF SEAL (Ft.)	3.5
TYPE OF SEAL	Bentonite chips
DEPTH BOTTOM OF SEAL (Ft.)	12
DEPTH TOP OF PERVIOUS SECTION (Ft.)	14
DIAMETER OF BOREHOLE (In.)	3.25
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.010 in.
PERVIOUS SECTION (In.) I.D.: 1”	O.D.: 2.5
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	Prepack Screen
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	24
DEPTH BOTTOM OF FILTER PACK (Ft.)	24
TYPE OF BACKFILL BELOW FILTER PACK	Not Applicable
END OF BORING(Ft.)	24

G E N E R A L N O T E :

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 – East Brunswick Remote Radio Transmitter Site	PROJECT NO:	112G01074
PROJECT LOCATION:	Brunswick, Maine	WELL NO:	NASB-EB-MW-02
CLIENT:	NAVFAC Mid-Atlantic	BORING NO:	NASB-EB-SB-04
CONTRACTOR:	MAI Environmental	DRILLER:	S. Brown
LOGGED BY:	R. Clark	DATE:	11/05/09
CHECKED BY:	C. Race	DATE:	3/11/10

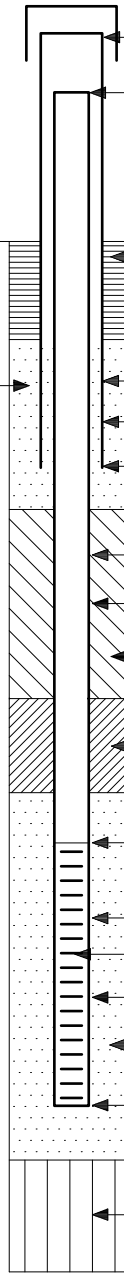
BORING LOCATION:
N: 397283.5
E: 3026919.3

PAGE: 1 OF 1

ELEVATION TOP OF PROTECTIVE CASING 32.37 ft

ELEVATION TOP OF RISER PIPE 32.11 ft

GROUND ELEVATION 30.08 ft



SAND DRAIN LAYER

LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	2.29
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	2.03
TYPE OF SURFACE SEAL	Cement
DIA. SURFACE SEAL BGS (In.)	2
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	24
I.D. OF PROTECTIVE CASING (In.)	4.5
TYPE OF PROTECTIVE CASING	Steel Casing
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	3
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	3.5
RISER PIPE (In.) I.D.: 1”	O.D.: 1.25
TYPE OF RISER PIPE	Schedule 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Not Applicable
DEPTH TOP OF SEAL (Ft.)	3.5
TYPE OF SEAL	Bentonite chips
DEPTH BOTTOM OF SEAL (Ft.)	10
DEPTH TOP OF PERVIOUS SECTION (Ft.)	12
DIAMETER OF BOREHOLE (In.)	3.25
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.010 in.
PERVIOUS SECTION (In.) I.D.: 1”	O.D.: 2.5
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	Prepack Screen
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	22
DEPTH BOTTOM OF FILTER PACK (Ft.)	22
TYPE OF BACKFILL BELOW FILTER PACK	Not Applicable
END OF BORING(Ft.)	22

G E N E R A L N O T E :

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 – East Brunswick Remote Radio Transmitter Site	PROJECT NO:	112G01074
PROJECT LOCATION:	Brunswick, Maine	WELL NO:	NASB-EB-MW-03
CLIENT:	NAVFAC Mid-Atlantic	BORING NO:	NASB-EB-SB-01
CONTRACTOR:	MAI Environmental	DRILLER:	S. Brown
LOGGED BY:	R. Clark	DATE:	11/05/09
CHECKED BY:	C. Race	DATE:	3/11/10

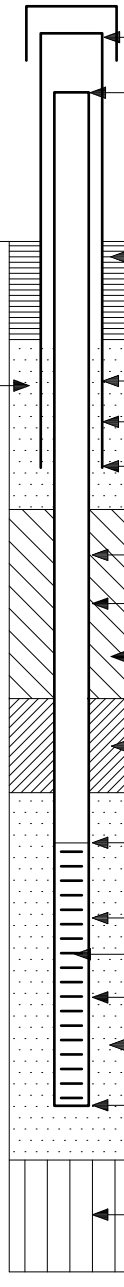
BORING LOCATION:
N: 397151.8
E: 3026909.7

PAGE: 1 OF 1

ELEVATION TOP OF PROTECTIVE CASING 31.83 ft

ELEVATION TOP OF RISER PIPE 31.65 ft

GROUND ELEVATION 29.51 ft



LENGTH OF PROTECTIVE CASING ABOVE GROUND SURFACE (Ft.)	2.32
LENGTH OF RISER PIPE ABOVE GROUND SURFACE (Ft.)	2.14
TYPE OF SURFACE SEAL	Cement
DIA. SURFACE SEAL BGS (In.)	24
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	2
I.D. OF PROTECTIVE CASING (In.)	4.5
TYPE OF PROTECTIVE CASING	Steel Casing
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	3
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	3.5
RISER PIPE (In.) I.D.: 1”	O.D.: 1.25
TYPE OF RISER PIPE	Schedule 40 PVC
TYPE OF BACKFILL AROUND RISER PIPE	Not Applicable
DEPTH TOP OF SEAL (Ft.)	3.5
TYPE OF SEAL	Bentonite chips
DEPTH BOTTOM OF SEAL (Ft.)	10
DEPTH TOP OF PERVIOUS SECTION (Ft.)	12
DIAMETER OF BOREHOLE (In.)	3.25
TYPE OF PERVIOUS SECTION	Schedule 40 PVC
TYPE OF OPENINGS	0.010 in.
PERVIOUS SECTION (In.) I.D.: 1”	O.D.: 2.5
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	Prepack Screen
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	22
DEPTH BOTTOM OF FILTER PACK (Ft.)	22
TYPE OF BACKFILL BELOW FILTER PACK	Not Applicable
END OF BORING(Ft.)	22

G E N E R A L N O T E :

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.

APPENDIX A-4

WELL DEVELOPMENT LOGS

Tetra Tech NUS, Inc.

MONITORING WELL DEVELOPMENT RECORD

Site: NAS Brunswick
Well: MW02
Date Installed: 11/5/09
Date Developed: 11/10/09
Dev. Method: Overpump
Pump Type: peristaltic

Depth to Bottom (ft.): 23.83
Static Water Level Before (ft.): 17.13
Static Water Level After (ft.): 17.13
Screen Length (ft.): 10
Specific Capacity:
Casing ID (in.): 1

Project Name: E Brunswick Remote Radio transmitter
Project Number: 112G01074
Site Geologist: R Clark
Drilling Co.: N/A

Time	Estimated Sediment Thickness (Ft.)	Cumulative Water Volume (Gal.)	Water Level Readings (Ft. below TOC)	Temperature (Degrees C)	pH	Specific Conductance (Units _____)	Turbidity (NTU)	Remarks (odor, color, etc.)
0915	pump on - water lt brown cloudy							400 ml/minute
0945	purged 3 gallons - clearing up - hook up ysi							
0955		5	17.15	11.13	5.02	21	150	
1005	pulled tubing 3' off bottom - stopped surging							
1010		6	17.15	11.17	4.96	21	0.8	clear
1020		7	17.15	11.16	5.04	21	3.6	
1025			17.15	11.19	5.04	21	2.4	
1030		8	17.15	11.20	5.07	21	1.5	

Tetra Tech NUS, Inc.

MONITORING WELL DEVELOPMENT RECORD

Site: NAS Brunswick
Well: MW03
Date Installed: 11/5/09
Date Developed: 11/10/09
Dev. Method: overpump
Pump Type: peristaltic

Depth to Bottom (ft.): 23.82
Static Water Level Before (ft.): 17.07
Static Water Level After (ft.): 17.11
Screen Length (ft.): 10
Specific Capacity:
Casing ID (in.): 1

Project Name: E Brunswick Remote Radio transmitter
Project Number: 112G01074
Site Geologist: R Clark
Drilling Co.: N/A

Time	Estimated Sediment Thickness (Ft.)	Cumulative Water Volume (Gal.)	Water Level Readings (Ft. below TOC)	Temperature (Degrees C)	pH	Specific Conductance (Units ug/cm)	Turbidity (NTU)	Remarks (odor, color, etc.)
1045	pump	on -	surging	bottom	sediment	in	well.	400 ml/min
1117	—	3	17.12	10.22	5.07	21	90	
surged each foot - at midscreen						waiting to	clean up	
1141	—	6	17.11	10.27	5.09	20	12	
1149	—	7	17.11	10.23	5.16	20	12	
1156	—	8	17.11	10.25	5.14	20	7.5	
1201	—	9	17.11	10.20	5.17	20	45	
1207	—	~~10~~ 9½	17.11	10.25	5.12	20	14	
1212	—	10	17.11	10.26	5.15	20	7.9	
Begin purge								

EAST Brunswick Remote Radio Tower Site

Tetra Tech NUS, Inc.

MONITORING WELL DEVELOPMENT RECORD

Depth to Bottom Post Development : 25.68

Site: NAS Brunswick
Well: MW-01
Date Installed: 11/06/09
Date Developed: 11/10/09
Dev. Method: Peristaltic
Pump Type: Peristaltic

Depth to Bottom (ft.): 25.68
Static Water Level Before (ft.): 19.86
Static Water Level After (ft.): 19.90
Screen Length (ft.): 10'
Specific Capacity:
Casing ID (in.): 1"

Project Name: EBrunswick Remote Radio transmitter
Project Number: 112G01074
Site Geologist: B. Geringer / R. Clark
Drilling Co.: N/A

PID = 0.0 Purge Rate = 400 mL/min

Time START: 0910	Estimated Sediment Thickness (Ft.)	Cumulative Water Volume (Gal.)	Water Level Readings (Ft. below TOC)	Temperature (Degrees C)	pH	Specific Conductance (Units us/cm²)	Turbidity (NTU)	Remarks (odor, color, etc.) Initial 200 mls were brown/cloudy	
0920	0		19.89	11.48	6.47	114	260	~~Clear/Colorless~~ BGr little cloudy	At bottom
0930	↓	≈2	19.90	11.42	6.72	108	7.6	Clear/colorless	1' off Bottom
0940			19.90	11.46	6.75	108	4.2	Clear/Colorless	2' off Bottom
0950		≈4	19.90	11.53	6.76	108	2.0	Clear/Colorless	3' off Bottom
1000			19.90	11.55	6.76	108	1.0	Clear/colorless	4' off Bottom
1010		≈6	19.90	11.51	6.78	108	11	Clear/Colorless	At Bottom
1020			19.91	11.63	6.76	108	0.85	Clear/colorless	25' off Bottom
1030	✓	≈8	19.91	11.57	6.70	108	0.65	Clear/Colorless	" "
	Finished Development - Reached Criteria per Workplan -								

APPENDIX A-5

WELL INSPECTION FORMS

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: NAS B-EB-MW03

PROJECT NAME: E Brunswick Radio

DATE/TIME: 11/24/09 0845

PROJECT MANAGER: Jane Connet

INSPECTED BY: R Clark

VENT WELL

MONITORING INSTRUMENT READING: 0.0

LEL/02 READING:

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC) 23.60 + 0.27 = 23.87

WATER LEVEL DEPTH (FEET FROM TOP OF PVC) 16.28

WELL STICK-UP 2.02 + 0.27 (A) 1.75

CASING STICK-UP (FEET) (PVC) (A) - 0.20 = 1.55

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: good

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: NASB-EB-MW02 PROJECT NAME: E Brunswick Radio

DATE/TIME: 11/24/09 0850 PROJECT MANAGER: Jane Connet

INSPECTED BY: R Clark

VENT WELL

MONITORING INSTRUMENT READING: 0.0

LEL/02 READING: —

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC)	23.59 + 0.27 = 23.86
WATER LEVEL DEPTH (FEET FROM TOP OF PVC)	16.31
WELL STICK-UP	2.03 + 0.27 (A) = 2.30
CASING STICK-UP (FEET) (PVC)	(A) - 0.27 = 2.03
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: good

TtNUS Form 0021

TETRA TECH NUS, INC.	WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT SHEET

WELL NUMBER: NASB-EB-MW01

PROJECT NAME: E Brunswick Radio

DATE/TIME: 11/24/09 0845

PROJECT MANAGER: Jane Connet

INSPECTED BY: BG

VENT WELL

MONITORING INSTRUMENT READING: 0.0

LEL/02 READING: N/A

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT

WELL DEPTH (FEET FROM TOP OF PVC)	25.68'
WATER LEVEL DEPTH (FEET FROM TOP OF PVC)	19.14'
WELL STICK-UP (PVC)	2.24' − 0.18 = 2.06'
CASING STICK-UP (FEET)	2.24'
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: Good Condition

TtNUS Form 0021

APPENDIX A-6

SOIL AND GROUNDWATER SAMPLE LOGS

TETRA TECH NUS, INC.

MONITORING WELL PURGE DATA SHEET – "LOW STRESS" GROUNDWATER

Site Name: East Brunswick Remote Radio Transmitter Site, NASB, ME
Sample ID: EB-MW01 .

Tetra Tech NUS Charge No. 112G01074.1503 / CTO 127 Page 1 of 1
QC: MS/MSD (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump
Depth Sampled: 22.4 ft bgs Screen Int. Depth 14-24 ft bgs
Sample Date & Time: 11 /24 /2009 0930 hours
Sampler(s):
Data Recorded By: B. Geringer .
Well Diameter/Total Depth 1 in. (ft below TOR); Stickup 2.11 ft ;
Visual Evidence of Sheen (Yes/No) No
;
Olfactory Evidence of Odor (Yes/No) No
.

PID BZ= 0 / W= 0 / PW= 0 PPM. Field Instrument Group A/B/C/D

Pre-tubing insertion WL 19.14 ft btor;

Analyte	Preservative	Container requirements	Collected
VOC	4°C, HCL	9 x 40 mL vial with HCL	Yes
SVOC	4°C	6 x 1 liter amber glass	Yes
EPH	4°C, HCL	6 x 1 liter amber glass	Yes
Metals (unfiltered)	4°C, HNO3	2 x 2 500 mL poly with HNO_3	Yes

Clock Time 24hr	Water Depth (ft below TOR)	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	S. Cond. 2 uS/cm	DO mg/L	pH (S.U.)	ORP mV	Turbidity (NTU)	Comments
0850	Pump on										
0900	19.17		200	0.5	10.62	165	9.91	6.90	113.4	1.41	
0910	19.17		200	1	10.62	174	8.94	6.95	109.9	0.93	
0915	19.17		200	1.5	10.61	176	8.88	6.95	108.2	0.95	
0920	19.17		200	2	10.60	174	9.05	6.95	108.4	0.78	
0925	19.17		200	2.5	10.56	173	9.30	6.95	108.6	0.73	

TtNUS Form 0009 (modified)

Well or Saturated Screen Volume (gallons)_____. 2in Screen Volume = 0.163 gal/ft or 616 ml per foot.

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.

BZ=Breathing Zone, W=Well, PW=Purge Water

3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

MONITORING WELL PURGE DATA SHEET – "LOW STRESS" GROUNDWATER

Site Name: East Brunswick Remote Radio Transmitter Site, NASB, ME
Sample ID: EB-MW02 .

Tetra Tech NUS Charge No. 112G01074.1503 / CTO 127 Page 1 of 1
QC: DUP01 (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump
Depth Sampled: 20.5 ft bgs Screen Int. Depth 12-22 ft bgs
Sample Date & Time: 11 / 24 /2009 0935 hours
Sampler(s):
Data Recorded By: R.Clark .
Well Diameter/Total Depth 1 in. (ft below TOR); Stickup 2.03 ft ;
Visual Evidence of Sheen (Yes/No) no ;
Olfactory Evidence of Odor (Yes/No) no ;
Weather: cloudy, windy 40s

PID BZ= 0 / W= 0 / PW= 0 PPM. Field Instrument Group A/B/C/D

Pre-tubing insertion WL 16.31 ft btor

Analyte	Preservative	Container requirements	Collected
VOC	4°C, HCL	3 x 40 mL vial with HCL	Yes
SVOC	4°C	2 x 1 liter amber glass	Yes
EPH	4°C, HCL	2 x 1 liter amber glass	Yes
Metals (unfiltered)	4°C, HNO3	1 x 2 500 mL poly with HNO_3	Yes

Clock Time 24hr	Water Depth (ft below TOR)	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	S. Cond. 2 uS/cm	DO mg/L	pH (S.U.)	ORP mV	Turbidity (NTU)	Comments
0900	Pump on										
0910	16.31		200	¼	9.95	24	8.11	4.85	263.9	100	
0915	16.31		200	½	9.88	23	8.48	5.00	260.8	22	
0920	16.31		200	¾	9.94	22	8.52	4.94	269.5	11	
0925	16.31		200	1	9.96	22	8.28	5.11	261.4	4.0	
0928	16.31		200	1 ¼	9.95	22	8.30	5.10	262.0	3.5	
0931	16.31		200	1 ½	9.91	22	8.36	5.13	260.1	2.0	

TtNUS Form 0009 (modified)

Well or Saturated Screen Volume (gallons)_____. 2in Screen Volume = 0.163 gal/ft or 616 ml per foot.

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.

BZ=Breathing Zone, W=Well, PW=Purge Water

3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

MONITORING WELL PURGE DATA SHEET – "LOW STRESS" GROUNDWATER

Site Name: East Brunswick Remote Radio Transmitter Site, NASB, ME
Sample ID: EB-MW03 .

Tetra Tech NUS Charge No. 112G01074.1503 / CTO 127 Page 1 of 1
QC: _____ (If applicable)

Sample Method: Low Stress (flow) with Peristaltic Pump
Depth Sampled: 20.6 ft bgs Screen Int. Depth 12-22 ft bgs
Sample Date & Time: 11 / 24 /2009 1200 hours
Sampler(s):
Data Recorded By: R.Clark .
Well Diameter/Total Depth 1 in. (ft below TOR); Stickup 2.14 ft ;
Visual Evidence of Sheen (Yes/No) no ;
Olfactory Evidence of Odor (Yes/No) no ;
Weather: cloudy, windy 40s

PID BZ= 0 / W= 0 / PW= 0 PPM. Field Instrument Group A/B/C/D

Pre-tubing insertion WL 16.31 ft btor

Analyte	Preservative	Container requirements	Collected
VOC	4°C, HCL	3 x 40 mL vial with HCL	Yes
SVOC	4°C	2 x 1 liter amber glass	Yes
EPH	4°C, HCL	2 x 1 liter amber glass	Yes
Metals (unfiltered)	4°C, HNO3	1 x 2 500 mL poly with HNO_3	Yes

Clock Time 24hr	Water Depth (ft below TOR)	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Gals.	Temp °C	S. Cond. 2 uS/cm	DO mg/L	pH (S.U.)	ORP mV	Turbidity (NTU)	Comments
1100	Pump on		200								
1110	16.32		200	½	9.37	55	10.12	5.61	136.9	90.2	
1120	16.31		200	1	9.30	23	9.80	5.65	216.2	31.1	
1130	16.31		200	1 ½	9.49	22	9.70	5.59	213.3	13.3	
1140	16.31		200	2	9.53	21	9.65	5.53	213.9	6.59	
1145	16.31		200	2 ½	9.52	22	9.74	5.50	213.7	3.45	
1148	16.31		200	2 ¾	9.54	22	9.75	5.50	213.8	3.13	
1151	16.31		200	3	9.58	22	9.20	5.46	219.3	2.71	

TtNUS Form 0009 (modified)

Well or Saturated Screen Volume (gallons)_____. 2in Screen Volume = 0.163 gal/ft or 616 ml per foot.

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.

BZ=Breathing Zone, W=Well, PW=Purge Water

3. Oxidation reduction potential (stand in for Eh).

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: E. Brunswick Radio
Project No.: 112G01074

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: EB-SO-SB01A-0012
Sample Location: SB01A
Sampled By: RC/BG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

GRAB SAMPLE DATA:

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

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
11/11/09	0945	0-12"	Brown	F SAND
Method: auger				ash
				roots
Monitor Readings (Range in ppm):				trace silt
0.0				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
TAL metals	4oz jar ea	yes	
SVOC			

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): [illegible]

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: E. Brunswick Radio
Project No.: 112G01074

Sample ID No.: EB-SD-SS01-0012
Sample Location: SS01
Sampled By: RC/BG
C.O.C. No.:

- [x] Surface Soil
- [ ] Subsurface Soil
- [ ] Sediment
- [ ] Other:
- [ ] QA Sample Type:

Type of Sample:
- [ ] Low Concentration
- [ ] High Concentration

GRAB SAMPLE DATA:

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

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
11/11/09	0940	0-12"	Brown	F SAND
Method: auger				trace silt
				Dry
Monitor Readings (Range in ppm):				
0.0				ash

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
TAL metals SVOC	4oz jar ea	yes	

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): [illegible]

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: E. Brunswick Radio
Project No.: 112G01074

Sample ID No.: EB-SO-SS01B-0012
Sample Location: SS01B
Sampled By: RC/BG
C.O.C. No.:

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

GRAB SAMPLE DATA:

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

COMPOSITE SAMPLE DATA:

Date: 11/11/09	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method: auger	0950	0-12"	DK brown to black	F-M SAND metal debris ash Burnt wood frag copper wire
Monitor Readings (Range in ppm): 0.0				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
TAL metals SVOC	4oz jarea.	yes	

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): Rolee

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: E Brunswick Radio
Project No.: 112G01074

Sample ID No.: EB-SD-SS02-0012
Sample Location: SS02
Sampled By: RC/BG
C.O.C. No.:

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

GRAB SAMPLE DATA:

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

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
11/11/09	0915	0-12"	Brown	VF-F SAND
Method: auger				trace Silt
				(stoney - had to
Monitor Readings				move to ~~find~~ get
(Range in ppm):				0-12"
0.0				Wood frag.

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
TAL metals	4 oz jar ea	yes ✓	
SVOC			
PCB			

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): [illegible]

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: E. Brunswick Radio
Project No.: 112G01074

Sample ID No.: EB-SO-SS03-0012
Sample Location: SS03
Sampled By:
C.O.C. No.:

[] Surface Soil
[] Subsurface Soil
[] Sediment
[] Other:
[] QA Sample Type:

Type of Sample:
[] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

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

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
11/11/09	0920	0-12"	Brown	F SAND little silt
Method: auger				roots
				dry
Monitor Readings (Range in ppm): 0.0				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
TAL metals	4oz jar ea	yes	
SVOC			
PCB			

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): [illegible]

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: E. Brunswick Radio
Project No.: 112G01074

Sample ID No.: EB-SO-SS04A-0004
Sample Location: SS04A
Sampled By: RC/BG
C.O.C. No.:

- [X] Surface Soil
- [ ] Subsurface Soil
- [ ] Sediment
- [ ] Other:
- [ ] QA Sample Type:

Type of Sample:
- [ ] Low Concentration
- [ ] High Concentration

GRAB SAMPLE DATA:

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

COMPOSITE SAMPLE DATA:

Date: 11/11/09
Method: trowel
Monitor Readings (Range in ppm): 0.0

Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
0810	0-4"	Dk brown	VF-F SAND
			roots
			dry

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
SVOC	4 oz jar	yes	
PCB			
lead			
herbicides			

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): Robert

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: E. Brunswick Radio
Project No.: 112G01074

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: EB-SD-SS04B-0004
Sample Location: SS04B
Sampled By: RC/BG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

GRAB SAMPLE DATA:

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

COMPOSITE SAMPLE DATA:

Date: 11/11/09
Method: trowel
Monitor Readings (Range in ppm): 0.0

Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
0815	0-4"	Brown	VF-F SAND
			roots
			dry

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
PCB	4 oz jar ea	yes	
lead			

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): [illegible]

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: E Brunswick Radio
Project No.: 112G01074

Sample ID No.: EB-SO-SS04C-0001
Sample Location: SS04C
Sampled By: RC/BG
C.O.C. No.:

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

GRAB SAMPLE DATA:

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

COMPOSITE SAMPLE DATA:

Date: 11/11/09	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
	0805	0-4"	PK Brown	VF - F SAND
Method: trowel				Dry
				roots
Monitor Readings (Range in ppm): 0.0				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
PCB			
lead	4 oz jar ea	yes	

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): Rolick

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: E Brunswick Radio
Project No.: 112G01074

Sample ID No.: EB-SD-SSD5A-0004
Sample Location: SSD5A
Sampled By: RC/BG
C.O.C. No.:

- [x] Surface Soil
- [ ] Subsurface Soil
- [ ] Sediment
- [ ] Other:
- [ ] QA Sample Type: Dup 02

Type of Sample:
- [ ] Low Concentration
- [ ] High Concentration

GRAB SAMPLE DATA:

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

COMPOSITE SAMPLE DATA:

Date: 11/10/09	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method: trowel	1440	0-4"	Brown	VF-F SAND trace gravel up to 1/2" dry
Monitor Readings (Range in ppm): 0.0				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
SVOC	4 oz jar	yes	
PCB			
lead			
herbicides			
	dd	✓	

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): Rolice

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: E. Brunswick Radio
Project No.: 112G01074

Sample ID No.: EB-SO-SS05B-0004
Sample Location: SS05B
Sampled By: RC/BG
C.O.C. No.:

- [x] Surface Soil
- [ ] Subsurface Soil
- [ ] Sediment
- [ ] Other:
- [ ] QA Sample Type:

Type of Sample:
- [ ] Low Concentration
- [ ] High Concentration

GRAB SAMPLE DATA:

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

COMPOSITE SAMPLE DATA:

Date: 11/10/09	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method: trowel	1450	0-4"	Brown	VF-F SAND dry
Monitor Readings (Range in ppm): 0.0				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
PCB	4oz jar	yes	
lead			

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): [illegible]

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: E Brunswick Radio
Project No.: 112G01074

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: EB-SD-SS05C-0004
Sample Location: SS05C
Sampled By: RC/BG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

GRAB SAMPLE DATA:

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

COMPOSITE SAMPLE DATA:

Date: 11/10/09	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method: trowel	1445	0-4"	Orangish brown	VF-F SAND Dry
Monitor Readings (Range in ppm): 0.0				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
PCB	4 oz jar ea	yes	
lead			

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: E. Brunswick Radio
Project No.: 112G01074

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type: SSDUP01

Sample ID No.: EB-SD-SS06A-0004
Sample Location: SS06A
Sampled By: BG/RC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

GRAB SAMPLE DATA:

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

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
11/10/09	1355	0-4"	Brown	Silty VF SAND roots
Method: trowel				
Monitor Readings (Range in ppm): 0.0				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
SVOC	4 oz jar	Yes	
PCB			
Lead			
Herbicides			

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): Rebecca

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: E. Brunswick Radio
Project No.: 112G01074

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: EB-SD-SS06B-0004
Sample Location: SS06B
Sampled By: BG/RC
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

GRAB SAMPLE DATA:

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

COMPOSITE SAMPLE DATA:

Date: 11/10/09	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method: trowel	1340	0-4"	DK Brown	SiH + VF SAND
Monitor Readings (Range in ppm): 0,0				roots
				damp.

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Lead PCB	4 oz jar	yes	

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: E. Brunswick Radio
Project No.: 112G01074

Sample ID No.: EB-SO-SS06C-0004
Sample Location: SS06C
Sampled By: BG/RC
C.O.C. No.:

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

GRAB SAMPLE DATA:

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

COMPOSITE SAMPLE DATA:

Date: 11/10/09
Method: trowel
Monitor Readings (Range in ppm): 0.0

Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
1420	0-4"	Dk brown	VF Silty SAND roots

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
PCB	4oz jar ea	yes	
lead			

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: E Brunswick Radio
Project No.: 112G01074

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: EB-SO-SS07A-0004
Sample Location: SS07A
Sampled By: RC/BG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

GRAB SAMPLE DATA:

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

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
11/10/09	1510	0-4"	Brown	VF Silty SAND
Method: trowel				roots
Monitor Readings (Range in ppm): 0.0				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
SVOC	4 oz jar ea	yes	
PCB			
Pesticides			
herbicides			

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: E. Brunswick Radio
Project No.: 112G01074

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: EB-SO-SS07B-0004
Sample Location: SS07B
Sampled By: RC/BG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

GRAB SAMPLE DATA:

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

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
11/10/09	1540	0-4 in	DK Brown	VF-F SAND
Method: trowel				some silt
				roots
Monitor Readings (Range in ppm):				dry
0.0				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
lead			
PCB	4 oz jar ea	yes	

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: E. Brunswick Radio
Project No.: 112G01074

[X] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: EB-SO-SS07C-0004
Sample Location: SS07C
Sampled By: RC/BG
C.O.C. No.:

Type of Sample:
[ ] Low Concentration
[ ] High Concentration

GRAB SAMPLE DATA:

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

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
11/10/09	1525	0-4in	DK Brown	VF SAND Some Silt dry roots
Method: Trowel				
Monitor Readings (Range in ppm): 0.0				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
lead PCBs	4oz jar ea	yes	

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: E. Brunswick Radio
Project No.: 112G01074

Sample ID No.: EB-SD-SS08-0012
Sample Location: SS08
Sampled By: RC/BG
C.O.C. No.:

- [x] Surface Soil
- [ ] Subsurface Soil
- [ ] Sediment
- [ ] Other:
- [ ] QA Sample Type: DUP of TAL only

Type of Sample:
- [ ] Low Concentration
- [ ] High Concentration

GRAB SAMPLE DATA:

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

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
11/11/09	0900	0-12	Brown	F SAND
Method: trowel				trace silt
				roots
Monitor Readings (Range in ppm):				dry
0.0				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
SVOC	4oz jar ea	yes	
PCB			
Metals Dup of			

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: E. Brunswick Radio
Project No.: 112G01074

Sample ID No.: EB-SO-SS09-0012
Sample Location: SS09
Sampled By: RC/BG
C.O.C. No.:

- [x] Surface Soil
- [ ] Subsurface Soil
- [ ] Sediment
- [ ] Other:
- [ ] QA Sample Type: DUP03 TAL only

Type of Sample:
- [ ] Low Concentration
- [ ] High Concentration

GRAB SAMPLE DATA:

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

COMPOSITE SAMPLE DATA:

Date: 11/11/09	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
	0830	0-12"	Brown	F SAND
Method:				metal frag.
				glass frag.
Monitor Readings				dry
(Range in ppm):				trace silt

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
SVOC			
TAL metals	4 oz jar ea	yes	

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): [illegible]

APPENDIX A-7

FIELD MODIFICATION FORMS

TETRA TECH NUS, INC.

FIELD MODIFICATION RECORD

Site Name: East Brunswick Remote Radio Transmitter Site Location: NAS Brunswick

Project Number: 112G01074 Task Assignment:

To: Jane Connet Location: Boston Date: 11/4/09

Description: moved SB03 to leachfield - could not find DBOX
Navy onsite - agreed to move as requested by MEDEP

Reason for Change: See above

Recommended Action: See above

Field Operations Leader (Signature): [signature] Date: 11/4/09

Disposition/Action:

Project Manager (Signature): [signature] Date: 12-1-09

Distribution:

		Others as Required:
Program Manager:		
Project Manager:	Jane Connet	
Quality Assurance Officer:	Tom Johnston	
Field Operations Leader:	Robin Clark	
Project File:		

TtNUS Form 0003

TETRA TECH NUS, INC.

FIELD MODIFICATION RECORD

Site Name: East Brunswick Remote Radio Transmitter Site Location: NAS Brunswick

Project Number: 112G01074 Task Assignment:

To: Jane Connet Location: Boston Date: 10/28/09

Description: No evidence of antennas was found at SS05 A/B/C

Reason for Change: found antenna location north of original SS05 location

Recommended Action: locations SS-05A/B/C were moved to a location where an antenna was located

Field Operations Leader (Signature): Robin Date: 10/28/09

Disposition/Action:

Project Manager (Signature): Jane M Connet Date: 12-1-09

Distribution:

		Others as Required:
Program Manager:		
Project Manager:	Jane Connet	
Quality Assurance Officer:	Tom Johnston	
Field Operations Leader:	Robin Clark	
Project File:		

TtNUS Form 0003

TETRA TECH NUS, INC.

FIELD MODIFICATION RECORD

Site Name: East Brunswick Remote Radio Transmitter Site Location: NAS Brunswick

Project Number: 112G01074 Task Assignment:

To: Jane Connet Location: Boston Date: 11/4/09

Description: 8 oz jars were specified in table 19 of the SAP. Lab sent 4 oz jars. Samples were sent in 4 oz jars

Reason for Change: See above

Recommended Action: Soil Samples were collected + submitted in 4 oz jars - for SVOC Herbicides + PCB.

Field Operations Leader (Signature): Robin Date: 11/4/09

Disposition/Action:

Project Manager (Signature): Jane M Connet Date: 11-1-09

Distribution:

		Others as Required:
Program Manager:		
Project Manager:	Jane Connet	
Quality Assurance Officer:	Tom Johnston	
Field Operations Leader:	Robin Clark	
Project File:		

TtNUS Form 0003

APPENDIX B

PHOTOS

Photo 1: **Copper wire mesh (arrow pointing) and wooden post at former tower location.**

Photo 2: **Close-up (arrow pointing) of copper wire mesh..**

Photo 3: **Concrete pad with exposed galvanized screws at former tower location.**

Photo 4: **Exposed coaxial cable located adjacent to sample location SS04.**

Photo 5: **Close-up of coaxial cable cross section.**

Photo 6: **Burn area along northern edge of paved roadway.**

Photo 7: **Small debris area (SS-09).**

Photo 8: **Close-up of debris.**

Photo 9: **EB-TP01 septic tank opening located.**

Photo 10: **EB-TP01 measuring septic tank.**

Photo 11: **EB-TP02 bricks.**

Photo 12: **EB-TP02 looking for distribution box.**

Photo 13: **EB-TP03 gravel was found at far end of excavation.**

Photo 14: **EB-TP03 gravel and copper wire in TP03.**

Photo 15: **EB-TP04 burn area.**

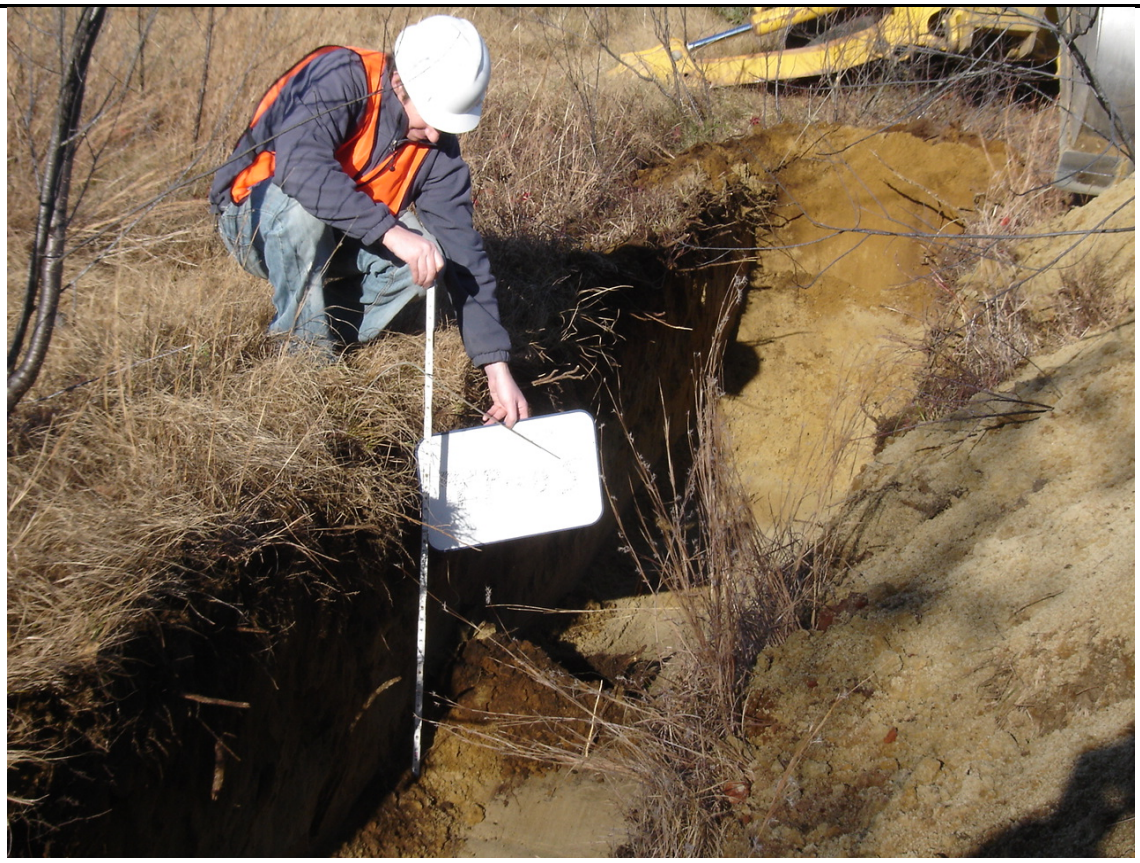


Photo 16: **EB-TP05 oil stain area.**

APPENDIX C

MEDEP COAXIAL CABLE MEMORANDUM

Department of Environmental Protection

MEMORANDUM

TO: **Claudia Sait, ESIII Division of Remediation**

FROM: **Chris Evans Certified Environ. Hydrogeologist**

RE: **East Brunswick Antenna Site – sample method for buried coaxial cable components – collected November 2009**

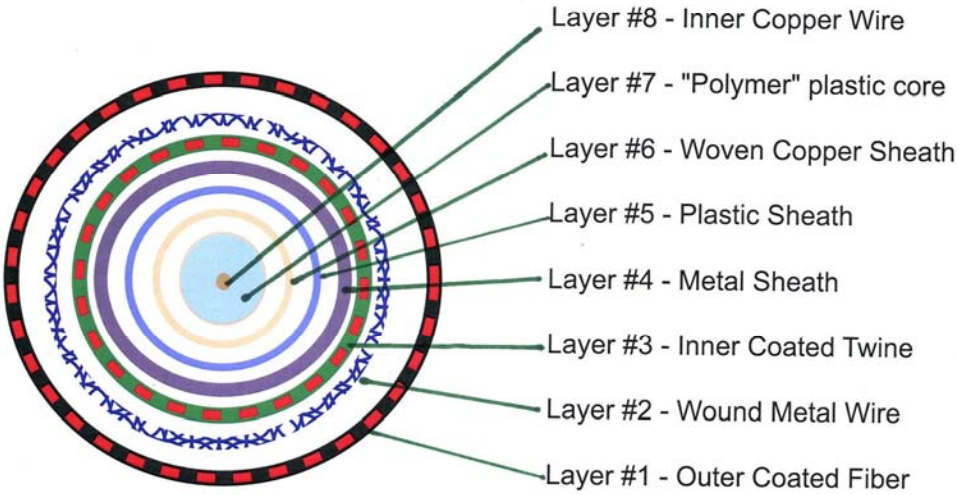
DATE: **Feb 4,2010**

Two separate cables were chosen for sampling, one section near the former south corner of the fenceline (extended north from TP05) and one section from a "Sleeve" antenna location W-SW of the former facility. The cables have multiple layers of wrapping and insulation, of different materials and construction. (Fig 1) The objective was to collect roughly equal portions of layers 1, 3, 4, 5, and 7 from the two cables and composite them into a single sample for each layer. Layers 1, 2, 5 and 7 were targeted for PCB analysis. Layer #4 was sampled for lead only. Samples were submitted to the Maine Health and Environmental Testing Laboratory for analysis.

The two fiber layers were collected in the field from a section of cable about 12-18" in length. The outer Layer #1 was crumbled and cut off the cable, often without the need for tools. The next layer was a wound steel wire (Layer #2), which was bent to the side or unwound to expose the second fiber/twine layer (Layer #3). The wound twine was cut to short (~ 1/2 inch) sections and placed in a sample jar. The remainder of the cable section was crimped with a hammer and chisel, cut with bolt cutters, bagged in a Ziploc and processed at MEDEP.

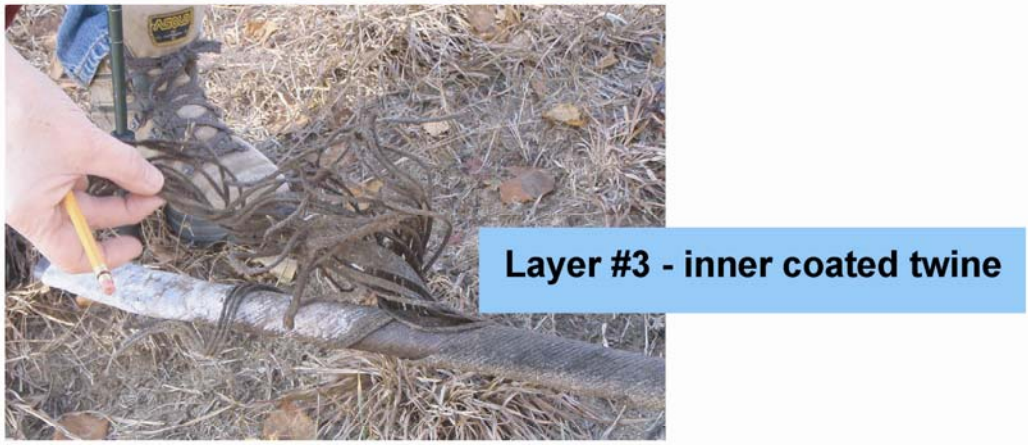
The pieces were kept sealed in Ziploc bags until they were processed. Staff used gloves and clean tools for each step of the sample processing. The metal sheath (Layer #4) sample was collected first using hand snips to reduce the pieces to < 1 inch. The plastic sheath (Layer #5) was cut from the cable with a utility knife and hand snips, then pieces were cut to < 1" diam. Equal portions (based on visual inspection) were collected from each cable. The inner polymer core (Layer #7) was gray, and had to be cut with small bolt cutters into "cookies" approximately ¼" in length. Once again equal portions (based on visual inspection) were collected from each cable.

Figure 1



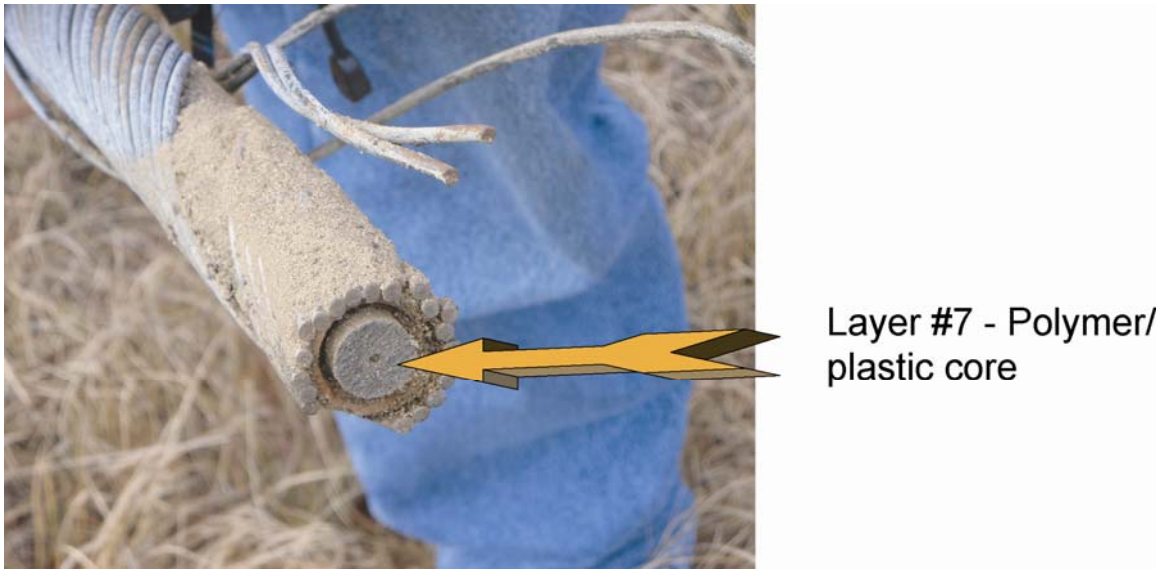
The sample designations on the Chain-of Custody (COC) and corresponding layer numbers are:

Figure 1 Coax layer	**COC designation**
Layer #1	**Coax Layer 1**
Layer #3	**Coax Layer 2**
Layer #4	**Coax Metal Sheath**
Layer #5	**Coax Outer Plastic**
Layer #7	**Coax Inner Plastic**



After removal of the samples from Layers # 1 and #3, a 1-foot section of each cable was cut, bagged and brought to MEDEP's office to process the metal and plastic layers.

Metal sheath (Layer #4 - light grey) over plastic sheath (Layer #5 - dark grey)


Layer #7 - Polymer/
plastic core

Maine Center for Disease Control and Prevention
An Office of the Department of Health and Human Services
John E. Baldacci, Governor Brenda M. Harvey, Commissioner

Department of Health and Human Services
Health and Environmental Testing Laboratory
221 State Street
#12 State House Station
Augusta, Maine 04333-0012
Tel: (207) 287-2727; Fax: (207) 287-6832
TTY: 1-800-606-0215

Logged: 11/5/2009 3:26:00PM
Folder/ Invoice # E055750

CLAUDIA SAIT
DEPT OF ENVIRONMENTAL PROTECTION
ME DEP BRWM SHS #17
AUGUSTA ME 04333 Fax#:

Office Use Only:
Summary
DEPP

Project Name: EAST BRUNSWICK
No. of Samples in Folder: 3

Released: 11/13/2009
Case #:

E055750001
E055750002
E055750003

CERTIFICATION

The HETL hereby certifies that all test results for this report were analyzed by the method listed and meet all NELAC requirements, unless otherwise noted.

Kenneth G. Pote, PhD., Director Richard French, Quality Assurance Officer

If we can be of further assistance to you, Please Call us at 287-1716

Approved by: Thomas Crosby

Thomas Crosby
Inorganics Supervisor/Chemist III

CC:

11/13/2009 7:48:43AM

Continued from Previous Page HETL Folder Number: E055750

HETL Sample Number: E055750003

Description: COA METAL SHEATH SOLID

Matrix: SOLID

Sample Point:

Sampler: GC EVANS

Sample Date: 11/4/2009 Time: 15:30:00

Analyte	Result	Units	Qualifier	RL	Method	Analyst	Analysis Datetime
Lead	240000	mg/Kg		3.0	6010B	m_bourdon	11/10/2009

Comment
Attached By MIKE B. Date 11/10/2009 12:00:00AM Time 16:18

Comment : Sample diluted 1:1000 for lead.

Continued from Previous Page HETL Folder Number: E055750

Units & Measurement

"mg/L" = Milligrams per liter; "ug/L" = Micrograms per Liter; "mg/Kg" = Milligrams per Kilogram;
"ug/Kg" = Micrograms per Kilogram; "PPM" = Parts per Million; "NTU" = Nephelometric Turbidity Units;

All solid results on a "Dry Weight" basis

NC = Not confirmed NQ = Not Quantitated NA = Not Analyzed J = Approximately U = Undetected R = Rejected

RL-Reporting Limit, the lowest concentration which can be reliably reported on a routine basis
"<" = Less than ">" = Greater than

Note: Results below the advisory limit, including < and K are considered satisfactory for that parameter.

Disclaimer

Your report consists of the number of pages listed on the cover page. Any attachments after the last numbered page are for informational purposes only and not part of the formal report.

The results in this report are for the submitted sample(s) only.

This report shall not be reproduced, except in full, without written permission from the Maine Health and Environmental Testing Laboratory.

Maine Center for Disease Control and Prevention
An Office of the Department of Health and Human Services
John E. Baldacci, Governor Brenda M. Harvey, Commissioner

Department of Health and Human Services
Health and Environmental Testing Laboratory
221 State Street
#12 State House Station
Augusta, Maine 04333-0012
Tel: (207) 287-2727; Fax: (207) 287-6832
TTY: 1-800-606-0215

Logged: 11/5/2009 3:26:00PM

CLAUDIA SAIT
DEPT OF ENVIRONMENTAL PROTECTION
ME DEP BRWM SHS #17
AUGUSTA ME 04333 Fax#:

Folder/ Invoice # E055750

Office Use Only:
Summary
DEPP

Project Name: EAST BRUNSWICK

Released: 12/2/2009

No. of Samples in Folder 5

Case #:

E055750001, E055750002, E055750003
E055750004, E055750005

CERTIFICATION

The HETL hereby certifies that all test results for this sample were analyzed by the method listed, including preservation, preparation , and holding times, unless otherwise indicated.

Kenneth G. Pote, PhD., Director Richard French, Quality Assurance Officer

If we can be of further assistance to you, Please Call us at 287-1716

Approved by:

James E. Curlett
Organics Supervisor/Chemist III

CC:

12/2/2009 12:56:15PM

Continued from Previous Page HETL Sample Number: E055750001

HETL Sample Number: E055750001
Description: COAX LAYER 1
Matrix: SOLID
Sample Point:
Sampler: G C EVANS
Sample Date: 11/4/2009 Time: 15:30:00
Method: 8082 Analyst N.Ingalls Analysis Datetime: 11/23/2009

Preparation Method: 3550B Prepared by: N.Ingalls

Date Prepared	Time Prepared	Amount Extracted	Extraction pH	Final Amount of Extract
11/09/09	14:00	10.74 g	N/A	1 mL

Prep Comment: This sample was preped by soxholet, method EPA 3541.

Analyte	Result	Units	RL	MCL	Qualifiers
Aroclor 1260	<750	ug/kg	50		
Aroclor 1254	61	ug/kg	100		J
Aroclor 1221	<3000	ug/kg	200		
Aroclor 1232	<1500	ug/kg	100		
Aroclor 1248	<1500	ug/kg	100		
Aroclor 1016	<1500	ug/kg	100		
PCBs, Total	61	ug/kg			J
Aroclor 1242	<1500	ug/kg	100		

Surrogate Analytes (added as part of testing to verify performance)	Result	Amount	% Rec	Low % Rec	High % Rec	Qualifiers
Decachlorobiphenyl	0.157	.5	31.4	50	150	LoRec
Tetrachloro-m-xylene	0.441	.5	88.2	50	150	

Continued from Previous Page HETL Sample Number: E055750001

Units & Measurement

"mg/L" = Milligrams per liter; "ug/L" = Micrograms per Liter; "mg/Kg" = Milligrams per Kilogram;
"ug/Kg" = Micrograms per Kilogram; "PPM" = Parts per Million; "NTU" = Nephelometric Turbidity Units;

The MCL, Maximum Contaminant Level is listed for comparing your results with recommended levels.
In the "Qualifier" column, an " * " is placed to indicate any results that exceed this MCL.

If there are no " * " in the "Qualifier" column, your water is considered satisfactory for those tests.

All solid results are reported on a "Dry Weight" basis.

NC = Not confirmed NQ = Not Quantitated NA = Not Analyzed J = Approximately U = Undetected R = Rejected

RL-Reporting Limit is the lowest concentration which can be reliably reported on a routine basis.
"<" = Less than ">" = Greater than

MCL - Maximum Contaminant Level is the highest level allowed by EPA for public water supplies. Also used here as the maximum advisory limit set by the Maine Centers for Disease Control and Prevention.

Note: Results below the advisory limit, including < and J are considered satisfactory for that parameter.

Disclaimer

Your report consists of the number of pages listed on the cover page. Any attachments after the last numbered page are for informational purposes only and not part of the formal report.
The results in this report are for the submitted sample(s) only.
This report shall not be reproduced, except in full, without written permission from the Maine Health and Environmental Testing Laboratory.

Maine Center for Disease Control and Prevention
An Office of the Department of Health and Human Services
John E. Baldacci, Governor Brenda M. Harvey, Commissioner

Department of Health and Human Services
Health and Environmental Testing Laboratory
221 State Street
#12 State House Station
Augusta, Maine 04333-0012
Tel: (207) 287-2727; Fax: (207) 287-6832
TTY: 1-800-606-0215

Logged: 11/5/2009 3:26:00PM

CLAUDIA SAIT
DEPT OF ENVIRONMENTAL PROTECTION
ME DEP BRWM SHS #17
AUGUSTA ME 04333 Fax#:

Folder/ Invoice # E055750

Office Use Only:
Summary
DEPP

Project Name: EAST BRUNSWICK

Released: 12/2/2009

No. of Samples in Folder 5

Case #:

E055750001, E055750002, E055750003
E055750004, E055750005

CERTIFICATION

The HETL hereby certifies that all test results for this sample were analyzed by the method listed, including preservation, preparation , and holding times, unless otherwise indicated.

Kenneth G. Pote, PhD., Director Richard French, Quality Assurance Officer

If we can be of further assistance to you, Please Call us at 287-1716

Approved by:

James E. Curlett
Organics Supervisor/Chemist III

CC:

12/2/2009 12:56:15PM

Continued from Previous Page HETL Sample Number: E055750002

HETL Sample Number: E055750002
Description: COAX LAYER 2
Matrix: SOLID
Sample Point:
Sampler: G C EVANS
Sample Date: 11/4/2009 Time: 15:30:00
Method: 8082 Analyst N.Ingalls Analysis Datetime: 11/23/2009

Preparation Method: 3550B Prepared by: N.Ingalls

Date Prepared	Time Prepared	Amount Extracted	Extraction pH	Final Amount of Extract
11/09/09	14:00	10.25 g	N/A	1 mL

Prep Comment: This sample was preped by soxholet, method EPA 3541.

Analyte	Result	Units	RL	MCL	Qualifiers
Aroclor 1260	<750	ug/kg	50		
Aroclor 1254	97	ug/kg	100		J
Aroclor 1221	<3000	ug/kg	200		
Aroclor 1232	<1500	ug/kg	100		
Aroclor 1248	<1500	ug/kg	100		
Aroclor 1016	<1500	ug/kg	100		
PCBs, Total	97	ug/kg			J
Aroclor 1242	<1500	ug/kg	100		

Surrogate Analytes (added as part of testing to verify performance)	Result	Amount	% Rec	Low % Rec	High % Rec	Qualifiers
Decachlorobiphenyl	0.288	.5	57.6	50	150	
Tetrachloro-m-xylene	0.453	.5	90.6	50	150	

Continued from Previous Page HETL Sample Number: E055750002

Units & Measurement

"mg/L" = Milligrams per liter; "ug/L" = Micrograms per Liter; "mg/Kg" = Milligrams per Kilogram;
"ug/Kg" = Micrograms per Kilogram; "PPM" = Parts per Million; "NTU" = Nephelometric Turbidity Units;

The MCL, Maximum Contaminant Level is listed for comparing your results with recommended levels.
In the "Qualifier" column, an " * " is placed to indicate any results that exceed this MCL.

If there are no " * " in the "Qualifier" column, your water is considered satisfactory for those tests.

All solid results are reported on a "Dry Weight" basis.

NC = Not confirmed NQ = Not Quantitated NA = Not Analyzed J = Approximately U = Undetected R = Rejected

RL-Reporting Limit is the lowest concentration which can be reliably reported on a routine basis.
"<" = Less than ">" = Greater than

MCL - Maximum Contaminant Level is the highest level allowed by EPA for public water supplies. Also used here as the maximum advisory limit set by the Maine Centers for Disease Control and Prevention.

Note: Results below the advisory limit, including < and J are considered satisfactory for that parameter.

Disclaimer

Your report consists of the number of pages listed on the cover page. Any attachments after the last numbered page are for informational purposes only and not part of the formal report.
The results in this report are for the submitted sample(s) only.
This report shall not be reproduced, except in full, without written permission from the Maine Health and Environmental Testing Laboratory.

Maine Center for Disease Control and Prevention
An Office of the Department of Health and Human Services
John E. Baldacci, Governor Brenda M. Harvey, Commissioner

Department of Health and Human Services
Health and Environmental Testing Laboratory
221 State Street
#12 State House Station
Augusta, Maine 04333-0012
Tel: (207) 287-2727; Fax: (207) 287-6832
TTY: 1-800-606-0215

Logged: 11/5/2009 3:26:00PM

CLAUDIA SAIT
DEPT OF ENVIRONMENTAL PROTECTION
ME DEP BRWM SHS #17
AUGUSTA ME 04333 Fax#:

Folder/ Invoice # E055750

Office Use Only:
Summary
DEPP

Project Name: EAST BRUNSWICK

Released: 12/2/2009

No. of Samples in Folder 5

Case #:

E055750001, E055750002, E055750003
E055750004, E055750005

CERTIFICATION

The HETL hereby certifies that all test results for this sample were analyzed by the method listed, including preservation, preparation , and holding times, unless otherwise indicated.

Kenneth G. Pote, PhD., Director Richard French, Quality Assurance Officer

If we can be of further assistance to you, Please Call us at 287-1716

Approved by:

James E. Curlett
Organics Supervisor/Chemist III

CC:

12/2/2009 12:56:15PM

Continued from Previous Page HETL Sample Number: E055750004

HETL Sample Number: E055750004

Description: COAX OUTER

Matrix: SOLID

Sample Point:

Sampler:

Sample Date: Time:

Method: 8082 Analyst N.Ingalls Analysis Datetime: 12/01/09

Preparation Method: 3550B Prepared by: N.Ingalls

Date Prepared	Time Prepared	Amount Extracted	Extraction pH	Final Amount of Extract
11/09/09	14:00	10.02 g	N/A	2 mL

Analyte	Result	Units	RL	MCL	Qualifiers
Aroclor 1260	<50	ug/kg	50		
Aroclor 1254	<100	ug/kg	100		
Aroclor 1221	<200	ug/kg	200		
Aroclor 1232	<100	ug/kg	100		
Aroclor 1248	<100	ug/kg	100		
Aroclor 1016	<100	ug/kg	100		
PCBs, Total	<0	ug/kg			
Aroclor 1242	<100	ug/kg	100		

Surrogate Analytes (added as part of testing to verify performance)	Result	Amount	% Rec	Low % Rec	High % Rec	Qualifiers
Decachlorobiphenyl	0.0230	.5	4.6	50	150	LoRec
Tetrachloro-m-xylene	0.0570	.5	11.4	50	150	LoRec

Attached By N.Ingalls Date 12/2/2009 12:00:00AM Time 08:08

Comment : Due to matrix effects, the surrogate recoveries failed qualtiy control limits for this sample.

Continued from Previous Page HETL Sample Number: E055750004

Units & Measurement

"mg/L" = Milligrams per liter; "ug/L" = Micrograms per Liter; "mg/Kg" = Milligrams per Kilogram;
"ug/Kg" = Micrograms per Kilogram; "PPM" = Parts per Million; "NTU" = Nephelometric Turbidity Units;

The MCL, Maximum Contaminant Level is listed for comparing your results with recommended levels.
In the "Qualifier" column, an " * " is placed to indicate any results that exceed this MCL.

If there are no " * " in the "Qualifier" column, your water is considered satisfactory for those tests.

All solid results are reported on a "Dry Weight" basis.

NC = Not confirmed NQ = Not Quantitated NA = Not Analyzed J = Approximately U = Undetected R = Rejected

RL-Reporting Limit is the lowest concentration which can be reliably reported on a routine basis.
"<" = Less than ">" = Greater than

MCL - Maximum Contaminant Level is the highest level allowed by EPA for public water supplies. Also used here as the maximum advisory limit set by the Maine Centers for Disease Control and Prevention.

Note: Results below the advisory limit, including < and J are considered satisfactory for that parameter.

Disclaimer

Your report consists of the number of pages listed on the cover page. Any attachments after the last numbered page are for informational purposes only and not part of the formal report.
The results in this report are for the submitted sample(s) only.
This report shall not be reproduced, except in full, without written permission from the Maine Health and Environmental Testing Laboratory.

Maine Center for Disease Control and Prevention
An Office of the Department of Health and Human Services
John E. Baldacci, Governor Brenda M. Harvey, Commissioner

Department of Health and Human Services
Health and Environmental Testing Laboratory
221 State Street
#12 State House Station
Augusta, Maine 04333-0012
Tel: (207) 287-2727; Fax: (207) 287-6832
TTY: 1-800-606-0215

Logged: 11/5/2009 3:26:00PM

CLAUDIA SAIT
DEPT OF ENVIRONMENTAL PROTECTION
ME DEP BRWM SHS #17
AUGUSTA ME 04333 Fax#:

Folder/ Invoice # E055750

Office Use Only:
Summary
DEPP

Project Name: EAST BRUNSWICK

Released: 12/2/2009

No. of Samples in Folder 5

Case #:

E055750001, E055750002, E055750003
E055750004, E055750005

CERTIFICATION

The HETL hereby certifies that all test results for this sample were analyzed by the method listed, including preservation, preparation , and holding times, unless otherwise indicated.

Kenneth G. Pote, PhD., Director Richard French, Quality Assurance Officer

If we can be of further assistance to you, Please Call us at 287-1716

Approved by:

James E. Curlett
Organics Supervisor/Chemist III

CC:

12/2/2009 12:56:15PM

Continued from Previous Page HETL Sample Number: E055750005

HETL Sample Number: E055750005

Description: COAX INNER

Matrix: SOLID

Sample Point:

Sampler:

Sample Date: Time:

Method: 8082 Analyst N.Ingalls Analysis Datetime: 12/01/09

Preparation Method: 3550B Prepared by: N.Ingalls

Date Prepared	Time Prepared	Amount Extracted	Extraction pH	Final Amount of Extract
11/09/09	14:00	8.9 g	N/A	2 mL

Analyte	Result	Units	RL	MCL	Qualifiers
Aroclor 1260	<50	ug/kg	50		
Aroclor 1254	<100	ug/kg	100		
Aroclor 1221	<200	ug/kg	200		
Aroclor 1232	<100	ug/kg	100		
Aroclor 1248	<100	ug/kg	100		
Aroclor 1016	<100	ug/kg	100		
PCBs, Total	<0	ug/kg			
Aroclor 1242	<100	ug/kg	100		

Surrogate Analytes (added as part of testing to verify performance)	Result	Amount	% Rec	Low % Rec	High % Rec	Qualifiers
Decachlorobiphenyl	0.283	.5	56.6	50	150	
Tetrachloro-m-xylene	0.598	.5	119.6	50	150	

Continued from Previous Page HETL Sample Number: E055750005

Units & Measurement

"mg/L" = Milligrams per liter; "ug/L" = Micrograms per Liter; "mg/Kg" = Milligrams per Kilogram;
"ug/Kg" = Micrograms per Kilogram; "PPM" = Parts per Million; "NTU" = Nephelometric Turbidity Units;

The MCL, Maximum Contaminant Level is listed for comparing your results with recommended levels.
In the "Qualifier" column, an " * " is placed to indicate any results that exceed this MCL.

If there are no " * " in the "Qualifier" column, your water is considered satisfactory for those tests.

All solid results are reported on a "Dry Weight" basis.

NC = Not confirmed NQ = Not Quantitated NA = Not Analyzed J = Approximately U = Undetected R = Rejected

RL-Reporting Limit is the lowest concentration which can be reliably reported on a routine basis.
"<" = Less than ">" = Greater than

MCL - Maximum Contaminant Level is the highest level allowed by EPA for public water supplies. Also used here as the maximum advisory limit set by the Maine Centers for Disease Control and Prevention.

Note: Results below the advisory limit, including < and J are considered satisfactory for that parameter.

Disclaimer

Your report consists of the number of pages listed on the cover page. Any attachments after the last numbered page are for informational purposes only and not part of the formal report.
The results in this report are for the submitted sample(s) only.
This report shall not be reproduced, except in full, without written permission from the Maine Health and Environmental Testing Laboratory.

APPENDIX D

SCREENING CRITERIA AND PROJECT SCREENING LEVELS

TABLE D-1
GROUNDWATER HUMAN HEALTH SCREENING CRITERIA AND PROJECT SCREENING LEVELS
EAST BRUNSWICK TRANSMITTER SITE
NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE

Analyte	CAS Number	EPA Regional Screening Level (RSL), Tap Water[1] (ug/L)	Adjusted EPA RSL Tap Water[2] (ug/L)	Maximum Exposure Guideline (MEG)[3] (ug/L)	Project Screening Level (PSL) (Lowest Criterion) (ug/L)	PSL Reference
Volatile Organic Compounds						
1,1,1-Trichloroethane	71-55-6	9100 N	910 N	200	200	MEG
1,1,2,2-Tetrachloroethane	79-34-5	0.067 C	0.067 C	1.8	0.067	RSL
1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	76-13-1	59000 N	5900 N	--	5900	RSL
1,1,2-Trichloroethane	79-00-5	0.24 C	0.24 C	6	0.24	RSL
1,1-Dichloroethane	75-34-3	2.4 C	2.4 C	70	2.4	RSL
1,1-Dichloroethene	75-35-4	340 N	34 N	0.6	0.6	MEG
1,2,3- Trichlorobenzene	87-61-6	--	--	--	--	--
1,2,4-Trichlorobenzene	120-82-1	8.2 N	0.82 N	70	0.82	RSL
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	0.00032 C	0.00032 C	0.25	0.00032	RSL
1,2-Dibromoethane (EDB)	106-93-4	0.0065 C	0.0065 C	0.2	0.0065	RSL
1,2-Dichlorobenzene	95-50-1	370 N	37 N	63	37	RSL
1,2-Dichloroethane	107-06-2	0.15 C	0.15 C	4	0.15	RSL
1,2-Dichloropropane	78-87-5	0.39 C	0.39 C	5	0.39	RSL
1,3-Dichlorobenzene	541-73-1	--	--	60	60	MEG
1,4-Dichlorobenzene	106-46-7	0.43 C	0.43 C	21	0.43	RSL
2-Butanone (MEK)	78-93-3	7100 N	710 N	3600	710	RSL
2-Hexanone	591-78-6	--	--	--	--	--
4-Methyl-2-pentanone (MIBK)	108-10-1	2000 N	200 N	--	200	RSL
Acetone	67-64-1	22000 N	2200 N	6300	2200	RSL
Benzene	71-43-2	0.41 C	0.41 C	6	0.41	RSL
Bromochloromethane	74-97-5	--	--	10	10	MEG
Bromodichloromethane	75-27-4	0.12 C	0.12 C	6	0.12	RSL
Bromoform	75-25-2	8.5 C	8.5 C	44	8.5	RSL
Bromomethane	74-83-9	8.7 N	0.87 N	10	0.87	RSL
Carbon disulfide	75-15-0	1000 N	100 N	600	100	RSL
Carbon tetrachloride	56-23-5	0.2 C	0.2 C	3	0.2	RSL
Chlorobenzene	108-90-7	91 N	9.1 N	140	9.1	RSL
Chloroethane	75-00-3	21000 N	2100 N	--	2100	RSL

TABLE D-1
GROUNDWATER HUMAN HEALTH SCREENING CRITERIA AND PROJECT SCREENING LEVELS
EAST BRUNSWICK TRANSMITTER SITE
NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE

Analyte	CAS Number	EPA Regional Screening Level (RSL), Tap Water[1] (ug/L)	Adjusted EPA RSL Tap Water[2] (ug/L)	Maximum Exposure Guideline (MEG)[3] (ug/L)	Project Screening Level (PSL) (Lowest Criterion) (ug/L)	PSL Reference
Chloroform	67-66-3	0.19 C	0.19 C	70	0.19	RSL
Chloromethane	74-87-3	190 N	19 N	3	3	MEG
cis-1,2-Dichloroethene	156-59-2	370 N	37 N	70	37	RSL
cis-1,3-Dichloropropene	10061-01-5	0.43 C[4]	0.43 C[4]	4[4]	0.43	RSL
Cyclohexane	110-82-7	13000 N	1300 N	--	1300	RSL
Dibromochloromethane	124-48-1	0.15 C	0.15 C	4	0.15	RSL
Dichlorodifluoromethane	75-71-8	390 N	39 N	1400	39	RSL
Ethylbenzene	100-41-4	1.5 C	1.5 C	70	1.5	RSL
Isopropylbenzene	98-82-8	680 N	68 N	--	68	RSL
m,p-Xylenes	179601-23-1	200 N	20 N	1400	20	RSL
Methyl acetate	79-20-9	37000 N	3700 N	--	3700	RSL
Methylcyclohexane	108-87-2	--	--	--	--	--
Methylene chloride	75-09-2	4.8 C	4.8 C	47	4.8	RSL
Methyl-tert-butyl ether	1634-04-4	12 C	12 C	35	12	RSL
o-Xylene	95-47-6	1400 N	140 N	1400	140	RSL
Styrene	100-42-5	1600 N	160 N	140	140	MEG
Tetrachloroethene	127-18-4	0.11 C	0.11 C	7	0.11	RSL
Toluene	108-88-3	2300 N	230 N	1400	230	RSL
trans-1,2-Dichloroethene	156-60-5	110 N	11 N	140	11	RSL
trans-1,3-Dichloropropene	10061-02-6	0.43 C[4]	0.43 C[4]	4[4]	0.43	RSL
Trichloroethene	79-01-6	1.7 C	1.7 C	32	1.7	RSL
Trichlorofluoromethane	75-69-4	1300 N	130 N	2100	130	RSL
Vinyl chloride	75-01-4	0.016 C	0.016 C	0.2	0.016	RSL
Xylenes (total)	1330-20-7	200 N	20 N	1400	20	RSL
Semivolatile Organic Compounds						
1,4-Dioxane	123-91-1	6.1 C	6.1 C	32	6.1	RSL
1,2,4,5-Tetrachlorobenzene	95-94-3	11 N	1.1 N	--	1.1	RSL
1,1'-Biphenyl	92-52-4	1800 N	180 N	--	180	RSL
2,2'-Oxybis(1-chloropropane)	108-60-1	0.32 C	0.32 C	300	0.32	RSL

TABLE D-1
GROUNDWATER HUMAN HEALTH SCREENING CRITERIA AND PROJECT SCREENING LEVELS
EAST BRUNSWICK TRANSMITTER SITE
NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE

Analyte	CAS Number	EPA Regional Screening Level (RSL), Tap Water[1] (ug/L)	Adjusted EPA RSL Tap Water[2] (ug/L)	Maximum Exposure Guideline (MEG)[3] (ug/L)	Project Screening Level (PSL) (Lowest Criterion) (ug/L)	PSL Reference
2,3,4,6-Tetrachlorophenol	58-90-2	1100 N	110 N	--	110	RSL
2,4,5-Trichlorophenol	95-95-4	3700 N	370 N	--	370	RSL
2,4,6-Trichlorophenol	88-06-2	37 N[5]	3.7 N[5]	32	3.7	RSL
2,4-Dichlorophenol	120-83-2	110 N	11 N	21	11	RSL
2,4-Dimethylphenol	105-67-9	730 N	73 N	--	73	RSL
2,4-Dinitrophenol	51-28-5	73 N	7.3 N	14	7.3	RSL
2,4-Dinitrotoluene	121-14-2	0.22 C	0.22 C	0.5	0.22	RSL
2,6-Dinitrotoluene	606-20-2	37 N	3.7 N	0.5	0.5	MEG
2-Chloronaphthalene	91-58-7	2900 N	290 N	--	290	RSL
2-Chlorophenol	95-57-8	180 N	18 N	35	18	RSL
2-Methylphenol (o-Cresol)	95-48-7	1800 N	180 N	--	180	RSL
2-Nitroaniline	88-74-4	110 N	11 N	--	11	RSL
2-Nitrophenol	88-75-5	73 N[6]	7.3 N[6]	14[6]	7.3	RSL
3,3'-Dichlorobenzidine	91-94-1	0.15 C	0.15 C	--	0.15	RSL
3-Nitroaniline	99-09-2	--	--	--	--	--
4,6-Dinitro-2-methylphenol	534-52-1	3.7 N	0.37 N	--	0.37	RSL
4-Bromophenyl phenyl ether	101-55-3	--	--	--	--	--
4-Chloro-3-methyl phenol	59-50-7	73 N[6]	7.3 N[6]	14[6]	7.3	RSL
4-Chloroanaline	106-47-8	0.34 C	0.34 C	--	0.34	RSL
4-Chlorophenyl phenyl ether	7005-72-3	--	--	--	--	--
4-Methylphenol (p-Cresol)	106-44-5	180 N	18 N	3.5	3.5	MEG
4-Nitroaniline	100-01-6	3.4 C	3.4 C	--	3.4	RSL
4-Nitrophenol	100-02-7	--	--	60	60	MEG
Acetophenone	98-86-2	3700 N	370 N	--	370	RSL
Atrazine	1912-24-9	0.29 C	0.29 C	3	0.29	RSL
Benzaldehyde	100-52-7	3700 N	370 N	--	370	RSL
Bis(2-chloroethoxy)methane	111-91-1	110 N	11 N	--	11	RSL
Bis(2-chloroethyl)ether	111-44-4	0.012 C	0.012 C	0.3	0.012	RSL
Bis(2-ethylhexyl)phthalate	117-81-7	4.8 C	4.8 C	25	4.8	RSL

TABLE D-1
GROUNDWATER HUMAN HEALTH SCREENING CRITERIA AND PROJECT SCREENING LEVELS
EAST BRUNSWICK TRANSMITTER SITE
NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE

Analyte	CAS Number	EPA Regional Screening Level (RSL), Tap Water[1] (ug/L)	Adjusted EPA RSL Tap Water[2] (ug/L)	Maximum Exposure Guideline (MEG)[3] (ug/L)	Project Screening Level (PSL) (Lowest Criterion) (ug/L)	PSL Reference
Butyl benzyl phthalate	85-68-7	35 C	35 C	--	35	RSL
Caprolactam	105-60-2	18000 N	1800 N	--	1800	RSL
Carbazole	86-74-8	--	--	--	--	--
Dibenzofuran	132-64-9	--	--	--	--	--
Diethyl phthalate	84-66-2	29000 N	2900 N	5000	2900	RSL
Dimethyl phthalate	131-11-3	29000 N[7]	2900 N[7]	5000[7]	2900	RSL
Di-n-butyl phthalate	84-74-2	3700 N	370 N	700	370	RSL
Di-n-octyl phthalate	117-84-0	--	--	--	--	--
Hexachlorobenzene	118-74-1	0.042 C	0.042 C	0.2	0.042	RSL
Hexachlorobutadiene	87-68-3	0.86 C	0.86 C	4	0.86	RSL
Hexachlorocyclopentadiene	77-47-4	220 N	22 N	42	22	RSL
Hexachloroethane	67-72-1	37 N[5]	3.7 N[5]	7	3.7	RSL
Isophorone	78-59-1	71 C	71 C	370	71	RSL
Nitrobenzene	98-95-3	0.12 C	0.12 C	3.5	0.12	RSL
N-Nitrosodi-n-propylamine	621-64-7	0.0096 C	0.0096 C	--	0.0096	RSL
N-Nitrosodiphenylamine	86-30-6	14 C	14 C	--	14	RSL
Pentachlorophenol	87-86-5	0.56 C	0.56 C	3	0.56	RSL
Phenol	108-95-2	11000 N	1100 N	2100	1100	RSL
Polycyclic Aromatic Hydrocarbons						
2-Methylnaphthalene	91-57-6	150 N	15 N	--	15	RSL
Acenaphthene	83-32-9	2200 N	220 N	--	220	RSL
Acenaphthylene	208-96-8	2200 N[8]	220 N[8]	--	220	RSL
Anthracene	120-12-7	11000 N	1100 N	--	1100	RSL
Benzo(a)anthracene	56-55-3	0.029 C	0.029 C	--	0.029	RSL
Benzo(a)pyrene	50-32-8	0.0029 C	0.0029 C	0.05	0.0029	RSL
Benzo(b)fluoranthene	205-99-2	0.029 C	0.029 C	--	0.029	RSL
Benzo(g,h,i)perylene	191-24-2	1100 N[9]	110 N[9]	--	110	RSL
Benzo(k)fluoranthene	207-08-9	0.29 C	0.29 C	--	0.29	RSL

TABLE D-1
GROUNDWATER HUMAN HEALTH SCREENING CRITERIA AND PROJECT SCREENING LEVELS
EAST BRUNSWICK TRANSMITTER SITE
NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE

Analyte	CAS Number	EPA Regional Screening Level (RSL), Tap Water[1] (ug/L)	Adjusted EPA RSL Tap Water[2] (ug/L)	Maximum Exposure Guideline (MEG)[3] (ug/L)	Project Screening Level (PSL) (Lowest Criterion) (ug/L)	PSL Reference
Chrysene	218-01-9	2.9 C	2.9 C	--	2.9	RSL
Dibenzo(a,h)anthracene	53-70-3	0.0029 C	0.0029 C	--	0.0029	RSL
Fluoranthene	206-44-0	1500 N	150 N	--	150	RSL
Fluorene	86-73-7	1500 N	150 N	--	150	RSL
Indeno(1,2,3-c,d)pyrene	193-39-5	0.029 C	0.029 C	--	0.029	RSL
Naphthalene	91-20-3	0.14 C	0.14 C	14	0.14	RSL
Phenanthrene	85-01-8	1100 N[9]	110 N[9]	--	110	RSL
Pyrene	129-00-0	1100 N	110 N	--	110	RSL
Metals						
Aluminum	7429-90-5	37000 N	3700 N	1430	1430	MEG
Antimony	7440-36-0	15 N	1.5 N	3	1.5	RSL
Arsenic	7440-38-2	0.045 C	0.045 C	10	0.045	RSL
Barium	7440-39-3	7300 N	730 N	2000	730	RSL
Beryllium	7440-41-7	73 N	7.3 N	--	7.3	RSL
Cadmium	7440-43-9	18 N	1.8 N	3.5	1.8	RSL
Calcium	7440-70-2	--	--	--	--	--
Chromium	7440-47-3	110 N[10]	11 N[10]	35[10]	11	RSL
Cobalt	7440-48-4	110 N	11 N	--	11	RSL
Copper	7440-50-8	1500 N	150 N	1300	150	RSL
Iron	7439-89-6	26000 N	2600 N	--	2600	RSL
Lead	7439-92-1	15 [11]	15 [11]	10	10	MEG
Magnesium	7439-95-4	--	--	--	--	--
Manganese	7439-96-5	880 N	88 N	500	88	RSL
Mercury	7439-97-6	11 N[12]	1.1 N[12]	2[12]	1.1	RSL
Nickel	7440-02-0	730 N	73 N	140	73	RSL
Potassium	7440-09-7	--	--	--	--	--
Selenium	7782-49-2	180 N	18 N	35	18	RSL
Silver	7440-22-4	180 N	18 N	35	18	RSL

TABLE D-1
GROUNDWATER HUMAN HEALTH SCREENING CRITERIA AND PROJECT SCREENING LEVELS
EAST BRUNSWICK TRANSMITTER SITE
NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE

Analyte	CAS Number	EPA Regional Screening Level (RSL), Tap Water[1] (ug/L)		Adjusted EPA RSL Tap Water[2] (ug/L)		Maximum Exposure Guideline (MEG)[3] (ug/L)	Project Screening Level (PSL) (Lowest Criterion) (ug/L)	PSL Reference
Sodium	7440-23-5	--		--		20000	20000	MEG
Thallium	7440-28-0	2.4 N		0.24 N		0.5	0.24	RSL
Vanadium	7440-62-2	180 N[13]		18 N[13]		--	18	RSL
Zinc	7440-66-6	11000 N		1100 N		2000	1100	RSL
Extractable Petroleum Hydrocarbons (EPH)								
C9-C18 Aliphatic Hydrocarbons	--	--	--	--	--	700 [14]	700	PET-W
C19-C36 Aliphatic Hydrocarbons	--	--	--	--	--	10000 [14]	10000	PET-W
C11-C22 Aromatic Hydrocarbons	--	--	--	--	--	200 [14]	200	PET-W

Notes:

1 - The tapwater screening level from the EPA Regions 3, 6, and 9 RSLs for Chemical Contaminants at Superfund Sites (May, 2009) available online at http://epa-prgs.ornl.gov/chemicals/index.shtml . The risk-based screening level is based on a target hazard quotient of 1 for noncarcinogens (denoted with a "N" flag) or an incremental lifetime cancer risk (ILCR) of 1E-6 for carcinogens (denoted with a "C" flag).

2 - The EPA RSLs (May 19, 2009) tap water screening level from the risk-based screening level for noncarcinogens, adjusted by dividing by 10, equivalent to a target hazard quotient of 0.1. The risk-based screening level for carcinogens is equivalent to an incremental lifetime cancer risk (ILCR) of 1E-6.

3 - Maximum Exposure Guidelines (MEG) for Drinking Water (December 5, 2008) (Maine CDC, 2008), except for EPH.

4 - Value is for 1,3-dichloropropene.

5 - One tenth the noncarcinogenic value is less than the carinogenic value; therefore, the noncarcinogenic value is presented.

6 - Value is for 2,4-dinitrophenol.

7 - Value is for diethyl phthalate.

8 - Value is for acenapththene.

9 - Value is for pyrene.

10 - Value is for hexavalent chromium.

11 - Action level under Safe Drinking Water Act.

12 - Value is for mercuy, inorganic salts.

13 - Value is for vanadium and compounds.

14 - The value is the Tier 1 statewide groundwater and drinking water remediation guideline for petroleum related compounds (PET-W) from the MEDEP draft remediation guidelines for petroleum contaminated sites in Maine (MEDEP, 2009).

TABLE D-1
GROUNDWATER HUMAN HEALTH SCREENING CRITERIA AND PROJECT SCREENING LEVELS
EAST BRUNSWICK TRANSMITTER SITE
NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE

Analyte	CAS Number	EPA Regional Screening Level (RSL), Tap Water[1] (ug/L)	Adjusted EPA RSL Tap Water[2] (ug/L)	Maximum Exposure Guideline (MEG)[3] (ug/L)	Project Screening Level (PSL) (Lowest Criterion) (ug/L)	PSL Reference

Abbreviations:
-- - Not available or not applicable
EPA - U.S. EPA

TABLE D-2
SOIL HUMAN HEALTH SCREENING CRITERIA AND PROJECT SCREENING LEVELS
EAST BRUNSWICK TRANSMITTER SITE
NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE

Analyte	CAS Number	EPA Regional Screening Level (RSL), Residential Soil [1] (mg/kg)	Adjusted EPA RSL, Residential Soil [2] (mg/kg)	1997 Maine Remedial Action Guidelines for Contaminated Soil (RAG) (mg/kg)					Project Screening Level (PSL) (Lowest Criterion)	PSL Reference
				Residential[3]	Adjusted Residential[4]	Residential Basis	Groundwater Guideline[5]	Groundwater Guideline Basis		
Volatile Organic Compounds										
1,1,1-Trichloroethane	71-55-6	9000 N	900 N	260	130	Inh., N	2	SSL	2	RAG GG
1,1,2,2-Tetrachloroethane	79-34-5	0.59 C	0.59 C	NA	NA	--	NA	--	0.59	RSL
1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	76-13-1	43000 N	4300 N	NA	NA	--	NA	--	4300	RSL
1,1,2-Trichloroethane	79-00-5	1.1 C	1.1 C	3	1.5	Inh., C	0.02	SSL	0.02	RAG GG
1,1-Dichloroethane	75-34-3	3.4 C	3.4 C	645	322.5	Inh., N, ceiling	23	SSL	3.4	RSL
1,1-Dichloroethene	75-35-4	250 N	25 N	0.2	0.1	Inh., C	0.06	SSL	0.06	RAG GG
1,2,3- Trichlorobenzene	87-61-6	NA	NA	NA	NA	--	NA	--	NA	NA
1,2,4-Trichlorobenzene	120-82-1	87 N	8.7 N	540	270	Inh., N	5	SSL	5	RAG GG
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	0.0056 C	0.0056 C	NA	NA	--	NA	--	0.0056	RSL
1,2-Dibromoethane (EDB)	106-93-4	0.034 C	0.034 C	NA	NA	--	NA	--	0.034	RSL
1,2-Dichlorobenzene	95-50-1	2000 N	200 N	2670	1335	Inh., N, ceiling	17	SSL	17	RAG GG
1,2-Dichloroethane	107-06-2	0.45 C	0.45 C	NA	NA	--	NA	--	0.45	RSL
1,2-Dichloropropane	78-87-5	0.93 C	0.93 C	NA	NA	--	NA	--	0.93	RSL
1,3-Dichlorobenzene	541-73-1	NA	NA	NA	NA	--	NA	--	NA	NA
1,4-Dichlorobenzene	106-46-7	2.6 C	2.6 C	NA	NA	--	NA	--	2.6	RSL
2-Butanone (MEK)	78-93-3	28000 N	2800 N	10000	5000	ceiling	NA	--	2800	RSL
2-Hexanone	591-78-6	NA	NA	NA	NA	--	NA	--	NA	NA
4-Methyl-2-pentanone (MIBK)	108-10-1	5300 N	530 N	NA	NA	--	NA	--	530	RSL
Acetone	67-64-1	61000 N	6100 N	475	237.5	Inh., N	16	SSL	16	RAG GG
Benzene	71-43-2	1.1 C	1.1 C	5	2.5	Inh., C	0.03	SSL	0.03	RAG GG
Bromochloromethane	74-97-5	NA	NA	NA	NA	--	NA	--	NA	NA
Bromodichloromethane	75-27-4	0.28 C	0.28 C	NA	NA	--	NA	--	0.28	RSL
Bromoform	75-25-2	61 C	61 C	NA	NA	--	NA	--	61	RSL
Bromomethane	74-83-9	7.9 N	0.79 N	NA	NA	--	NA	--	0.79	RSL
Carbon disulfide	75-15-0	670 N	67 N	NA	NA	--	NA	--	67	RSL
Carbon tetrachloride	56-23-5	0.25 C	0.25 C	NA	NA	--	NA	--	0.25	RSL
Chlorobenzene	108-90-7	310 N	31 N	310	77.5	Inh., N	1	SSL	1	RAG GG
Chloroethane	75-00-3	15000 N	1500 N	NA	NA	--	NA	--	1500	RSL
Chloroform	67-66-3	0.3 C	0.3 C	NA	NA	--	NA	--	0.3	RSL
Chloromethane	74-87-3	120 N	12 N	NA	NA	--	NA	--	12	RSL
cis-1,2-Dichloroethene	156-59-2	780 N	78 N	NA	NA	--	NA	--	78	RSL
cis-1,3-Dichloropropene	10061-01-5	1.7 C[6]	1.7 C[6]	NA	NA	--	NA	--	1.7	RSL
Cyclohexane	110-82-7	7200 N	720 N	NA	NA	--	NA	--	720	RSL
Dibromochloromethane	124-48-1	0.7 C	0.7 C	NA	NA	--	NA	--	0.7	RSL
Dichlorodifluoromethane	75-71-8	190 N	19 N	NA	NA	--	NA	--	19	RSL
Ethylbenzene	100-41-4	5.7 C	5.7 C	1670	835	Inh., N, ceiling	13	SSL	5.7	RSL
Isopropylbenzene	98-82-8	2200 N	220 N	NA	NA	--	NA	--	220	RSL
m,p-Xylenes	179601-23-1	600 N	60 N	10000	5000	ceiling	190	SSL	60	RSL
Methyl acetate	79-20-9	78000 N	7800 N	NA	NA	--	NA	--	7800	RSL

TABLE D-2
SOIL HUMAN HEALTH SCREENING CRITERIA AND PROJECT SCREENING LEVELS
EAST BRUNSWICK TRANSMITTER SITE
NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE

Analyte	CAS Number	EPA Regional Screening Level (RSL), Residential Soil [1] (mg/kg)	Adjusted EPA RSL, Residential Soil [2] (mg/kg)	1997 Maine Remedial Action Guidelines for Contaminated Soil (RAG) (mg/kg)					Project Screening Level (PSL) (Lowest Criterion)	PSL Reference
				Residential[3]	Adjusted Residential[4]	Residential Basis	Groundwater Guideline[5]	Groundwater Guideline Basis		
Methylcyclohexane	108-87-2	NA	NA	NA	NA	--	NA	--	NA	NA
Methylene chloride	75-09-2	11 C	11 C	13	6.5	Inh., C	0.02	SSL	0.02	RAG GG
Methyl-tert-butyl ether	1634-04-4	39 C	39 C	NA	NA	--	NA	--	39	RSL
o-Xylene	95-47-6	5300 N	530 N	10000	5000	ceiling	190	SSL	190	RAG GG
Styrene	100-42-5	6500 N	650 N	NA	NA	--	NA	--	650	RSL
Tetrachloroethene	127-18-4	0.57 C	0.57 C	3	1.5	Inh., C	0.06	SSL	0.06	RAG GG
Toluene	108-88-3	5000 N	500 N	2390	1195	Inh., N, ceiling	12	SSL	12	RAG GG
trans-1,2-Dichloroethene	156-60-5	110 N	11 N	135	67.5	Inh., N	0.7	SSL	0.7	RAG GG
trans-1,3-Dichloropropene	10061-02-6	1.7 C[6]	1.7 C[6]	NA	NA	--	NA	--	1.7	RSL
Trichloroethene	79-01-6	2.8 C	2.8 C	19	9.5	Inh., C	0.06	SSL	0.06	RAG GG
Trichlorofluoromethane	75-69-4	800 N	80 N	NA	NA	--	NA	--	80	RSL
Vinyl chloride	75-01-4	0.06 C	0.06 C	0.04	0.02	Inh., C	0.01	SSL	0.01	RAG GG
Xylenes (total)	1330-20-7	600 N	60 N	10000	5000	ceiling	190	SSL	60	RSL
Semivolatile Organic Compounds										
1,4-Dioxane	123-91-1	44 C	44 C	NA	NA	--	NA	--	44	RSL
1,2,4,5-Tetrachlorobenzene	95-94-3	18 N	1.8 N	NA	NA	--	NA	--	1.8	RSL
1,1'-Biphenyl	92-52-4	3900 N	390 N	NA	NA	--	NA	--	390	RSL
2,2'-Oxybis(1-chloropropane)	108-60-1	3.5 C	3.5 C	NA	NA	--	NA	--	3.5	RSL
2,3,4,6-Tetrachlorophenol	58-90-2	1800 N	180 N	NA	NA	--	NA	--	180	RSL
2,4,5-Trichlorophenol	95-95-4	6100 N	610 N	10000	5000	ceiling	270	SSL	270	RAG GG
2,4,6-Trichlorophenol	88-06-2	61 N[7]	6.1 N[7]	NA	NA	--	NA	--	6.1	RSL
2,4-Dichlorophenol	120-83-2	180 N	18 N	16	8	Inh., N	1	SSL	1	RAG GG
2,4-Dimethylphenol	105-67-9	1200 N	120 N	NA	NA	--	NA	--	120	RSL
2,4-Dinitrophenol	51-28-5	120 N	12 N	NA	NA	--	NA	--	12	RSL
2,4-Dinitrotoluene	121-14-2	1.6 C	1.6 C	NA	NA	--	NA	--	1.6	RSL
2,6-Dinitrotoluene	606-20-2	61 N	6.1 N	NA	NA	--	NA	--	6.1	RSL
2-Chloronaphthalene	91-58-7	6300 N	630 N	NA	NA	--	NA	--	630	RSL
2-Chlorophenol	95-57-8	390 N	39 N	NA	NA	--	NA	--	39	RSL
2-Methylphenol (o-Cresol)	95-48-7	3100 N	310 N	NA	NA	--	NA	--	310	RSL
2-Nitroaniline	88-74-4	180 N	18 N	NA	NA	--	NA	--	18	RSL
2-Nitrophenol	88-75-5	120 N[8]	12 N[8]	NA	NA	--	NA	--	12	RSL
3,3'-Dichlorobenzidine	91-94-1	1.1 C	1.1 C	NA	NA	--	NA	--	1.1	RSL
3-Nitroaniline	99-09-2	NA	NA	NA	NA	--	NA	--	NA	NA
4,6-Dinitro-2-methylphenol	534-52-1	6.1 N	0.61 N	NA	NA	--	NA	--	0.61	RSL
4-Bromophenyl phenyl ether	101-55-3	NA	NA	NA	NA	--	NA	--	NA	NA
4-Chloro-3-methyl phenol	59-50-7	120 N[8]	12 N[8]	NA	NA	--	NA	--	12	RSL
4-Chloroanaline	106-47-8	2.4 C	2.4 C	NA	NA	--	NA	--	2.4	RSL
4-Chlorophenyl phenyl ether	7005-72-3	NA	NA	NA	NA	--	NA	--	NA	NA
4-Methylphenol (p-Cresol)	106-44-5	310 N	31 N	NA	NA	--	NA	--	31	RSL
4-Nitroaniline	100-01-6	24 C	24 C	NA	NA	--	NA	--	24	RSL

TABLE D-2
SOIL HUMAN HEALTH SCREENING CRITERIA AND PROJECT SCREENING LEVELS
EAST BRUNSWICK TRANSMITTER SITE
NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE

Analyte	CAS Number	EPA Regional Screening Level (RSL), Residential Soil [1] (mg/kg)	Adjusted EPA RSL, Residential Soil [2] (mg/kg)	1997 Maine Remedial Action Guidelines for Contaminated Soil (RAG) (mg/kg)					Project Screening Level (PSL) (Lowest Criterion)	PSL Reference
				Residential[3]	Adjusted Residential[4]	Residential Basis	Groundwater Guideline[5]	Groundwater Guideline Basis		
4-Nitrophenol	100-02-7	NA	NA	NA	NA	--	NA	--	NA	NA
Acetophenone	98-86-2	7800 N	780 N	NA	NA	--	NA	--	780	RSL
Atrazine	1912-24-9	2.1 C	2.1 C	6650	3325	Ing., N, ceiling	NA	--	2.1	RSL
Benzaldehyde	100-52-7	7800 N	780 N	NA	NA	--	NA	--	780	RSL
Bis(2-chloroethoxy)methane	111-91-1	180 N	18 N	NA	NA	--	NA	--	18	RSL
Bis(2-chloroethyl)ether	111-44-4	0.19 C	0.19 C	NA	NA	--	NA	--	0.19	RSL
Bis(2-ethylhexyl)phthalate	117-81-7	35 C	35 C	1220	610	Ing., C	3600	SSL	35	RSL
Butyl benzyl phthalate	85-68-7	260 C	260 C	NA	NA	--	NA	--	260	RSL
Caprolactam	105-60-2	31000 N	3100 N	NA	NA	--	NA	--	3100	RSL
Carbazole	86-74-8	NA	NA	NA	NA	--	NA	--	NA	NA
Dibenzofuran	132-64-9	NA	NA	NA	NA	--	NA	--	NA	NA
Diethyl phthalate	84-66-2	49000 N	4900 N	NA	NA	--	NA	--	4900	RSL
Dimethyl phthalate	131-11-3	49000 N[9]	4900 N[9]	NA	NA	--	NA	--	4900	RSL
Di-n-butyl phthalate	84-74-2	6100 N	610 N	NA	NA	--	NA	--	610	RSL
Di-n-octyl phthalate	117-84-0	NA	NA	NA	NA	--	NA	--	NA	NA
Hexachlorobenzene	118-74-1	0.3 C	0.3 C	NA	NA	--	NA	--	0.3	RSL
Hexachlorobutadiene	87-68-3	61 N[7]	6.1 N[7]	NA	NA	--	NA	--	6.1	RSL
Hexachlorocyclopentadiene	77-47-4	370 N	37 N	NA	NA	--	NA	--	37	RSL
Hexachloroethane	67-72-1	61 N[7]	6.1 N[7]	NA	NA	--	NA	--	6.1	RSL
Isophorone	78-59-1	510 C	510 C	NA	NA	--	NA	--	510	RSL
Nitrobenzene	98-95-3	4.4 C	4.4 C	NA	NA	--	NA	--	4.4	RSL
N-Nitrosodi-n-propylamine	621-64-7	0.069 C	0.069 C	NA	NA	--	NA	--	0.069	RSL
N-Nitrosodiphenylamine	86-30-6	99 C	99 C	NA	NA	--	NA	--	99	RSL
Pentachlorophenol	87-86-5	3 C	3 C	1	0.5	Inh., C	0.03	SSL	0.03	RAG GG
Phenol	108-95-2	18000 N	1800 N	NA	NA	--	NA	--	1800	RSL
Polycyclic Aromatic Hydrocarbons										
2-Methylnaphthalene	91-57-6	310 N	31 N	NA	NA	--	NA	--	31	RSL
Acenaphthene	83-32-9	3400 N	340 N	NA	NA	--	NA	--	340	RSL
Acenaphthylene	208-96-8	3400 N[10]	340 N[10]	NA	NA	--	NA	--	340	RSL
Anthracene	120-12-7	17000 N	1700 N	NA	NA	--	NA	--	1700	RSL
Benzo(a)anthracene	56-55-3	0.15 C	0.15 C	NA	NA	--	NA	--	0.15	RSL
Benzo(a)pyrene	50-32-8	0.015 C	0.015 C	2	1	Ing., C	8	SSL	0.015	RSL
Benzo(b)fluoranthene	205-99-2	0.15 C	0.15 C	NA	NA	--	NA	--	0.15	RSL
Benzo(g,h,i)perylene	191-24-2	1700 N[11]	170 N[11]	NA	NA	--	NA	--	170	RSL
Benzo(k)fluoranthene	207-08-9	1.5 C	1.5 C	NA	NA	--	NA	--	1.5	RSL
Chrysene	218-01-9	15 C	15 C	NA	NA	--	NA	--	15	RSL
Dibenzo(a,h)anthracene	53-70-3	0.015 C	0.015 C	NA	NA	--	NA	--	0.015	RSL
Fluoranthene	206-44-0	2300 N	230 N	NA	NA	--	NA	--	230	RSL
Fluorene	86-73-7	2300 N	230 N	NA	NA	--	NA	--	230	RSL
Indeno(1,2,3-c,d)pyrene	193-39-5	0.15 C	0.15 C	NA	NA	--	NA	--	0.15	RSL

TABLE D-2
SOIL HUMAN HEALTH SCREENING CRITERIA AND PROJECT SCREENING LEVELS
EAST BRUNSWICK TRANSMITTER SITE
NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE

Analyte	CAS Number	EPA Regional Screening Level (RSL), Residential Soil [1] (mg/kg)	Adjusted EPA RSL, Residential Soil [2] (mg/kg)	1997 Maine Remedial Action Guidelines for Contaminated Soil (RAG) (mg/kg)					Project Screening Level (PSL) (Lowest Criterion)	PSL Reference
				Residential[3]	Adjusted Residential[4]	Residential Basis	Groundwater Guideline[5]	Groundwater Guideline Basis		
Naphthalene	91-20-3	3.9 C	3.9 C	245	122.5	Inh., N	84	SSL	3.9	RSL
Phenanthrene	85-01-8	1700 N[11]	170 N[11]	NA	NA	--	NA	--	170	RSL
Pyrene	129-00-0	1700 N	170 N	NA	NA	--	NA	--	170	RSL
Herbicides										
2,4-D	94-75-7	690 N	69 N	NA	NA	--	NA	--	69	RSL
2,4-DB	94-82-6	490 N	49 N	NA	NA	--	NA	--	49	RSL
2,4,5-TP (Silvex)	93-72-1	490 N	49 N	NA	NA	--	NA	--	49	RSL
2,4,5-T	93-76-5	610 N	61 N	1900	950	Ing., N, ceiling	NA	--	61	RSL
Dalapon	75-99-0	1800 N	180 N	NA	NA	--	NA	--	180	RSL
Dicamba	1918-00-9	1800 N	180 N	NA	NA	--	NA	--	180	RSL
Dichloroprop	120-36-5	NA	NA	NA	NA	--	NA	--	NA	NA
Dinoseb	88-85-7	61 N	6.1 N	5	2.5	Inh., N	NA	--	2.5	RAG Res
MCPA	94-74-6	31 N	3.1 N	NA	NA	--	NA	--	3.1	RSL
MCPP	93-65-2	61 N	6.1 N	NA	NA	--	NA	--	6.1	RSL
Polychlorinated Biphenyls										
Aroclor-1016	12674-11-2	3.9 N	0.39 N	0.1	0.05	dermal, C	NA	--	0.05	RAG Res
Aroclor-1221	11104-28-2	0.17 C	0.17 C	NA	NA	--	NA	--	0.17	RSL
Aroclor-1232	11141-16-5	0.17 C	0.17 C	NA	NA	--	NA	--	0.17	RSL
Aroclor-1242	53469-21-9	0.22 C	0.22 C	NA	NA	--	NA	--	0.22	RSL
Aroclor-1248	12672-29-6	0.22 C	0.22 C	NA	NA	--	NA	--	0.22	RSL
Aroclor-1254	11097-69-1	1.1 N[7]	0.11 N[7]	NA	NA	--	NA	--	0.11	RSL
Aroclor-1260	11096-82-5	0.22 C	0.22 C	NA	NA	--	NA	--	0.22	RSL
Aroclor-1262	37324-23-5	NA	NA	NA	NA	--	NA	--	NA	NA
Aroclor-1268	11100-14-4	NA	NA	NA	NA	--	NA	--	NA	NA
Total PCBs	-	NA	NA	2.2	1.1	Ing., C	NA	--	1.1	RAG Res
Metals										
Aluminum	7429-90-5	77000 N	7700 N	NA	NA	--	NA	--	7700	RSL
Antimony	7440-36-0	31 N	3.1 N	NA	NA	--	NA	--	3.1	RSL
Arsenic	7440-38-2	0.39 C	0.39 C	10	5	Ing., C	29	SSL	0.39	RSL
Barium	7440-39-3	15000 N	1500 N	10000	5000	ceiling	1600	SSL	1500	RSL
Beryllium	7440-41-7	160 N	16 N	4	2	Ing., C	63	SSL	2	RAG Res
Cadmium	7440-43-9	70 N	7 N	27	13.5	dermal, N	8	SSL	7	RSL
Calcium	7440-70-2	NA	NA	NA	NA	--	NA	--	NA	NA
Chromium	7440-47-3	230 N[7, 12]	23 N[7, 12]	950	475	Ing., N, ceiling[12]	38	SSL	23	RSL
Cobalt	7440-48-4	23 N	2.3 N	NA	NA	--	NA	--	2.3	RSL
Copper	7440-50-8	3100 N	310 N	650	325	NJ	NA	--	310	RSL
Iron	7439-89-6	55000 N	5500 N	NA	NA	--	NA	--	5500	RSL
Lead	7439-92-1	400 [13]	400 [13]	375	187.5	DHS, ceiling	NA	--	187.5	RAG Res
Magnesium	7439-95-4	NA	NA	NA	NA	--	NA	--	NA	NA
Manganese	7439-96-5	1800 N	180 N	NA	NA	--	NA	--	180	RSL

TABLE D-2
SOIL HUMAN HEALTH SCREENING CRITERIA AND PROJECT SCREENING LEVELS
EAST BRUNSWICK TRANSMITTER SITE
NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE

Analyte	CAS Number	EPA Regional Screening Level (RSL), Residential Soil [1] (mg/kg)	Adjusted EPA RSL, Residential Soil [2] (mg/kg)	1997 Maine Remedial Action Guidelines for Contaminated Soil (RAG) (mg/kg)					Project Screening Level (PSL) (Lowest Criterion)	PSL Reference
				Residential[3]	Adjusted Residential[4]	Residential Basis	Groundwater Guideline[5]	Groundwater Guideline Basis		
Mercury	7439-97-6	23 N[14]	2.3 N[14]	60	30	Ing., N	2	SSL	2.3	RSL
Nickel	7440-02-0	1500 N	150 N	3800	1900	Ing., N	130	SSL	150	RSL
Potassium	7440-09-7	NA	NA	NA	NA	--	NA	--	NA	NA
Selenium	7782-49-2	390 N	39 N	950	475	Ing., N	5	SSL	39	RSL
Silver	7440-22-4	390 N	39 N	950	475	Ing., N	34	SSL	39	RSL
Sodium	7440-23-5	NA	NA	NA	NA	--	NA	--	NA	NA
Thallium	7440-28-0	5.1 N	0.51 N	NA	NA	--	NA	--	0.51	RSL
Vanadium	7440-62-2	390 N[15]	39 N[15]	NA	NA	--	NA	--	39	RSL
Zinc	7440-66-6	23000 N	2300 N	1500	750	NJ	12000	SSL	750	RAG Res
Extractable Petroleum Hydrocarbons										
C9-C18 Aliphatic Hydrocarbons	--	-- --	-- --	2500 [16]	--	--	--	--	2500	PET-S
C19-C36 Aliphatic Hydrocarbons	--	-- --	-- --	10000 [16]	--	--	--	--	10000	PET-S
C11-C22 Aromatic Hydrocarbons	--	-- --	-- --	730 [16]	--	--	--	--	730	PET-S

Notes:
1 - The EPA Regions 3, 6, and 9 RSLs for Chemical Contaminants at Superfund Sites – Residential Soil values (May, 2009) (EPA, 2009). The risk-based screening level is based on a target hazard quotient of 1 for noncarcinogens (denoted with a "N" flag) or an incremental lifetime cancer risk (ILCR) of 1E-6 for carcinogens (denoted with a "C" flag).
2 - The EPA RSL (May, 2009) Residential Soil screening level for noncarcinogens adjusted by dividing by 10, equivalent to a target hazard quotient of 0.1. The residential soil screening level for carcinogens (not adjusted) is equivalent to an incremental lifetime cancer risk (ILCR) of 1E-6.
3 - The Residential Guideline value from MEDEP Remedial Action Guidelines (RAGs) for Contaminated Soils (May 20, 1997) (MEDEP, 1997), except for EPH.
4 - The Residential Guideline value from MEDEP RAGs for Contaminated Soils (May 20, 1997) (MEDEP, 1997), adjusted to 1/2 of the RAG value.
5 - The Groundwater Guideline value from MEDEP RAGs (May 20, 1997) based on soil screening levels (SSLs) published in the Soil Screening Guidance: Users Guide (EPA, 1996).
6 - Value is for 1,3-dichloropropene.
7 - One tenth the noncarcinogenic value is less than the carinogenic value; therefore, the noncarcinogenic value is presented.
8 - Value is for 2,4-dinitrophenol.
9 - Value is for diethyl phthalate.
10 - Value is for acenapththene.
11 - Value is for pyrene.
12 - Value is for hexavalent chromium.
13 Office of Solid Waste and Emergency Response soil screening level (EPA, 1994b)
14 - Value is for mercuy, inorganic salts.
15 - Value is for vanadium and compounds.
16 - The value is the Tier 1 cumulative risk-based soil remediation resident guideline for petroleum target compounds and fractions (PET-S) from the MEDEP draft remediation guidelines for petroleum contaminated sites in Maine (MEDEP, 2009).

Abbreviations:
-- - Not applicable
C - Carcinogen
ceiling - 1% (10,000 ppb) of contaminant concentration for unadjusted RAG values
DHS - Maine Department of Human Services recommended guideline

TABLE D-2
SOIL HUMAN HEALTH SCREENING CRITERIA AND PROJECT SCREENING LEVELS
EAST BRUNSWICK TRANSMITTER SITE
NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE

Analyte	CAS Number	EPA Regional Screening Level (RSL), Residential Soil [1] (mg/kg)	Adjusted EPA RSL, Residential Soil [2] (mg/kg)	1997 Maine Remedial Action Guidelines for Contaminated Soil (RAG) (mg/kg)					Project Screening Level (PSL) (Lowest Criterion)	PSL Reference
				Residential[3]	Adjusted Residential[4]	Residential Basis	Groundwater Guideline[5]	Groundwater Guideline Basis		

EPA - U.S. Environmental Protection Agency
GG - Groundwater Guideline
Ing - Ingestion
Inh - Inhalation
MEDEP - Maine Department of Environmental Protection
N - Noncarcinogen
NA - Not available
NJ - New Jersey Department of Environmental Protection and Energy, 1992 Proposed Rule Cleanup Standards for Contaminated Sistes
Res - Residential
SSL - Soil Screening Level

TABLE D-3
SOIL ECOLOGICAL SCREENING CRITERIA AND PROJECT SCREENING LEVELS
EAST BRUNSWICK TRANSMITTER SITE
NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE

Analyte	CAS Number	EPA Eco SSL (mg/kg)	CCME SQG (mg/kg)	ORNL Plant (mg/kg)	ORNL Invertebrate (mg/kg)	NOAA SQUIRT (mg/kg)	Selected Ecological Soil Screening Level [1] (mg/kg)	Source of Ecological Soil Screening Level
Volatile Organic Compounds								
1,1,1-Trichloroethane	71-55-6	NA	NA	NA	NA	29.8	29.8	NOAA
1,1,2,2-Tetrachloroethane	79-34-5	NA	NA	NA	NA	0.127	0.127	NOAA
1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	76-13-1	NA	NA	NA	NA	NA	--	--
1,1,2-Trichloroethane	79-00-5	NA	NA	NA	NA	28.6	28.6	NOAA
1,1-Dichloroethane	75-34-3	NA	NA	NA	NA	20.1	20.1	NOAA
1,1-Dichloroethene	75-35-4	NA	NA	NA	NA	8.28	8.28	NOAA
1,2,3- Trichlorobenzene	87-61-6	NA	NA	NA	20	11.1	20	ORNL-inv
1,2,4-Trichlorobenzene	120-82-1	NA	NA	NA	20	11.1	20	ORNL-inv
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	NA	NA	NA	NA	0.0352	0.0352	NOAA
1,2-Dibromoethane (EDB)	106-93-4	NA	NA	NA	NA	1.23	1.23	NOAA
1,2-Dichlorobenzene	95-50-1	NA	NA	NA	NA	2.96	2.96	NOAA
1,2-Dichloroethane	107-06-2	NA	NA	NA	NA	21.2	21.2	NOAA
1,2-Dichloropropane	78-87-5	NA	NA	NA	700	32.7	700	ORNL-inv
1,3-Dichlorobenzene	541-73-1	NA	NA	NA	NA	37.7	37.7	NOAA
1,4-Dichlorobenzene	106-46-7	NA	NA	NA	20	0.546	20	ORNL-inv
2-Butanone (MEK)	78-93-3	NA	NA	NA	NA	89.6	89.6	NOAA
2-Hexanone	591-78-6	NA	NA	NA	NA	12.6	12.6	NOAA
4-Methyl-2-pentanone (MIBK)	108-10-1	NA	NA	NA	NA	443	443	NOAA
Acetone	67-64-1	NA	NA	NA	NA	2.5	2.5	NOAA
Benzene	71-43-2	NA	25	NA	NA	0.255	25	CCME
Bromochloromethane	74-97-5	NA	NA	NA	NA	NA	--	--
Bromodichloromethane	75-27-4	NA	NA	NA	NA	0.54	0.54	NOAA
Bromoform	75-25-2	NA	NA	NA	NA	15.9	15.9	NOAA
Bromomethane	74-83-9	NA	NA	NA	NA	0.235	0.235	NOAA
Carbon disulfide	75-15-0	NA	NA	NA	NA	0.0941	0.0941	NOAA
Carbon tetrachloride	56-23-5	NA	NA	NA	NA	2.98	2.98	NOAA
Chlorobenzene	108-90-7	NA	NA	NA	40	13.1	40	ORNL-inv
Chloroethane	75-00-3	NA	NA	NA	NA	NA	--	--
Chloroform	67-66-3	NA	NA	NA	NA	1.19	1.19	NOAA
Chloromethane	74-87-3	NA	NA	NA	NA	10.4	10.4	NOAA
cis-1,2-Dichloroethene	156-59-2	NA	NA	NA	NA	0.784	0.78373	NOAA
cis-1,3-Dichloropropene	10061-01-5	NA	NA	NA	NA	0.398	0.398	NOAA
Cyclohexane	110-82-7	NA	NA	NA	NA	NA	--	--
Dibromochloromethane	124-48-1	NA	NA	NA	NA	NA	--	--
Dichlorodifluoromethane	75-71-8	NA	NA	NA	NA	39.5	39.5	NOAA

TABLE D-3
SOIL ECOLOGICAL SCREENING CRITERIA AND PROJECT SCREENING LEVELS
EAST BRUNSWICK TRANSMITTER SITE
NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE

Analyte	CAS Number	EPA Eco SSL (mg/kg)	CCME SQG (mg/kg)	ORNL Plant (mg/kg)	ORNL Invertebrate (mg/kg)	NOAA SQUIRT (mg/kg)	Selected Ecological Soil Screening Level [1] (mg/kg)	Source of Ecological Soil Screening Level
Ethylbenzene	100-41-4	NA	55	NA	NA	5.16	55	CCME
Isopropylbenzene	98-82-8	NA	NA	NA	NA	NA	--	--
m,p-Xylenes	179601-23-1	NA	65	NA	NA	10	65	CCME
Methyl acetate	79-20-9	NA	NA	NA	NA	NA	--	--
Methylcyclohexane	108-87-2	NA	NA	NA	NA	NA	--	--
Methylene chloride	75-09-2	NA	NA	NA	NA	4.05	4.05	NOAA
Methyl-tert-butyl ether	1634-04-4	NA	NA	NA	NA	NA	--	--
o-Xylene	95-47-6	NA	65	NA	NA	10	65	CCME
Styrene	100-42-5	NA	NA	300	NA	4.69	300	ORNL-plant
Tetrachloroethene	127-18-4	NA	NA	NA	NA	9.92	9.92	NOAA
Toluene	108-88-3	NA	75	200	NA	5.45	75	CCME
trans-1,2-Dichloroethene	156-60-5	NA	NA	NA	NA	0.784	0.784	NOAA
trans-1,3-Dichloropropene	10061-02-6	NA	NA	NA	NA	0.398	0.398	NOAA
Trichloroethene	79-01-6	NA	NA	NA	NA	12.4	12.4	NOAA
Trichlorofluoromethane	75-69-4	NA	NA	NA	NA	16.4	16.4	NOAA
Vinyl chloride	75-01-4	NA	NA	NA	NA	0.646	0.646	NOAA
Xylenes (total)	1330-20-7	NA	65	NA	NA	10	65	CCME
Semivolatile Organic Compounds								
1,4-Dioxane	123-91-1	NA	NA	NA	NA	2.05	2.05	NOAA
1,2,4,5-Tetrachlorobenzene	95-94-3	NA	NA	NA	10	2.02	10	ORNL-inv
1,1'-Biphenyl	92-52-4	NA	NA	60	NA	60	60	ORNL-plant
2,2'-Oxybis(1-chloropropane)	108-60-1	NA	NA	NA	NA	19.9	19.9	NOAA
2,3,4,6-Tetrachlorophenol	58-90-2	NA	NA	NA	NA	0.199	0.199	NOAA
2,4,5-Trichlorophenol	95-95-4	NA	NA	4	9	14.1	4	ORNL-plant
2,4,6-Trichlorophenol	88-06-2	NA	NA	NA	10	9.94	10	ORNL-inv
2,4-Dichlorophenol	120-83-2	NA	NA	NA	NA	87.5	87.5	NOAA
2,4-Dimethylphenol	105-67-9	NA	NA	NA	NA	0.01	0.01	NOAA
2,4-Dinitrophenol	51-28-5	NA	NA	20	NA	0.0609	20	ORNL-plant
2,4-Dinitrotoluene	121-14-2	NA	NA	NA	NA	1.28	1.28	NOAA
2,6-Dinitrotoluene	606-20-2	NA	NA	NA	NA	0.0328	0.0328	NOAA
2-Chloronaphthalene	91-58-7	NA	NA	NA	NA	0.0122	0.0122	NOAA
2-Chlorophenol	95-57-8	NA	NA	NA	NA	0.243	0.243	NOAA
2-Methylphenol (o-Cresol)	95-48-7	NA	NA	NA	NA	40.4	40.4	NOAA
2-Nitroaniline	88-74-4	NA	NA	NA	NA	74.1	74.1	NOAA
2-Nitrophenol	88-75-5	NA	NA	NA	NA	1.6	1.6	NOAA
3,3'-Dichlorobenzidine	91-94-1	NA	NA	NA	NA	0.646	0.646	NOAA

TABLE D-3
SOIL ECOLOGICAL SCREENING CRITERIA AND PROJECT SCREENING LEVELS
EAST BRUNSWICK TRANSMITTER SITE
NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE

Analyte	CAS Number	EPA Eco SSL (mg/kg)	CCME SQG (mg/kg)	ORNL Plant (mg/kg)	ORNL Invertebrate (mg/kg)	NOAA SQUIRT (mg/kg)	Selected Ecological Soil Screening Level [1] (mg/kg)	Source of Ecological Soil Screening Level
3-Nitroaniline	99-09-2	NA	NA	NA	NA	3.16	3.16	NOAA
4,6-Dinitro-2-methylphenol	534-52-1	NA	NA	NA	NA	0.144	0.144	NOAA
4-Bromophenyl phenyl ether	101-55-3	NA	NA	NA	NA	NA	--	--
4-Chloro-3-methyl phenol	59-50-7	NA	NA	NA	NA	7.95	7.95	NOAA
4-Chloroanaline	106-47-8	NA	NA	NA	NA	1.1	1.1	NOAA
4-Chlorophenyl phenyl ether	7005-72-3	NA	NA	NA	NA	NA	--	--
4-Methylphenol (p-Cresol)	106-44-5	NA	NA	NA	20	163	20	ORNL-inv
4-Nitroaniline	100-01-6	NA	NA	NA	NA	21.9	21.9	NOAA
4-Nitrophenol	100-02-7	NA	NA	NA	7	5.12	7	ORNL-inv
Acetophenone	98-86-2	NA	NA	NA	NA	300	300	NOAA
Atrazine	1912-24-9	NA	NA	NA	NA	NA	--	--
Benzaldehyde	100-52-7	NA	NA	NA	NA	NA	--	--
Bis(2-chloroethoxy)methane	111-91-1	NA	NA	NA	NA	0.302	0.302	NOAA
Bis(2-chloroethyl)ether	111-44-4	NA	NA	NA	NA	23.7	23.7	NOAA
Bis(2-ethylhexyl)phthalate	117-81-7	NA	NA	NA	NA	0.925	0.925	NOAA
Butyl benzyl phthalate	85-68-7	NA	NA	NA	NA	0.239	0.239	NOAA
Caprolactam	105-60-2	NA	NA	NA	NA	NA	--	--
Carbazole	86-74-8	NA	NA	NA	NA	NA	--	--
Dibenzofuran	132-64-9	NA	NA	200	NA	NA	200	ORNL-plant
Diethyl phthalate	84-66-2	NA	NA	100	NA	24.8	100	ORNL-plant
Dimethyl phthalate	131-11-3	NA	NA	NA	200	734	200	ORNL-inv
Di-n-butyl phthalate	84-74-2	NA	NA	200	NA	0.15	200	ORNL-plant
Di-n-octyl phthalate	117-84-0	NA	NA	NA	NA	709	709	NOAA
Hexachlorobenzene	118-74-1	NA	NA	NA	NA	0.199	0.199	NOAA
Hexachlorobutadiene	87-68-3	NA	NA	NA	NA	0.0398	0.0398	NOAA
Hexachlorocyclopentadiene	77-47-4	NA	NA	10	NA	0.755	10	ORNL-plant
Hexachloroethane	67-72-1	NA	NA	NA	NA	0.596	0.596	NOAA
Isophorone	78-59-1	NA	NA	NA	NA	139	139	NOAA
Nitrobenzene	98-95-3	NA	NA	NA	40	1.31	40	ORNL-inv
N-Nitrosodi-n-propylamine	621-64-7	NA	NA	NA	NA	0.544	0.544	NOAA
N-Nitrosodiphenylamine	86-30-6	NA	NA	NA	20	0.545	20	ORNL-inv
Pentachlorophenol	87-86-5	NA	11000	3	6	0.119	2.1	Eco SSL
Phenol	108-95-2	NA	20	70	30	120	20	CCME
Polycyclic Aromatic Hydrocarbons								
2-Methylnaphthalene	91-57-6	29	NA	NA	NA	3.24	29	Eco SSL
Acenaphthene	83-32-9	29	NA	20	NA	682	29	Eco SSL

TABLE D-3
SOIL ECOLOGICAL SCREENING CRITERIA AND PROJECT SCREENING LEVELS
EAST BRUNSWICK TRANSMITTER SITE
NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE

Analyte	CAS Number	EPA Eco SSL (mg/kg)	CCME SQG (mg/kg)	ORNL Plant (mg/kg)	ORNL Invertebrate (mg/kg)	NOAA SQUIRT (mg/kg)	Selected Ecological Soil Screening Level (1) (mg/kg)	Source of Ecological Soil Screening Level
Acenaphthylene	208-96-8	29	NA	NA	NA	682	29	Eco SSL
Anthracene	120-12-7	29	NA	NA	NA	1480	29	Eco SSL
Benzo(a)anthracene	56-55-3	1.1	NA	NA	NA	5.21	1.1	Eco SSL
Benzo(a)pyrene	50-32-8	1.1	0.7	NA	NA	1.52	1.1	Eco SSL
Benzo(b)fluoranthene	205-99-2	1.1	NA	NA	NA	59.8	1.1	Eco SSL
Benzo(g,h,i)perylene	191-24-2	1.1	NA	NA	NA	119	1.1	Eco SSL
Benzo(k)fluoranthene	207-08-9	1.1	NA	NA	NA	148	1.1	Eco SSL
Chrysene	218-01-9	1.1	NA	NA	NA	4.73	1.1	Eco SSL
Dibenzo(a,h)anthracene	53-70-3	1.1	NA	NA	NA	18.4	1.1	Eco SSL
Fluoranthene	206-44-0	29	NA	NA	NA	122	29	Eco SSL
Fluorene	86-73-7	29	NA	NA	30	122	29	Eco SSL
Indeno(1,2,3-c,d)pyrene	193-39-5	1.1	NA	NA	NA	109	1.1	Eco SSL
Naphthalene	91-20-3	29	NA	NA	NA	0.0994	29	Eco SSL
Phenanthrene	85-01-8	29	NA	NA	NA	45.7	29	Eco SSL
Pyrene	129-00-0	1.1	NA	NA	NA	78.5	1.1	Eco SSL
Herbicides								
2,4-D	94-75-7	NA	NA	NA	NA	0.0272	0.0272	NOAA
2,4-DB	94-82-6	NA	NA	NA	NA	NA	--	--
2,4,5-TP (Silvex)	93-72-1	NA	NA	NA	NA	0.109	0.109	NOAA
2,4,5-T	93-76-5	NA	NA	NA	NA	0.596	0.596	NOAA
Dalapon	75-99-0	NA	NA	NA	NA	NA	--	--
Dicamba	1918-00-9	NA	NA	NA	NA	NA	--	--
Dichloroprop	120-36-5	NA	NA	NA	NA	NA	--	--
Dinoseb	88-85-7	NA	NA	NA	NA	0.0218	0.0218	NOAA
MCPA	94-74-6	NA	NA	NA	NA	NA	--	--
MCPP	93-65-2	NA	NA	NA	NA	NA	--	--
Polychlorinated Biphenyls								
Aroclor-1016	12674-11-2	NA	33	40	NA	0.000332	33	CCME
Aroclor-1221	11104-28-2	NA	33	40	NA	0.000332	33	CCME
Aroclor-1232	11141-16-5	NA	33	40	NA	0.000332	33	CCME
Aroclor-1242	53469-21-9	NA	33	40	NA	0.000332	33	CCME
Aroclor-1248	12672-29-6	NA	33	40	NA	0.000332	33	CCME
Aroclor-1254	11097-69-1	NA	33	40	NA	0.000332	33	CCME
Aroclor-1260	11096-82-5	NA	33	40	NA	0.000332	33	CCME
Aroclor-1262	37324-23-5	NA	33	40	NA	0.000332	33	CCME
Aroclor-1268	11100-14-4	NA	33	40	NA	0.000332	33	CCME

TABLE D-3
SOIL ECOLOGICAL SCREENING CRITERIA AND PROJECT SCREENING LEVELS
EAST BRUNSWICK TRANSMITTER SITE
NAVAL AIR STATION BRUNSWICK
BRUNSWICK, MAINE

Analyte	CAS Number	EPA Eco SSL (mg/kg)	CCME SQG (mg/kg)	ORNL Plant (mg/kg)	ORNL Invertebrate (mg/kg)	NOAA SQUIRT (mg/kg)	Selected Ecological Soil Screening Level (1) (mg/kg)	Source of Ecological Soil Screening Level
Total PCBs	-	NA	33	40	NA	0.000332	33	CCME
Metals								
Aluminum	7429-90-5	pH>5.5	NA	50	NA	NA	pH>5.5	Eco SSL
Antimony	7440-36-0	0.27	NA	5	NA	0.142	0.27	Eco SSL
Arsenic	7440-38-2	18	17.1	10	60	5.7	18	Eco SSL
Barium	7440-39-3	330	NA	500	NA	1.04	330	Eco SSL
Beryllium	7440-41-7	21	NA	10	NA	1.06	21	Eco SSL
Cadmium	7440-43-9	0.36	3.8	4	20	0.00222	0.36	Eco SSL
Calcium	7440-70-2	NA	NA	NA	NA	NA	--	--
Chromium	7440-47-3	26	64	1	0.4	0.4	26	Eco SSL
Cobalt	7440-48-4	13	NA	20	NA	0.14	13	Eco SSL
Copper	7440-50-8	28	63	100	60	5.4	28	Eco SSL
Iron	7439-89-6	5<pH<8	0	NA	NA	NA	5<pH<8	Eco SSL
Lead	7439-92-1	11	300	50	500	0.0537	11	Eco SSL
Magnesium	7439-95-4	NA	NA	NA	NA	NA	--	--
Manganese	7439-96-5	220	NA	500	NA	220	220	Eco SSL
Mercury	7439-97-6	NA	12	0.3	0.1	0.1	12	CCME
Nickel	7440-02-0	38	50	30	200	13.6	38	Eco SSL
Potassium	7440-09-7	NA	NA	NA	NA	NA	--	--
Selenium	7782-49-2	0.52	1	1	70	0.52	0.52	Eco SSL
Silver	7440-22-4	4.2	NA	2	NA	2	4.2	Eco SSL
Sodium	7440-23-5	NA	NA	NA	NA	NA	--	--
Thallium	7440-28-0	NA	1.4	1	NA	0.0569	1.4	CCME
Vanadium	7440-62-2	7.8	130	2	NA	1.59	7.8	Eco SSL
Zinc	7440-66-6	46	200	50	100	6.62	46	Eco SSL
Extractable Petroleum Hydrocarbons	-	NA	NA	NA	NA	NA	--	--

1- The following hierarchy was used for selecting the Ecological Screening level in order of preference:
EPA Ecological Soil Screening Levels (Eco SSL) (EPA, 2008). The lower of the plant, invertebrate, or wildlife Eco SSL is selected as the screening level.
Canadian Council and Ministers of the Environment (CCME) Recommended Canadian Soil Quality Guidelines (SQG) (CCME, 2006) and supporting documents.
The lower of the Oak Ridge National Laboratory (ORNL) plant or invertebrate benchmarks (Efroymson, et al., 1997a, 1997b).
Lowest of National Oceanographic and Atmospheric Administration (NOAA) Screening Quick Reference Tables (SQUIRT) surface soil benchmarks (Buchman, 2008).

APPENDIX E

ANALYTICAL RESULTS

TABLE E-1
ANALYTICAL RESULTS - SURFACE SOIL - HUMAN HEALTH
EAST BRUNSWICK, NAS BRUNSWICK, BRUNSWICK, MAINE

SAMPLE ID							EB-SO-SS01-0012	EB-SO-SS01A-0012	EB-SO-SS01B-0012	EB-SO-SS02-0012	EB-SO-SS03-0012	EB-SO-SS04A-0004	EB-SO-SS04B-0004	EB-SO-SS04C-0004	EB-SO-SS05A-0004	EB-SO-SS05A-0004-D	EB-SO-SS05A-0004-AVG	EB-SO-SS05B-0004	EB-SO-SS05C-0004	EB-SO-SS06A-0004	EB-SO-SS06A-0004-D	EB-SO-SS06A-0004-AVG	EB-SO-SS06B-0004	EB-SO-SS06C-0004	EB-SO-SS07A-0004	EB-SO-SS07B-0004	EB-SO-SS07C-0004	EB-SO-SS08-0012	EB-SO-SS08-0012-D	EB-SO-SS08-0012-AVG	EB-SO-SS09-0012	EB-SO-SS09-0012-D	EB-SO-SS09-0012-AVG
LOCATION ID							EB-SO-SS01	EB-SO-SS01A	EB-SO-SS01B	EB-SO-SS02	EB-SO-SS03	EB-SO-SS04A	EB-SO-SS04B	EB-SO-SS04C	EB-SO-SS05A	EB-SO-SS05A	EB-SO-SS05A	EB-SO-SS05B	EB-SO-SS05C	EB-SO-SS06A	EB-SO-SS06A	EB-SO-SS06A	EB-SO-SS06B	EB-SO-SS06C	EB-SO-SS07A	EB-SO-SS07B	EB-SO-SS07C	EB-SO-SS08	EB-SO-SS08	EB-SO-SS08	EB-SO-SS09	EB-SO-SS09	EB-SO-SS09
SAMPLE DATE							11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09
TOP DEPTH (FT)							0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BOTTOM DEPTH (FT)							1.0	1.0	1.0	1.0	1.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	1.0	1.0	1.0	1.0	1.0	1.0
SACODE							NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	DUP	AVG	NORMAL	NORMAL	ORIG	DUP	AVG	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	DUP	AVG	ORIG	DUP	AVG
SCREENING CRITERIA	PSL	MEDEP RES Soil RAG	1/2 MEDEP RES Soil RAG	EPA RSL RES Soil	Adjusted EPA RSL RES Soil NC	BKGD																											
SEMIVOLATILES (UG/KG)																																	
1,1-BIPHENYL	390000			3900000	390000		75 U	80 U	110 UJ	81 U	82 U	84 U	NA	NA	75 U	74 U	74.5 U	NA	NA	86 U	89 U	87.5 U	NA	NA	80 U	NA	NA	80 U	NA	80 U	77 U	NA	77 U
1,2,4,5-TETRACHLOROBENZENE	1800			18000	1800		140 U	150 U	210 UJ	150 U	150 U	160 U	NA	NA	140 U	140 U	140 U	NA	NA	160 U	160 U	160 U	NA	NA	150 U	NA	NA	150 U	NA	150 U	140 U	NA	140 U
1,4-DIOXANE	44000			44000	44000		56 U	59 U	84 UJ	60 U	61 U	62 U	NA	NA	55 U	55 U	55 U	NA	NA	64 U	66 U	65 U	NA	NA	59 U	NA	NA	60 U	NA	60 U	57 U	NA	57 U
2,3,4,6-TETRACHLOROPHENOL	180000			1800000	180000		140 U	150 U	220 UJ	150 U	160 U	160 U	NA	NA	140 U	140 U	140 U	NA	NA	160 U	170 U	165 U	NA	NA	150 U	NA	NA	150 U	NA	150 U	150 U	NA	150 U
2,4,5-TRICHLOROPHENOL	270000	10000000	5000000	6100000	610000		160 UJ	170 UJ	240 UJ	170 UJ	180 UJ	180 UJ	NA	NA	160 UJ	160 UJ	160 UJ	NA	NA	180 UJ	190 UJ	185 UJ	NA	NA	170 UJ	NA	NA	170 UJ	NA	170 UJ	160 UJ	NA	160 UJ
2,4,6-TRICHLOROPHENOL	6100			61000	6100		160 U	170 U	240 UJ	170 U	180 U	180 U	NA	NA	160 U	160 U	160 U	NA	NA	180 U	190 U	185 U	NA	NA	170 U	NA	NA	170 U	NA	170 U	160 U	NA	160 U
2,4-DICHLOROPHENOL	1000	16000	8000	180000	18000		150 U	160 U	230 UJ	160 U	170 U	170 U	NA	NA	150 U	150 U	150 U	NA	NA	180 U	180 U	180 U	NA	NA	160 U	NA	NA	160 U	NA	160 U	160 U	NA	160 U
2,4-DIMETHYLPHENOL	120000			1200000	120000		170 U	180 U	260 UJ	180 U	190 U	190 U	NA	NA	170 U	170 U	170 U	NA	NA	200 U	200 U	200 U	NA	NA	180 U	NA	NA	180 U	NA	180 U	180 U	NA	180 U
2,4-DINITROPHENOL	12000			120000	12000		390 U	410 U	590 UJ	420 U	430 U	440 U	NA	NA	380 U	380 U	380 U	NA	NA	450 U	460 U	455 U	NA	NA	410 U	NA	NA	420 U	NA	420 U	400 U	NA	400 U
2,4-DINITROTOLUENE	1600			1600	1600		88 U	93 U	130 UJ	94 U	96 U	98 U	NA	NA	87 U	87 U	87 U	NA	NA	100 U	100 U	100 U	NA	NA	93 U	NA	NA	94 U	NA	94 U	90 U	NA	90 U
2,6-DINITROTOLUENE	6100			61000	6100		82 U	87 U	120 UJ	87 U	89 U	91 U	NA	NA	81 U	80 U	80.5 U	NA	NA	94 U	96 U	95 U	NA	NA	87 U	NA	NA	87 U	NA	87 U	84 U	NA	84 U
2-CHLORONAPHTHALENE	630000			6300000	630000		90 U	95 U	140 UJ	96 U	98 U	100 U	NA	NA	89 U	89 U	89 U	NA	NA	100 U	110 U	105 U	NA	NA	96 U	NA	NA	96 U	NA	96 U	92 U	NA	92 U
2-CHLOROPHENOL	39000			390000	39000		170 U	180 U	260 UJ	180 U	180 U	190 U	NA	NA	170 U	170 U	170 U	NA	NA	190 U	200 U	195 U	NA	NA	180 U	NA	NA	180 U	NA	180 U	170 U	NA	170 U
2-METHYLNAPHTHALENE	31000			310000	31000		2 U	2 U	**99**	**67**	2 U	2 UJ	NA	NA	2 U	2 U	2 U	NA	NA	3 U	3 U	3 U	NA	NA	2 U	NA	NA	2 UJ	NA	2 UJ	2 UJ	NA	2 UJ
2-METHYLPHENOL	310000			3100000	310000		210 U	220 U	310 UJ	220 U	230 U	230 U	NA	NA	200 U	200 U	200 U	NA	NA	240 U	240 U	240 U	NA	NA	220 U	NA	NA	220 U	NA	220 U	210 U	NA	210 U
2-NITROANILINE	18000			180000	18000		77 U	82 U	120 UJ	83 U	85 U	86 U	NA	NA	77 U	76 U	76.5 U	NA	NA	89 U	91 U	90 U	NA	NA	82 U	NA	NA	83 U	NA	83 U	80 U	NA	80 U
2-NITROPHENOL	12000			120000	12000		170 U	180 U	260 UJ	180 U	190 U	190 U	NA	NA	170 U	170 U	170 U	NA	NA	200 U	200 U	200 U	NA	NA	180 U	NA	NA	180 U	NA	180 U	180 U	NA	180 U
3&4-METHYLPHENOL							190 U	200 U	290 UJ	210 U	210 U	220 U	NA	NA	190 U	190 U	190 U	NA	NA	220 U	230 U	225 U	NA	NA	200 U	NA	NA	210 U	NA	210 U	200 U	NA	200 U
3,3'-DICHLOROBENZIDINE	1100			1100	1100		120 U	120 U	180 UJ	120 U	130 U	130 U	NA	NA	120 U	120 U	120 U	NA	NA	130 UR	140 U	140 U	NA	NA	120 U	NA	NA	120 U	NA	120 U	120 U	NA	120 U
3-NITROANILINE							97 U	100 U	150 UJ	100 U	110 U	110 U	NA	NA	96 U	96 U	96 U	NA	NA	110 U	110 U	110 U	NA	NA	100 U	NA	NA	100 U	NA	100 U	100 U	NA	100 U
4,6-DINITRO-2-METHYLPHENOL	610			6100	610		350 U	370 U	530 UJ	370 U	380 U	390 U	NA	NA	340 U	340 U	340 U	NA	NA	400 U	410 U	405 U	NA	NA	370 U	NA	NA	370 U	NA	370 U	360 U	NA	360 U
4-BROMOPHENYL PHENYL ETHER							88 U	93 U	130 UJ	94 U	96 U	98 U	NA	NA	87 U	87 U	87 U	NA	NA	100 U	100 U	100 U	NA	NA	93 U	NA	NA	94 U	NA	94 U	90 U	NA	90 U
4-CHLORO-3-METHYLPHENOL	12000			120000	12000		170 U	180 U	260 UJ	180 U	190 U	190 U	NA	NA	170 U	170 U	170 U	NA	NA	200 U	200 U	200 U	NA	NA	180 U	NA	NA	180 U	NA	180 U	180 U	NA	180 U
4-CHLOROANILINE	2400			2400	2400		120 U	130 U	190 UJ	130 U	130 U	140 U	NA	NA	120 U	120 U	120 U	NA	NA	140 UR	140 U	140 U	NA	NA	130 U	NA	NA	130 U	NA	130 U	130 U	NA	130 U
4-CHLOROPHENYL PHENYL ETHER							80 U	86 U	120 UJ	86 U	88 U	90 U	NA	NA	80 U	80 U	80 U	NA	NA	92 U	95 U	93.5 U	NA	NA	86 U	NA	NA	86 U	NA	86 U	83 U	NA	83 U

DARK SHADING - AT LEAST ONE CRITERION EXCEEDED; BOLD - DETECTED;
U - NOT DETECTED; UJ - DETECTION LIMIT APPROXIMATE; J - QUANTITATION LIMIT APPROXIMATE; R - REJECTED

TABLE E-1
ANALYTICAL RESULTS - SURFACE SOIL - HUMAN HEALTH
EAST BRUNSWICK, NAS BRUNSWICK, BRUNSWICK, MAINE

SAMPLE ID							EB-SO-SS01-0012	EB-SO-SS01A-0012	EB-SO-SS01B-0012	EB-SO-SS02-0012	EB-SO-SS03-0012	EB-SO-SS04A-0004	EB-SO-SS04B-0004	EB-SO-SS04C-0004	EB-SO-SS05A-0004	EB-SO-SS05A-0004-D	EB-SO-SS05A-0004-AVG	EB-SO-SS05B-0004	EB-SO-SS05C-0004	EB-SO-SS06A-0004	EB-SO-SS06A-0004-D	EB-SO-SS06A-0004-AVG	EB-SO-SS06B-0004	EB-SO-SS06C-0004	EB-SO-SS07A-0004	EB-SO-SS07B-0004	EB-SO-SS07C-0004	EB-SO-SS08-0012	EB-SO-SS08-0012-D	EB-SO-SS08-0012-AVG	EB-SO-SS09-0012	EB-SO-SS09-0012-D	EB-SO-SS09-0012-AVG
LOCATION ID							EB-SO-SS01	EB-SO-SS01A	EB-SO-SS01B	EB-SO-SS02	EB-SO-SS03	EB-SO-SS04A	EB-SO-SS04B	EB-SO-SS04C	EB-SO-SS05A	EB-SO-SS05A	EB-SO-SS05A	EB-SO-SS05B	EB-SO-SS05C	EB-SO-SS06A	EB-SO-SS06A	EB-SO-SS06A	EB-SO-SS06B	EB-SO-SS06C	EB-SO-SS07A	EB-SO-SS07B	EB-SO-SS07C	EB-SO-SS08	EB-SO-SS08	EB-SO-SS08	EB-SO-SS09	EB-SO-SS09	EB-SO-SS09
SAMPLE DATE							11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09
TOP DEPTH (FT)							0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BOTTOM DEPTH (FT)							1.0	1.0	1.0	1.0	1.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	1.0	1.0	1.0	1.0	1.0	1.0
SACODE							NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	DUP	AVG	NORMAL	NORMAL	ORIG	DUP	AVG	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	DUP	AVG	ORIG	DUP	AVG
SCREENING CRITERIA	PSL	MEDEP RES Soil RAG	1/2 MEDEP RES Soil RAG	EPA RSL RES Soil	Adjusted EPA RSL RES Soil NC	BKGD																											
4-NITROANILINE	24000			24000	24000		140 U	150 U	210 UJ	150 U	150 U	150 U	NA	NA	140 U	140 U	140 U	NA	NA	160 U	160 U	160 U	NA	NA	150 U	NA	NA	150 U	NA	150 U	140 U	NA	140 U
4-NITROPHENOL							320 U	340 U	480 UJ	340 UJ	350 UJ	360 U	NA	NA	320 UJ	320 UJ	320 UJ	NA	NA	360 U	380 UJ	370 UJ	NA	NA	340 U	NA	NA	340 U	NA	340 U	330 U	NA	330 U
ACENAPHTHENE	340000			3400000	340000		**8 J**	**6 J**	**90**	**420**	2 U	2 U	NA	NA	**7 J**	**5 J**	**6 J**	NA	NA	2 U	2 U	2 U	NA	NA	2 U	NA	NA	2 U	NA	2 U	2 U	NA	2 U
ACENAPHTHYLENE	340000			3400000	340000		**18 J**	**33**	**160**	1 U	**3 J**	1 UJ	NA	NA	**120**	**100**	**110**	NA	NA	**3 J**	**4 J**	**3.5 J**	NA	NA	**6 J**	NA	NA	1 UJ	NA	1 UJ	1 UJ	NA	1 UJ
ACETOPHENONE	780000			7800000	780000		180 U	200 U	280 UJ	200 U	200 U	200 U	NA	NA	180 U	180 U	180 U	NA	NA	210 U	220 U	215 U	NA	NA	200 U	NA	NA	200 U	NA	200 U	190 U	NA	190 U
ANTHRACENE	1700000			17000000	1700000	7	**390**	**39**	**200**	**700**	**3 J**	1 U	NA	NA	**85**	**78**	**81.5**	NA	NA	**2 J**	**2 J**	**2 J**	NA	NA	**5 J**	NA	NA	**14 J**	NA	**14 J**	**8 J**	NA	**8 J**
ATRAZINE	2100	6650000	3325000	2100	2100		94 U	100 U	140 UJ	100 U	100 U	100 U	NA	NA	93 U	93 U	93 U	NA	NA	110 U	110 U	110 U	NA	NA	100 U	NA	NA	100 U	NA	100 U	97 U	NA	97 U
BENZALDEHYDE	780000			7800000	780000		120 UJ	130 UJ	190 UJ	130 UJ	140 UJ	140 U	NA	NA	120 UJ	120 UJ	120 UJ	NA	NA	140 UJ	150 UJ	145 UJ	NA	NA	**160 J**	NA	NA	130 U	NA	130 U	**380 J**	NA	**380 J**
BENZO(A)ANTHRACENE	150			150	150	23	**110**	**140**	**1200**	**2000 J**	**18 J**	**10 J**	NA	NA	**220**	**200**	**210**	NA	NA	**19 J**	**18 J**	**18.5 J**	NA	NA	**23**	NA	NA	**61**	NA	**61**	**33**	NA	**33**
BENZO(A)PYRENE	15	2000	1000	15	15	28	**44**	**80**	**390**	**1100**	**12 J**	**11 J**	NA	NA	**160**	**140**	**150**	NA	NA	**14 J**	**13 J**	**13.5 J**	NA	NA	**15 J**	NA	NA	**40**	NA	**40**	**29**	NA	**29**
BENZO(B)FLUORANTHENE	150			150	150	51	**280**	**520**	**2300**	**2100**	**27**	**36**	NA	NA	**1200 J**	**1200**	**1200 J**	NA	NA	**31**	**30**	**30.5**	NA	NA	**70**	NA	NA	**120**	NA	**120**	**55**	NA	**55**
BENZO(G,H,I)PERYLENE	170000			1700000	170000	10	**14 J**	**35**	**110**	**590**	**4 J**	12 UJ	NA	NA	**75**	**58**	**66.5**	NA	NA	**8 J**	2 U	**4.5 J**	NA	NA	**8 J**	NA	NA	15 UJ	NA	15 UJ	21 UJ	NA	21 UJ
BENZO(K)FLUORANTHENE	1500			1500	1500	12	**80**	**150**	**730**	**710**	**6 J**	**4 J**	NA	NA	**450 J**	**260 J**	**355 J**	NA	NA	**9 J**	**6 J**	**7.5 J**	NA	NA	**17 J**	NA	NA	**34**	NA	**34**	**14 J**	NA	**14 J**
BIS(2-CHLOROETHOXY)METHANE	18000			180000	18000		99 U	100 U	150 UJ	110 U	110 U	110 U	NA	NA	98 U	98 U	98 U	NA	NA	110 U	120 U	115 U	NA	NA	100 U	NA	NA	100 U	NA	100 U	100 U	NA	100 U
BIS(2-CHLOROETHYL)ETHER	190			190	190		84 U	89 U	130 UJ	90 U	92 U	94 U	NA	NA	83 U	82 U	82.5 U	NA	NA	96 U	99 U	97.5 U	NA	NA	89 U	NA	NA	89 U	NA	89 U	86 U	NA	86 U
BIS(2-CHLOROISOPROPYL)ETHER							92 U	98 U	140 UJ	98 U	100 U	100 U	NA	NA	91 U	91 U	91 U	NA	NA	100 U	110 U	105 U	NA	NA	98 U	NA	NA	98 U	NA	98 U	94 U	NA	94 U
BIS(2-ETHYLHEXYL)PHTHALATE	35000	1220000	610000	35000	35000		100 U	**200 J**	150 UJ	110 U	110 U	110 U	NA	NA	100 U	100 U	100 U	NA	NA	120 U	120 U	120 U	NA	NA	110 U	NA	NA	110 U	NA	110 U	**140 J**	NA	**140 J**
BUTYL BENZYL PHTHALATE	260000			260000	260000		96 U	100 U	140 UJ	100 U	100 U	110 U	NA	NA	95 U	95 U	95 U	NA	NA	110 U	110 U	110 U	NA	NA	100 U	NA	NA	100 U	NA	100 U	99 U	NA	99 U
CAPROLACTAM	3100000			31000000	3100000		150 UR	160 UR	220 UR	160 UR	160 UR	170 UR	NA	NA	150 UR	150 UR	150 UR	NA	NA	170 UR	180 UR	175 UR	NA	NA	160 UR	NA	NA	160 UR	NA	160 UR	150 UR	NA	150 UR
CARBAZOLE							**270 J**	120 U	**220 J**	**390**	120 U	130 U	NA	NA	110 U	110 U	110 U	NA	NA	130 U	140 U	135 U	NA	NA	120 U	NA	NA	120 U	NA	120 U	120 U	NA	120 U
CHRYSENE	15000			15000	15000	35	**240**	**350**	**2200**	**1800 J**	**11 J**	**28**	NA	NA	**1200 J**	**1000**	**1100 J**	NA	NA	**12 J**	**10 J**	**11 J**	NA	NA	**45**	NA	NA	**110**	NA	**110**	**39**	NA	**39**
DIBENZO(A,H)ANTHRACENE	15			15	15	6	**6 J**	**14 J**	**70**	**220**	**4 J**	**3 J**	NA	NA	**31**	**27**	**29**	NA	NA	**4 J**	**4 J**	**4 J**	NA	NA	**4 J**	NA	NA	**12 J**	NA	**12 J**	2 U	NA	2 U
DIBENZOFURAN							82 U	87 U	**280 J**	**190 J**	89 U	91 U	NA	NA	81 U	80 U	80.5 U	NA	NA	94 U	96 U	95 U	NA	NA	87 U	NA	NA	87 U	NA	87 U	84 U	NA	84 U
DIETHYL PHTHALATE	4900000			49000000	4900000		82 U	88 U	120 UJ	88 U	90 U	92 U	NA	NA	82 U	82 U	82 U	NA	NA	95 U	98 U	96.5 U	NA	NA	88 U	NA	NA	88 U	NA	88 U	85 U	NA	85 U
DIMETHYL PHTHALATE	4900000			49000000	4900000		80 U	86 U	120 UJ	86 U	88 U	90 U	NA	NA	80 U	80 U	80 U	NA	NA	92 U	95 U	93.5 U	NA	NA	86 U	NA	NA	86 U	NA	86 U	83 U	NA	83 U
DI-N-BUTYL PHTHALATE	610000			6100000	610000		100 U	110 U	160 UJ	110 U	110 U	120 U	NA	NA	100 U	100 U	100 U	NA	NA	120 U	120 U	120 U	NA	NA	110 U	NA	NA	110 U	NA	110 U	110 U	NA	110 U
DI-N-OCTYL PHTHALATE							220 U	230 U	330 UJ	230 U	240 U	240 U	NA	NA	220 U	220 U	220 U	NA	NA	250 U	260 U	255 U	NA	NA	230 U	NA	NA	230 U	NA	230 U	220 U	NA	220 U
FLUORANTHENE	230000			2300000	230000	62	**950**	**880**	**5400**	**3800**	**42**	**73**	NA	NA	**3600**	**3400**	**3500**	NA	NA	**39**	**34**	**36.5**	NA	NA	**150**	NA	NA	**440**	NA	**440**	**65**	NA	**65**
FLUORENE	230000			2300000	230000		**25**	**6 J**	**64**	**260**	4 U	4 U	NA	NA	**12 J**	**7 J**	**9.5 J**	NA	NA	4 U	4 U	4 U	NA	NA	4 U	NA	NA	**5 J**	NA	**5 J**	3 U	NA	3 U
HEXACHLOROBENZENE	300			300	300		85 U	90 U	130 UJ	91 U	93 U	95 U	NA	NA	84 U	84 U	84 U	NA	NA	97 U	100 U	98.5 U	NA	NA	90 U	NA	NA	90 U	NA	90 U	87 U	NA	87 U

DARK SHADING - AT LEAST ONE CRITERION EXCEEDED; BOLD - DETECTED;
U - NOT DETECTED; UJ - DETECTION LIMIT APPROXIMATE; J - QUANTITATION LIMIT APPROXIMATE; R - REJECTED

TABLE E-1
ANALYTICAL RESULTS - SURFACE SOIL - HUMAN HEALTH
EAST BRUNSWICK, NAS BRUNSWICK, BRUNSWICK, MAINE

SAMPLE ID							EB-SO-SS01-0012	EB-SO-SS01A-0012	EB-SO-SS01B-0012	EB-SO-SS02-0012	EB-SO-SS03-0012	EB-SO-SS04A-0004	EB-SO-SS04B-0004	EB-SO-SS04C-0004	EB-SO-SS05A-0004	EB-SO-SS05A-0004-D	EB-SO-SS05A-0004-AVG	EB-SO-SS05B-0004	EB-SO-SS05C-0004	EB-SO-SS06A-0004	EB-SO-SS06A-0004-D	EB-SO-SS06A-0004-AVG	EB-SO-SS06B-0004	EB-SO-SS06C-0004	EB-SO-SS07A-0004	EB-SO-SS07B-0004	EB-SO-SS07C-0004	EB-SO-SS08-0012	EB-SO-SS08-0012-D	EB-SO-SS08-0012-AVG	EB-SO-SS09-0012	EB-SO-SS09-0012-D	EB-SO-SS09-0012-AVG
LOCATION ID							EB-SO-SS01	EB-SO-SS01A	EB-SO-SS01B	EB-SO-SS02	EB-SO-SS03	EB-SO-SS04A	EB-SO-SS04B	EB-SO-SS04C	EB-SO-SS05A	EB-SO-SS05A	EB-SO-SS05A	EB-SO-SS05B	EB-SO-SS05C	EB-SO-SS06A	EB-SO-SS06A	EB-SO-SS06A	EB-SO-SS06B	EB-SO-SS06C	EB-SO-SS07A	EB-SO-SS07B	EB-SO-SS07C	EB-SO-SS08	EB-SO-SS08	EB-SO-SS08	EB-SO-SS09	EB-SO-SS09	EB-SO-SS09
SAMPLE DATE							11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09
TOP DEPTH (FT)							0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BOTTOM DEPTH (FT)							1.0	1.0	1.0	1.0	1.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	1.0	1.0	1.0	1.0	1.0	1.0
SACODE							NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	DUP	AVG	NORMAL	NORMAL	ORIG	DUP	AVG	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	DUP	AVG	ORIG	DUP	AVG
SCREENING CRITERIA	PSL	MEDEP RES Soil RAG	1/2 MEDEP RES Soil RAG	EPA RSL RES Soil	Adjusted EPA RSL RES Soil NC	BKGD																											
HEXACHLOROBUTADIENE	6100			61000	6100		86 U	91 U	130 UJ	92 U	94 U	96 U	NA	NA	85 U	85 U	85 U	NA	NA	98 U	100 U	99 U	NA	NA	91 U	NA	NA	91 U	NA	91 U	88 U	NA	88 U
HEXACHLOROCYCLOPENTADIENE	37000			370000	37000		85 U	90 U	130 UJ	91 U	93 U	95 U	NA	NA	84 U	84 U	84 U	NA	NA	97 U	100 U	98.5 U	NA	NA	90 U	NA	NA	90 U	NA	90 U	87 U	NA	87 U
HEXACHLOROETHANE	6100			61000	6100		99 U	100 U	150 UJ	110 U	110 U	110 U	NA	NA	98 U	98 U	98 U	NA	NA	110 U	120 U	115 U	NA	NA	100 U	NA	NA	100 U	NA	100 U	100 U	NA	100 U
HIGH MOLECULAR WEIGHT PAHS							**2320 J**	**2910 J**	**16800 J**	**16200 J**	**155 J**	**227 J**	NA	NA	**9880 J**	**8600 J**	**9240 J**	NA	NA	**167 J**	**145 J**	**156 J**	NA	NA	**431 J**	NA	NA	**1160 J**	NA	**1160 J**	**342 J**	NA	**342 J**
INDENO(1,2,3-CD)PYRENE	150			150	150	39	**31 J**	**75 J**	**220 J**	**760 J**	13 UJ	24 UJ	NA	NA	**140 J**	**120 J**	**130 J**	NA	NA	13 UJ	13 UJ	13 UJ	NA	NA	14 UJ	NA	NA	**58 J**	NA	**58 J**	**40 J**	NA	**40 J**
ISOPHORONE	510000			510000	510000		77 U	82 U	120 UJ	83 U	85 U	86 U	NA	NA	77 U	76 U	76.5 U	NA	NA	89 U	91 U	90 U	NA	NA	82 U	NA	NA	83 U	NA	83 U	80 U	NA	80 U
LOW MOLECULAR WEIGHT PAHS							**1020 J**	**415 J**	**3290 J**	**4830**	**28 J**	**35 J**	NA	NA	**1330 J**	**1000 J**	**1170 J**	NA	NA	**25 J**	**24 J**	**24.5 J**	NA	NA	**76 J**	NA	NA	**199 J**	NA	**199 J**	**65 J**	NA	**65 J**
NAPHTHALENE	3900	245000	122500	3900	3900		**6 J**	**11 J**	**380 J**	**180**	3 U	3 U	NA	NA	**4 J**	**4 J**	**4 J**	NA	NA	3 U	3 U	3 U	NA	NA	3 U	NA	NA	3 U	NA	3 U	**3 J**	NA	**3 J**
NITROBENZENE	4400			4400	4400		94 U	100 U	140 UJ	100 U	100 U	100 U	NA	NA	93 U	93 U	93 U	NA	NA	110 U	110 U	110 U	NA	NA	100 U	NA	NA	100 U	NA	100 U	97 U	NA	97 U
N-NITROSO-DI-N-PROPYLAMINE	69			69	69		86 U	91 U	130 UJ	92 U	94 U	96 U	NA	NA	85 U	85 U	85 U	NA	NA	98 U	100 U	99 U	NA	NA	91 U	NA	NA	91 U	NA	91 U	88 U	NA	88 U
N-NITROSODIPHENYLAMINE	99000			99000	99000		230 U	240 U	340 UJ	240 U	250 U	250 U	NA	NA	220 U	220 U	220 U	NA	NA	260 U	270 U	265 U	NA	NA	240 U	NA	NA	240 U	NA	240 U	230 U	NA	230 U
PENTACHLOROPHENOL	30	1000	500	3000	3000		240 U	260 U	370 UJ	260 U	270 U	270 U	NA	NA	240 U	240 U	240 U	NA	NA	280 U	290 U	285 U	NA	NA	260 U	NA	NA	260 U	NA	260 U	250 U	NA	250 U
PHENANTHRENE	170000			1700000	170000	32	**570**	**320**	**2300**	**3200**	**22 J**	**35**	NA	NA	**1100**	**810**	**955**	NA	NA	**20 J**	**18 J**	**19 J**	NA	NA	**65**	NA	NA	**180**	NA	**180**	**54**	NA	**54**
PHENOL	1800000			18000000	1800000		160 U	170 U	240 UJ	170 U	180 U	180 U	NA	NA	160 U	160 U	160 U	NA	NA	180 U	190 U	185 U	NA	NA	170 U	NA	NA	170 U	NA	170 U	160 U	NA	160 U
PYRENE	170000			1700000	170000	64	**560**	**670**	**4200**	**3100 J**	**31**	**62**	NA	NA	**2800 J**	**2200**	**2500 J**	NA	NA	**31**	**30**	**30.5**	NA	NA	**99**	NA	NA	**280**	NA	**280**	**67**	NA	**67**
TOTAL CARCINOGENIC PAHS-HALFND							**791 J**	**1330 J**	**7110 J**	**8690 J**	**84.5 J**	**104 J**	NA	NA	**3400 J**	**2950 J**	**3170 J**	NA	NA	**95.5 J**	**87.5 J**	**91.5 J**	NA	NA	**181 J**	NA	NA	**435 J**	NA	**435 J**	**211 J**	NA	**211 J**
TOTAL CARCINOGENIC PAHS-POS							**791 J**	**1330 J**	**7110 J**	**8690 J**	**78 J**	**92 J**	NA	NA	**3400 J**	**2950 J**	**3170 J**	NA	NA	**89 J**	**81 J**	**85 J**	NA	NA	**174 J**	NA	NA	**435 J**	NA	**435 J**	**210 J**	NA	**210 J**
TOTAL CHLORINATED VOCS							86 U	91 U	130 UJ	92 U	94 U	96 U	NA	NA	85 U	85 U	85 U	NA	NA	98 U	100 U	99 U	NA	NA	91 U	NA	NA	91 U	NA	91 U	88 U	NA	88 U
TOTAL PAHS							**3330 J**	**3330 J**	**20100 J**	**21000 J**	**183 J**	**262 J**	NA	NA	**11200 J**	**9610 J**	**10400 J**	NA	NA	**192 J**	**169 J**	**181 J**	NA	NA	**507 J**	NA	NA	**1350 J**	NA	**1350 J**	**407 J**	NA	**407 J**
HERBICIDES (UG/KG)																																	
2,4,5-T	61000	1900000	950000	610000	61000		NA	NA	NA	NA	NA	18 U	NA	NA	16 U	16 U	16 U	NA	NA	19 U	20 U	19.5 U	NA	NA	18 U	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-TP (SILVEX)	49000			490000	49000		NA	NA	NA	NA	NA	15 U	NA	NA	13 U	13 U	13 U	NA	NA	15 U	16 U	15.5 U	NA	NA	14 U	NA	NA	NA	NA	NA	NA	NA	NA
2,4-D	69000			690000	69000		NA	NA	NA	NA	NA	38 U	NA	NA	33 U	33 U	33 U	NA	NA	39 U	40 U	39.5 U	NA	NA	36 U	NA	NA	NA	NA	NA	NA	NA	NA
2,4-DB	49000			490000	49000		NA	NA	NA	NA	NA	27 U	NA	NA	24 U	24 U	24 U	NA	NA	28 U	29 U	28.5 U	NA	NA	26 U	NA	NA	NA	NA	NA	NA	NA	NA
DALAPON	180000			1800000	180000		NA	NA	NA	NA	NA	9.7 U	NA	NA	8.5 U	8.5 U	8.5 U	NA	NA	10 U	10 U	10 U	NA	NA	9.2 U	NA	NA	NA	NA	NA	NA	NA	NA
DICAMBA	180000			1800000	180000		NA	NA	NA	NA	NA	13 U	NA	NA	11 U	11 U	11 U	NA	NA	13 U	14 U	13.5 U	NA	NA	12 U	NA	NA	NA	NA	NA	NA	NA	NA
DICHLOROPROP							NA	NA	NA	NA	NA	22 U	NA	NA	19 U	19 U	19 U	NA	NA	23 U	23 U	23 U	NA	NA	21 U	NA	NA	NA	NA	NA	NA	NA	NA
DINOSEB	2500	5000	2500	61000	6100		NA	NA	NA	NA	NA	3 U	NA	NA	2.6 U	2.6 U	2.6 U	NA	NA	3.1 U	3.2 U	3.15 U	NA	NA	2.9 U	NA	NA	NA	NA	NA	NA	NA	NA
MCPA	3100			31000	3100		NA	NA	NA	NA	NA	2700 U	NA	NA	2400 U	2400 U	2400 U	NA	NA	2800 U	2900 U	2850 U	NA	NA	2600 U	NA	NA	NA	NA	NA	NA	NA	NA
MCPP	6100			61000	6100		NA	NA	NA	NA	NA	2600 U	NA	NA	2300 U	2300 U	2300 U	NA	NA	2700 U	2700 U	2700 U	NA	NA	2500 U	NA	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)																																	
ALUMINUM	7700			77000	7700	19400	**6140**	**7810**	**6070**	**9230**	**10200**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**8570**	**9390**	**8980**	**6480**	**9410**	**7945**
ANTIMONY	3.1			31	3.1	0.04	0.09 UJ	**0.19 J**	**10.4 J**	**0.18 J**	0.04 UJ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.06 UJ	0.07 UJ	0.065 UJ	**1.4 J**	**0.18 J**	**0.79 J**

DARK SHADING - AT LEAST ONE CRITERION EXCEEDED; BOLD - DETECTED;
U - NOT DETECTED; UJ - DETECTION LIMIT APPROXIMATE; J - QUANTITATION LIMIT APPROXIMATE; R - REJECTED

TABLE E-1
ANALYTICAL RESULTS - SURFACE SOIL - HUMAN HEALTH
EAST BRUNSWICK, NAS BRUNSWICK, BRUNSWICK, MAINE

SAMPLE ID							EB-SO-SS01-0012	EB-SO-SS01A-0012	EB-SO-SS01B-0012	EB-SO-SS02-0012	EB-SO-SS03-0012	EB-SO-SS04A-0004	EB-SO-SS04B-0004	EB-SO-SS04C-0004	EB-SO-SS05A-0004	EB-SO-SS05A-0004-D	EB-SO-SS05A-0004-AVG	EB-SO-SS05B-0004	EB-SO-SS05C-0004	EB-SO-SS06A-0004	EB-SO-SS06A-0004-D	EB-SO-SS06A-0004-AVG	EB-SO-SS06B-0004	EB-SO-SS06C-0004	EB-SO-SS07A-0004	EB-SO-SS07B-0004	EB-SO-SS07C-0004	EB-SO-SS08-0012	EB-SO-SS08-0012-D	EB-SO-SS08-0012-AVG	EB-SO-SS09-0012	EB-SO-SS09-0012-D	EB-SO-SS09-0012-AVG
LOCATION ID							EB-SO-SS01	EB-SO-SS01A	EB-SO-SS01B	EB-SO-SS02	EB-SO-SS03	EB-SO-SS04A	EB-SO-SS04B	EB-SO-SS04C	EB-SO-SS05A	EB-SO-SS05A	EB-SO-SS05A	EB-SO-SS05B	EB-SO-SS05C	EB-SO-SS06A	EB-SO-SS06A	EB-SO-SS06A	EB-SO-SS06B	EB-SO-SS06C	EB-SO-SS07A	EB-SO-SS07B	EB-SO-SS07C	EB-SO-SS08	EB-SO-SS08	EB-SO-SS08	EB-SO-SS09	EB-SO-SS09	EB-SO-SS09
SAMPLE DATE							11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09
TOP DEPTH (FT)							0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BOTTOM DEPTH (FT)							1.0	1.0	1.0	1.0	1.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	1.0	1.0	1.0	1.0	1.0	1.0
SACODE							NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	DUP	AVG	NORMAL	NORMAL	ORIG	DUP	AVG	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	DUP	AVG	ORIG	DUP	AVG
SCREENING CRITERIA	PSL	MEDEP RES Soil RAG	1/2 MEDEP RES Soil RAG	EPA RSL RES Soil	Adjusted EPA RSL RES Soil NC	BKGD																											
ARSENIC	0.39	10	5	0.39	0.39	4.5	**2.5**	**2.2**	**12.3**	**2.9**	**2.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1.5**	**1.8**	**1.65**	**12.9 J**	**2.9 J**	**7.9 J**
BARIUM	1500	10000	5000	15000	1500	15.9	**14**	**9.2**	**40.3**	**13.4**	**13**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**11**	**11.6**	**11.3**	**115 J**	**14.7 J**	**64.85 J**
BERYLLIUM	2	4	2	160	16	0.69	**0.4 J**	**0.4 J**	**0.39 J**	**0.5**	**0.45 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.42 J**	**0.46 J**	**0.44 J**	**0.34 J**	**0.41 J**	**0.375 J**
CADMIUM	7	27	13.5	70	7	0.05	**0.16**	**0.06 J**	**2.3**	**1.5**	**0.06 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.03 UJ	**0.05 J**	**0.0325 J**	**8.6 J**	**1.5 J**	**5.05 J**
CALCIUM						1080	**758 J**	**657 J**	**1400 J**	**502 J**	**326 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**462 J**	**474 J**	**468 J**	**811 J**	**594 J**	**702.5 J**
CHROMIUM	23	950	475	230	23	15.3	**9.3**	**7.5**	**23.7**	**13.9**	**8.2**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**7.8**	**8**	**7.9**	**23.8 J**	**12.9 J**	**18.35 J**
COBALT	2.3			23	2.3	4	**3.5**	**2.8**	**3.8**	**3.6**	**2.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**2.8**	**3**	**2.9**	**7.4 J**	**3.2 J**	**5.3 J**
COPPER	310	650	325	3100	310	6.7	**125**	**174**	**34600**	**360**	**4.2**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**5.8**	**6.2**	**6**	**41.3 J**	**325 J**	**183.15 J**
IRON	5500			55000	5500	14400	**7660**	**6490**	**16700**	**9050**	**8540**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**7220**	**7640**	**7430**	**116000 J**	**8740 J**	**62370 J**
LEAD	187.5	375	187.5	400	400	17.5	**11**	**15.3**	**871**	**85.7**	**9.7**	**13**	**9.6**	**13.3**	**24.4**	**21.8**	**23.1**	**7.5**	**6.9**	**13.4**	**11.9**	**12.65**	**30.7**	**38.2**	**9.8**	**12.3**	**10.7**	**15.5**	**12.6**	**14.05**	**431 J**	**79.2 J**	**255.1 J**
MAGNESIUM						1953.21	**1780**	**1170**	**1130**	**1130**	**608**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1020**	**1060**	**1040**	**1040**	**1140**	**1090**
MANGANESE	180			1800	180	267.41	**156**	**153**	**243**	**230**	**230**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**167 J**	**158 J**	**162.5 J**	**552 J**	**215 J**	**383.5 J**
MERCURY	2.3	60	30	23	2.3	0.08	0.01 U	**0.02 J**	**0.15**	**0.08**	**0.04**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.02 J**	**0.02 J**	**0.02 J**	**0.35**	**0.42**	**0.385**
NICKEL	150	3800	1900	1500	150	9.8	**8.3**	**8**	**11.8**	**9**	**3.7 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**5.9**	**5.9**	**5.9**	**16.9 J**	**8.8**	**12.85 J**
POTASSIUM						939.94	**857**	**488**	**839**	**422**	**263**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**395**	**455**	**425**	**342**	**442**	**392**
SELENIUM	39	950	475	390	39		0.24 UJ	0.3 UJ	0.64 UJ	0.52 U	0.64 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.49**	0.37 UJ	**0.3375 J**	**2.1**	0.49 UJ	**1.1725 J**
SILVER	39	950	475	390	39	0.21	**0.14 J**	**0.23 J**	**15.8**	**0.27 J**	**0.09 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.06 U	0.06 U	0.06 U	**0.42 J**	**0.21 J**	**0.315 J**
SODIUM						52.9	**55.2 J**	**54.5 J**	**216**	**47.5 J**	**37.3 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**43 J**	**46.7 J**	**44.85 J**	**44 J**	**55.2 J**	**49.6 J**
THALLIUM	0.51			5.1	0.51		0.09 UJ	0.1 UJ	0.08 UJ	0.09 UJ	0.08 UJ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.14 UJ	0.13 UJ	0.135 UJ	0.16 UJ	0.1 UJ	0.13 UJ
VANADIUM	39			390	39	26.3	**13.9**	**13.4**	**17.9**	**17.3**	**16.2**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**13.4**	**14.6**	**14**	**15**	**16.2**	**15.6**
ZINC	750	1500	750	23000	2300	15.3	**55.8**	**47.3**	**3140**	**247**	**26**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**27.4**	**30.4**	**28.9**	**4840 J**	**254 J**	**2547 J**
PCBS (UG/KG)																																	
AROCLOR-1016	50	100	50	3900	390		NA	NA	NA	6.7 U	7.1 U	7 U	6.8 U	7.4 U	6.3 U	6.3 U	6.3 U	7 U	6.5 U	7.4 U	7.4 U	7.4 U	8.7 U	9.1 U	6.8 U	6.7 U	7.3 U	6.6 U	NA	6.6 U	NA	NA	NA
AROCLOR-1221	170			170	170		NA	NA	NA	16 U	17 U	16 U	16 U	17 U	15 U	15 U	15 U	16 U	15 U	17 U	17 U	17 U	20 U	21 U	16 U	16 U	17 U	15 U	NA	15 U	NA	NA	NA
AROCLOR-1232	170			170	170		NA	NA	NA	10 U	11 U	11 U	11 U	11 U	9.8 U	9.8 U	9.8 U	11 U	10 U	12 U	11 U	11.5 U	13 U	14 U	10 U	10 U	11 U	10 U	NA	10 U	NA	NA	NA
AROCLOR-1242	220			220	220		NA	NA	NA	6.5 U	6.9 U	6.7 U	6.6 U	7.1 U	6.1 U	6.1 U	6.1 U	6.8 U	6.2 U	7.2 U	7.1 U	7.15 U	8.4 U	8.8 U	6.5 U	6.5 U	7 U	6.4 U	NA	6.4 U	NA	NA	NA
AROCLOR-1248	220			220	220		NA	NA	NA	6.8 U	7.2 U	7.1 U	7 U	7.5 U	6.4 U	6.4 U	6.4 U	7.1 U	6.6 U	7.6 U	7.5 U	7.55 U	8.8 U	9.2 U	6.9 U	6.8 U	7.4 U	6.7 U	NA	6.7 U	NA	NA	NA
AROCLOR-1254	110			1100	110		NA	NA	NA	5.3 U	5.6 U	5.5 U	5.4 U	5.8 U	4.9 U	4.9 U	4.9 U	5.5 U	5.1 U	5.8 U	5.8 U	5.8 U	6.8 U	7.1 U	5.3 U	5.2 U	5.7 U	5.2 U	NA	5.2 U	NA	NA	NA
AROCLOR-1260	220			220	220		NA	NA	NA	**240**	7.1 U	7 U	6.8 U	7.4 U	6.3 U	6.3 U	6.3 U	7 U	6.5 U	7.4 UJ	7.4 U	7.4 UJ	8.7 U	9.1 U	6.8 U	6.7 U	7.3 U	6.6 U	NA	6.6 U	NA	NA	NA
AROCLOR-1262							NA	NA	NA	4.2 U	4.4 U	4.3 U	4.2 U	4.6 U	3.9 U	3.9 U	3.9 U	4.3 U	4 U	4.6 U	4.5 U	4.55 U	5.4 U	5.6 U	4.2 U	4.1 U	4.5 U	4.1 U	NA	4.1 U	NA	NA	NA
AROCLOR-1268							NA	NA	NA	2.9 U	3.1 U	3 U	3 U	3.2 U	2.7 U	2.7 U	2.7 U	3 U	2.8 U	3.2 U	3.2 U	3.2 U	3.8 U	3.9 U	2.9 U	2.9 U	3.2 U	2.9 U	NA	2.9 U	NA	NA	NA
TOTAL AROCLOR	1100	2200	1100				NA	NA	NA	**240**	3.1 U	3 U	3 U	3.2 U	2.7 U	2.7 U	2.7 U	3 U	2.8 U	3.2 U	3.2 U	3.2 U	3.8 U	3.9 U	2.9 U	2.9 U	3.2 U	2.9 U	NA	2.9 U	NA	NA	NA

Notes:
BKGD - Upper Sand Background Values - 95% Upper Prediction Limit (UPL)
EPA - U.S.Environmental Protection Agency
MEDEP -
NC - Non
PSL - Project Screening Level
RAG - Remedial Action Guideline
RES - Residential
RSL - Regional Screening Level, Residential Direct Contact Soil
µg/kg - micrograms per kilogram
mg/kg - milligrams per kilogram

DARK SHADING - AT LEAST ONE CRITERION EXCEEDED; BOLD - DETECTED;
U - NOT DETECTED; UJ - DETECTION LIMIT APPROXIMATE; J - QUANTITATION LIMIT APPROXIMATE; R - REJECTED

TABLE E-2
ANALYTICAL RESULTS - SUBSURFACE SOIL - HUMAN HEALTH
EAST BRUNSWICK, NAS BRUNSWICK, BRUNSWICK, MAINE

SAMPLE ID							EB-SO-SB01-1315	EB-SO-SB01-1315-D	EB-SO-SB01-1315-AVG	EB-SO-SB02-1719	EB-SO-SB02A-0910	EB-SO-SB03-0709	EB-SO-SB04-1315	EB-SO-SB05-1315	EB-SO-SB05-1315-D	EB-SO-SB05-1315-AVG	EB-SO-SB06-1719
LOCATION ID							EB-SO-SB01	EB-SO-SB01	EB-SO-SB01	EB-SO-SB02	EB-SO-SB02A	EB-SO-SB03	EB-SO-SB04	EB-SO-SB05	EB-SO-SB05	EB-SO-SB05	EB-SO-SB06
SAMPLE DATE							11/05/09	11/05/09	11/05/09	11/05/09	11/05/09	11/05/09	11/05/09	11/06/09	11/06/09	11/06/09	11/05/09
TOP DEPTH (FT)							13.0	13.0	13.0	17.0	9.0	7.0	13.0	13.0	13.0	13.0	17.0
BOTTOM DEPTH (FT)							15.0	15.0	15.0	19.0	10.0	9.0	15.0	15.0	15.0	15.0	19.0
SACODE							ORIG	DUP	AVG	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	DUP	AVG	NORMAL
SCREENING CRITERIA	PSL	MEDEP RES Soil RAG	1/2 MEDEP RES Soil RAG	EPA RSL RES Soil	Adjusted EPA RSL RES Soil NC	BKGD											
VOLATILES (UG/KG)																	
1,1,1-TRICHLOROETHANE	2000	260000	130000	9000000	900000		0.4 U	0.6 U	0.50 U	0.4 U	NA	0.5 U	0.5 U	0.3 U	NA	0.30 U	0.4 U
1,1,2,2-TETRACHLOROETHANE	590			590	590		0.7 U	1 U	0.85 U	0.9 U	NA	1 U	1 U	0.7 U	NA	0.70 U	0.8 U
1,1,2-TRICHLOROETHANE	20	3000	1500	1100	1100		0.8 U	1 U	0.90 U	1 U	NA	1 U	1 U	0.8 U	NA	0.80 U	0.9 U
1,1,2-TRICHLOROTRIFLUOROETHANE	4300000			43000000	4300000		0.8 U	1 U	0.90 U	0.9 U	NA	1 U	1 U	0.7 U	NA	0.70 U	0.8 U
1,1-DICHLOROETHANE	3400	645000	322500	3400	3400		1 U	2 U	1.5 U	2 U	NA	2 U	2 U	1 U	NA	1 U	2 U
1,1-DICHLOROETHENE	60	200	100	250000	25000		0.8 U	1 U	0.90 U	1 U	NA	1 U	1 U	0.7 U	NA	0.70 U	0.9 U
1,2,3-TRICHLOROBENZENE							0.6 U	0.9 U	0.75 U	0.8 U	NA	0.9 U	0.9 UJ	0.6 U	NA	0.60 U	0.7 U
1,2,4-TRICHLOROBENZENE	5000	540000	270000	87000	8700		0.7 U	1 U	0.85 U	0.8 U	NA	0.9 U	0.9 UJ	0.6 U	NA	0.60 U	0.7 U
1,2-DIBROMO-3-CHLOROPROPANE	5.6			5.6	5.6		1 U	2 U	1.5 U	2 U	NA	2 U	2 U	1 U	NA	1 U	1 U
1,2-DIBROMOETHANE	34			34	34		1 U	1 U	1 U	1 U	NA	1 U	1 U	0.9 U	NA	0.90 U	1 U
1,2-DICHLOROBENZENE	17000	2670000	1335000	2000000	200000		0.7 U	1 U	0.85 U	0.8 U	NA	0.9 U	0.9 U	0.6 U	NA	0.60 U	0.7 U
1,2-DICHLOROETHANE	450			450	450		0.9 U	1 U	0.95 U	1 U	NA	1 U	1 U	0.8 U	NA	0.80 U	0.9 U
1,2-DICHLOROPROPANE	930			930	930		1 U	2 U	1.5 U	1 U	NA	2 U	2 U	1 U	NA	1 U	1 U
1,3-DICHLOROBENZENE							0.5 U	0.8 U	0.65 U	0.6 U	NA	0.7 U	0.7 U	0.5 U	NA	0.50 U	0.6 U
1,4-DICHLOROBENZENE	2600			2600	2600		0.4 U	0.6 U	0.50 U	0.5 U	NA	0.5 U	0.5 UJ	0.3 U	NA	0.30 U	0.4 U
2-BUTANONE	2800000	10000000	5000000	28000000	2800000		5 U	8 U	6.5 U	6 U	NA	7 U	7 U	5 U	NA	5 U	6 U
2-HEXANONE							4 U	6 U	5 U	5 U	NA	5 U	6 U	4 U	NA	4 U	4 U
4-METHYL-2-PENTANONE	530000			5300000	530000		5 U	8 U	6.5 U	6 U	NA	7 U	7 U	5 U	NA	5 U	6 U
ACETONE	16000	475000	237500	61000000	6100000		11 UJ	20 UJ	15.5 UJ	16 UJ	NA	21 UJ	20 UJ	24 UJ	NA	24 UJ	19 UJ
BENZENE	30	5000	2500	1100	1100		0.8 U	1 U	0.90 U	1 U	NA	1 U	1 U	0.7 U	NA	0.70 U	0.9 U
BROMOCHLOROMETHANE							0.8 U	1 U	0.90 U	1 U	NA	1 U	1 U	0.7 U	NA	0.70 U	0.8 U
BROMODICHLOROMETHANE	280			280	280		0.5 U	0.8 U	0.65 U	0.6 U	NA	0.7 U	0.7 U	0.5 U	NA	0.50 U	0.6 U
BROMOFORM	61000			61000	61000		0.6 U	0.9 U	0.75 U	0.7 U	NA	0.8 U	0.8 U	0.6 U	NA	0.60 U	0.6 U
BROMOMETHANE	790			7900	790		1 U	1 U	1 U	1 U	NA	1 U	1 U	0.9 U	NA	0.90 U	1 U
BTEX							0.85 U	1.2 U	1.02 U	0.925 U	NA	1.18 U	1.45 U	0.8 U	NA	0.8 U	0.875 U
C5-C8+C9-C12 ALIPHATICS+C9-C10 AROMATICS+BTEX+NAPH							0.85 U	1.2 U	1.02 U	0.925 U	NA	1.18 U	1.45 U	0.8 U	NA	0.8 U	0.875 U
C9-C10 AROMATICS+BTEX+NAPH							0.85 U	1.2 U	1.02 U	0.925 U	NA	1.18 U	1.45 U	0.8 U	NA	0.8 U	0.875 U

DARK SHADING - AT LEAST ONE CRITERION EXCEEDED; BOLD - DETECTED;
U - NOT DETECTED; UJ - DETECTION LIMIT APPROXIMATE; J - QUANTITATION LIMIT APPROXIMATE; R - REJECTED

TABLE E-2
ANALYTICAL RESULTS - SUBSURFACE SOIL - HUMAN HEALTH
EAST BRUNSWICK, NAS BRUNSWICK, BRUNSWICK, MAINE

SAMPLE ID							EB-SO-SB01-1315	EB-SO-SB01-1315-D	EB-SO-SB01-1315-AVG	EB-SO-SB02-1719	EB-SO-SB02A-0910	EB-SO-SB03-0709	EB-SO-SB04-1315	EB-SO-SB05-1315	EB-SO-SB05-1315-D	EB-SO-SB05-1315-AVG	EB-SO-SB06-1719
LOCATION ID							EB-SO-SB01	EB-SO-SB01	EB-SO-SB01	EB-SO-SB02	EB-SO-SB02A	EB-SO-SB03	EB-SO-SB04	EB-SO-SB05	EB-SO-SB05	EB-SO-SB05	EB-SO-SB06
SAMPLE DATE							11/05/09	11/05/09	11/05/09	11/05/09	11/05/09	11/05/09	11/05/09	11/06/09	11/06/09	11/06/09	11/05/09
TOP DEPTH (FT)							13.0	13.0	13.0	17.0	9.0	7.0	13.0	13.0	13.0	13.0	17.0
BOTTOM DEPTH (FT)							15.0	15.0	15.0	19.0	10.0	9.0	15.0	15.0	15.0	15.0	19.0
SACODE							ORIG	DUP	AVG	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	DUP	AVG	NORMAL
SCREENING CRITERIA	PSL	MEDEP RES Soil RAG	1/2 MEDEP RES Soil RAG	EPA RSL RES Soil	Adjusted EPA RSL RES Soil NC	BKGD											
CARBON DISULFIDE	67000			670000	67000		**0.8 J**	1 U	**0.80 J**	0.8 U	NA	0.9 U	0.9 U	0.6 U	NA	0.60 U	0.7 U
CARBON TETRACHLORIDE	250			250	250		1 U	1 U	1 U	1 U	NA	1 U	2 U	1 U	NA	1 U	1 U
CHLOROBENZENE	1000	310000	77500	310000	31000		0.4 U	0.7 U	0.55 U	0.5 U	NA	0.6 U	0.6 U	0.4 U	NA	0.40 U	0.5 U
CHLORODIBROMOMETHANE	700			700	700		0.9 U	1 U	0.95 U	1 U	NA	1 U	1 U	0.8 U	NA	0.80 U	0.9 U
CHLOROETHANE	1500000			15000000	1500000		1 U	1 U	1 U	1 U	NA	1 U	2 U	1 U	NA	1 U	1 U
CHLOROFORM	300			300	300		0.3 U	0.5 U	0.40 U	0.4 U	NA	0.4 U	0.4 U	0.3 U	NA	0.30 U	0.3 U
CHLOROMETHANE	12000			120000	12000		1 U	2 U	1.5 U	1 U	NA	2 U	2 U	1 U	NA	1 U	1 U
CIS-1,2-DICHLOROETHENE	78000			780000	78000		0.8 U	1 U	0.90 U	1 U	NA	1 U	1 U	0.7 U	NA	0.70 U	0.8 U
CIS-1,3-DICHLOROPROPENE	1700			1700	1700		0.6 U	0.9 U	0.75 U	0.8 U	NA	0.8 U	0.8 U	0.6 U	NA	0.60 U	0.7 U
CYCLOHEXANE	720000			7200000	720000		1 U	2 U	1.5 U	1 U	NA	2 U	2 U	1 U	NA	1 U	1 U
DICHLORODIFLUOROMETHANE	19000			190000	19000		0.8 U	1 U	0.90 U	1 U	NA	1 U	1 U	0.7 U	NA	0.70 U	0.9 U
ETHYLBENZENE	5700	1670000	835000	5700	5700		0.6 U	0.8 U	0.70 U	0.7 U	NA	0.7 U	0.8 U	0.5 U	NA	0.50 U	0.6 U
ISOPROPYLBENZENE	220000			2200000	220000		0.8 U	1 U	0.90 U	1 U	NA	1 U	1 U	0.7 U	NA	0.70 U	0.9 U
M+P-XYLENES	60000	10000000	5000000	600000	60000		1 U	2 U	1.5 U	2 U	NA	2 U	2 U	1 U	NA	1 U	2 U
METHYL ACETATE	7800000			78000000	7800000		2 UJ	3 UJ	2.5 UJ	3 UJ	NA	3 UJ	3 UJ	2 UJ	NA	2 UJ	2 UJ
METHYL CYCLOHEXANE							0.8 U	1 U	0.90 U	1 U	NA	1 U	1 U	0.8 U	NA	0.80 U	0.9 U
METHYL TERT-BUTYL ETHER	39000			39000	39000		1 U	1 U	1 U	1 U	NA	1 U	1 U	0.9 U	NA	0.90 U	1 U
METHYLENE CHLORIDE	20	13000	6500	11000	11000		7 U	10 U	8.5 U	8 U	NA	9 U	9 UJ	6 U	NA	6 U	7 U
O-XYLENE	190000	10000000	5000000	5300000	530000		1 U	1 U	1 U	1 U	NA	1 U	2 U	1 U	NA	1 U	1 U
STYRENE	650000			6500000	650000		0.4 U	0.7 U	0.55 U	0.5 U	NA	0.6 U	0.6 U	0.4 U	NA	0.40 U	0.5 U
TETRACHLOROETHENE	60	3000	1500	570	570		1 U	1 U	1 U	1 U	NA	1 U	1 U	0.9 U	NA	0.90 U	1 U
TOLUENE	12000	2390000	1195000	5000000	500000		1 U	2 U	1.5 U	1 U	NA	2 U	2 U	1 U	NA	1 U	1 U
TRANS-1,2-DICHLOROETHENE	700	135000	67500	110000	11000		0.6 U	0.9 U	0.75 U	0.7 U	NA	0.8 U	0.8 U	0.6 U	NA	0.60 U	0.7 U
TRANS-1,3-DICHLOROPROPENE	1700			1700	1700		0.7 U	1 U	0.85 U	0.9 U	NA	1 U	1 U	0.7 U	NA	0.70 U	0.8 U
TRICHLOROETHENE	60	19000	9500	2800	2800		0.5 U	0.8 U	0.65 U	0.6 U	NA	0.7 U	0.7 U	0.5 U	NA	0.50 U	0.6 U
TRICHLOROFLUOROMETHANE	80000			800000	80000		0.8 U	1 U	0.90 U	1 U	NA	1 U	**2 J**	0.7 U	NA	0.70 U	0.8 U
VINYL CHLORIDE	10	40	20	60	60		0.8 U	1 U	0.90 U	0.9 U	NA	1 U	1 U	0.7 U	NA	0.70 U	0.8 U

DARK SHADING - AT LEAST ONE CRITERION EXCEEDED; BOLD - DETECTED;
U - NOT DETECTED; UJ - DETECTION LIMIT APPROXIMATE; J - QUANTITATION LIMIT APPROXIMATE; R - REJECTED

TABLE E-2
ANALYTICAL RESULTS - SUBSURFACE SOIL - HUMAN HEALTH
EAST BRUNSWICK, NAS BRUNSWICK, BRUNSWICK, MAINE

SAMPLE ID							EB-SO-SB01-1315	EB-SO-SB01-1315-D	EB-SO-SB01-1315-AVG	EB-SO-SB02-1719	EB-SO-SB02A-0910	EB-SO-SB03-0709	EB-SO-SB04-1315	EB-SO-SB05-1315	EB-SO-SB05-1315-D	EB-SO-SB05-1315-AVG	EB-SO-SB06-1719
LOCATION ID							EB-SO-SB01	EB-SO-SB01	EB-SO-SB01	EB-SO-SB02	EB-SO-SB02A	EB-SO-SB03	EB-SO-SB04	EB-SO-SB05	EB-SO-SB05	EB-SO-SB05	EB-SO-SB06
SAMPLE DATE							11/05/09	11/05/09	11/05/09	11/05/09	11/05/09	11/05/09	11/05/09	11/06/09	11/06/09	11/06/09	11/05/09
TOP DEPTH (FT)							13.0	13.0	13.0	17.0	9.0	7.0	13.0	13.0	13.0	13.0	17.0
BOTTOM DEPTH (FT)							15.0	15.0	15.0	19.0	10.0	9.0	15.0	15.0	15.0	15.0	19.0
SACODE							ORIG	DUP	AVG	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	DUP	AVG	NORMAL
SCREENING CRITERIA	PSL	MEDEP RES Soil RAG	1/2 MEDEP RES Soil RAG	EPA RSL RES Soil	Adjusted EPA RSL RES Soil NC	BKGD											
TOTAL 1,2-DICHLOROETHENE							0.7 U	0.95 U	0.825 U	0.85 U	NA	0.9 U	0.9 U	0.65 U	NA	0.65 U	0.75 U
TOTAL CHLORINATED ETHENES							0.76 U	0.95 U	0.855 U	0.87 U	NA	0.92 U	0.92 U	0.69 U	NA	0.69 U	0.81 U
TOTAL CHLORINATED VOCS							0.759 U	1.08 U	0.919 U	0.931 U	NA	1.05 U	**2 J**	0.709 U	NA	0.709 U	0.831 U
TOTAL XYLENES	60000	10000000	5000000	600000	60000		1 U	1 U	1 U	1 U	NA	1 U	2 U	1 U	NA	1 U	1 U
SEMIVOLATILES (UG/KG)																	
1,1-BIPHENYL	390000			3900000	390000		82 UJ	NA	82 UJ	82 UJ	**300 J**	76 UJ	80 UJ	74 UJ	NA	74 UJ	80 UJ
1,2,4,5-TETRACHLOROBENZENE	1800			18000	1800		150 UJ	NA	150 UJ	150 UJ	200 U	140 UJ	150 UJ	140 UJ	NA	140 UJ	150 UJ
1,4-DIOXANE	44000			44000	44000		61 UJ	NA	61 UJ	61 UJ	82 U	56 UJ	59 UJ	55 UJ	NA	55 UJ	59 UJ
2,3,4,6-TETRACHLOROPHENOL	180000			1800000	180000		160 U	NA	160 U	160 UJ	210 U	150 U	150 U	140 UJ	NA	140 UJ	150 UJ
2,4,5-TRICHLOROPHENOL	270000	10000000	5000000	6100000	610000		170 UJ	NA	170 UJ	180 UJ	230 UJ	160 UJ	170 UJ	160 UJ	NA	160 UJ	170 UJ
2,4,6-TRICHLOROPHENOL	6100			61000	6100		170 U	NA	170 U	180 UJ	**680**	160 U	170 U	160 UJ	NA	160 UJ	170 UJ
2,4-DICHLOROPHENOL	1000	16000	8000	180000	18000		170 U	NA	170 U	170 UJ	230 U	160 U	160 U	150 UJ	NA	150 UJ	160 UJ
2,4-DIMETHYLPHENOL	120000			1200000	120000		190 U	NA	190 U	190 UJ	250 U	170 U	180 U	170 UJ	NA	170 UJ	180 UJ
2,4-DINITROPHENOL	12000			120000	12000		420 U	NA	420 U	420 UJ	570 U	390 U	410 U	380 UJ	NA	380 UJ	410 UJ
2,4-DINITROTOLUENE	1600			1600	1600		96 UJ	NA	96 UJ	96 UJ	130 U	89 UJ	93 UJ	86 UJ	NA	86 UJ	93 UJ
2,6-DINITROTOLUENE	6100			61000	6100		89 UJ	NA	89 UJ	89 UJ	120 U	82 UJ	86 UJ	80 UJ	NA	80 UJ	87 UJ
2-CHLORONAPHTHALENE	630000			6300000	630000		98 UJ	NA	98 UJ	98 UJ	130 U	91 UJ	95 UJ	88 UJ	NA	88 UJ	95 UJ
2-CHLOROPHENOL	39000			390000	39000		180 U	NA	180 U	180 UJ	250 U	170 U	180 U	160 UJ	NA	160 UJ	180 UJ
2-METHYLNAPHTHALENE	31000			310000	31000		2 UJ	NA	2 UJ	2 UJ	**650 J**	2 UJ	2 UJ	2 UJ	NA	2 UJ	2 UJ
2-METHYLPHENOL	310000			3100000	310000		220 U	NA	220 U	220 UJ	300 U	210 U	220 U	200 UJ	NA	200 UJ	220 UJ
2-NITROANILINE	18000			180000	18000		85 UJ	NA	85 UJ	85 UJ	110 U	78 UJ	82 UJ	76 UJ	NA	76 UJ	82 UJ
2-NITROPHENOL	12000			120000	12000		190 U	NA	190 U	190 UJ	250 U	170 U	180 U	170 UJ	NA	170 UJ	180 UJ
3&4-METHYLPHENOL							210 U	NA	210 U	210 UJ	**22000**	200 U	200 U	190 UJ	NA	190 UJ	200 UJ
3,3'-DICHLOROBENZIDINE	1100			1100	1100		130 UJ	NA	130 UJ	130 UJ	170 U	120 UJ	120 UJ	120 UJ	NA	120 UJ	120 UJ
3-NITROANILINE							110 UJ	NA	110 UJ	110 UJ	140 U	98 UJ	100 UJ	95 UJ	NA	95 UJ	100 UJ
4,6-DINITRO-2-METHYLPHENOL	610			6100	610		380 U	NA	380 U	380 UJ	510 U	350 U	370 U	340 UJ	NA	340 UJ	370 UJ
4-BROMOPHENYL PHENYL ETHER							96 UJ	NA	96 UJ	96 UJ	130 U	89 UJ	93 UJ	86 UJ	NA	86 UJ	93 UJ
4-CHLORO-3-METHYLPHENOL	12000			120000	12000		190 U	NA	190 U	190 UJ	250 U	170 U	180 U	170 UJ	NA	170 UJ	180 UJ
4-CHLOROANILINE	2400			2400	2400		130 UJ	NA	130 UJ	130 UJ	**250 J**	120 UJ	130 UJ	120 UJ	NA	120 UJ	130 UJ
4-CHLOROPHENYL PHENYL ETHER							88 UJ	NA	88 UJ	88 UJ	120 U	81 UJ	85 UJ	79 UJ	NA	79 UJ	86 UJ

DARK SHADING - AT LEAST ONE CRITERION EXCEEDED; BOLD - DETECTED;
U - NOT DETECTED; UJ - DETECTION LIMIT APPROXIMATE; J - QUANTITATION LIMIT APPROXIMATE; R - REJECTED

TABLE E-2
ANALYTICAL RESULTS - SUBSURFACE SOIL - HUMAN HEALTH
EAST BRUNSWICK, NAS BRUNSWICK, BRUNSWICK, MAINE

SAMPLE ID							EB-SO-SB01-1315	EB-SO-SB01-1315-D	EB-SO-SB01-1315-AVG	EB-SO-SB02-1719	EB-SO-SB02A-0910	EB-SO-SB03-0709	EB-SO-SB04-1315	EB-SO-SB05-1315	EB-SO-SB05-1315-D	EB-SO-SB05-1315-AVG	EB-SO-SB06-1719
LOCATION ID							EB-SO-SB01	EB-SO-SB01	EB-SO-SB01	EB-SO-SB02	EB-SO-SB02A	EB-SO-SB03	EB-SO-SB04	EB-SO-SB05	EB-SO-SB05	EB-SO-SB05	EB-SO-SB06
SAMPLE DATE							11/05/09	11/05/09	11/05/09	11/05/09	11/05/09	11/05/09	11/05/09	11/06/09	11/06/09	11/06/09	11/05/09
TOP DEPTH (FT)							13.0	13.0	13.0	17.0	9.0	7.0	13.0	13.0	13.0	13.0	17.0
BOTTOM DEPTH (FT)							15.0	15.0	15.0	19.0	10.0	9.0	15.0	15.0	15.0	15.0	19.0
SACODE							ORIG	DUP	AVG	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	DUP	AVG	NORMAL
SCREENING CRITERIA	PSL	MEDEP RES Soil RAG	1/2 MEDEP RES Soil RAG	EPA RSL RES Soil	Adjusted EPA RSL RES Soil NC	BKGD											
4-NITROANILINE	24000			24000	24000		150 UJ	NA	150 UJ	150 UJ	200 U	140 UJ	150 UJ	140 UJ	NA	140 UJ	150 UJ
4-NITROPHENOL							350 UJ	NA	350 UJ	350 UJ	470 UJ	320 UJ	340 UJ	310 UJ	NA	310 UJ	340 UJ
ACENAPHTHENE	340000			3400000	340000		2 U	NA	2 U	2 U	**790**	2 U	2 U	2 U	NA	2 U	2 U
ACENAPHTHYLENE	340000			3400000	340000		1 UJ	NA	1 UJ	1 UJ	5 UJ	1 UJ	1 UJ	1 UJ	NA	1 UJ	1 UJ
ACETOPHENONE	780000			7800000	780000		200 UJ	NA	200 UJ	200 UJ	270 U	180 UJ	190 UJ	180 UJ	NA	180 UJ	200 UJ
ANTHRACENE	1700000			17000000	1700000	7	1 U	NA	1 U	1 U	**890**	1 U	1 U	1 U	NA	1 U	1 U
ATRAZINE	2100	6650000	3325000	2100	2100		100 UJ	NA	100 UJ	100 UJ	140 UJ	95 UJ	100 UJ	92 UJ	NA	92 UJ	100 UJ
BENZALDEHYDE	780000			7800000	780000		140 UJ	NA	140 UJ	140 UJ	180 UJ	120 UJ	130 UJ	120 UJ	NA	120 UJ	130 UJ
BENZO(A)ANTHRACENE	150			150	150	23	2 U	NA	2 U	2 U	**2400**	2 U	2 U	2 U	NA	2 U	2 U
BENZO(A)PYRENE	15	2000	1000	15	15	28	4 U	NA	4 U	4 U	**1600**	3 U	4 U	3 U	NA	3 U	4 U
BENZO(B)FLUORANTHENE	150			150	150	51	3 U	NA	3 U	3 U	**2400**	2 U	3 U	2 U	NA	2 U	3 U
BENZO(G,H,I)PERYLENE	170000			1700000	170000	10	15 UJ	NA	15 UJ	120 UJ	**410 J**	110 UJ	110 UJ	100 UJ	NA	100 UJ	110 UJ
BENZO(K)FLUORANTHENE	1500			1500	1500	12	3 U	NA	3 U	4 U	**830**	3 U	3 U	3 U	NA	3 U	3 U
BIS(2-CHLOROETHOXY)METHANE	18000			180000	18000		110 UJ	NA	110 UJ	110 UJ	140 U	100 UJ	100 UJ	97 UJ	NA	97 UJ	100 UJ
BIS(2-CHLOROETHYL)ETHER	190			190	190		91 UJ	NA	91 UJ	91 UJ	120 U	84 UJ	89 UJ	82 UJ	NA	82 UJ	89 UJ
BIS(2-CHLOROISOPROPYL)ETHER							100 UJ	NA	100 UJ	100 UJ	130 U	93 UJ	97 UJ	90 UJ	NA	90 UJ	98 UJ
BIS(2-ETHYLHEXYL)PHTHALATE	35000	1220000	610000	35000	35000		110 UJ	NA	110 UJ	110 UJ	**1500 J**	100 UJ	110 UJ	99 UJ	NA	99 UJ	110 UJ
BUTYL BENZYL PHTHALATE	260000			260000	260000		100 UJ	NA	100 UJ	100 UJ	140 U	97 UJ	100 UJ	94 UJ	NA	94 UJ	100 UJ
CAPROLACTAM	3100000			31000000	3100000		160 UR	NA	160 UR	160 UR	220 UR	150 UR	160 UR	140 UR	NA	140 UR	160 UR
CARBAZOLE							120 UJ	NA	120 UJ	120 UJ	**740**	120 UJ	120 UJ	110 UJ	NA	110 UJ	120 UJ
CHRYSENE	15000			15000	15000	35	2 U	NA	2 U	2 U	**2200**	2 U	2 U	2 U	NA	2 U	2 U
DIBENZO(A,H)ANTHRACENE	15			15	15	6	2 U	NA	2 U	2 U	**320 J**	2 U	2 U	2 U	NA	2 U	2 U
DIBENZOFURAN							89 UJ	NA	89 UJ	89 UJ	**580**	82 UJ	86 UJ	80 UJ	NA	80 UJ	87 UJ
DIETHYL PHTHALATE	4900000			49000000	4900000		90 UJ	NA	90 UJ	90 UJ	120 U	83 UJ	88 UJ	81 UJ	NA	81 UJ	88 UJ
DIMETHYL PHTHALATE	4900000			49000000	4900000		88 UJ	NA	88 UJ	88 UJ	120 U	81 UJ	85 UJ	79 UJ	NA	79 UJ	86 UJ
DI-N-BUTYL PHTHALATE	610000			6100000	610000		110 UJ	NA	110 UJ	110 UJ	150 U	100 UJ	110 UJ	100 UJ	NA	100 UJ	110 UJ
DI-N-OCTYL PHTHALATE							240 UJ	NA	240 UJ	240 UJ	320 UJ	220 UJ	230 UJ	210 UJ	NA	210 UJ	230 UJ
FLUORANTHENE	230000			2300000	230000	62	2 U	NA	2 U	2 U	**5200**	2 U	2 U	2 U	NA	2 U	2 U
FLUORENE	230000			2300000	230000		4 U	NA	4 U	4 U	**520**	3 U	4 U	3 U	NA	3 U	4 U
HEXACHLOROBENZENE	300			300	300		92 UJ	NA	92 UJ	93 UJ	120 U	86 UJ	90 UJ	83 UJ	NA	83 UJ	90 UJ

DARK SHADING - AT LEAST ONE CRITERION EXCEEDED; BOLD - DETECTED;
U - NOT DETECTED; UJ - DETECTION LIMIT APPROXIMATE; J - QUANTITATION LIMIT APPROXIMATE; R - REJECTED

TABLE E-2
ANALYTICAL RESULTS - SUBSURFACE SOIL - HUMAN HEALTH
EAST BRUNSWICK, NAS BRUNSWICK, BRUNSWICK, MAINE

SAMPLE ID							EB-SO-SB01-1315	EB-SO-SB01-1315-D	EB-SO-SB01-1315-AVG	EB-SO-SB02-1719	EB-SO-SB02A-0910	EB-SO-SB03-0709	EB-SO-SB04-1315	EB-SO-SB05-1315	EB-SO-SB05-1315-D	EB-SO-SB05-1315-AVG	EB-SO-SB06-1719
LOCATION ID							EB-SO-SB01	EB-SO-SB01	EB-SO-SB01	EB-SO-SB02	EB-SO-SB02A	EB-SO-SB03	EB-SO-SB04	EB-SO-SB05	EB-SO-SB05	EB-SO-SB05	EB-SO-SB06
SAMPLE DATE							11/05/09	11/05/09	11/05/09	11/05/09	11/05/09	11/05/09	11/05/09	11/06/09	11/06/09	11/06/09	11/05/09
TOP DEPTH (FT)							13.0	13.0	13.0	17.0	9.0	7.0	13.0	13.0	13.0	13.0	17.0
BOTTOM DEPTH (FT)							15.0	15.0	15.0	19.0	10.0	9.0	15.0	15.0	15.0	15.0	19.0
SACODE							ORIG	DUP	AVG	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	DUP	AVG	NORMAL
SCREENING CRITERIA	PSL	MEDEP RES Soil RAG	1/2 MEDEP RES Soil RAG	EPA RSL RES Soil	Adjusted EPA RSL RES Soil NC	BKGD											
HEXACHLOROBUTADIENE	6100			61000	6100		94 UJ	NA	94 UJ	94 UJ	120 U	87 UJ	91 UJ	84 UJ	NA	84 UJ	91 UJ
HEXACHLOROCYCLOPENTADIENE	37000			370000	37000		92 UJ	NA	92 UJ	93 UJ	120 U	86 UJ	90 UJ	83 UJ	NA	83 UJ	90 UJ
HEXACHLOROETHANE	6100			61000	6100		110 UJ	NA	110 UJ	110 UJ	140 U	100 UJ	100 UJ	97 UJ	NA	97 UJ	100 UJ
INDENO(1,2,3-CD)PYRENE	150			150	150	39	2 UJ	NA	2 UJ	6 UJ	**1600**	2 UJ	2 UJ	2 UJ	NA	2 UJ	2 UJ
ISOPHORONE	510000			510000	510000		85 UJ	NA	85 UJ	85 UJ	110 U	78 UJ	82 UJ	76 UJ	NA	76 UJ	82 UJ
NAPHTHALENE	3900	245000	122500	3900	3900		3 U	NA	3 U	3 U	**660**	3 U	3 U	3 U	NA	3 U	3 U
NITROBENZENE	4400			4400	4400		100 UJ	NA	100 UJ	100 UJ	140 U	95 UJ	100 UJ	92 UJ	NA	92 UJ	100 UJ
N-NITROSO-DI-N-PROPYLAMINE	69			69	69		94 UJ	NA	94 UJ	94 UJ	120 U	87 UJ	91 UJ	84 UJ	NA	84 UJ	91 UJ
N-NITROSODIPHENYLAMINE	99000			99000	99000		250 UJ	NA	250 UJ	250 UJ	330 U	230 UJ	240 UJ	220 UJ	NA	220 UJ	240 UJ
PENTACHLOROPHENOL	30	1000	500	3000	3000		16 UJ	NA	16 UJ	16 UJ	64 UJ	15 UJ	15 UJ	14 UJ	NA	14 UJ	15 UJ
PHENANTHRENE	170000			1700000	170000	32	2 U	NA	2 U	2 U	**5100**	2 U	2 U	2 U	NA	2 U	2 U
PHENOL	1800000			18000000	1800000		180 U	NA	180 U	180 UJ	240 U	160 U	170 U	160 UJ	NA	160 UJ	170 UJ
PYRENE	170000			1700000	170000	64	2 U	NA	2 U	2 U	**4600 J**	2 U	2 U	2 U	NA	2 U	2 U
TOTAL CHLORINATED VOCS							94 UJ	NA	94 UJ	94 UJ	120 U	87 UJ	91 UJ	84 UJ	NA	84 UJ	91 UJ
TOTAL PAHS							3.06 UJ	NA	3.06 UJ	9.53 UJ	**30200 J**	8.47 UJ	8.65 UJ	7.88 UJ	NA	7.88 UJ	8.65 UJ
EPH MADEP (MG/KG)																	
C11-C22 AROMATICS	730	730					NA	NA	NA	NA	NA	NA	NA	18 UJ	18 UJ	18 UJ	22 UJ
C11-C22 AROMATICS-UNADJ							NA	NA	NA	NA	NA	NA	NA	18 UJ	18 UJ	18 UJ	22 UJ
C19-C36 ALIPHATICS	10000	10000					NA	NA	NA	NA	NA	NA	NA	18 UJ	18 UJ	18 UJ	22 UJ
C9-C18 ALIPHATICS	2500	2500					NA	NA	NA	NA	NA	NA	NA	18 U	18 U	18 U	22 U
METALS (MG/KG)																	
ALUMINUM	7700			77000	7700	19400	**4450**	NA	**4450**	**3580**	**5220**	**3430**	**4100**	NA	NA	NA	NA
ANTIMONY	3.1			31	3.1	0.04	0.02 UJ	NA	0.02 UJ	0.02 UJ	**2.6 J**	0.02 UJ	0.02 UJ	NA	NA	NA	NA
ARSENIC	0.39	10	5	0.39	0.39	4.5	**1.1**	NA	**1.1**	**1.6**	**2.9**	**1.2**	**1.4**	NA	NA	NA	NA
BARIUM	1500	10000	5000	15000	1500	15.9	**14.4**	NA	**14.4**	**13.3**	**30**	**10.8**	**12.9**	NA	NA	NA	NA
BERYLLIUM	2	4	2	160	16	0.69	**0.32 J**	NA	**0.32 J**	**0.25 J**	**0.33 J**	**0.23 J**	**0.29 J**	NA	NA	NA	NA
CADMIUM	7	27	13.5	70	7	0.05	0.01 UJ	NA	0.01 UJ	0.02 UJ	**3.6**	0.02 UJ	0.02 UJ	NA	NA	NA	NA
CALCIUM						1080	**827 J**	NA	**827 J**	**762 J**	**4720 J**	**784 J**	**808 J**	NA	NA	NA	NA
CHROMIUM	23	950	475	230	23	15.3	**7.4**	NA	**7.4**	**6.4**	**12.5**	**6.2**	**6.7**	NA	NA	NA	NA
COBALT	2.3			23	2.3	4	**3.5**	NA	**3.5**	**3.5**	**3.3**	**3**	**3.2**	NA	NA	NA	NA

DARK SHADING - AT LEAST ONE CRITERION EXCEEDED; BOLD - DETECTED;
U - NOT DETECTED; UJ - DETECTION LIMIT APPROXIMATE; J - QUANTITATION LIMIT APPROXIMATE; R - REJECTED

TABLE E-2
ANALYTICAL RESULTS - SUBSURFACE SOIL - HUMAN HEALTH
EAST BRUNSWICK, NAS BRUNSWICK, BRUNSWICK, MAINE

SAMPLE ID							EB-SO-SB01-1315	EB-SO-SB01-1315-D	EB-SO-SB01-1315-AVG	EB-SO-SB02-1719	EB-SO-SB02A-0910	EB-SO-SB03-0709	EB-SO-SB04-1315	EB-SO-SB05-1315	EB-SO-SB05-1315-D	EB-SO-SB05-1315-AVG	EB-SO-SB06-1719
LOCATION ID							EB-SO-SB01	EB-SO-SB01	EB-SO-SB01	EB-SO-SB02	EB-SO-SB02A	EB-SO-SB03	EB-SO-SB04	EB-SO-SB05	EB-SO-SB05	EB-SO-SB05	EB-SO-SB06
SAMPLE DATE							11/05/09	11/05/09	11/05/09	11/05/09	11/05/09	11/05/09	11/05/09	11/06/09	11/06/09	11/06/09	11/05/09
TOP DEPTH (FT)							13.0	13.0	13.0	17.0	9.0	7.0	13.0	13.0	13.0	13.0	17.0
BOTTOM DEPTH (FT)							15.0	15.0	15.0	19.0	10.0	9.0	15.0	15.0	15.0	15.0	19.0
SACODE							ORIG	DUP	AVG	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	DUP	AVG	NORMAL
SCREENING CRITERIA	PSL	MEDEP RES Soil RAG	1/2 MEDEP RES Soil RAG	EPA RSL RES Soil	Adjusted EPA RSL RES Soil NC	BKGD											
COPPER	310	650	325	3100	310	6.7	**5.4**	NA	**5.4**	**5.6**	**212**	**6**	**6.2**	NA	NA	NA	NA
IRON	5500			55000	5500	14400	**7010**	NA	**7010**	**5730**	**6760**	**5390**	**6270**	NA	NA	NA	NA
LEAD	187.5	375	187.5	400	400	17.5	**2.2**	NA	**2.2**	**2.3**	**92.5**	**2.4**	**2.5**	NA	NA	NA	NA
MAGNESIUM						1953.21	**1800**	NA	**1800**	**1550**	**1560**	**1440**	**1670**	NA	NA	NA	NA
MANGANESE	180			1800	180	267.41	**100 J**	NA	**100 J**	**133 J**	**124 J**	**138 J**	**134 J**	NA	NA	NA	NA
MERCURY	2.3	60	30	23	2.3	0.08	0.01 U	NA	0.01 U	0.01 U	**0.84**	0.01 U	0.01 U	NA	NA	NA	NA
NICKEL	150	3800	1900	1500	150	9.8	**7.8**	NA	**7.8**	**8**	**15**	**7.4**	**7.5**	NA	NA	NA	NA
POTASSIUM						939.94	**1090**	NA	**1090**	**735**	**617**	**728**	**929**	NA	NA	NA	NA
SELENIUM	39	950	475	390	39		0.12 U	NA	0.12 U	0.11 U	0.61 UJ	0.2 UJ	0.12 UJ	NA	NA	NA	NA
SILVER	39	950	475	390	39	0.21	0.07 U	NA	0.07 U	0.06 U	**0.94 J**	0.06 U	0.05 U	NA	NA	NA	NA
SODIUM						52.9	**67.5 J**	NA	**67.5 J**	**50.2 J**	**143**	**64.2 J**	**61.4 J**	NA	NA	NA	NA
THALLIUM	0.51			5.1	0.51		0.11 UJ	NA	0.11 UJ	0.08 UJ	0.07 UJ	0.09 UJ	0.09 UJ	NA	NA	NA	NA
VANADIUM	39			390	39	26.3	**12**	NA	**12**	**9.4**	**11.4**	**8.6**	**10.9**	NA	NA	NA	NA
ZINC	750	1500	750	23000	2300	15.3	**15.9**	NA	**15.9**	**13.1**	**294**	**14.3**	**14.2**	NA	NA	NA	NA
PCBS (UG/KG)																	
AROCLOR-1016	50	100	50	3900	390		6.2 U	NA	6.2 U	5.8 U	8.1 U	6.1 U	6.5 U	NA	NA	NA	NA
AROCLOR-1221	170			170	170		14 U	NA	14 U	14 U	19 U	14 U	15 U	NA	NA	NA	NA
AROCLOR-1232	170			170	170		9.7 U	NA	9.7 U	9.1 U	13 U	9.4 U	10 U	NA	NA	NA	NA
AROCLOR-1242	220			220	220		6 U	NA	6 U	5.7 U	**580**	5.9 U	6.3 U	NA	NA	NA	NA
AROCLOR-1248	220			220	220		6.3 U	NA	6.3 U	6 U	8.3 U	6.2 U	6.6 U	NA	NA	NA	NA
AROCLOR-1254	110			1100	110		4.9 U	NA	4.9 U	4.6 U	6.4 U	4.8 U	5.1 U	NA	NA	NA	NA
AROCLOR-1260	220			220	220		6.2 UJ	NA	6.2 UJ	5.8 UJ	**560 J**	6.1 UJ	6.5 UJ	NA	NA	NA	NA
AROCLOR-1262							3.8 U	NA	3.8 U	3.6 U	5 U	3.7 U	4 U	NA	NA	NA	NA
AROCLOR-1268							2.7 U	NA	2.7 U	2.5 U	3.5 U	2.6 U	2.8 U	NA	NA	NA	NA
TOTAL AROCLOR	1100	2200	1100				2.7 U	NA	2.7 U	2.5 U	**1100**	2.6 U	2.8 U	NA	NA	NA	NA

Notes:
BKGD - Upper Sand Background Value - 95% Upper Prediction Limit (UPL)
EPA - U.S.Environmental Protection Agency
MEDEP - Maine Department of Environmental Protection
NC - Non Cancer
PSL - Project Screening Level
RAG - Remedial Action Guideline
RES - Residential
RSL - Regional Screening Level, Residential Direct Contact Soil
µg/kg - micrograms per kilogram
mg/kg - milligrams per kilogram

DARK SHADING - AT LEAST ONE CRITERION EXCEEDED; BOLD - DETECTED;
U - NOT DETECTED; UJ - DETECTION LIMIT APPROXIMATE; J - QUANTITATION LIMIT APPROXIMATE; R - REJECTED

TABLE E-3
ANALYTICAL RESULTS - GROUNDWATER - HUMAN HEALTH
EAST BRUNSWICK, NAS BRUNSWICK, BRUNSWICK, MAINE

IDENTIFIED POTENTIAL CONTAMINANT SOURCE AREA:					**UST**	**SEPTIC SYSTEM**			**SUMP PUMP**
SAMPLE ID					EB-GW-MW01-112409	EB-GW-MW02-112409	EB-GW-MW02-112409-AVG	EB-GW-MW02-112409-D	EB-GW-MW03-112409
LOCATION ID					EB-MW01	EB-MW02	EB-MW02	EB-MW02	EB-MW03
SAMPLE DATE					11/24/09	11/24/09	11/24/09	11/24/09	11/24/09
TOP DEPTH (FT)									
BOTTOM DEPTH (FT)									
SACODE					NORMAL	ORIG	AVG	DUP	NORMAL
SCREENING CRITERIA	PSL	MEG	EPA RSL	Adjusted EPA RSL NC					
VOLATILES (UG/L)									
1,1,1-TRICHLOROETHANE	200	200	9100	910	0.2 U	0.2 U	0.20 U	0.2 U	0.2 U
1,1,2,2-TETRACHLOROETHANE	0.067	1.8	0.067	0.067	0.4 U	0.4 U	0.40 U	0.4 U	0.4 U
1,1,2-TRICHLOROETHANE	0.24	6	0.24	0.24	0.3 U	0.3 U	0.30 U	0.3 U	0.3 U
1,1,2-TRICHLOROTRIFLUOROETHANE	5900		59000	5900	0.3 UJ	0.3 UJ	0.30 UJ	0.3 UJ	0.3 UJ
1,1-DICHLOROETHANE	2.4	70	2.4	2.4	0.2 U	0.2 U	0.20 U	0.2 U	0.2 U
1,1-DICHLOROETHENE	0.6	0.6	340	34	0.4 U	0.4 U	0.40 U	0.4 U	0.4 U
1,2,3-TRICHLOROBENZENE					0.3 U	0.3 U	0.30 U	0.3 U	0.3 U
1,2,4-TRICHLOROBENZENE	0.82	70	8.2	0.82	0.4 U	0.4 U	0.40 U	0.4 U	0.4 U
1,2-DIBROMO-3-CHLOROPROPANE	0.00032	0.25	0.00032	0.00032	0.5 UJ	0.5 UJ	0.50 UJ	0.5 UJ	0.5 UJ
1,2-DIBROMOETHANE	0.0065	0.2	0.0065	0.0065	0.2 U	0.2 U	0.20 U	0.2 U	0.2 U
1,2-DICHLOROBENZENE	37	63	370	37	0.2 U	0.2 U	0.20 U	0.2 U	0.2 U
1,2-DICHLOROETHANE	0.15	4	0.15	0.15	0.2 U	0.2 U	0.20 U	0.2 U	0.2 U
1,2-DICHLOROPROPANE	0.39	5	0.39	0.39	0.2 U	0.2 U	0.20 U	0.2 U	0.2 U
1,3-DICHLOROBENZENE	60	60			0.3 U	0.3 U	0.30 U	0.3 U	0.3 U
1,4-DICHLOROBENZENE	0.43	21	0.43	0.43	0.2 U	0.2 U	0.20 U	0.2 U	0.2 U
2-BUTANONE	710	3600	7100	710	1 U	1 U	1 U	1 U	1 U
2-HEXANONE					2 U	2 U	2 U	2 U	2 U
4-METHYL-2-PENTANONE	200		2000	200	1 U	1 U	1 U	1 U	1 U
ACETONE	2200	6300	22000	2200	2 U	2 U	2 U	2 U	2 U
BENZENE	0.41	6	0.41	0.41	0.3 U	0.3 U	0.30 U	0.3 U	0.3 U
BROMOCHLOROMETHANE	10	10			0.2 U	0.2 U	0.20 U	0.2 U	0.2 U

BLACK SHADING-AT LEAST ONE CRITERION EXCEEDED; BOLD-DETECTED;
U-NOT DETECTED; J-QUANTITATION APPROXIMATE; R-REJECTED; NA-NOT ANALYZED

TABLE E-3
ANALYTICAL RESULTS - GROUNDWATER - HUMAN HEALTH
EAST BRUNSWICK, NAS BRUNSWICK, BRUNSWICK, MAINE

IDENTIFIED POTENTIAL CONTAMINANT SOURCE AREA:					**UST**	**SEPTIC SYSTEM**			**SUMP PUMP**
SAMPLE ID					EB-GW-MW01-112409	EB-GW-MW02-112409	EB-GW-MW02-112409-AVG	EB-GW-MW02-112409-D	EB-GW-MW03-112409
LOCATION ID					EB-MW01	EB-MW02	EB-MW02	EB-MW02	EB-MW03
SAMPLE DATE					11/24/09	11/24/09	11/24/09	11/24/09	11/24/09
TOP DEPTH (FT)									
BOTTOM DEPTH (FT)									
SACODE					NORMAL	ORIG	AVG	DUP	NORMAL
SCREENING CRITERIA	PSL	MEG	EPA RSL	Adjusted EPA RSL NC					
BROMODICHLOROMETHANE	0.12	6	0.12	0.12	0.3 U	0.3 U	0.30 U	0.3 U	0.3 U
BROMOFORM	8.5	44	8.5	8.5	0.2 UJ	0.2 UJ	0.20 UJ	0.2 UJ	0.2 UJ
BROMOMETHANE	0.87	10	8.7	0.87	0.5 U	0.5 U	0.50 U	0.5 U	0.5 U
BTEX					0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
C5-C8+C9-C12 ALIPHATICS+C9-C10 AROMATICS+BTEX+NAPH					0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
C9-C10 AROMATICS+BTEX+NAPH					0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
CARBON DISULFIDE	100	600	1000	100	0.2 UJ	0.2 U	0.20 U	0.2 U	0.2 UJ
CARBON TETRACHLORIDE	0.2	3	0.2	0.2	0.2 U	0.2 U	0.20 U	0.2 U	0.2 U
CHLOROBENZENE	9.1	140	91	9.1	0.2 U	0.2 U	0.20 U	0.2 U	0.2 U
CHLORODIBROMOMETHANE	0.15	4	0.15	0.15	0.3 U	0.3 U	0.30 U	0.3 U	0.3 U
CHLOROETHANE	2100		21000	2100	0.6 UJ	0.6 U	0.60 U	0.6 U	0.6 U
CHLOROFORM	0.19	70	0.19	0.19	0.3 U	0.3 U	0.30 U	0.3 U	0.3 U
CHLOROMETHANE	3	3	190	19	0.4 U	0.4 U	0.40 U	0.4 U	0.4 U
CIS-1,2-DICHLOROETHENE	37	70	370	37	0.2 U	0.2 U	0.20 U	0.2 U	0.2 U
CIS-1,3-DICHLOROPROPENE	0.43	4	0.43	0.43	0.2 U	0.2 U	0.20 U	0.2 U	0.2 U
CYCLOHEXANE	1300		13000	1300	0.3 U	0.3 U	0.30 U	0.3 U	0.3 U
DICHLORODIFLUOROMETHANE	39	1400	390	39	0.2 U	0.2 U	0.20 U	0.2 U	0.2 U
ETHYLBENZENE	1.5	70	1.5	1.5	0.2 U	0.2 U	0.20 U	0.2 U	0.2 U
ISOPROPYLBENZENE	68		680	68	0.2 U	0.2 U	0.20 U	0.2 U	0.2 U
M+P-XYLENES	20	1400	200	20	0.6 U	0.6 U	0.60 U	0.6 U	0.6 U
METHYL ACETATE	3700		37000	3700	0.5 U	0.5 U	0.50 U	0.5 U	0.5 U
METHYL CYCLOHEXANE					0.3 U	0.3 U	0.30 U	0.3 U	0.3 U

BLACK SHADING-AT LEAST ONE CRITERION EXCEEDED; BOLD-DETECTED;
U-NOT DETECTED; J-QUANTITATION APPROXIMATE; R-REJECTED; NA-NOT ANALYZED

TABLE E-3
ANALYTICAL RESULTS - GROUNDWATER - HUMAN HEALTH
EAST BRUNSWICK, NAS BRUNSWICK, BRUNSWICK, MAINE

IDENTIFIED POTENTIAL CONTAMINANT SOURCE AREA:					**UST**	**SEPTIC SYSTEM**			**SUMP PUMP**
SAMPLE ID					EB-GW-MW01-112409	EB-GW-MW02-112409	EB-GW-MW02-112409-AVG	EB-GW-MW02-112409-D	EB-GW-MW03-112409
LOCATION ID					EB-MW01	EB-MW02	EB-MW02	EB-MW02	EB-MW03
SAMPLE DATE					11/24/09	11/24/09	11/24/09	11/24/09	11/24/09
TOP DEPTH (FT)									
BOTTOM DEPTH (FT)									
SACODE					NORMAL	ORIG	AVG	DUP	NORMAL
SCREENING CRITERIA	PSL	MEG	EPA RSL	Adjusted EPA RSL NC					
METHYL TERT-BUTYL ETHER	12	35	12	12	0.6 U	0.6 U	0.60 U	0.6 U	0.6 U
METHYLENE CHLORIDE	4.8	47	4.8	4.8	1 U	1 U	1 U	1 U	1 U
O-XYLENE	140	1400	1400	140	0.2 U	0.2 U	0.20 U	0.2 U	0.2 U
STYRENE	140	140	1600	160	0.2 U	0.2 U	0.20 U	0.2 U	0.2 U
TETRACHLOROETHENE	0.11	7	0.11	0.11	0.9 U	0.9 U	0.90 U	0.9 U	0.9 U
TOLUENE	230	1400	2300	230	0.3 U	0.3 U	0.30 U	0.3 U	0.3 U
TRANS-1,2-DICHLOROETHENE	11	140	110	11	0.2 U	0.2 U	0.20 U	0.2 U	0.2 U
TRANS-1,3-DICHLOROPROPENE	0.43	4	0.43	0.43	0.2 U	0.2 U	0.20 U	0.2 U	0.2 U
TRICHLOROETHENE	1.7	32	1.7	1.7	0.3 U	0.3 U	0.30 U	0.3 U	0.3 U
TRICHLOROFLUOROMETHANE	130	2100	1300	130	0.2 U	0.2 U	0.20 U	0.2 U	0.2 U
VINYL CHLORIDE	0.016	0.2	0.016	0.016	0.2 U	0.2 U	0.20 U	0.2 U	0.2 U
TOTAL 1,2-DICHLOROETHENE					0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
TOTAL CHLORINATED ETHENES					0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
TOTAL CHLORINATED VOCS					0.307 UJ	0.307 UJ	0.307 UJ	0.307 UJ	0.307 UJ
TOTAL XYLENES	20	1400	200	20	0.2 U	0.2 U	0.20 U	0.2 U	0.2 U
SEMIVOLATILES (UG/L)									
1,1-BIPHENYL	180		1800	180	2 U	3 U	2.5 U	2 U	2 U
1,2,4,5-TETRACHLOROBENZENE	1.1		11	1.1	2 U	2 U	2 U	2 U	2 U
1,4-DIOXANE	6.1	32	6.1	6.1	2 UJ	2 U	2 U	2 U	2 U
2,3,4,6-TETRACHLOROPHENOL	110		1100	110	2 U	3 U	2.5 U	2 U	2 U
2,4,5-TRICHLOROPHENOL	370		3700	370	3 U	4 U	3.5 U	3 U	3 U
2,4,6-TRICHLOROPHENOL	3.7	32	37	3.7	2 U	3 U	3 U	3 U	2 U
2,4-DICHLOROPHENOL	11	21	110	11	3 U	3 U	3 U	3 U	3 U

BLACK SHADING-AT LEAST ONE CRITERION EXCEEDED; BOLD-DETECTED;
U-NOT DETECTED; J-QUANTITATION APPROXIMATE; R-REJECTED; NA-NOT ANALYZED

TABLE E-3
ANALYTICAL RESULTS - GROUNDWATER - HUMAN HEALTH
EAST BRUNSWICK, NAS BRUNSWICK, BRUNSWICK, MAINE

IDENTIFIED POTENTIAL CONTAMINANT SOURCE AREA:					**UST**	**SEPTIC SYSTEM**			**SUMP PUMP**
SAMPLE ID					EB-GW-MW01-112409	EB-GW-MW02-112409	EB-GW-MW02-112409-AVG	EB-GW-MW02-112409-D	EB-GW-MW03-112409
LOCATION ID					EB-MW01	EB-MW02	EB-MW02	EB-MW02	EB-MW03
SAMPLE DATE					11/24/09	11/24/09	11/24/09	11/24/09	11/24/09
TOP DEPTH (FT)									
BOTTOM DEPTH (FT)									
SACODE					NORMAL	ORIG	AVG	DUP	NORMAL
SCREENING CRITERIA	PSL	MEG	EPA RSL	Adjusted EPA RSL NC					
2,4-DIMETHYLPHENOL	73		730	73	4 U	4 U	4 U	4 U	4 U
2,4-DINITROPHENOL	7.3	14	73	7.3	1 UJ	1 U	1 U	1 U	1 U
2,4-DINITROTOLUENE	0.22	0.5	0.22	0.22	2 U	2 U	2 U	2 U	2 U
2,6-DINITROTOLUENE	0.5	0.5	37	3.7	2 U	2 U	2 U	2 U	2 U
2-CHLORONAPHTHALENE	290		2900	290	3 UJ	3 UJ	3 UJ	3 UJ	3 UJ
2-CHLOROPHENOL	18	35	180	18	3 U	3 U	3 U	3 U	3 U
2-METHYLNAPHTHALENE	15		150	15	0.07 UJ	0.08 U	0.075 U	0.07 U	0.07 U
2-METHYLPHENOL	180		1800	180	4 U	4 U	4 U	4 U	4 U
2-NITROANILINE	11		110	11	2 U	2 U	2 U	2 U	2 U
2-NITROPHENOL	7.3	14	73	7.3	2 U	3 U	2.5 U	2 U	2 U
3&4-METHYLPHENOL					5 U	6 U	5.5 U	5 U	5 U
3,3'-DICHLOROBENZIDINE	0.15		0.15	0.15	1 U	1 U	1 U	1 U	1 U
3-NITROANILINE					1 U	1 U	1 U	1 U	1 U
4,6-DINITRO-2-METHYLPHENOL	0.37		3.7	0.37	2 U	2 U	2 U	2 U	2 U
4-BROMOPHENYL PHENYL ETHER					2 UJ	2 U	2 U	2 U	2 U
4-CHLORO-3-METHYLPHENOL	7.3	14	73	7.3	3 U	4 U	3.5 U	3 U	3 U
4-CHLOROANILINE	0.34		0.34	0.34	2 UJ	2 U	2 U	2 U	2 U
4-CHLOROPHENYL PHENYL ETHER					2 U	2 U	2 U	2 U	2 U
4-NITROANILINE	3.4		3.4	3.4	2 U	2 U	2 U	2 U	2 U
4-NITROPHENOL	60	60			2 UJ	2 UJ	2 UJ	2 UJ	2 UJ
ACENAPHTHENE	220		2200	220	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
ACENAPHTHYLENE	220		2200	220	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U

BLACK SHADING-AT LEAST ONE CRITERION EXCEEDED; BOLD-DETECTED;
U-NOT DETECTED; J-QUANTITATION APPROXIMATE; R-REJECTED; NA-NOT ANALYZED

TABLE E-3
ANALYTICAL RESULTS - GROUNDWATER - HUMAN HEALTH
EAST BRUNSWICK, NAS BRUNSWICK, BRUNSWICK, MAINE

IDENTIFIED POTENTIAL CONTAMINANT SOURCE AREA:					**UST**	**SEPTIC SYSTEM**			**SUMP PUMP**
SAMPLE ID					EB-GW-MW01-112409	EB-GW-MW02-112409	EB-GW-MW02-112409-AVG	EB-GW-MW02-112409-D	EB-GW-MW03-112409
LOCATION ID					EB-MW01	EB-MW02	EB-MW02	EB-MW02	EB-MW03
SAMPLE DATE					11/24/09	11/24/09	11/24/09	11/24/09	11/24/09
TOP DEPTH (FT)									
BOTTOM DEPTH (FT)									
SACODE					NORMAL	ORIG	AVG	DUP	NORMAL
SCREENING CRITERIA	PSL	MEG	EPA RSL	Adjusted EPA RSL NC					
ACETOPHENONE	370		3700	370	4 U	4 U	4 U	4 U	4 U
ANTHRACENE	1100		11000	1100	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
ATRAZINE	0.29	3	0.29	0.29	3 U	3 U	3 U	3 U	3 U
BENZALDEHYDE	370		3700	370	0.9 UJ	1 UJ	0.95 UJ	0.9 UJ	0.9 UJ
BENZO(A)ANTHRACENE	0.029		0.029	0.029	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
BENZO(A)PYRENE	0.0029	0.05	0.0029	0.0029	0.06 UJ	0.06 U	0.06 U	0.06 U	0.06 U
BENZO(B)FLUORANTHENE	0.029		0.029	0.029	0.08 U	0.09 U	0.085 U	0.08 U	0.08 U
BENZO(G,H,I)PERYLENE	110		1100	110	0.06 UJ	0.06 U	0.06 U	0.06 U	0.06 U
BENZO(K)FLUORANTHENE	0.29		0.29	0.29	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 U
BIS(2-CHLOROETHOXY)METHANE	11		110	11	2 U	2 U	2 U	2 U	2 U
BIS(2-CHLOROETHYL)ETHER	0.012	0.3	0.012	0.012	2 U	2 U	2 U	2 U	2 U
BIS(2-CHLOROISOPROPYL)ETHER					2 U	2 U	2 U	2 U	2 U
BIS(2-ETHYLHEXYL)PHTHALATE	4.8	25	4.8	4.8	2 U	2 U	2 U	2 U	2 U
BUTYL BENZYL PHTHALATE	35		35	35	2 U	2 U	2 U	2 U	2 U
C5-C8+C9-C12 ALIPHATICS+C9-C10 AROMATICS+BTEX+NAPH					0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
C9-C10 AROMATICS+BTEX+NAPH					0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
CAPROLACTAM	1800		18000	1800	0.4 UJ	0.4 U	0.40 U	0.4 U	0.4 U
CARBAZOLE					2 U	2 U	2 U	2 U	2 U
CHRYSENE	2.9		2.9	2.9	0.03 U	0.04 U	0.035 U	0.03 U	0.03 U
DIBENZO(A,H)ANTHRACENE	0.0029		0.0029	0.0029	0.07 UJ	0.07 U	0.07 U	0.07 U	0.07 U

BLACK SHADING-AT LEAST ONE CRITERION EXCEEDED; BOLD-DETECTED;
U-NOT DETECTED; J-QUANTITATION APPROXIMATE; R-REJECTED; NA-NOT ANALYZED

TABLE E-3
ANALYTICAL RESULTS - GROUNDWATER - HUMAN HEALTH
EAST BRUNSWICK, NAS BRUNSWICK, BRUNSWICK, MAINE

IDENTIFIED POTENTIAL CONTAMINANT SOURCE AREA:					**UST**	**SEPTIC SYSTEM**			**SUMP PUMP**
SAMPLE ID					EB-GW-MW01-112409	EB-GW-MW02-112409	EB-GW-MW02-112409-AVG	EB-GW-MW02-112409-D	EB-GW-MW03-112409
LOCATION ID					EB-MW01	EB-MW02	EB-MW02	EB-MW02	EB-MW03
SAMPLE DATE					11/24/09	11/24/09	11/24/09	11/24/09	11/24/09
TOP DEPTH (FT)									
BOTTOM DEPTH (FT)									
SACODE					NORMAL	ORIG	AVG	DUP	NORMAL
SCREENING CRITERIA	PSL	MEG	EPA RSL	Adjusted EPA RSL NC					
DIBENZOFURAN					1 U	2 U	2 U	2 U	1 U
DIETHYL PHTHALATE	2900	5000	29000	2900	2 U	2 U	2 U	2 U	2 U
DIMETHYL PHTHALATE	2900	5000	29000	2900	2 UJ	2 U	2 U	2 U	2 U
DI-N-BUTYL PHTHALATE	370	700	3700	370	2 U	2 U	2 U	2 U	2 U
DI-N-OCTYL PHTHALATE					2 U	2 U	2 U	2 U	2 U
FLUORANTHENE	150		1500	150	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U
FLUORENE	150		1500	150	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
HEXACHLOROBENZENE	0.042	0.2	0.042	0.042	2 UJ	2 U	2 U	2 U	2 U
HEXACHLOROBUTADIENE	0.86	4	0.86	0.86	2 U	2 U	2 U	2 U	2 U
HEXACHLOROCYCLOPENTADIENE	22	42	220	22	1 U	1 U	1 U	1 U	1 U
HEXACHLOROETHANE	3.7	7	37	3.7	2 U	2 U	2 U	2 U	2 U
HIGH MOLECULAR WEIGHT PAHS					0.057 UJ	0.059 U	0.058 U	0.057 U	0.057 U
INDENO(1,2,3-CD)PYRENE	0.029		0.029	0.029	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 U
ISOPHORONE	71	370	71	71	2 U	2 U	2 U	2 U	2 U
LOW MOLECULAR WEIGHT PAHS					0.0557 UJ	0.0571 U	0.0564 U	0.0557 U	0.0557 U
NAPHTHALENE	0.14	14	0.14	0.14	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
NITROBENZENE	0.12	3.5	0.12	0.12	3 U	3 U	3 U	3 U	3 U
N-NITROSO-DI-N-PROPYLAMINE	0.0096		0.0096	0.0096	2 U	2 U	2 U	2 U	2 U
N-NITROSODIPHENYLAMINE	14		14	14	3 U	4 U	4 U	4 U	3 U
PENTACHLOROPHENOL	0.56	3	0.56	0.56	0.3 UJ	0.3 U	0.30 U	0.3 U	0.3 U
PHENANTHRENE	110		1100	110	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U

BLACK SHADING-AT LEAST ONE CRITERION EXCEEDED; BOLD-DETECTED;
U-NOT DETECTED; J-QUANTITATION APPROXIMATE; R-REJECTED; NA-NOT ANALYZED

TABLE E-3
ANALYTICAL RESULTS - GROUNDWATER - HUMAN HEALTH
EAST BRUNSWICK, NAS BRUNSWICK, BRUNSWICK, MAINE

IDENTIFIED POTENTIAL CONTAMINANT SOURCE AREA:					**UST**	**SEPTIC SYSTEM**			**SUMP PUMP**
SAMPLE ID					EB-GW-MW01-112409	EB-GW-MW02-112409	EB-GW-MW02-112409-AVG	EB-GW-MW02-112409-D	EB-GW-MW03-112409
LOCATION ID					EB-MW01	EB-MW02	EB-MW02	EB-MW02	EB-MW03
SAMPLE DATE					11/24/09	11/24/09	11/24/09	11/24/09	11/24/09
TOP DEPTH (FT)									
BOTTOM DEPTH (FT)									
SACODE					NORMAL	ORIG	AVG	DUP	NORMAL
SCREENING CRITERIA	PSL	MEG	EPA RSL	Adjusted EPA RSL NC					
PHENOL	1100	2100	11000	1100	2 U	2 U	2 U	2 U	2 U
PYRENE	110		1100	110	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
TOTAL CARCINOGENIC PAHS-HALFND					0.0543 UJ	0.0571 U	0.0557 U	0.0543 U	0.0543 U
TOTAL CARCINOGENIC PAHS-POS					0.0543 UJ	0.0571 U	0.0557 U	0.0543 U	0.0543 U
TOTAL CHLORINATED VOCS					2 U	2 U	2 U	2 U	2 U
TOTAL PAHS					0.0565 UJ	0.0582 U	0.0574 U	0.0565 U	0.0565 U
EPH MADEP (UG/L)									
C11-C22 AROMATICS	200	200			94 UJ	100 UJ	100 UJ	100 UJ	94 UJ
C11-C22 AROMATICS-UNADJ					94 UJ	100 UJ	100 UJ	100 UJ	94 UJ
C19-C36 ALIPHATICS	10000	10000			94 U	**120**	**85**	100 U	94 U
C9-C18 ALIPHATICS	700	700			94 UJ	100 UJ	100 UJ	100 UJ	94 UJ
METALS (UG/L)									
ALUMINUM	1430	1430	37000	3700	12.5 U	**203 J**	**289.5 J**	**376**	**81.6 J**
ANTIMONY	1.5	3	15	1.5	0.21 UJ	0.15 U	0.15 U	0.15 U	0.15 U
ARSENIC	0.045	10	0.045	0.045	1.8 UJ	2.3 UJ	2.35 UJ	2.4 UJ	2.4 UJ
BARIUM	730	2000	7300	730	**26.4**	**9.1**	**9.25**	**9.4**	**4.8 J**
BERYLLIUM	7.3		73	7.3	0.05 U	**0.09 J**	**0.09 J**	**0.09 J**	0.05 U
CADMIUM	1.8	3.5	18	1.8	0.05 U	0.13 UJ	0.095 UJ	0.06 UJ	0.05 U
CALCIUM					**24300**	**1340**	**1335**	**1330**	**1280**
CHROMIUM	11	35	110	11	1.5 UJ	2 UJ	2.2 UJ	2.4 UJ	0.97 UJ
COBALT	11		110	11	0.1 U	0.38 UJ	0.38 UJ	0.38 UJ	0.15 UJ

BLACK SHADING-AT LEAST ONE CRITERION EXCEEDED; BOLD-DETECTED;
U-NOT DETECTED; J-QUANTITATION APPROXIMATE; R-REJECTED; NA-NOT ANALYZED

TABLE E-3
ANALYTICAL RESULTS - GROUNDWATER - HUMAN HEALTH
EAST BRUNSWICK, NAS BRUNSWICK, BRUNSWICK, MAINE

IDENTIFIED POTENTIAL CONTAMINANT SOURCE AREA:					**UST**	**SEPTIC SYSTEM**			**SUMP PUMP**
SAMPLE ID					EB-GW-MW01-112409	EB-GW-MW02-112409	EB-GW-MW02-112409-AVG	EB-GW-MW02-112409-D	EB-GW-MW03-112409
LOCATION ID					EB-MW01	EB-MW02	EB-MW02	EB-MW02	EB-MW03
SAMPLE DATE					11/24/09	11/24/09	11/24/09	11/24/09	11/24/09
TOP DEPTH (FT)									
BOTTOM DEPTH (FT)									
SACODE					NORMAL	ORIG	AVG	DUP	NORMAL
SCREENING CRITERIA	PSL	MEG	EPA RSL	Adjusted EPA RSL NC					
COPPER	150	1300	1500	150	1.2 UJ	0.8 UJ	0.90 UJ	1 UJ	0.81 UJ
IRON	2600		26000	2600	6.4 UJ	**258 J**	**274.5 J**	**291 J**	31 UJ
LEAD	10	10	15	15	0.07 UJ	0.38 UJ	0.41 UJ	0.44 UJ	0.32 UJ
MAGNESIUM					**1700**	**348**	**358**	**368**	**268**
MANGANESE	88	500	880	88	5 UJ	**54.7**	**55.65**	**56.6**	**210**
MERCURY	1.1	2	11	1.1	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
NICKEL	73	140	730	73	0.34 UJ	1.1 U	1.1 U	1.1 U	0.71 UJ
POTASSIUM					**6330**	486 UJ	493 UJ	500 UJ	452 UJ
SELENIUM	18	35	180	18	0.8 U	0.8 U	0.80 U	0.8 U	0.86 UJ
SILVER	18	35	180	18	0.05 U	0.08 UJ	0.065 UJ	0.05 U	0.05 U
SODIUM	20000	20000			**3810**	**1650**	**1655**	**1660**	**1540**
THALLIUM	0.24	0.5	2.4	0.24	0.1 U	0.2 UJ	0.15 UJ	0.1 U	0.1 U
VANADIUM	18		180	18	**0.91 J**	**1.8 J**	**1.38 J**	**0.96 J**	**1.4 J**
ZINC	1100	2000	11000	1100	1.73 U	**2.8 J**	**2.7 J**	**2.6 J**	1.73 U

Notes:

MEDEP - Maine Department of Environmental Protection

EPA - U.S. Environmental Protection Agency

RSL - Regional Screening Level, Residential Direct Contact Soil

ug/L - Micrograms per liter

MEG - Maine Maximum Exposure Guidelines.

NC - Non Cancer

BLACK SHADING-AT LEAST ONE CRITERION EXCEEDED; BOLD-DETECTED;
U-NOT DETECTED; J-QUANTITATION APPROXIMATE; R-REJECTED; NA-NOT ANALYZED

TABLE E-4
ANALYTICAL RESULTS - SURFACE SOIL - ECOLOGICAL
EAST BRUNSWICK, NAS BRUNSWICK, BRUNSWICK, MAINE

SAMPLE ID			EB-SO-SS01-0012	EB-SO-SS01A-0012	EB-SO-SS01B-0012	EB-SO-SS02-0012	EB-SO-SS03-0012	EB-SO-SS04A-0004	EB-SO-SS04B-0004	EB-SO-SS04C-0004	EB-SO-SS05A-0004	EB-SO-SS05A-0004-D	EB-SO-SS05A-0004-AVG	EB-SO-SS05B-0004	EB-SO-SS05C-0004
LOCATION ID			EB-SO-SS01	EB-SO-SS01A	EB-SO-SS01B	EB-SO-SS02	EB-SO-SS03	EB-SO-SS04A	EB-SO-SS04B	EB-SO-SS04C	EB-SO-SS05A	EB-SO-SS05A	EB-SO-SS05A	EB-SO-SS05B	EB-SO-SS05C
SAMPLE DATE			11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09
TOP DEPTH (FT)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BOTTOM DEPTH (FT)			1.0	1.0	1.0	1.0	1.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
SACODE			NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	DUP	AVG	NORMAL	NORMAL
SCREENING CRITERIA	ECO SSL	BKGD													
SEMIVOLATILES (UG/KG)															
1,1-BIPHENYL	60000		75 U	80 U	110 UJ	81 U	82 U	84 U	NA	NA	75 U	74 U	74.5 U	NA	NA
1,2,4,5-TETRACHLOROBENZENE	10000		140 U	150 U	210 UJ	150 U	150 U	160 U	NA	NA	140 U	140 U	140 U	NA	NA
1,4-DIOXANE	2050		56 U	59 U	84 UJ	60 U	61 U	62 U	NA	NA	55 U	55 U	55 U	NA	NA
2,3,4,6-TETRACHLOROPHENOL	199		140 U	150 U	220 UJ	150 U	160 U	160 U	NA	NA	140 U	140 U	140 U	NA	NA
2,4,5-TRICHLOROPHENOL	4000		160 UJ	170 UJ	240 UJ	170 UJ	180 UJ	180 UJ	NA	NA	160 UJ	160 UJ	160 UJ	NA	NA
2,4,6-TRICHLOROPHENOL	10000		160 U	170 U	240 UJ	170 U	180 U	180 U	NA	NA	160 U	160 U	160 U	NA	NA
2,4-DICHLOROPHENOL	87500		150 U	160 U	230 UJ	160 U	170 U	170 U	NA	NA	150 U	150 U	150 U	NA	NA
2,4-DIMETHYLPHENOL	10		170 U	180 U	260 UJ	180 U	190 U	190 U	NA	NA	170 U	170 U	170 U	NA	NA
2,4-DINITROPHENOL	20000		390 U	410 U	590 UJ	420 U	430 U	440 U	NA	NA	380 U	380 U	380 U	NA	NA
2,4-DINITROTOLUENE	1280		88 U	93 U	130 UJ	94 U	96 U	98 U	NA	NA	87 U	87 U	87 U	NA	NA
2,6-DINITROTOLUENE	32.8		82 U	87 U	120 UJ	87 U	89 U	91 U	NA	NA	81 U	80 U	80.5 U	NA	NA
2-CHLORONAPHTHALENE	12.2		90 U	95 U	140 UJ	96 U	98 U	100 U	NA	NA	89 U	89 U	89 U	NA	NA
2-CHLOROPHENOL	243		170 U	180 U	260 UJ	180 U	180 U	190 U	NA	NA	170 U	170 U	170 U	NA	NA
2-METHYLNAPHTHALENE	29000		2 U	2 U	**99**	**67**	2 U	2 UJ	NA	NA	2 U	2 U	2 U	NA	NA
2-METHYLPHENOL	40400		210 U	220 U	310 UJ	220 U	230 U	230 U	NA	NA	200 U	200 U	200 U	NA	NA
2-NITROANILINE	74100		77 U	82 U	120 UJ	83 U	85 U	86 U	NA	NA	77 U	76 U	76.5 U	NA	NA
2-NITROPHENOL	1600		170 U	180 U	260 UJ	180 U	190 U	190 U	NA	NA	170 U	170 U	170 U	NA	NA
3&4-METHYLPHENOL			190 U	200 U	290 UJ	210 U	210 U	220 U	NA	NA	190 U	190 U	190 U	NA	NA
3,3'-DICHLOROBENZIDINE	646		120 U	120 U	180 UJ	120 U	130 U	130 U	NA	NA	120 U	120 U	120 U	NA	NA
3-NITROANILINE	3160		97 U	100 U	150 UJ	100 U	110 U	110 U	NA	NA	96 U	96 U	96 U	NA	NA
4,6-DINITRO-2-METHYLPHENOL	144		350 U	370 U	530 UJ	370 U	380 U	390 U	NA	NA	340 U	340 U	340 U	NA	NA
4-BROMOPHENYL PHENYL ETHER			88 U	93 U	130 UJ	94 U	96 U	98 U	NA	NA	87 U	87 U	87 U	NA	NA
4-CHLORO-3-METHYLPHENOL	7950		170 U	180 U	260 UJ	180 U	190 U	190 U	NA	NA	170 U	170 U	170 U	NA	NA
4-CHLOROANILINE	1100		120 U	130 U	190 UJ	130 U	130 U	140 U	NA	NA	120 U	120 U	120 U	NA	NA
4-CHLOROPHENYL PHENYL ETHER			80 U	86 U	120 UJ	86 U	88 U	90 U	NA	NA	80 U	80 U	80 U	NA	NA
4-NITROANILINE	21900		140 U	150 U	210 UJ	150 U	150 U	150 U	NA	NA	140 U	140 U	140 U	NA	NA
4-NITROPHENOL	7000		320 U	340 U	480 UJ	340 UJ	350 UJ	360 U	NA	NA	320 UJ	320 UJ	320 UJ	NA	NA
ACENAPHTHENE	29000		**8 J**	**6 J**	**90**	**420**	2 U	2 U	NA	NA	**7 J**	**5 J**	**6 J**	NA	NA
ACENAPHTHYLENE	29000		**18 J**	**33**	**160**	1 U	**3 J**	1 UJ	NA	NA	**120**	**100**	**110**	NA	NA
ACETOPHENONE	300000		180 U	200 U	280 UJ	200 U	200 U	200 U	NA	NA	180 U	180 U	180 U	NA	NA
ANTHRACENE	29000	7	**390**	**39**	**200**	**700**	**3 J**	1 U	NA	NA	**85**	**78**	**81.5**	NA	NA
ATRAZINE			94 U	100 U	140 UJ	100 U	100 U	100 U	NA	NA	93 U	93 U	93 U	NA	NA
BENZALDEHYDE			120 UJ	130 UJ	190 UJ	130 UJ	140 UJ	140 U	NA	NA	120 UJ	120 UJ	120 UJ	NA	NA
BENZO(A)ANTHRACENE	1100	23	**110**	**140**	**1200**	**2000 J**	**18 J**	**10 J**	NA	NA	**220**	**200**	**210**	NA	NA
BENZO(A)PYRENE	1100	28	**44**	**80**	**390**	**1100**	**12 J**	**11 J**	NA	NA	**160**	**140**	**150**	NA	NA
BENZO(B)FLUORANTHENE	1100	51	**280**	**520**	**2300**	**2100**	**27**	**36**	NA	NA	**1200 J**	**1200**	**1200 J**	NA	NA
BENZO(G,H,I)PERYLENE	1100	10	**14 J**	**35**	**110**	**590**	**4 J**	12 UJ	NA	NA	**75**	**58**	**66.5**	NA	NA

DARK SHADING - AT LEAST ONE CRITERION EXCEEDED; BOLD - DETECTED;
U - NOT DETECTED; UJ - DETECTION LIMIT APPROXIMATE; J - QUANTITATION LIMIT APPROXIMATE; R - REJECTED

TABLE E-4
ANALYTICAL RESULTS - SURFACE SOIL - ECOLOGICAL
EAST BRUNSWICK, NAS BRUNSWICK, BRUNSWICK, MAINE

SAMPLE ID			EB-SO-SS01-0012	EB-SO-SS01A-0012	EB-SO-SS01B-0012	EB-SO-SS02-0012	EB-SO-SS03-0012	EB-SO-SS04A-0004	EB-SO-SS04B-0004	EB-SO-SS04C-0004	EB-SO-SS05A-0004	EB-SO-SS05A-0004-D	EB-SO-SS05A-0004-AVG	EB-SO-SS05B-0004	EB-SO-SS05C-0004
LOCATION ID			EB-SO-SS01	EB-SO-SS01A	EB-SO-SS01B	EB-SO-SS02	EB-SO-SS03	EB-SO-SS04A	EB-SO-SS04B	EB-SO-SS04C	EB-SO-SS05A	EB-SO-SS05A	EB-SO-SS05A	EB-SO-SS05B	EB-SO-SS05C
SAMPLE DATE			11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09
TOP DEPTH (FT)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BOTTOM DEPTH (FT)			1.0	1.0	1.0	1.0	1.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
SACODE			NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	DUP	AVG	NORMAL	NORMAL
SCREENING CRITERIA	ECO SSL	BKGD													
BENZO(K)FLUORANTHENE	1100	12	**80**	**150**	**730**	**710**	**6 J**	**4 J**	NA	NA	**450 J**	**260 J**	**355 J**	NA	NA
BIS(2-CHLOROETHOXY)METHANE	302		99 U	100 U	150 UJ	110 U	110 U	110 U	NA	NA	98 U	98 U	98 U	NA	NA
BIS(2-CHLOROETHYL)ETHER	23700		84 U	89 U	130 UJ	90 U	92 U	94 U	NA	NA	83 U	82 U	82.5 U	NA	NA
BIS(2-CHLOROISOPROPYL)ETHER			92 U	98 U	140 UJ	98 U	100 U	100 U	NA	NA	91 U	91 U	91 U	NA	NA
BIS(2-ETHYLHEXYL)PHTHALATE	925		100 U	**200 J**	150 UJ	110 U	110 U	110 U	NA	NA	100 U	100 U	100 U	NA	NA
BUTYL BENZYL PHTHALATE	239		96 U	100 U	140 UJ	100 U	100 U	110 U	NA	NA	95 U	95 U	95 U	NA	NA
C5-C8+C9-C12 ALIPHATICS+C9-C10 AROMATICS+BTEX+NAPH			**6 J**	**11 J**	**380 J**	**180**	3 U	3 U	NA	NA	**4 J**	**4 J**	**4 J**	NA	NA
C9-C10 AROMATICS+BTEX+NAPH			**6 J**	**11 J**	**380 J**	**180**	3 U	3 U	NA	NA	**4 J**	**4 J**	**4 J**	NA	NA
CAPROLACTAM			150 UR	160 UR	220 UR	160 UR	160 UR	170 UR	NA	NA	150 UR	150 UR	150 UR	NA	NA
CARBAZOLE			**270 J**	120 U	**220 J**	**390**	120 U	130 U	NA	NA	110 U	110 U	110 U	NA	NA
CHRYSENE	1100	35	**240**	**350**	**2200**	**1800 J**	**11 J**	**28**	NA	NA	**1200 J**	**1000**	**1100 J**	NA	NA
DIBENZO(A,H)ANTHRACENE	1100	6	**6 J**	**14 J**	**70**	**220**	**4 J**	**3 J**	NA	NA	**31**	**27**	**29**	NA	NA
DIBENZOFURAN	200000		82 U	87 U	**280 J**	**190 J**	89 U	91 U	NA	NA	81 U	80 U	80.5 U	NA	NA
DIETHYL PHTHALATE	100000		82 U	88 U	120 UJ	88 U	90 U	92 U	NA	NA	82 U	82 U	82 U	NA	NA
DIMETHYL PHTHALATE	200000		80 U	86 U	120 UJ	86 U	88 U	90 U	NA	NA	80 U	80 U	80 U	NA	NA
DI-N-BUTYL PHTHALATE	200000		100 U	110 U	160 UJ	110 U	110 U	120 U	NA	NA	100 U	100 U	100 U	NA	NA
DI-N-OCTYL PHTHALATE	709000		220 U	230 U	330 UJ	230 U	240 U	240 U	NA	NA	220 U	220 U	220 U	NA	NA
FLUORANTHENE	29000	62	**950**	**880**	**5400**	**3800**	**42**	**73**	NA	NA	**3600**	**3400**	**3500**	NA	NA
FLUORENE	29000		**25**	**6 J**	**64**	**260**	4 U	4 U	NA	NA	**12 J**	**7 J**	**9.5 J**	NA	NA
HEXACHLOROBENZENE	199		85 U	90 U	130 UJ	91 U	93 U	95 U	NA	NA	84 U	84 U	84 U	NA	NA
HEXACHLOROBUTADIENE	39.8		86 U	91 U	130 UJ	92 U	94 U	96 U	NA	NA	85 U	85 U	85 U	NA	NA
HEXACHLOROCYCLOPENTADIENE	10000		85 U	90 U	130 UJ	91 U	93 U	95 U	NA	NA	84 U	84 U	84 U	NA	NA
HEXACHLOROETHANE	596		99 U	100 U	150 UJ	110 U	110 U	110 U	NA	NA	98 U	98 U	98 U	NA	NA
HIGH MOLECULAR WEIGHT PAHS			**2320 J**	**2910 J**	**16800 J**	**16200 J**	**155 J**	**227 J**	NA	NA	**9880 J**	**8600 J**	**9240 J**	NA	NA
INDENO(1,2,3-CD)PYRENE	1100	39	**31 J**	**75 J**	**220 J**	**760 J**	13 UJ	24 UJ	NA	NA	**140 J**	**120 J**	**130 J**	NA	NA

DARK SHADING - AT LEAST ONE CRITERION EXCEEDED; BOLD - DETECTED;
U - NOT DETECTED; UJ - DETECTION LIMIT APPROXIMATE; J - QUANTITATION LIMIT APPROXIMATE; R - REJECTED

TABLE E-4
ANALYTICAL RESULTS - SURFACE SOIL - ECOLOGICAL
EAST BRUNSWICK, NAS BRUNSWICK, BRUNSWICK, MAINE

SAMPLE ID			EB-SO-SS01-0012	EB-SO-SS01A-0012	EB-SO-SS01B-0012	EB-SO-SS02-0012	EB-SO-SS03-0012	EB-SO-SS04A-0004	EB-SO-SS04B-0004	EB-SO-SS04C-0004	EB-SO-SS05A-0004	EB-SO-SS05A-0004-D	EB-SO-SS05A-0004-AVG	EB-SO-SS05B-0004	EB-SO-SS05C-0004
LOCATION ID			EB-SO-SS01	EB-SO-SS01A	EB-SO-SS01B	EB-SO-SS02	EB-SO-SS03	EB-SO-SS04A	EB-SO-SS04B	EB-SO-SS04C	EB-SO-SS05A	EB-SO-SS05A	EB-SO-SS05A	EB-SO-SS05B	EB-SO-SS05C
SAMPLE DATE			11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09
TOP DEPTH (FT)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BOTTOM DEPTH (FT)			1.0	1.0	1.0	1.0	1.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
SACODE			NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	DUP	AVG	NORMAL	NORMAL
SCREENING CRITERIA	ECO SSL	BKGD													
ISOPHORONE	139000		77 U	82 U	120 UJ	83 U	85 U	86 U	NA	NA	77 U	76 U	76.5 U	NA	NA
LOW MOLECULAR WEIGHT PAHS			**1020 J**	**415 J**	**3290 J**	**4830**	**28 J**	**35 J**	NA	NA	**1330 J**	**1000 J**	**1170 J**	NA	NA
NAPHTHALENE	29000		**6 J**	**11 J**	**380 J**	**180**	3 U	3 U	NA	NA	**4 J**	**4 J**	**4 J**	NA	NA
NITROBENZENE	40000		94 U	100 U	140 UJ	100 U	100 U	100 U	NA	NA	93 U	93 U	93 U	NA	NA
N-NITROSO-DI-N-PROPYLAMINE	544		86 U	91 U	130 UJ	92 U	94 U	96 U	NA	NA	85 U	85 U	85 U	NA	NA
N-NITROSODIPHENYLAMINE	20000		230 U	240 U	340 UJ	240 U	250 U	250 U	NA	NA	220 U	220 U	220 U	NA	NA
PENTACHLOROPHENOL	2100		240 U	260 U	370 UJ	260 U	270 U	270 U	NA	NA	240 U	240 U	240 U	NA	NA
PHENANTHRENE	29000	32	**570**	**320**	**2300**	**3200**	**22 J**	**35**	NA	NA	**1100**	**810**	**955**	NA	NA
PHENOL	20000		160 U	170 U	240 UJ	170 U	180 U	180 U	NA	NA	160 U	160 U	160 U	NA	NA
PYRENE	1100	64	**560**	**670**	**4200**	**3100 J**	**31**	**62**	NA	NA	**2800 J**	**2200**	**2500 J**	NA	NA
TOTAL CARCINOGENIC PAHS-HALFND			**791 J**	**1330 J**	**7110 J**	**8690 J**	**84.5 J**	**104 J**	NA	NA	**3400 J**	**2950 J**	**3170 J**	NA	NA
TOTAL CARCINOGENIC PAHS-POS			**791 J**	**1330 J**	**7110 J**	**8690 J**	**78 J**	**92 J**	NA	NA	**3400 J**	**2950 J**	**3170 J**	NA	NA
TOTAL CHLORINATED VOCS			86 U	91 U	130 UJ	92 U	94 U	96 U	NA	NA	85 U	85 U	85 U	NA	NA
TOTAL PAHS			**3330 J**	**3330 J**	**20100 J**	**21000 J**	**183 J**	**262 J**	NA	NA	**11200 J**	**9610 J**	**10400 J**	NA	NA
HERBICIDES (UG/KG)															
2,4,5-T	596		NA	NA	NA	NA	NA	18 U	NA	NA	16 U	16 U	16 U	NA	NA
2,4,5-TP (SILVEX)	109		NA	NA	NA	NA	NA	15 U	NA	NA	13 U	13 U	13 U	NA	NA
2,4-D	27.2		NA	NA	NA	NA	NA	38 U	NA	NA	33 U	33 U	33 U	NA	NA
2,4-DB			NA	NA	NA	NA	NA	27 U	NA	NA	24 U	24 U	24 U	NA	NA
DALAPON			NA	NA	NA	NA	NA	9.7 U	NA	NA	8.5 U	8.5 U	8.5 U	NA	NA
DICAMBA			NA	NA	NA	NA	NA	13 U	NA	NA	11 U	11 U	11 U	NA	NA
DICHLOROPROP			NA	NA	NA	NA	NA	22 U	NA	NA	19 U	19 U	19 U	NA	NA
DINOSEB	21.8		NA	NA	NA	NA	NA	3 U	NA	NA	2.6 U	2.6 U	2.6 U	NA	NA
MCPA			NA	NA	NA	NA	NA	2700 U	NA	NA	2400 U	2400 U	2400 U	NA	NA
MCPP			NA	NA	NA	NA	NA	2600 U	NA	NA	2300 U	2300 U	2300 U	NA	NA
METALS (MG/KG)															
ALUMINUM		19400	**6140**	**7810**	**6070**	**9230**	**10200**	NA	NA	NA	NA	NA	NA	NA	NA
ANTIMONY	0.27	0.04	0.09 UJ	**0.19 J**	**10.4 J**	**0.18 J**	0.04 UJ	NA	NA	NA	NA	NA	NA	NA	NA
ARSENIC	18	4.5	**2.5**	**2.2**	**12.3**	**2.9**	**2.1**	NA	NA	NA	NA	NA	NA	NA	NA
BARIUM	330	15.9	**14**	**9.2**	**40.3**	**13.4**	**13**	NA	NA	NA	NA	NA	NA	NA	NA
BERYLLIUM	21	0.69	**0.4 J**	**0.4 J**	**0.39 J**	**0.5**	**0.45 J**	NA	NA	NA	NA	NA	NA	NA	NA
CADMIUM	0.36	0.05	**0.16**	**0.06 J**	**2.3**	**1.5**	**0.06 J**	NA	NA	NA	NA	NA	NA	NA	NA
CALCIUM		1080	**758 J**	**657 J**	**1400 J**	**502 J**	**326 J**	NA	NA	NA	NA	NA	NA	NA	NA
CHROMIUM	26	15.3	**9.3**	**7.5**	**23.7**	**13.9**	**8.2**	NA	NA	NA	NA	NA	NA	NA	NA

TABLE E-4
ANALYTICAL RESULTS - SURFACE SOIL - ECOLOGICAL
EAST BRUNSWICK, NAS BRUNSWICK, BRUNSWICK, MAINE

SAMPLE ID			EB-SO-SS01-0012	EB-SO-SS01A-0012	EB-SO-SS01B-0012	EB-SO-SS02-0012	EB-SO-SS03-0012	EB-SO-SS04A-0004	EB-SO-SS04B-0004	EB-SO-SS04C-0004	EB-SO-SS05A-0004	EB-SO-SS05A-0004-D	EB-SO-SS05A-0004-AVG	EB-SO-SS05B-0004	EB-SO-SS05C-0004
LOCATION ID			EB-SO-SS01	EB-SO-SS01A	EB-SO-SS01B	EB-SO-SS02	EB-SO-SS03	EB-SO-SS04A	EB-SO-SS04B	EB-SO-SS04C	EB-SO-SS05A	EB-SO-SS05A	EB-SO-SS05A	EB-SO-SS05B	EB-SO-SS05C
SAMPLE DATE			11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09
TOP DEPTH (FT)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BOTTOM DEPTH (FT)			1.0	1.0	1.0	1.0	1.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
SACODE			NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	DUP	AVG	NORMAL	NORMAL
SCREENING CRITERIA	ECO SSL	BKGD													
COBALT	13	4	**3.5**	**2.8**	**3.8**	**3.6**	**2.1**	NA	NA	NA	NA	NA	NA	NA	NA
COPPER	28	6.7	**125**	**174**	**34600**	**360**	**4.2**	NA	NA	NA	NA	NA	NA	NA	NA
IRON		14400	**7660**	**6490**	**16700**	**9050**	**8540**	NA	NA	NA	NA	NA	NA	NA	NA
LEAD	11	17.5	**11**	**15.3**	**871**	**85.7**	**9.7**	**13**	**9.6**	**13.3**	**24.4**	**21.8**	**23.1**	**7.5**	**6.9**
MAGNESIUM		1953.21	**1780**	**1170**	**1130**	**1130**	**608**	NA	NA	NA	NA	NA	NA	NA	NA
MANGANESE	220	267.41	**156**	**153**	**243**	**230**	**230**	NA	NA	NA	NA	NA	NA	NA	NA
MERCURY	12	0.08	0.01 U	**0.02 J**	**0.15**	**0.08**	**0.04**	NA	NA	NA	NA	NA	NA	NA	NA
NICKEL	38	9.8	**8.3**	**8**	**11.8**	**9**	**3.7 J**	NA	NA	NA	NA	NA	NA	NA	NA
POTASSIUM		939.94	**857**	**488**	**839**	**422**	**263**	NA	NA	NA	NA	NA	NA	NA	NA
SELENIUM	0.52		0.24 UJ	0.3 UJ	0.64 UJ	0.52 U	0.64 U	NA	NA	NA	NA	NA	NA	NA	NA
SILVER	4.2	0.21	**0.14 J**	**0.23 J**	**15.8**	**0.27 J**	**0.09 J**	NA	NA	NA	NA	NA	NA	NA	NA
SODIUM		52.9	**55.2 J**	**54.5 J**	**216**	**47.5 J**	**37.3 J**	NA	NA	NA	NA	NA	NA	NA	NA
THALLIUM	1.4		0.09 UJ	0.1 UJ	0.08 UJ	0.09 UJ	0.08 UJ	NA	NA	NA	NA	NA	NA	NA	NA
VANADIUM	7.8	26.3	**13.9**	**13.4**	**17.9**	**17.3**	**16.2**	NA	NA	NA	NA	NA	NA	NA	NA
ZINC	46	15.3	**55.8**	**47.3**	**3140**	**247**	**26**	NA	NA	NA	NA	NA	NA	NA	NA
PCBS (UG/KG)															
AROCLOR-1016	33000		NA	NA	NA	6.7 U	7.1 U	7 U	6.8 U	7.4 U	6.3 U	6.3 U	6.3 U	7 U	6.5 U
AROCLOR-1221	33000		NA	NA	NA	16 U	17 U	16 U	16 U	17 U	15 U	15 U	15 U	16 U	15 U
AROCLOR-1232	33000		NA	NA	NA	10 U	11 U	11 U	11 U	11 U	9.8 U	9.8 U	9.8 U	11 U	10 U
AROCLOR-1242	33000		NA	NA	NA	6.5 U	6.9 U	6.7 U	6.6 U	7.1 U	6.1 U	6.1 U	6.1 U	6.8 U	6.2 U
AROCLOR-1248	33000		NA	NA	NA	6.8 U	7.2 U	7.1 U	7 U	7.5 U	6.4 U	6.4 U	6.4 U	7.1 U	6.6 U
AROCLOR-1254	33000		NA	NA	NA	5.3 U	5.6 U	5.5 U	5.4 U	5.8 U	4.9 U	4.9 U	4.9 U	5.5 U	5.1 U
AROCLOR-1260	33000		NA	NA	NA	**240**	7.1 U	7 U	6.8 U	7.4 U	6.3 U	6.3 U	6.3 U	7 U	6.5 U
AROCLOR-1262	33000		NA	NA	NA	4.2 U	4.4 U	4.3 U	4.2 U	4.6 U	3.9 U	3.9 U	3.9 U	4.3 U	4 U
AROCLOR-1268	33000		NA	NA	NA	2.9 U	3.1 U	3 U	3 U	3.2 U	2.7 U	2.7 U	2.7 U	3 U	2.8 U
TOTAL AROCLOR	33000		NA	NA	NA	**240**	3.1 U	3 U	3 U	3.2 U	2.7 U	2.7 U	2.7 U	3 U	2.8 U

DARK SHADING - AT LEAST ONE CRITERION EXCEEDED; BOLD - DETECTED;
U - NOT DETECTED; UJ - DETECTION LIMIT APPROXIMATE; J - QUANTITATION LIMIT APPROXIMATE; R - REJECTED

TABLE E-4
ANALYTICAL RESULTS - SURFACE SOIL - ECOLOGICAL
EAST BRUNSWICK, NAS BRUNSWICK, BRUNSWICK, MAINE

SAMPLE ID			EB-SO-SS01-0012	EB-SO-SS06A-0004	EB-SO-SS06A-0004-D	EB-SO-SS06A-0004-AVG	EB-SO-SS06B-0004	EB-SO-SS06C-0004	EB-SO-SS07A-0004	EB-SO-SS07B-0004	EB-SO-SS07C-0004	EB-SO-SS08-0012	EB-SO-SS08-0012-D	EB-SO-SS08-0012-AVG	EB-SO-SS09-0012	EB-SO-SS09-0012-D	EB-SO-SS09-0012-AVG
LOCATION ID			EB-SO-SS01	EB-SO-SS06A	EB-SO-SS06A	EB-SO-SS06A	EB-SO-SS06B	EB-SO-SS06C	EB-SO-SS07A	EB-SO-SS07B	EB-SO-SS07C	EB-SO-SS08	EB-SO-SS08	EB-SO-SS08	EB-SO-SS09	EB-SO-SS09	EB-SO-SS09
SAMPLE DATE			11/11/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09
TOP DEPTH (FT)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BOTTOM DEPTH (FT)			1.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	1.0	1.0	1.0	1.0	1.0	1.0
SACODE			NORMAL	ORIG	DUP	AVG	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	DUP	AVG	ORIG	DUP	AVG
SCREENING CRITERIA	ECO SSL	BKGD															
SEMIVOLATILES (UG/KG)																	
1,1-BIPHENYL	60000		75 U	86 U	89 U	87.5 U	NA	NA	80 U	NA	NA	80 U	NA	80 U	77 U	NA	77 U
1,2,4,5-TETRACHLOROBENZENE	10000		140 U	160 U	160 U	160 U	NA	NA	150 U	NA	NA	150 U	NA	150 U	140 U	NA	140 U
1,4-DIOXANE	2050		56 U	64 U	66 U	65 U	NA	NA	59 U	NA	NA	60 U	NA	60 U	57 U	NA	57 U
2,3,4,6-TETRACHLOROPHENOL	199		140 U	160 U	170 U	165 U	NA	NA	150 U	NA	NA	150 U	NA	150 U	150 U	NA	150 U
2,4,5-TRICHLOROPHENOL	4000		160 UJ	180 UJ	190 UJ	185 UJ	NA	NA	170 UJ	NA	NA	170 UJ	NA	170 UJ	160 UJ	NA	160 UJ
2,4,6-TRICHLOROPHENOL	10000		160 U	180 U	190 U	185 U	NA	NA	170 U	NA	NA	170 U	NA	170 U	160 U	NA	160 U
2,4-DICHLOROPHENOL	87500		150 U	180 U	180 U	180 U	NA	NA	160 U	NA	NA	160 U	NA	160 U	160 U	NA	160 U
2,4-DIMETHYLPHENOL	10		170 U	200 U	200 U	200 U	NA	NA	180 U	NA	NA	180 U	NA	180 U	180 U	NA	180 U
2,4-DINITROPHENOL	20000		390 U	450 U	460 U	455 U	NA	NA	410 U	NA	NA	420 U	NA	420 U	400 U	NA	400 U
2,4-DINITROTOLUENE	1280		88 U	100 U	100 U	100 U	NA	NA	93 U	NA	NA	94 U	NA	94 U	90 U	NA	90 U
2,6-DINITROTOLUENE	32.8		82 U	94 U	96 U	95 U	NA	NA	87 U	NA	NA	87 U	NA	87 U	84 U	NA	84 U
2-CHLORONAPHTHALENE	12.2		90 U	100 U	110 U	105 U	NA	NA	96 U	NA	NA	96 U	NA	96 U	92 U	NA	92 U
2-CHLOROPHENOL	243		170 U	190 U	200 U	195 U	NA	NA	180 U	NA	NA	180 U	NA	180 U	170 U	NA	170 U
2-METHYLNAPHTHALENE	29000		2 U	3 U	3 U	3 U	NA	NA	2 U	NA	NA	2 UJ	NA	2 UJ	2 UJ	NA	2 UJ
2-METHYLPHENOL	40400		210 U	240 U	240 U	240 U	NA	NA	220 U	NA	NA	220 U	NA	220 U	210 U	NA	210 U
2-NITROANILINE	74100		77 U	89 U	91 U	90 U	NA	NA	82 U	NA	NA	83 U	NA	83 U	80 U	NA	80 U
2-NITROPHENOL	1600		170 U	200 U	200 U	200 U	NA	NA	180 U	NA	NA	180 U	NA	180 U	180 U	NA	180 U
3&4-METHYLPHENOL			190 U	220 U	230 U	225 U	NA	NA	200 U	NA	NA	210 U	NA	210 U	200 U	NA	200 U
3,3'-DICHLOROBENZIDINE	646		120 U	130 UR	140 U	140 U	NA	NA	120 U	NA	NA	120 U	NA	120 U	120 U	NA	120 U
3-NITROANILINE	3160		97 U	110 U	110 U	110 U	NA	NA	100 U	NA	NA	100 U	NA	100 U	100 U	NA	100 U
4,6-DINITRO-2-METHYLPHENOL	144		350 U	400 U	410 U	405 U	NA	NA	370 U	NA	NA	370 U	NA	370 U	360 U	NA	360 U
4-BROMOPHENYL PHENYL ETHER			88 U	100 U	100 U	100 U	NA	NA	93 U	NA	NA	94 U	NA	94 U	90 U	NA	90 U
4-CHLORO-3-METHYLPHENOL	7950		170 U	200 U	200 U	200 U	NA	NA	180 U	NA	NA	180 U	NA	180 U	180 U	NA	180 U
4-CHLOROANILINE	1100		120 U	140 UR	140 U	140 U	NA	NA	130 U	NA	NA	130 U	NA	130 U	130 U	NA	130 U
4-CHLOROPHENYL PHENYL ETHER			80 U	92 U	95 U	93.5 U	NA	NA	86 U	NA	NA	86 U	NA	86 U	83 U	NA	83 U
4-NITROANILINE	21900		140 U	160 U	160 U	160 U	NA	NA	150 U	NA	NA	150 U	NA	150 U	140 U	NA	140 U
4-NITROPHENOL	7000		320 U	360 U	380 UJ	370 UJ	NA	NA	340 U	NA	NA	340 U	NA	340 U	330 U	NA	330 U
ACENAPHTHENE	29000		**8 J**	2 U	2 U	2 U	NA	NA	2 U	NA	NA	2 U	NA	2 U	2 U	NA	2 U
ACENAPHTHYLENE	29000		**18 J**	**3 J**	**4 J**	**3.5 J**	NA	NA	**6 J**	NA	NA	1 UJ	NA	1 UJ	1 UJ	NA	1 UJ
ACETOPHENONE	300000		180 U	210 U	220 U	215 U	NA	NA	200 U	NA	NA	200 U	NA	200 U	190 U	NA	190 U
ANTHRACENE	29000	7	**390**	**2 J**	**2 J**	**2 J**	NA	NA	**5 J**	NA	NA	**14 J**	NA	**14 J**	**8 J**	NA	**8 J**
ATRAZINE			94 U	110 U	110 U	110 U	NA	NA	100 U	NA	NA	100 U	NA	100 U	97 U	NA	97 U
BENZALDEHYDE			120 UJ	140 UJ	150 UJ	145 UJ	NA	NA	**160 J**	NA	NA	130 U	NA	130 U	**380 J**	NA	**380 J**
BENZO(A)ANTHRACENE	1100	23	**110**	**19 J**	**18 J**	**18.5 J**	NA	NA	**23**	NA	NA	**61**	NA	**61**	**33**	NA	**33**
BENZO(A)PYRENE	1100	28	**44**	**14 J**	**13 J**	**13.5 J**	NA	NA	**15 J**	NA	NA	**40**	NA	**40**	**29**	NA	**29**
BENZO(B)FLUORANTHENE	1100	51	**280**	**31**	**30**	**30.5**	NA	NA	**70**	NA	NA	**120**	NA	**120**	**55**	NA	**55**
BENZO(G,H,I)PERYLENE	1100	10	**14 J**	**8 J**	2 U	**4.5 J**	NA	NA	**8 J**	NA	NA	15 UJ	NA	15 UJ	21 UJ	NA	21 UJ

DARK SHADING - AT LEAST ONE CRITERION EXCEEDED; BOLD - DETECTED;
U - NOT DETECTED; UJ - DETECTION LIMIT APPROXIMATE; J - QUANTITATION LIMIT APPROXIMATE; R - REJECTED

TABLE E-4
ANALYTICAL RESULTS - SURFACE SOIL - ECOLOGICAL
EAST BRUNSWICK, NAS BRUNSWICK, BRUNSWICK, MAINE

SAMPLE ID			EB-SO-SS01-0012	EB-SO-SS06A-0004	EB-SO-SS06A-0004-D	EB-SO-SS06A-0004-AVG	EB-SO-SS06B-0004	EB-SO-SS06C-0004	EB-SO-SS07A-0004	EB-SO-SS07B-0004	EB-SO-SS07C-0004	EB-SO-SS08-0012	EB-SO-SS08-0012-D	EB-SO-SS08-0012-AVG	EB-SO-SS09-0012	EB-SO-SS09-0012-D	EB-SO-SS09-0012-AVG
LOCATION ID			EB-SO-SS01	EB-SO-SS06A	EB-SO-SS06A	EB-SO-SS06A	EB-SO-SS06B	EB-SO-SS06C	EB-SO-SS07A	EB-SO-SS07B	EB-SO-SS07C	EB-SO-SS08	EB-SO-SS08	EB-SO-SS08	EB-SO-SS09	EB-SO-SS09	EB-SO-SS09
SAMPLE DATE			11/11/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09
TOP DEPTH (FT)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BOTTOM DEPTH (FT)			1.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	1.0	1.0	1.0	1.0	1.0	1.0
SACODE			NORMAL	ORIG	DUP	AVG	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	DUP	AVG	ORIG	DUP	AVG
SCREENING CRITERIA	ECO SSL	BKGD															
BENZO(K)FLUORANTHENE	1100	12	**80**	**9 J**	**6 J**	**7.5 J**	NA	NA	**17 J**	NA	NA	**34**	NA	**34**	**14 J**	NA	**14 J**
BIS(2-CHLOROETHOXY)METHANE	302		99 U	110 U	120 U	115 U	NA	NA	100 U	NA	NA	100 U	NA	100 U	100 U	NA	100 U
BIS(2-CHLOROETHYL)ETHER	23700		84 U	96 U	99 U	97.5 U	NA	NA	89 U	NA	NA	89 U	NA	89 U	86 U	NA	86 U
BIS(2-CHLOROISOPROPYL)ETHER			92 U	100 U	110 U	105 U	NA	NA	98 U	NA	NA	98 U	NA	98 U	94 U	NA	94 U
BIS(2-ETHYLHEXYL)PHTHALATE	925		100 U	120 U	120 U	120 U	NA	NA	110 U	NA	NA	110 U	NA	110 U	**140 J**	NA	**140 J**
BUTYL BENZYL PHTHALATE	239		96 U	110 U	110 U	110 U	NA	NA	100 U	NA	NA	100 U	NA	100 U	99 U	NA	99 U
C5-C8+C9-C12 ALIPHATICS+C9-C10 AROMATICS+BTEX+NAPH			**6 J**	3 U	3 U	3 U	NA	NA	3 U	NA	NA	3 U	NA	3 U	**3 J**	NA	**3 J**
C9-C10 AROMATICS+BTEX+NAPH			**6 J**	3 U	3 U	3 U	NA	NA	3 U	NA	NA	3 U	NA	3 U	**3 J**	NA	**3 J**
CAPROLACTAM			150 UR	170 UR	180 UR	175 UR	NA	NA	160 UR	NA	NA	160 UR	NA	160 UR	150 UR	NA	150 UR
CARBAZOLE			**270 J**	130 U	140 U	135 U	NA	NA	120 U	NA	NA	120 U	NA	120 U	120 U	NA	120 U
CHRYSENE	1100	35	**240**	**12 J**	**10 J**	**11 J**	NA	NA	**45**	NA	NA	**110**	NA	**110**	**39**	NA	**39**
DIBENZO(A,H)ANTHRACENE	1100	6	**6 J**	**4 J**	**4 J**	**4 J**	NA	NA	**4 J**	NA	NA	**12 J**	NA	**12 J**	2 U	NA	2 U
DIBENZOFURAN	200000		82 U	94 U	96 U	95 U	NA	NA	87 U	NA	NA	87 U	NA	87 U	84 U	NA	84 U
DIETHYL PHTHALATE	100000		82 U	95 U	98 U	96.5 U	NA	NA	88 U	NA	NA	88 U	NA	88 U	85 U	NA	85 U
DIMETHYL PHTHALATE	200000		80 U	92 U	95 U	93.5 U	NA	NA	86 U	NA	NA	86 U	NA	86 U	83 U	NA	83 U
DI-N-BUTYL PHTHALATE	200000		100 U	120 U	120 U	120 U	NA	NA	110 U	NA	NA	110 U	NA	110 U	110 U	NA	110 U
DI-N-OCTYL PHTHALATE	709000		220 U	250 U	260 U	255 U	NA	NA	230 U	NA	NA	230 U	NA	230 U	220 U	NA	220 U
FLUORANTHENE	29000	62	**950**	**39**	**34**	**36.5**	NA	NA	**150**	NA	NA	**440**	NA	**440**	**65**	NA	**65**
FLUORENE	29000		**25**	4 U	4 U	4 U	NA	NA	4 U	NA	NA	**5 J**	NA	**5 J**	3 U	NA	3 U
HEXACHLOROBENZENE	199		85 U	97 U	100 U	98.5 U	NA	NA	90 U	NA	NA	90 U	NA	90 U	87 U	NA	87 U
HEXACHLOROBUTADIENE	39.8		86 U	98 U	100 U	99 U	NA	NA	91 U	NA	NA	91 U	NA	91 U	88 U	NA	88 U
HEXACHLOROCYCLOPENTADIENE	10000		85 U	97 U	100 U	98.5 U	NA	NA	90 U	NA	NA	90 U	NA	90 U	87 U	NA	87 U
HEXACHLOROETHANE	596		99 U	110 U	120 U	115 U	NA	NA	100 U	NA	NA	100 U	NA	100 U	100 U	NA	100 U
HIGH MOLECULAR WEIGHT PAHS			**2320 J**	**167 J**	**145 J**	**156 J**	NA	NA	**431 J**	NA	NA	**1160 J**	NA	**1160 J**	**342 J**	NA	**342 J**
INDENO(1,2,3-CD)PYRENE	1100	39	**31 J**	13 UJ	13 UJ	13 UJ	NA	NA	14 UJ	NA	NA	**58 J**	NA	**58 J**	**40 J**	NA	**40 J**

TABLE E-4
ANALYTICAL RESULTS - SURFACE SOIL - ECOLOGICAL
EAST BRUNSWICK, NAS BRUNSWICK, BRUNSWICK, MAINE

SAMPLE ID			EB-SO-SS01-0012	EB-SO-SS06A-0004	EB-SO-SS06A-0004-D	EB-SO-SS06A-0004-AVG	EB-SO-SS06B-0004	EB-SO-SS06C-0004	EB-SO-SS07A-0004	EB-SO-SS07B-0004	EB-SO-SS07C-0004	EB-SO-SS08-0012	EB-SO-SS08-0012-D	EB-SO-SS08-0012-AVG	EB-SO-SS09-0012	EB-SO-SS09-0012-D	EB-SO-SS09-0012-AVG
LOCATION ID			EB-SO-SS01	EB-SO-SS06A	EB-SO-SS06A	EB-SO-SS06A	EB-SO-SS06B	EB-SO-SS06C	EB-SO-SS07A	EB-SO-SS07B	EB-SO-SS07C	EB-SO-SS08	EB-SO-SS08	EB-SO-SS08	EB-SO-SS09	EB-SO-SS09	EB-SO-SS09
SAMPLE DATE			11/11/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09
TOP DEPTH (FT)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BOTTOM DEPTH (FT)			1.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	1.0	1.0	1.0	1.0	1.0	1.0
SACODE			NORMAL	ORIG	DUP	AVG	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	DUP	AVG	ORIG	DUP	AVG
SCREENING CRITERIA	ECO SSL	BKGD															
ISOPHORONE	139000		77 U	89 U	91 U	90 U	NA	NA	82 U	NA	NA	83 U	NA	83 U	80 U	NA	80 U
LOW MOLECULAR WEIGHT PAHS			**1020 J**	**25 J**	**24 J**	**24.5 J**	NA	NA	**76 J**	NA	NA	**199 J**	NA	**199 J**	**65 J**	NA	**65 J**
NAPHTHALENE	29000		**6 J**	3 U	3 U	3 U	NA	NA	3 U	NA	NA	3 U	NA	3 U	**3 J**	NA	**3 J**
NITROBENZENE	40000		94 U	110 U	110 U	110 U	NA	NA	100 U	NA	NA	100 U	NA	100 U	97 U	NA	97 U
N-NITROSO-DI-N-PROPYLAMINE	544		86 U	98 U	100 U	99 U	NA	NA	91 U	NA	NA	91 U	NA	91 U	88 U	NA	88 U
N-NITROSODIPHENYLAMINE	20000		230 U	260 U	270 U	265 U	NA	NA	240 U	NA	NA	240 U	NA	240 U	230 U	NA	230 U
PENTACHLOROPHENOL	2100		240 U	280 U	290 U	285 U	NA	NA	260 U	NA	NA	260 U	NA	260 U	250 U	NA	250 U
PHENANTHRENE	29000	32	**570**	**20 J**	**18 J**	**19 J**	NA	NA	**65**	NA	NA	**180**	NA	**180**	**54**	NA	**54**
PHENOL	20000		160 U	180 U	190 U	185 U	NA	NA	170 U	NA	NA	170 U	NA	170 U	160 U	NA	160 U
PYRENE	1100	64	**560**	**31**	**30**	**30.5**	NA	NA	**99**	NA	NA	**280**	NA	**280**	**67**	NA	**67**
TOTAL CARCINOGENIC PAHS-HALFND			**791 J**	**95.5 J**	**87.5 J**	**91.5 J**	NA	NA	**181 J**	NA	NA	**435 J**	NA	**435 J**	**211 J**	NA	**211 J**
TOTAL CARCINOGENIC PAHS-POS			**791 J**	**89 J**	**81 J**	**85 J**	NA	NA	**174 J**	NA	NA	**435 J**	NA	**435 J**	**210 J**	NA	**210 J**
TOTAL CHLORINATED VOCS			86 U	98 U	100 U	99 U	NA	NA	91 U	NA	NA	91 U	NA	91 U	88 U	NA	88 U
TOTAL PAHS			**3330 J**	**192 J**	**169 J**	**181 J**	NA	NA	**507 J**	NA	NA	**1350 J**	NA	**1350 J**	**407 J**	NA	**407 J**
HERBICIDES (UG/KG)																	
2,4,5-T	596		NA	19 U	20 U	19.5 U	NA	NA	18 U	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-TP (SILVEX)	109		NA	15 U	16 U	15.5 U	NA	NA	14 U	NA	NA	NA	NA	NA	NA	NA	NA
2,4-D	27.2		NA	39 U	40 U	39.5 U	NA	NA	36 U	NA	NA	NA	NA	NA	NA	NA	NA
2,4-DB			NA	28 U	29 U	28.5 U	NA	NA	26 U	NA	NA	NA	NA	NA	NA	NA	NA
DALAPON			NA	10 U	10 U	10 U	NA	NA	9.2 U	NA	NA	NA	NA	NA	NA	NA	NA
DICAMBA			NA	13 U	14 U	13.5 U	NA	NA	12 U	NA	NA	NA	NA	NA	NA	NA	NA
DICHLOROPROP			NA	23 U	23 U	23 U	NA	NA	21 U	NA	NA	NA	NA	NA	NA	NA	NA
DINOSEB	21.8		NA	3.1 U	3.2 U	3.15 U	NA	NA	2.9 U	NA	NA	NA	NA	NA	NA	NA	NA
MCPA			NA	2800 U	2900 U	2850 U	NA	NA	2600 U	NA	NA	NA	NA	NA	NA	NA	NA
MCPP			NA	2700 U	2700 U	2700 U	NA	NA	2500 U	NA	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)																	
ALUMINUM		19400	**6140**	NA	NA	NA	NA	NA	NA	NA	NA	**8570**	**9390**	**8980**	**6480**	**9410**	**7945**
ANTIMONY	0.27	0.04	0.09 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.06 UJ	0.07 UJ	0.065 UJ	**1.4 J**	**0.18 J**	**0.79 J**
ARSENIC	18	4.5	**2.5**	NA	NA	NA	NA	NA	NA	NA	NA	**1.5**	**1.8**	**1.65**	**12.9 J**	**2.9 J**	**7.9 J**
BARIUM	330	15.9	**14**	NA	NA	NA	NA	NA	NA	NA	NA	**11**	**11.6**	**11.3**	**115 J**	**14.7 J**	**64.85 J**
BERYLLIUM	21	0.69	**0.4 J**	NA	NA	NA	NA	NA	NA	NA	NA	**0.42 J**	**0.46 J**	**0.44 J**	**0.34 J**	**0.41 J**	**0.375 J**
CADMIUM	0.36	0.05	**0.16**	NA	NA	NA	NA	NA	NA	NA	NA	0.03 UJ	**0.05 J**	**0.0325 J**	**8.6 J**	**1.5 J**	**5.05 J**
CALCIUM		1080	**758 J**	NA	NA	NA	NA	NA	NA	NA	NA	**462 J**	**474 J**	**468 J**	**811 J**	**594 J**	**702.5 J**
CHROMIUM	26	15.3	**9.3**	NA	NA	NA	NA	NA	NA	NA	NA	**7.8**	**8**	**7.9**	**23.8 J**	**12.9 J**	**18.35 J**

DARK SHADING - AT LEAST ONE CRITERION EXCEEDED; BOLD - DETECTED;
U - NOT DETECTED; UJ - DETECTION LIMIT APPROXIMATE; J - QUANTITATION LIMIT APPROXIMATE; R - REJECTED

TABLE E-4
ANALYTICAL RESULTS - SURFACE SOIL - ECOLOGICAL
EAST BRUNSWICK, NAS BRUNSWICK, BRUNSWICK, MAINE

SAMPLE ID			EB-SO-SS01-0012	EB-SO-SS06A-0004	EB-SO-SS06A-0004-D	EB-SO-SS06A-0004-AVG	EB-SO-SS06B-0004	EB-SO-SS06C-0004	EB-SO-SS07A-0004	EB-SO-SS07B-0004	EB-SO-SS07C-0004	EB-SO-SS08-0012	EB-SO-SS08-0012-D	EB-SO-SS08-0012-AVG	EB-SO-SS09-0012	EB-SO-SS09-0012-D	EB-SO-SS09-0012-AVG
LOCATION ID			EB-SO-SS01	EB-SO-SS06A	EB-SO-SS06A	EB-SO-SS06A	EB-SO-SS06B	EB-SO-SS06C	EB-SO-SS07A	EB-SO-SS07B	EB-SO-SS07C	EB-SO-SS08	EB-SO-SS08	EB-SO-SS08	EB-SO-SS09	EB-SO-SS09	EB-SO-SS09
SAMPLE DATE			11/11/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/10/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09	11/11/09
TOP DEPTH (FT)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BOTTOM DEPTH (FT)			1.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	1.0	1.0	1.0	1.0	1.0	1.0
SACODE			NORMAL	ORIG	DUP	AVG	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	DUP	AVG	ORIG	DUP	AVG
SCREENING CRITERIA	ECO SSL	BKGD															
COBALT	13	4	**3.5**	NA	NA	NA	NA	NA	NA	NA	NA	**2.8**	**3**	**2.9**	**7.4 J**	**3.2 J**	**5.3 J**
COPPER	28	6.7	**125**	NA	NA	NA	NA	NA	NA	NA	NA	**5.8**	**6.2**	**6**	**41.3 J**	**325 J**	**183.15 J**
IRON		14400	**7660**	NA	NA	NA	NA	NA	NA	NA	NA	**7220**	**7640**	**7430**	**116000 J**	**8740 J**	**62370 J**
LEAD	11	17.5	**11**	**13.4**	**11.9**	**12.65**	**30.7**	**38.2**	**9.8**	**12.3**	**10.7**	**15.5**	**12.6**	**14.05**	**431 J**	**79.2 J**	**255.1 J**
MAGNESIUM		1953.21	**1780**	NA	NA	NA	NA	NA	NA	NA	NA	**1020**	**1060**	**1040**	**1040**	**1140**	**1090**
MANGANESE	220	267.41	**156**	NA	NA	NA	NA	NA	NA	NA	NA	**167 J**	**158 J**	**162.5 J**	**552 J**	**215 J**	**383.5 J**
MERCURY	12	0.08	0.01 U	NA	NA	NA	NA	NA	NA	NA	NA	**0.02 J**	**0.02 J**	**0.02 J**	**0.35**	**0.42**	**0.385**
NICKEL	38	9.8	**8.3**	NA	NA	NA	NA	NA	NA	NA	NA	**5.9**	**5.9**	**5.9**	**16.9 J**	**8.8**	**12.85 J**
POTASSIUM		939.94	**857**	NA	NA	NA	NA	NA	NA	NA	NA	**395**	**455**	**425**	**342**	**442**	**392**
SELENIUM	0.52		0.24 UJ	NA	NA	NA	NA	NA	NA	NA	NA	**0.49**	0.37 UJ	**0.3375 J**	**2.1**	0.49 UJ	**1.1725 J**
SILVER	4.2	0.21	**0.14 J**	NA	NA	NA	NA	NA	NA	NA	NA	0.06 U	0.06 U	0.06 U	**0.42 J**	**0.21 J**	**0.315 J**
SODIUM		52.9	**55.2 J**	NA	NA	NA	NA	NA	NA	NA	NA	**43 J**	**46.7 J**	**44.85 J**	**44 J**	**55.2 J**	**49.6 J**
THALLIUM	1.4		0.09 UJ	NA	NA	NA	NA	NA	NA	NA	NA	0.14 UJ	0.13 UJ	0.135 UJ	0.16 UJ	0.1 UJ	0.13 UJ
VANADIUM	7.8	26.3	**13.9**	NA	NA	NA	NA	NA	NA	NA	NA	**13.4**	**14.6**	**14**	**15**	**16.2**	**15.6**
ZINC	46	15.3	**55.8**	NA	NA	NA	NA	NA	NA	NA	NA	**27.4**	**30.4**	**28.9**	**4840 J**	**254 J**	**2547 J**
PCBS (UG/KG)																	
AROCLOR-1016	33000		NA	7.4 U	7.4 U	7.4 U	8.7 U	9.1 U	6.8 U	6.7 U	7.3 U	6.6 U	NA	6.6 U	NA	NA	NA
AROCLOR-1221	33000		NA	17 U	17 U	17 U	20 U	21 U	16 U	16 U	17 U	15 U	NA	15 U	NA	NA	NA
AROCLOR-1232	33000		NA	12 U	11 U	11.5 U	13 U	14 U	10 U	10 U	11 U	10 U	NA	10 U	NA	NA	NA
AROCLOR-1242	33000		NA	7.2 U	7.1 U	7.15 U	8.4 U	8.8 U	6.5 U	6.5 U	7 U	6.4 U	NA	6.4 U	NA	NA	NA
AROCLOR-1248	33000		NA	7.6 U	7.5 U	7.55 U	8.8 U	9.2 U	6.9 U	6.8 U	7.4 U	6.7 U	NA	6.7 U	NA	NA	NA
AROCLOR-1254	33000		NA	5.8 U	5.8 U	5.8 U	6.8 U	7.1 U	5.3 U	5.2 U	5.7 U	5.2 U	NA	5.2 U	NA	NA	NA
AROCLOR-1260	33000		NA	7.4 UJ	7.4 U	7.4 UJ	8.7 U	9.1 U	6.8 U	6.7 U	7.3 U	6.6 U	NA	6.6 U	NA	NA	NA
AROCLOR-1262	33000		NA	4.6 U	4.5 U	4.55 U	5.4 U	5.6 U	4.2 U	4.1 U	4.5 U	4.1 U	NA	4.1 U	NA	NA	NA
AROCLOR-1268	33000		NA	3.2 U	3.2 U	3.2 U	3.8 U	3.9 U	2.9 U	2.9 U	3.2 U	2.9 U	NA	2.9 U	NA	NA	NA
TOTAL AROCLOR	33000		NA	3.2 U	3.2 U	3.2 U	3.8 U	3.9 U	2.9 U	2.9 U	3.2 U	2.9 U	NA	2.9 U	NA	NA	NA

Notes:
ECO SSL - Ecological Soil Screening Level
BKGD - Upper Sand Background Value - 95% Upper Prediction Limit (UPL)

DARK SHADING - AT LEAST ONE CRITERION EXCEEDED; BOLD - DETECTED;
U - NOT DETECTED; UJ - DETECTION LIMIT APPROXIMATE; J - QUANTITATION LIMIT APPROXIMATE; R - REJECTED

TABLE E-5
ANALYTICAL RESULTS - BLANKS
EAST BRUNSWICK, NAS BRUNSWICK, BRUNSWICK, MAINE

SAMPLE ID	EB-SO-TBSOIL-110609	EB-SO-RB01-111109	EB-SO-RBTB111109
LOCATION ID	QC	QC	QC
SAMPLE DATE	11/06/09	11/11/09	11/11/09
TOP DEPTH (FT)			
BOTTOM DEPTH (FT)			
SACODE	NORMAL	NORMAL	NORMAL
QC TYPE	TB	RB	TB
VOLATILES (UG/L)			
1,1,1-TRICHLOROETHANE	NA	0.2 U	0.2 U
1,1,2,2-TETRACHLOROETHANE	NA	0.4 U	0.4 U
1,1,2-TRICHLOROETHANE	NA	0.3 U	0.3 U
1,1,2-TRICHLOROTRIFLUOROETHANE	NA	0.3 UJ	0.3 UJ
1,1-DICHLOROETHANE	NA	0.2 U	0.2 U
1,1-DICHLOROETHENE	NA	0.4 U	0.4 U
1,2,3-TRICHLOROBENZENE	NA	0.3 UJ	0.3 UJ
1,2,4-TRICHLOROBENZENE	NA	0.4 U	0.4 U
1,2-DIBROMO-3-CHLOROPROPANE	NA	0.5 UJ	0.5 UJ
1,2-DIBROMOETHANE	NA	0.2 U	0.2 U
1,2-DICHLOROBENZENE	NA	0.2 U	0.2 U
1,2-DICHLOROETHANE	NA	0.2 U	0.2 U
1,2-DICHLOROPROPANE	NA	0.2 U	0.2 U
1,3-DICHLOROBENZENE	NA	0.3 U	0.3 U
1,4-DICHLOROBENZENE	NA	0.2 U	0.2 U
2-BUTANONE	NA	1 U	1 U
2-HEXANONE	NA	2 U	2 U
4-METHYL-2-PENTANONE	NA	1 U	1 U
ACETONE	NA	2 U	2 U
BENZENE	NA	0.3 U	0.3 U
BROMOCHLOROMETHANE	NA	0.2 U	0.2 U
BROMODICHLOROMETHANE	NA	0.3 U	0.3 U
BROMOFORM	NA	0.2 U	0.2 U
BROMOMETHANE	NA	0.5 U	0.5 U
BTEX	NA	0.25 U	0.25 U
C5-C8+C9-C12 ALIPHATICS+C9-C10 AROMATICS+BTEX+NAPH	NA	0.25 U	0.25 U
C9-C10 AROMATICS+BTEX+NAPH	NA	0.25 U	0.25 U
CARBON DISULFIDE	NA	0.2 U	**0.5 J**
CARBON TETRACHLORIDE	NA	0.2 U	0.2 U
CHLOROBENZENE	NA	0.2 U	0.2 U
CHLORODIBROMOMETHANE	NA	0.3 U	0.3 U
CHLOROETHANE	NA	0.6 U	0.6 U
CHLOROFORM	NA	0.3 U	0.3 U
CHLOROMETHANE	NA	0.4 U	0.4 U
CIS-1,2-DICHLOROETHENE	NA	0.2 U	0.2 U
CIS-1,3-DICHLOROPROPENE	NA	0.2 U	0.2 U
CYCLOHEXANE	NA	0.3 U	0.3 U
DICHLORODIFLUOROMETHANE	NA	0.2 U	0.2 U

TABLE E-5
ANALYTICAL RESULTS - BLANKS
EAST BRUNSWICK, NAS BRUNSWICK, BRUNSWICK, MAINE

SAMPLE ID	EB-SO-TBSOIL-110609	EB-SO-RB01-111109	EB-SO-RBTB111109
LOCATION ID	QC	QC	QC
SAMPLE DATE	11/06/09	11/11/09	11/11/09
TOP DEPTH (FT)			
BOTTOM DEPTH (FT)			
SACODE	NORMAL	NORMAL	NORMAL
QC TYPE	TB	RB	TB
ETHYLBENZENE	NA	0.2 U	0.2 U
ISOPROPYLBENZENE	NA	0.2 U	0.2 U
M+P-XYLENES	NA	0.6 U	0.6 U
METHYL ACETATE	NA	0.5 U	0.5 U
METHYL CYCLOHEXANE	NA	0.3 U	0.3 U
METHYL TERT-BUTYL ETHER	NA	0.6 U	0.6 U
METHYLENE CHLORIDE	NA	1 U	1 U
O-XYLENE	NA	0.2 U	0.2 U
STYRENE	NA	0.2 U	0.2 U
TETRACHLOROETHENE	NA	0.9 U	0.9 U
TOLUENE	NA	0.3 U	0.3 U
TRANS-1,2-DICHLOROETHENE	NA	0.2 U	0.2 U
TRANS-1,3-DICHLOROPROPENE	NA	0.2 U	0.2 U
TRICHLOROETHENE	NA	0.3 U	0.3 U
TRICHLOROFLUOROMETHANE	NA	0.2 U	0.2 U
VINYL CHLORIDE	NA	0.2 U	0.2 U
TOTAL 1,2-DICHLOROETHENE	NA	0.2 U	0.2 U
TOTAL CHLORINATED ETHENES	NA	0.4 U	0.4 U
TOTAL CHLORINATED VOCS	NA	0.307 UJ	0.307 UJ
TOTAL XYLENES	NA	0.2 U	0.2 U
VOLATILES (UG/KG)			
1,1,1-TRICHLOROETHANE	250 UJ	NA	NA
1,1,2,2-TETRACHLOROETHANE	250 UJ	NA	NA
1,1,2-TRICHLOROETHANE	250 UJ	NA	NA
1,1,2-TRICHLOROTRIFLUOROETHANE	250 UJ	NA	NA
1,1-DICHLOROETHANE	250 UJ	NA	NA
1,1-DICHLOROETHENE	250 UJ	NA	NA
1,2,3-TRICHLOROBENZENE	250 UJ	NA	NA
1,2,4-TRICHLOROBENZENE	250 UJ	NA	NA
1,2-DIBROMO-3-CHLOROPROPANE	250 UJ	NA	NA
1,2-DIBROMOETHANE	250 UJ	NA	NA
1,2-DICHLOROBENZENE	250 UJ	NA	NA
1,2-DICHLOROETHANE	250 UJ	NA	NA
1,2-DICHLOROPROPANE	250 UJ	NA	NA
1,3-DICHLOROBENZENE	250 UJ	NA	NA
1,4-DICHLOROBENZENE	250 UJ	NA	NA
2-BUTANONE	1200 UJ	NA	NA
2-HEXANONE	1200 UJ	NA	NA

DARK SHADING - AT LEAST ONE CRITERION EXCEEDED; BOLD - DETECTED;
U - NOT DETECTED; UJ - DETECTION LIMIT APPROXIMATE; J - QUANTITATION LIMIT APPROXIMATE; R - REJECTED

TABLE E-5
ANALYTICAL RESULTS - BLANKS
EAST BRUNSWICK, NAS BRUNSWICK, BRUNSWICK, MAINE

SAMPLE ID	EB-SO-TBSOIL-110609	EB-SO-RB01-111109	EB-SO-RBTB111109
LOCATION ID	QC	QC	QC
SAMPLE DATE	11/06/09	11/11/09	11/11/09
TOP DEPTH (FT)			
BOTTOM DEPTH (FT)			
SACODE	NORMAL	NORMAL	NORMAL
QC TYPE	TB	RB	TB
4-METHYL-2-PENTANONE	1200 UJ	NA	NA
ACETONE	1200 UJ	NA	NA
BENZENE	250 UJ	NA	NA
BROMOCHLOROMETHANE	250 UJ	NA	NA
BROMODICHLOROMETHANE	250 UJ	NA	NA
BROMOFORM	250 UJ	NA	NA
BROMOMETHANE	250 UJ	NA	NA
BTEX	375 UJ	NA	NA
C5-C8+C9-C12 ALIPHATICS+C9-C10 AROMATICS+BTEX+NAPH	375 UJ	NA	NA
C9-C10 AROMATICS+BTEX+NAPH	375 UJ	NA	NA
CARBON DISULFIDE	250 UJ	NA	NA
CARBON TETRACHLORIDE	250 UJ	NA	NA
CHLOROBENZENE	250 UJ	NA	NA
CHLORODIBROMOMETHANE	250 UJ	NA	NA
CHLOROETHANE	250 UJ	NA	NA
CHLOROFORM	250 UJ	NA	NA
CHLOROMETHANE	250 UJ	NA	NA
CIS-1,2-DICHLOROETHENE	250 UJ	NA	NA
CIS-1,3-DICHLOROPROPENE	250 UJ	NA	NA
CYCLOHEXANE	250 UJ	NA	NA
DICHLORODIFLUOROMETHANE	250 UJ	NA	NA
ETHYLBENZENE	250 UJ	NA	NA
ISOPROPYLBENZENE	250 UJ	NA	NA
M+P-XYLENES	500 UJ	NA	NA
METHYL ACETATE	250 UJ	NA	NA
METHYL CYCLOHEXANE	250 UJ	NA	NA
METHYL TERT-BUTYL ETHER	250 UJ	NA	NA
METHYLENE CHLORIDE	1200 UJ	NA	NA
O-XYLENE	250 UJ	NA	NA
STYRENE	250 UJ	NA	NA
TETRACHLOROETHENE	250 UJ	NA	NA
TOLUENE	250 UJ	NA	NA
TRANS-1,2-DICHLOROETHENE	250 UJ	NA	NA
TRANS-1,3-DICHLOROPROPENE	250 UJ	NA	NA
TRICHLOROETHENE	250 UJ	NA	NA
TRICHLOROFLUOROMETHANE	250 UJ	NA	NA
VINYL CHLORIDE	250 UJ	NA	NA
TOTAL 1,2-DICHLOROETHENE	250 UJ	NA	NA

DARK SHADING - AT LEAST ONE CRITERION EXCEEDED; BOLD - DETECTED;
U - NOT DETECTED; UJ - DETECTION LIMIT APPROXIMATE; J - QUANTITATION LIMIT APPROXIMATE; R - REJECTED

TABLE E-5
ANALYTICAL RESULTS - BLANKS
EAST BRUNSWICK, NAS BRUNSWICK, BRUNSWICK, MAINE

SAMPLE ID	EB-SO-TBSOIL-110609	EB-SO-RB01-111109	EB-SO-RBTB111109
LOCATION ID	QC	QC	QC
SAMPLE DATE	11/06/09	11/11/09	11/11/09
TOP DEPTH (FT)			
BOTTOM DEPTH (FT)			
SACODE	NORMAL	NORMAL	NORMAL
QC TYPE	TB	RB	TB
TOTAL CHLORINATED ETHENES	250 UJ	NA	NA
TOTAL CHLORINATED VOCS	250 UJ	NA	NA
TOTAL XYLENES	750 UJ	NA	NA
SEMIVOLATILES (UG/L)			
1,1-BIPHENYL	NA	2 U	NA
1,2,4,5-TETRACHLOROBENZENE	NA	2 U	NA
1,4-DIOXANE	NA	2 U	NA
2,3,4,6-TETRACHLOROPHENOL	NA	2 U	NA
2,4,5-TRICHLOROPHENOL	NA	3 U	NA
2,4,6-TRICHLOROPHENOL	NA	2 U	NA
2,4-DICHLOROPHENOL	NA	3 U	NA
2,4-DIMETHYLPHENOL	NA	4 U	NA
2,4-DINITROPHENOL	NA	1 U	NA
2,4-DINITROTOLUENE	NA	2 U	NA
2,6-DINITROTOLUENE	NA	2 U	NA
2-CHLORONAPHTHALENE	NA	3 U	NA
2-CHLOROPHENOL	NA	3 U	NA
2-METHYLNAPHTHALENE	NA	0.07 U	NA
2-METHYLPHENOL	NA	4 U	NA
2-NITROANILINE	NA	2 U	NA
2-NITROPHENOL	NA	2 U	NA
3&4-METHYLPHENOL	NA	5 U	NA
3,3'-DICHLOROBENZIDINE	NA	1 U	NA
3-NITROANILINE	NA	1 U	NA
4,6-DINITRO-2-METHYLPHENOL	NA	2 U	NA
4-BROMOPHENYL PHENYL ETHER	NA	2 U	NA
4-CHLORO-3-METHYLPHENOL	NA	3 U	NA
4-CHLOROANILINE	NA	2 U	NA
4-CHLOROPHENYL PHENYL ETHER	NA	2 U	NA
4-NITROANILINE	NA	2 U	NA
4-NITROPHENOL	NA	2 U	NA
ACENAPHTHENE	NA	0.06 U	NA
ACENAPHTHYLENE	NA	0.05 U	NA
ACETOPHENONE	NA	4 U	NA
ANTHRACENE	NA	0.04 U	NA
ATRAZINE	NA	3 U	NA
BENZALDEHYDE	NA	0.9 UJ	NA
BENZO(A)ANTHRACENE	NA	0.04 U	NA
BENZO(A)PYRENE	NA	0.06 U	NA
BENZO(B)FLUORANTHENE	NA	0.08 U	NA
BENZO(G,H,I)PERYLENE	NA	0.06 U	NA

TABLE E-5
ANALYTICAL RESULTS - BLANKS
EAST BRUNSWICK, NAS BRUNSWICK, BRUNSWICK, MAINE

SAMPLE ID	EB-SO-TBSOIL-110609	EB-SO-RB01-111109	EB-SO-RBTB111109
LOCATION ID	QC	QC	QC
SAMPLE DATE	11/06/09	11/11/09	11/11/09
TOP DEPTH (FT)			
BOTTOM DEPTH (FT)			
SACODE	NORMAL	NORMAL	NORMAL
QC TYPE	TB	RB	TB
BENZO(K)FLUORANTHENE	NA	0.05 U	NA
BIS(2-CHLOROETHOXY)METHANE	NA	2 U	NA
BIS(2-CHLOROETHYL)ETHER	NA	2 U	NA
BIS(2-CHLOROISOPROPYL)ETHER	NA	2 U	NA
BIS(2-ETHYLHEXYL)PHTHALATE	NA	2 U	NA
BUTYL BENZYL PHTHALATE	NA	2 U	NA
C5-C8+C9-C12 ALIPHATICS+C9-C10 AROMATICS+BTEX+NAPH	NA	0.06 U	NA
C9-C10 AROMATICS+BTEX+NAPH	NA	0.06 U	NA
CAPROLACTAM	NA	0.4 U	NA
CARBAZOLE	NA	2 U	NA
CHRYSENE	NA	0.03 U	NA
DIBENZO(A,H)ANTHRACENE	NA	0.07 U	NA
DIBENZOFURAN	NA	1 U	NA
DIETHYL PHTHALATE	NA	2 U	NA
DIMETHYL PHTHALATE	NA	2 U	NA
DI-N-BUTYL PHTHALATE	NA	2 U	NA
DI-N-OCTYL PHTHALATE	NA	2 U	NA
FLUORANTHENE	NA	0.07 U	NA
FLUORENE	NA	0.06 U	NA
HEXACHLOROBENZENE	NA	2 U	NA
HEXACHLOROBUTADIENE	NA	2 U	NA
HEXACHLOROCYCLOPENTADIENE	NA	1 UJ	NA
HEXACHLOROETHANE	NA	2 U	NA
INDENO(1,2,3-CD)PYRENE	NA	**0.2 J**	NA
ISOPHORONE	NA	2 U	NA
NAPHTHALENE	NA	0.06 U	NA
NITROBENZENE	NA	3 U	NA
N-NITROSO-DI-N-PROPYLAMINE	NA	2 U	NA
N-NITROSODIPHENYLAMINE	NA	3 U	NA
PENTACHLOROPHENOL	NA	0.3 UJ	NA
PHENANTHRENE	NA	0.05 U	NA
PHENOL	NA	2 U	NA
PYRENE	NA	0.06 U	NA
TOTAL CARCINOGENIC PAHS-HALFND	NA	**0.365 J**	NA
TOTAL CARCINOGENIC PAHS-POS	NA	**0.2 J**	NA
TOTAL CHLORINATED VOCS	NA	2 U	NA
TOTAL PAHS	NA	**0.2 J**	NA
EPH MADEP (UG/L)			
C11-C22 AROMATICS	NA	95 U	NA

DARK SHADING - AT LEAST ONE CRITERION EXCEEDED; BOLD - DETECTED;
U - NOT DETECTED; UJ - DETECTION LIMIT APPROXIMATE; J - QUANTITATION LIMIT APPROXIMATE; R - REJECTED

TABLE E-5
ANALYTICAL RESULTS - BLANKS
EAST BRUNSWICK, NAS BRUNSWICK, BRUNSWICK, MAINE

SAMPLE ID	EB-SO-TBSOIL-110609	EB-SO-RB01-111109	EB-SO-RBTB111109
LOCATION ID	QC	QC	QC
SAMPLE DATE	11/06/09	11/11/09	11/11/09
TOP DEPTH (FT)			
BOTTOM DEPTH (FT)			
SACODE	NORMAL	NORMAL	NORMAL
QC TYPE	TB	RB	TB
C11-C22 AROMATICS-UNADJ	NA	95 U	NA
C19-C36 ALIPHATICS	NA	95 UJ	NA
C9-C18 ALIPHATICS	NA	95 UJ	NA
HERBICIDES (UG/L)			
2,4,5-T	NA	0.49 U	NA
2,4,5-TP (SILVEX)	NA	0.19 U	NA
2,4-D	NA	0.28 U	NA
2,4-DB	NA	0.51 U	NA
DALAPON	NA	0.31 U	NA
DICAMBA	NA	0.14 U	NA
DICHLOROPROP	NA	0.25 U	NA
DINOSEB	NA	0.21 UJ	NA
MCPA	NA	32 U	NA
MCPP	NA	48 U	NA
METALS (UG/L)			
ALUMINUM	NA	14.7 UJ	NA
ANTIMONY	NA	0.15 U	NA
ARSENIC	NA	**1.6 J**	NA
BARIUM	NA	**0.39 J**	NA
BERYLLIUM	NA	0.09 U	NA
CADMIUM	NA	0.05 U	NA
CALCIUM	NA	**57.6**	NA
CHROMIUM	NA	0.44 U	NA
COBALT	NA	0.1 U	NA
COPPER	NA	0.7 UJ	NA
IRON	NA	5.3 UJ	NA
LEAD	NA	1.02 U	NA
MAGNESIUM	NA	19.6 UJ	NA
MANGANESE	NA	0.67 U	NA
MERCURY	NA	0.02 U	NA
NICKEL	NA	0.24 U	NA
POTASSIUM	NA	95 U	NA
SELENIUM	NA	0.8 U	NA
SILVER	NA	0.79 U	NA
SODIUM	NA	24.7 UJ	NA
THALLIUM	NA	0.1 U	NA
VANADIUM	NA	5.12 U	NA
ZINC	NA	1.73 U	NA
PCBS (UG/L)			
AROCLOR-1016	NA	0.14 U	NA
AROCLOR-1221	NA	0.19 U	NA

DARK SHADING - AT LEAST ONE CRITERION EXCEEDED; BOLD - DETECTED;
U - NOT DETECTED; UJ - DETECTION LIMIT APPROXIMATE; J - QUANTITATION LIMIT APPROXIMATE; R - REJECTED

TABLE E-5
ANALYTICAL RESULTS - BLANKS
EAST BRUNSWICK, NAS BRUNSWICK, BRUNSWICK, MAINE

SAMPLE ID	EB-SO-TBSOIL-110609	EB-SO-RB01-111109	EB-SO-RBTB111109
LOCATION ID	QC	QC	QC
SAMPLE DATE	11/06/09	11/11/09	11/11/09
TOP DEPTH (FT)			
BOTTOM DEPTH (FT)			
SACODE	NORMAL	NORMAL	NORMAL
QC TYPE	TB	RB	TB
AROCLOR-1232	NA	0.085 U	NA
AROCLOR-1242	NA	0.17 U	NA
AROCLOR-1248	NA	0.19 U	NA
AROCLOR-1254	NA	0.075 U	NA
AROCLOR-1260	NA	0.16 U	NA
AROCLOR-1262	NA	0.062 U	NA
AROCLOR-1268	NA	0.068 U	NA
TOTAL AROCLOR	NA	0.062 U	NA

APPENDIX F

DATA VALIDATION MEMORANDA

TETRA TECH

INTERNAL CORRESPONDENCE

C-NAVY-12-09-3466W

Date: December 30, 2009

c: File G01074-4.10 (w/enc.-original)

To: Jane Connet (w/o enc.)

From: AF for Jennifer Cardinal (no copy)

Subject: Tier II Inorganic Data Validation, SDG CTO127-4
Katahdin Analytical Services
CTO 127, ECP Item 02, East Brunswick Remote Radio Transmitter Site, Naval Air Station Brunswick, Brunswick, Maine

Metals:

9/Soils/	EB-SO-SB01-1315	EB-SO-SB02-1719
	EB-SO-SB02A-0910	EB-SO-SB03-0709
	EB-SO-SB04-1315	EB-SO-SS08-0012
	EB-SO-SS09-0012	EB-SO-SSDUP03
	EB-SO-SSDUP04	

(Field Duplicate Pairs: EB-SO-SS09-0012/EB-SO-SSDUP03, EB-SO-SS08-0012/EB-SO-SSDUP04)

Lead:

6/Soils/	EB-SO-SS04A-0004	EB-SO-SS04B-0004
	EB-SO-SS04C-0004	EB-SO-SS05B-0004
	EB-SO-SS05C-0004	EB-SO-SS06C-0004

Tetra Tech NUS, Inc. (TtNUS) performed a Tier II data validation on the target analyte list (TAL) metals and lead analytical data for the soil samples in this SDG. The samples were collected at the East Brunswick Remote Radio Transmitter Site from November 5-11, 2009. Sample collection and analysis was performed according to the Sampling and Analysis Plan (Field Sampling Plan and Quality Assurance Project Plan for ECP Item 02, East Brunswick Remote Radio Transmitter Site, Naval Air Station Brunswick, Brunswick, Maine; October 2009).

The metal analyses were performed according to USEPA SW-846 Methods 6010/6020/7471A. The data validation was performed in accordance with the Region I EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, Part IV, November 2008.

The sample results, validation qualifiers (VQL), and qualifier codes (QLCD) are presented in the enclosed data summary tables. A list of the qualifier codes, which provide the reasons for the validation qualifiers, is enclosed.

The analytical data from this SDG were evaluated based on the following parameters:

- Data Completeness
- * Holding Times
- * ICP-MS Tune
- * ICP-MS Internal Standard Performance

- Calibration Verification
- Laboratory Blank Analyses
- * ICP Interference Check Sample Results
- Matrix Spike/Matrix Spike Duplicate Results
- * Laboratory Duplicate Results
- * Laboratory Control Sample/Laboratory Control Sample Duplicate Results
- Field Duplicate Precision
- * ICP Serial Dilution Results
- * Percent Solids
- Reporting Limits

* All quality control criteria were met for this parameter.

Data Completeness

Due to laboratory login error, the lead results were missing for samples EB-SO-SS08-0012, EB-SO-SS09-0012, EB-SO-SSDUP03, EB-SO-SSDUP04 in the original data package. On December 21, 2009 the laboratory resubmitted the Form Is for these samples to include the lead results. On December 21, 2009 the laboratory also resubmitted the run log to show the analysis of lead for these samples.

On December 17, 2009 the laboratory provided the MDLs in units of µg/L since they were not provided in the original data package.

On December 21, 2009 the laboratory resubmitted all Form Is for all samples to correct the headers for "Adjusted MDL" rather than "Adjusted IDL".

Calibration Verification

The following table summarizes the analyte that recovered above the 110% recovery QC limit in the continuing calibration verification:

Analyte	%R	Action		Affected Samples
		(+)	NDs	
Antimony	113.0	J		EB-SO-SS08-0012, EB-SO-SS09-0012, EB-SO-SSDUP03, EB-SO-SSDUP04

The recovery of antimony was above the QC limit in the continuing calibration verification; therefore, the project accuracy goals may be impacted. The positive antimony results in the affected samples are usable as estimated values which may be biased high.

Laboratory Blank Analyses

The following table summarizes the maximum levels of laboratory blank contamination and blank action levels applied to the soil samples:

Analyte	Max. Conc. (µg/L)	Action Level (mg/kg)	Affected Samples
Antimony	0.06	0.15	EB-SO-SS08-0012, EB-SO-SSDUP04
Cadmium	0.02	0.05	EB-SO-SB01-1315, EB-SO-SB02-1719, EB-SO-SB03-0709, EB-SO-SB04-1315, EB-SO-SS08-0012
Selenium	0.20	0.5	EB-SO-SB02A-0910, EB-SO-SB03-0709, EB-SO-SB04-1315, EB-SO-SSDUP03, EB-SO-SSDUP04
Thallium	0.28	0.7	EB-SO-SB01-1315, EB-SO-SB02-1719, EB-SO-SB02A-0910, EB-SO-SB03-0709, EB-SO-SB04-1315, EB-SO-SS08-0012, EB-SO-SS09-0012, EB-SO-SSDUP03, EB-SO-SSDUP04

The positive antimony, cadmium, selenium, and thallium results below the blank action level are changed to non-detected values (U) due to laboratory blank contamination.

The action levels in the table above are based on an assumption of 100 percent solids, 1 g of sample analyzed, and a dilution factor of 5. The action level for each sample is different, based on the actual percent solids, amount of soil sample analyzed, and the dilution factor.

Although antimony, cadmium, and thallium were found in the laboratory blanks, the project sensitivity goals are not impacted since the affected sample results are much lower than the project screening levels. The antimony, cadmium, and thallium results in the affected samples are usable as non-detected values at elevated reporting limits.

Selenium was found in the laboratory blanks; therefore, the project sensitivity goals may be impacted. The selenium results in the affected samples are usable as non-detected values at elevated reporting limits.

Matrix Spike/Matrix Spike Duplicate

The following table summarizes the analytes that recovered outside of the 75-125% recovery QC limits in the matrix spike/matrix spike duplicate (MS/MSD) analysis of the sample EB-SO-SB03-0709:

Analyte	MS/MSD %Recovery	Action	
		(+)	NDs
Antimony	69.9 / 69.9	J	UJ
Calcium	230.5 / 243.0	J	
Manganese	- / 132.5	J	

- Criterion met

The positive and non-detected antimony results are estimated (J, UJ) in all metals soil samples due to low MS/MSD recoveries. The positive calcium and manganese results are estimated (J) in all metals soil samples due to high MS/MSD recoveries.

The percent recovery criterion was not met for antimony and manganese; therefore, the project accuracy goals may be impacted. The positive and non-detected antimony results in all samples are usable as estimated values and estimated reporting limits which may be biased low. The positive manganese results in all samples are usable as estimated values which may be biased high.

Although the percent recovery criterion was not met for calcium, the project accuracy goals are not impacted since there are no regulatory limits established for calcium for the soil samples. The positive calcium results in all soil samples are usable as estimated values which may be biased high.

Field Duplicate Precision

The following table summarizes the analytes that recovered outside of the 50% RPD QC limit in the analysis of the field duplicate pair EB-SO-SS09-0012/EB-SO-SSDUP03:

Analyte	Sample result	Duplicate Result	RPD	Action	
	mg/kg	mg/kg		(+)	NDs
Antimony	1.4	0.18	154.4	J	
Arsenic	12.9	2.9	126.6	J	
Barium	115	14.7	154.7	J	
Cadmium	8.6	1.5	140.6	J	
Chromium	23.8	12.9	59.4	J	
Cobalt	7.4	3.2	79.2	J	
Copper	41.3	325	154.9	J	
Iron	116000	8740	172.0	J	
Lead	431	79.2	137.9	J	
Manganese	552	215	87.9	J	
Zinc	4840	254	180.0	J	

The positive antimony, arsenic, barium, cadmium, chromium, cobalt, copper, iron, lead, manganese, and zinc results are qualified as estimated (J) in field duplicate pair EB-SO-SS09-0012/EB-SO-SSDUP03 due to poor field duplicate precision. Professional judgement was used to estimate only the results for the field duplicate pair, rather than the results for all of the soil samples as provided in the data validation guidelines. Samples EB-SO-SS09-0012 and EB-SO-SSDUP03 were collected from the Small Debris Area, which contained rusted metal debris; therefore, the sample matrix of the field duplicate pair may not be representative of the matrix of the other soil samples collected. In addition, the sample results for the other field duplicate pair, EB-SO-SS08-0012/EB-SO-SSDUP04, were all within limits.

Although the results of the field duplicate analysis exceeded the QC limits for barium, the project precision goals are not impacted since the affected sample results are much lower than the project action limit. The positive barium results in samples EB-SO-SS09-0012 and EB-SO-SSDUP03 are usable as estimated values for which the bias is indeterminate.

The results of the field duplicate analysis exceeded the QC limits for antimony, arsenic, cadmium, chromium, cobalt, copper, iron, lead, manganese, and zinc; therefore, the project precision goals may be impacted. The positive antimony, arsenic, cadmium, chromium, cobalt, copper, iron, lead, manganese, and zinc results in samples EB-SO-SS09-0012 and EB-SO-SSDUP03 are usable as estimated values for which the bias is indeterminate.

Reporting Limits

The laboratory reported non-detected metals results down to the method detection limit (MDLs). The positive results below than the laboratory's QL and above the MDL are estimated (J) due to uncertainty below the QL.

All soil project screening levels were achieved by the laboratory's quantitation limits except for arsenic, selenium, silver, and vanadium for select samples. However, all project screening levels were achieved by the laboratory's reporting limits (MDLs).

As discussed in the Laboratory Blanks section, reporting limits were raised for antimony, cadmium, selenium, and thallium in select soil samples due to laboratory blank contamination. Data usability may be impacted for selenium in the affected samples.

Data Usability Assessment

The data usability assessment was performed to determine if the data met the project data quality objectives for acceptable accuracy, precision, sensitivity, and completeness; and to determine and define the impact of the exceeded quality control indicators on the technical usability of the data. Please refer to the specific sections in the above validation report for further details.

The project goals with respect to accuracy were met for the metals data set with the following exceptions. Antimony was qualified as estimated in select samples due to a high continuing calibration verification recovery; the affected results may be biased high. Antimony was qualified as estimated in all samples due to low MS/MSD recoveries; the affected results may be biased low. Manganese was qualified as estimated in all samples due to a high MSD recovery; the affected results may be biased high. Although specific method criteria were not met in these instances, the affected positive and non-detected results are usable as estimated values and estimated reporting limits which may have a minor impact on data usability. In addition, calcium was qualified as estimated in all soil samples due to high MS/MSD recoveries. Although specific method criteria were not met in this instance, data usability is not impacted and the affected positive results are usable as estimated values.

The project goals with respect to precision were met for the metals data set with the following exception. Antimony, arsenic, cadmium, chromium, cobalt, copper, iron, lead, manganese, and zinc were qualified as estimated in samples EB-SO-SS09-0012 and EB-SO-SSDUP03 due to poor field duplicate precision. Although specific method criteria were not met in this instance, the affected positive results are usable as estimated values which may have a minor impact on data usability. Additionally, barium was qualified as estimated in samples EB-SO-SS09-0012 and EB-SO-SSDUP03 due to poor field duplicate precision. Although specific method criteria were not met in this instance, data usability is not impacted and the affected positive results are usable as estimated values.

The project goals with respect to sensitivity were met for the metals data set with the following exceptions. All soil project screening levels were achieved by the laboratory's quantitation limits except for arsenic, selenium, silver, and vanadium for select samples. However, all project screening levels were achieved by the laboratory's reporting limits (MDLs). In addition, reporting limits were raised for antimony, cadmium, selenium, and thallium in select soil samples due to laboratory blank contamination. Data usability may be impacted for selenium in the affected samples.

The project goals with respect to completeness were met for the metals data set. Data usability is not impacted with regards to completeness.

Tables: Data Validation Qualifiers and Codes
Data Summary Tables

Enclosures: Data Validation Worksheets

Data Validation Qualifiers and Codes

Data Validation Qualifiers:

	=	No qualifier attached to value (positive hit)
J	=	Value is estimated
U	=	Value is not detected
UJ	=	Value is not detected and estimated
R	=	Value (positive hit) is not usable
UR	=	Value was reported as ND but is not usable

Qualifier Codes:

A	=	Lab Blank Contamination
B	=	Field Blank Contamination
C	=	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01	=	GC/MS Tuning Noncompliance
D	=	MS/MSD Recovery Noncompliance
E	=	LCS/LCSD Recovery Noncompliance
F	=	Lab Duplicate Imprecision
G	=	Field Duplicate Imprecision
H	=	Holding Time Exceedance
I	=	ICP Serial Dilution Noncompliance
J	=	GFAA PDS - GFAA MSA's $r < 0.995$
K	=	ICP Interference - includes ICS % R Noncompliance
L	=	Instrument Calibration Range Exceedance
M	=	Sample Preservation Noncompliance
N	=	Internal Standard Noncompliance
N01	=	Internal Standard Recovery Noncompliance Dioxins
N02	=	Recovery Standard Noncompliance Dioxins
N03	=	Clean-up Standard Noncompliance Dioxins
O	=	Poor Instrument Performance (e.g. base-line drifting)
P	=	Uncertainty below quantitation limit (< QL but ≥ MDL)
Q	=	Other problems (can encompass a number of issues; e.g. chromatography,interferences, etc.)
R	=	Surrogates Recovery Noncompliance
S	=	Pesticide/PCB Resolution
T	=	% Breakdown Noncompliance for DDT and Endrin
U	=	% Difference between columns/detectors >25% for positive results determined via GC/HPLC
V	=	Non-linear calibrations; correlation coefficient $r < 0.995$
W	=	EMPC result
X	=	Signal to noise response drop
Y	=	Percent solids <30%
Z	=	Uncertainty at 2 sigma deviation is greater than sample activity

PROJ_NO: 01074	NSAMPLE	EB-SO-SB01-1315			EB-SO-SB02-1719			EB-SO-SB02A-0910			EB-SO-SB03-0709		
SDG: CTO127-4	LAB_ID	SC6982-003			SC6982-005			SC6982-007			SC6982-001		
FRACTION: M	SAMP_DATE	11/5/2009			11/5/2009			11/5/2009			11/5/2009		
MEDIA: SOIL	QC_TYPE	NM			NM			NM			NM		
	UNITS	MG/KG			MG/KG			MG/KG			MG/KG		
	PCT_SOLIDS	88.0			84.9			62.5			94.9		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
ALUMINUM		4450			3580			5220			3430		
ANTIMONY		0.02	UJ	D	0.02	UJ	D	2.6	J	D	0.02	UJ	D
ARSENIC		1.1			1.6			2.9			1.2		
BARIUM		14.4			13.3			30			10.8		
BERYLLIUM		0.32	J	P	0.25	J	P	0.33	J	P	0.23	J	P
CADMIUM		0.01	UJ	AP	0.02	UJ	AP	3.6			0.02	UJ	AP
CALCIUM		827	J	D	762	J	D	4720	J	D	784	J	D
CHROMIUM		7.4			6.4			12.5			6.2		
COBALT		3.5			3.5			3.3			3		
COPPER		5.4			5.6			212			6		
IRON		7010			5730			6760			5390		
LEAD		2.2			2.3			92.5			2.4		
MAGNESIUM		1800			1550			1560			1440		
MANGANESE		100	J	D	133	J	D	124	J	D	138	J	D
MERCURY		0.01	U		0.01	U		0.84			0.01	U	
NICKEL		7.8			8			15			7.4		
POTASSIUM		1090			735			617			728		
SELENIUM		0.12	U		0.11	U		0.61	UJ	AP	0.2	UJ	AP
SILVER		0.07	U		0.06	U		0.94	J	P	0.06	U	
SODIUM		67.5	J	P	50.2	J	P	143			64.2	J	P
THALLIUM		0.11	UJ	AP	0.08	UJ	AP	0.07	UJ	AP	0.09	UJ	AP
VANADIUM		12			9.4			11.4			8.6		
ZINC		15.9			13.1			294			14.3		

PROJ_NO: 01074	NSAMPLE	EB-SO-SB04-1315			EB-SO-SS04A-0004			EB-SO-SS04B-0004			EB-SO-SS04C-0004		
SDG: CTO127-4	LAB_ID	SC6982-002			SC7107-005			SC7107-008			SC7107-007		
FRACTION: M	SAMP_DATE	11/5/2009			11/11/2009			11/11/2009			11/11/2009		
MEDIA: SOIL	QC_TYPE	NM			NM			NM			NM		
	UNITS	MG/KG			MG/KG			MG/KG			MG/KG		
	PCT_SOLIDS	91.4			84.9			85.9			80.4		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
ALUMINUM		4100											
ANTIMONY		0.02	UJ	D									
ARSENIC		1.4											
BARIUM		12.9											
BERYLLIUM		0.29	J	P									
CADMIUM		0.02	UJ	AP									
CALCIUM		808	J	D									
CHROMIUM		6.7											
COBALT		3.2											
COPPER		6.2											
IRON		6270											
LEAD		2.5			13			9.6			13.3		
MAGNESIUM		1670											
MANGANESE		134	J	D									
MERCURY		0.01	U										
NICKEL		7.5											
POTASSIUM		929											
SELENIUM		0.12	UJ	AP									
SILVER		0.05	U										
SODIUM		61.4	J	P									
THALLIUM		0.09	UJ	AP									
VANADIUM		10.9											
ZINC		14.2											

PROJ_NO: 01074	NSAMPLE	EB-SO-SS05B-0004			EB-SO-SS05C-0004			EB-SO-SS06C-0004			EB-SO-SS08-0012		
SDG: CTO127-4	LAB_ID	SC7107-006			SC7107-004			SC7107-003			SC7107-001		
FRACTION: M	SAMP_DATE	11/10/2009			11/10/2009			11/10/2009			11/11/2009		
MEDIA: SOIL	QC_TYPE	NM			NM			NM			NM		
	UNITS	MG/KG			MG/KG			MG/KG			MG/KG		
	PCT_SOLIDS	85.5			90.4			65.4			89.2		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
ALUMINUM											8570		
ANTIMONY											0.06	UJ	ACDP
ARSENIC											1.5		
BARIUM											11		
BERYLLIUM											0.42	J	P
CADMIUM											0.03	UJ	AP
CALCIUM											462	J	D
CHROMIUM											7.8		
COBALT											2.8		
COPPER											5.8		
IRON											7220		
LEAD		7.5			6.9			38.2			15.5		
MAGNESIUM											1020		
MANGANESE											167	J	D
MERCURY											0.02	J	P
NICKEL											5.9		
POTASSIUM											395		
SELENIUM											0.49		
SILVER											0.06	U	
SODIUM											43	J	P
THALLIUM											0.14	UJ	AP
VANADIUM											13.4		
ZINC											27.4		

PROJ_NO: 01074	NSAMPLE	EB-SO-SS09-0012			EB-SO-SSDUP03			EB-SO-SSDUP04		
SDG: CTO127-4	LAB_ID	SC7107-009			SC7107-010			SC7107-002		
FRACTION: M	SAMP_DATE	11/11/2009			11/11/2009			11/11/2009		
MEDIA: SOIL	QC_TYPE	NM			FD			FD		
	UNITS	MG/KG			MG/KG			MG/KG		
	PCT_SOLIDS	84.4			84.0			89.3		
	DUP_OF				EB-SO-SS09-0012			EB-SO-SS08-0012		
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
ALUMINUM		6480			9410			9390		
ANTIMONY		1.4	J	CDG	0.18	J	CDG	0.07	UJ	ACDP
ARSENIC		12.9	J	G	2.9	J	G	1.8		
BARIUM		115	J	G	14.7	J	G	11.6		
BERYLLIUM		0.34	J	P	0.41	J	P	0.46	J	P
CADMIUM		8.6	J	G	1.5	J	G	0.05	J	P
CALCIUM		811	J	D	594	J	D	474	J	D
CHROMIUM		23.8	J	G	12.9	J	G	8		
COBALT		7.4	J	G	3.2	J	G	3		
COPPER		41.3	J	G	325	J	G	6.2		
IRON		116000	J	G	8740	J	G	7640		
LEAD		431	J	G	79.2	J	G	12.6		
MAGNESIUM		1040			1140			1060		
MANGANESE		552	J	DG	215	J	DG	158	J	D
MERCURY		0.35			0.42			0.02	J	P
NICKEL		16.9	J	P	8.8			5.9		
POTASSIUM		342			442			455		
SELENIUM		2.1			0.49	UJ	AP	0.37	UJ	AP
SILVER		0.42	J	P	0.21	J	P	0.06	U	
SODIUM		44	J	P	55.2	J	P	46.7	J	P
THALLIUM		0.16	UJ	AP	0.1	UJ	AP	0.13	UJ	AP
VANADIUM		15			16.2			14.6		
ZINC		4840	J	G	254	J	G	30.4		

TETRA TECH

INTERNAL CORRESPONDENCE

C-NAVY-01-10-3484W

Date: January 13, 2010

c: File G01074-4.10 (w/enc.-original)

To: Jane Connet (w/o enc.)

From: JF for Jennifer Cardinal (no copy)

Subject: Tier II Inorganic Data Validation, SDG CTO127-5
Katahdin Analytical Services
CTO 127, ECP Item 02, East Brunswick Remote Radio Transmitter Site, Naval Air Station Brunswick, Brunswick, Maine

Metals:

5/Soils/	EB-SO-SS01-0012	EB-SO-SS01A-0012
	EB-SO-SS01B-0012	EB-SO-SS02-0012
	EB-SO-SS03-0012	
1/Rinsate Blank/	EB-SO-RB01-111109	

Lead:

8/Soils/	EB-SO-SS05A-0004	EB-SO-SS06A-0004
	EB-SO-SS06B-0004	EB-SO-SS07A-0004
	EB-SO-SS07B-0004	EB-SO-SS07C-0004
	EB-SO-SSDUP01	EB-SO-SSDUP02

(Field Duplicate Pairs: EB-SO-SS06A-0004/EB-SO-SSDUP01, EB-SO-SS05A-0004/EB-SO-SSDUP02)

Tetra Tech NUS, Inc. (TtNUS) performed a Tier II data validation on the target analyte list (TAL) metals and lead analytical data for the soil samples in this SDG. The samples were collected at the East Brunswick Remote Radio Transmitter Site from November 10-11, 2009. Sample collection and analysis was performed according to the Sampling and Analysis Plan (Field Sampling Plan and Quality Assurance Project Plan for ECP Item 02, East Brunswick Remote Radio Transmitter Site, Naval Air Station Brunswick, Brunswick, Maine; October 2009).

The metal analyses were performed according to USEPA SW-846 Methods 6010/6020/7470A/7471A. The project-specific criteria listed in the site SAP were applied for data validation of the metals data. The data validation was performed in accordance with the Region I EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, Part IV, November 2008.

The sample results, validation qualifiers (VQL), and qualifier codes (QLCD) are presented in the enclosed data summary tables. A list of the qualifier codes, which provide the reasons for the validation qualifiers, is enclosed.

The analytical data from this SDG were evaluated based on the following parameters:

- Data Completeness
- * Holding Times

* • ICP-MS Tune
* • ICP-MS Internal Standard Performance
* • Calibration Verification
• Laboratory Blank Analyses
* • ICP Interference Check Sample Results
• Matrix Spike/Matrix Spike Duplicate Results
* • Laboratory Duplicate Results
* • Laboratory Control Sample/Laboratory Control Sample Duplicate Results
* • Field Duplicate Precision
* • ICP Serial Dilution Results
* • Percent Solids
• Reporting Limits

* All quality control criteria were met for this parameter.

Data Completeness

The Form I for sample EB-SO-SS05A-0004 includes a percent solids result that is slightly off (by 0.1) due to software rounding. The data summary tables are correct per the raw data. No further action was taken.

On December 21, 2009 the laboratory resubmitted the entire metals data package to correct the following issues:

- Due to an error in sample receipt, samples to be analyzed for TAL metals were not logged in for reporting of lead. The resubmitted package included the missing lead results.
- The Form Is in the data package showed the header "Adjusted IDL" rather than "Adjusted MDL". The forms report the adjusted MDL. The resubmitted package included a revised header.
- The rinsate blank sample EB-SO-RB01-111109 was logged in for the 6010/6020 split (designation of metals to be analyzed by each method) associated with the groundwater samples rather than the 6010/6020 split associated with the soil samples. Since the sample was analyzed by both the 6010 and 6020 methods, the resubmitted package included the correct analytes by the appropriate methods for the rinsate blank associated with the soil samples.

The chain-of-custody form provided for analysis of both TAL metals and lead for the rinsate blank sample. The laboratory reported only the TAL metals results. Since TAL metals include lead, the laboratory was not asked to report an additional lead result for the rinsate blank sample.

Laboratory Blank Analyses

The rinsate blank was not used to determine blank action levels for the soil samples in this data package. The rinsate blank is used for informational purposes only.

Metals (Soils)

The following table summarizes the maximum levels of laboratory blank contamination and blank action levels applied to the soil samples:

Analyte	Max. Conc.	Action Level (mg/kg)	Affected Samples
Antimony	0.04 µg/L	0.1	EB-SO-SS01-0012, EB-SO-SS03-0012
Selenium	0.32 µg/L	0.8	EB-SO-SS01-0012, EB-SO-SS01A-0012, EB-SO-SS01B-0012, EB-SO-SS02-0012, EB-SO-SS03-0012
Thallium	0.038 mg/kg	0.19	

The positive antimony, selenium, and thallium results below the blank action level are changed to non-detected values (U) due to laboratory blank contamination.

The action levels in the table above are based on an assumption of 100 percent solids, 1 g of sample analyzed, and a dilution factor of 5. The action level for each sample is different, based on the actual percent solids, amount of soil sample analyzed, and the dilution factor.

Although antimony and thallium were found in the laboratory blanks, the project sensitivity goals are not impacted since the affected sample results are much lower than the project screening levels. The antimony and thallium results in the affected samples are usable as non-detected values at elevated reporting limits.

Selenium was found in the laboratory blanks; therefore, the project sensitivity goals may be impacted. The selenium results in the affected samples are usable as non-detected values at elevated reporting limits.

Metals (Aqueous)

The following table summarizes the maximum levels of laboratory blank contamination and blank action levels applied to the rinsate blank sample:

Analyte	Max. Conc. (µg/L)	Action Level (µg/L)	Affected Sample
Aluminum	21.99	109.95	EB-SO-RB01-111109
Copper	-1.61	8.05	
Iron	8.216	41.08	
Magnesium	15.62	78.1	
Sodium	22.13	110.65	

The positive aluminum, iron, magnesium, and sodium results below the blank action level are changed to non-detected values (U) due to laboratory blank contamination. The non-detected copper result is qualified as estimated (UJ) due to negative instrument drift as evidenced by the negative blank result.

Although aluminum, iron, magnesium, and sodium were found in the laboratory blanks, the project sensitivity goals are not impacted since there are no regulatory limits established for the rinsate blank sample. The aluminum, iron, magnesium, and sodium results in the affected sample are usable as non-detected values at elevated reporting limits.

Although negative results for copper were found in the laboratory blanks, the project accuracy goals are not impacted since there are no regulatory limits established for copper for the rinsate blank sample. The non-detected copper result in the affected sample is usable as an estimated reporting limit may be biased low.

Matrix Spike/Matrix Spike Duplicate

Metals (Soils)

The following table summarizes the analytes that recovered outside of the 75-125% recovery QC limits in the matrix spike (MS) analysis of the sample EB-SO-SS02-0004:

Analyte	MS %Recovery	Action	
		(+)	NDs
Antimony	50.6	J	
Calcium	202.9	J	

The positive antimony results are estimated (J) in all metals soil samples due to a low MS recovery. The positive calcium results are estimated (J) in all metals soil samples due to a high MS recovery.

The percent recovery criterion was not met for antimony; therefore, the project accuracy goals may be impacted. The positive antimony results in all samples are usable as estimated values which may be biased low.

Although the percent recovery criterion was not met for calcium, the project accuracy goals are not impacted since there are no regulatory limits established for calcium for the soil samples. The positive calcium results in all soil samples are usable as estimated values which may be biased high.

Reporting Limits

The laboratory reported non-detected metals results down to the method detection limit (MDLs). The positive results below than the laboratory's QL and above the MDL are estimated (J) due to uncertainty below the QL.

All soil project screening levels were achieved by the laboratory's quantitation limits except for arsenic, copper, selenium, and zinc for select samples (copper and zinc due to sample dilution). However, all project screening levels were achieved by the laboratory's reporting limits (MDLs).

As discussed in the Laboratory Blanks section, reporting limits were raised for antimony, selenium, and thallium in select soil samples due to laboratory blank contamination. Data usability may be impacted for selenium in the affected samples.

As discussed in the Laboratory Blanks section, reporting limits were raised for aluminum, iron, magnesium, and sodium in the rinsate blank sample due to laboratory blank contamination. Data usability is not impacted.

Data Usability Assessment

The data usability assessment was performed to determine if the data met the project data quality objectives for acceptable accuracy, precision, sensitivity, and completeness; and to determine and

define the impact of the exceeded quality control indicators on the technical usability of the data. Please refer to the specific sections in the above validation report for further details.

The project goals with respect to accuracy were met for the metals data set with the following exception. Antimony was qualified as estimated in all soil samples due to a low MS/ recovery; the affected results may be biased low. Although specific method criteria were not met in this instance, the affected positive results are usable as estimated values which may have a minor impact on data usability. In addition, copper was qualified as estimated in the rinsate blank sample due to negative instrument drift. Calcium was qualified as estimated in all soil samples due to a high MS recovery. Although specific method criteria were not met in these instances, data usability is not impacted and the affected positive and non-detected results are usable as estimated values and estimated reporting limits.

The project goals with respect to sensitivity were met for the metals data set with the following exceptions. All soil project screening levels were achieved by the laboratory's quantitation limits except for arsenic, copper, selenium, and zinc for select samples. However, all project screening levels were achieved by the laboratory's reporting limits (MDLs). In addition, reporting limits were raised for antimony, selenium, and thallium in select soil samples due to laboratory blank contamination. Data usability may be impacted for selenium in the affected samples.

The project goals with respect to precision and completeness were met for the metals data set. Data usability is not impacted with regards to precision and completeness.

Tables: Data Validation Qualifiers and Codes
Data Summary Tables

Enclosures: Data Validation Worksheets

Data Validation Qualifiers and Codes

Data Validation Qualifiers:

	=	No qualifier attached to value (positive hit)
J	=	Value is estimated
U	=	Value is not detected
UJ	=	Value is not detected and estimated
R	=	Value (positive hit) is not usable
UR	=	Value was reported as ND but is not usable

Qualifier Codes:

A	=	Lab Blank Contamination
B	=	Field Blank Contamination
C	=	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01	=	GC/MS Tuning Noncompliance
D	=	MS/MSD Recovery Noncompliance
E	=	LCS/LCSD Recovery Noncompliance
F	=	Lab Duplicate Imprecision
G	=	Field Duplicate Imprecision
H	=	Holding Time Exceedance
I	=	ICP Serial Dilution Noncompliance
J	=	GFAA PDS - GFAA MSA's $r < 0.995$
K	=	ICP Interference - includes ICS % R Noncompliance
L	=	Instrument Calibration Range Exceedance
M	=	Sample Preservation Noncompliance
N	=	Internal Standard Noncompliance
N01	=	Internal Standard Recovery Noncompliance Dioxins
N02	=	Recovery Standard Noncompliance Dioxins
N03	=	Clean-up Standard Noncompliance Dioxins
O	=	Poor Instrument Performance (e.g. base-line drifting)
P	=	Uncertainty below quantitation limit (< QL but ≥ MDL)
Q	=	Other problems (can encompass a number of issues; e.g. chromatography,interferences, etc.)
R	=	Surrogates Recovery Noncompliance
S	=	Pesticide/PCB Resolution
T	=	% Breakdown Noncompliance for DDT and Endrin
U	=	% Difference between columns/detectors >25% for positive results determined via GC/HPLC
V	=	Non-linear calibrations; correlation coefficient $r < 0.995$
W	=	EMPC result
X	=	Signal to noise response drop
Y	=	Percent solids <30%
Z	=	Uncertainty at 2 sigma deviation is greater than sample activity

PROJ_NO: 01074	NSAMPLE	EB-SO-SS01-0012			EB-SO-SS01A-0012			EB-SO-SS01B-0012			EB-SO-SS02-0012		
SDG: CTO127-5	LAB_ID	SC7108-002			SC7108-001			SC7108-004			SC7108-010		
FRACTION: M	SAMP_DATE	11/11/2009			11/11/2009			11/11/2009			11/11/2009		
MEDIA: SOIL	QC_TYPE	NM			NM			NM			NM		
	UNITS	MG/KG			MG/KG			MG/KG			MG/KG		
	PCT_SOLIDS	93.7			90.5			62.6			87.3		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
ALUMINUM		6140			7810			6070			9230		
ANTIMONY		0.09	UJ	ADP	0.19	J	D	10.4	J	D	0.18	J	D
ARSENIC		2.5			2.2			12.3			2.9		
BARIUM		14			9.2			40.3			13.4		
BERYLLIUM		0.4	J	P	0.4	J	P	0.39	J	P	0.5		
CADMIUM		0.16			0.06	J	P	2.3			1.5		
CALCIUM		758	J	D	657	J	D	1400	J	D	502	J	D
CHROMIUM		9.3			7.5			23.7			13.9		
COBALT		3.5			2.8			3.8			3.6		
COPPER		125			174			34600			360		
IRON		7660			6490			16700			9050		
LEAD		11			15.3			871			85.7		
MAGNESIUM		1780			1170			1130			1130		
MANGANESE		156			153			243			230		
MERCURY		0.01	U		0.02	J	P	0.15			0.08		
NICKEL		8.3			8			11.8			9		
POTASSIUM		857			488			839			422		
SELENIUM		0.24	UJ	AP	0.3	UJ	AP	0.64	UJ	AP	0.52	U	A
SILVER		0.14	J	P	0.23	J	P	15.8			0.27	J	P
SODIUM		55.2	J	P	54.5	J	P	216			47.5	J	P
THALLIUM		0.09	UJ	AP	0.1	UJ	AP	0.08	UJ	AP	0.09	UJ	AP
VANADIUM		13.9			13.4			17.9			17.3		
ZINC		55.8			47.3			3140			247		

PROJ_NO: 01074	NSAMPLE	EB-SO-SS03-0012			EB-SO-SS05A-0004			EB-SO-SS06A-0004			EB-SO-SS06B-0004		
SDG: CTO127-5	LAB_ID	SC7108-011			SC7108-012			SC7108-008			SC7108-005		
FRACTION: M	SAMP_DATE	11/11/2009			11/10/2009			11/10/2009			11/10/2009		
MEDIA: SOIL	QC_TYPE	NM			NM			NM			NM		
	UNITS	MG/KG			MG/KG			MG/KG			MG/KG		
	PCT_SOLIDS	83.4			94.7			80.2			68.4		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
ALUMINUM		10200											
ANTIMONY		0.04	UJ	ADP									
ARSENIC		2.1											
BARIUM		13											
BERYLLIUM		0.45	J	P									
CADMIUM		0.06	J	P									
CALCIUM		326	J	D									
CHROMIUM		8.2											
COBALT		2.1											
COPPER		4.2											
IRON		8540											
LEAD		9.7			24.4			13.4			30.7		
MAGNESIUM		608											
MANGANESE		230											
MERCURY		0.04											
NICKEL		3.7	J	P									
POTASSIUM		263											
SELENIUM		0.64	U	A									
SILVER		0.09	J	P									
SODIUM		37.3	J	P									
THALLIUM		0.08	UJ	AP									
VANADIUM		16.2											
ZINC		26											

PROJ_NO: 01074	NSAMPLE	EB-SO-SS07A-0004			EB-SO-SS07B-0004			EB-SO-SS07C-0004			EB-SO-SSDUP01		
SDG: CTO127-5	LAB_ID	SC7108-006			SC7108-003			SC7108-007			SC7108-009		
FRACTION: M	SAMP_DATE	11/10/2009			11/10/2009			11/10/2009			11/10/2009		
MEDIA: SOIL	QC_TYPE	NM			NM			NM			FD		
	UNITS	MG/KG			MG/KG			MG/KG			MG/KG		
	PCT_SOLIDS	87.6			89.2			80.7			79.9		
	DUP_OF										EB-SO-SS06A-0004		
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
ALUMINUM													
ANTIMONY													
ARSENIC													
BARIUM													
BERYLLIUM													
CADMIUM													
CALCIUM													
CHROMIUM													
COBALT													
COPPER													
IRON													
LEAD		9.8			12.3			10.7			11.9		
MAGNESIUM													
MANGANESE													
MERCURY													
NICKEL													
POTASSIUM													
SELENIUM													
SILVER													
SODIUM													
THALLIUM													
VANADIUM													
ZINC													

PROJ_NO: 01074	NSAMPLE	EB-SO-SSDUP02		
SDG: CTO127-5	LAB_ID	SC7108-013		
FRACTION: M	SAMP_DATE	11/10/2009		
MEDIA: SOIL	QC_TYPE	FD		
	UNITS	MG/KG		
	PCT_SOLIDS	94.9		
	DUP_OF	EB-SO-SS05A-0004		
PARAMETER		RESULT	VQL	QLCD
ALUMINUM				
ANTIMONY				
ARSENIC				
BARIUM				
BERYLLIUM				
CADMIUM				
CALCIUM				
CHROMIUM				
COBALT				
COPPER				
IRON				
LEAD		21.8		
MAGNESIUM				
MANGANESE				
MERCURY				
NICKEL				
POTASSIUM				
SELENIUM				
SILVER				
SODIUM				
THALLIUM				
VANADIUM				
ZINC				

PROJ_NO: 01074	NSAMPLE	EB-SO-RB01-111109		
SDG: CTO127-5	LAB_ID	SC7108-014		
FRACTION: M	SAMP_DATE	11/11/2009		
MEDIA: WATER	QC_TYPE	RB		
	UNITS	UG/L		
	PCT_SOLIDS			
	DUP_OF			
PARAMETER		RESULT	VQL	QLCD
ALUMINUM		14.7	UJ	AP
ANTIMONY		0.15	U	
ARSENIC		1.6	J	P
BARIUM		0.39	J	
BERYLLIUM		0.09	U	
CADMIUM		0.05	U	
CALCIUM		57.6		
CHROMIUM		0.44	U	
COBALT		0.1	U	
COPPER		0.7	UJ	O
IRON		5.3	UJ	AP
LEAD		1.02	U	
MAGNESIUM		19.6	UJ	AP
MANGANESE		0.67	U	
MERCURY		0.02	U	
NICKEL		0.24	U	
POTASSIUM		95	U	
SELENIUM		0.8	U	
SILVER		0.79	U	
SODIUM		24.7	UJ	AP
THALLIUM		0.1	U	
VANADIUM		5.12	U	
ZINC		1.73	U	

TETRA TECH

INTERNAL CORRESPONDENCE

C-NAVY-01-10-3486W

Date: January 14, 2010

c: File G01074-4.10 (w/enc.-original)

To: Jane Connet (w/o enc.)

From: AF for Jennifer Cardinal (no copy)

Subject: Tier II Inorganic Data Validation, SDG CTO127-6
Katahdin Analytical Services
CTO 127, ECP Item 02, East Brunswick Remote Radio Transmitter Site, Naval Air Station Brunswick, Brunswick, Maine

Metals:

4/Groundwaters/	EB-GW-MW01-112409	EB-GW-MW02-112409
	EB-GW-MW03-112409	EB-GW-MWDUP01-112409

(Field Duplicate Pair: EB-GW-MW02-112409/EB-GW-MWDUP01-112409)

Tetra Tech NUS, Inc. (TtNUS) performed a Tier II data validation on the target analyte list (TAL) metals analytical data for the groundwater samples in this SDG. The samples were collected at the East Brunswick Remote Radio Transmitter Site on November 24, 2009. Sample collection and analysis was performed according to the Sampling and Analysis Plan (Field Sampling Plan and Quality Assurance Project Plan for ECP Item 02, East Brunswick Remote Radio Transmitter Site, Naval Air Station Brunswick, Brunswick, Maine; October 2009).

The metal analyses were performed according to USEPA SW-846 Methods 6010/6020/7470A. The project specific criteria listed in the site SAP were applied for data validation of the metals data. The data validation was performed in accordance with the Region I EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, Part IV, November 2008.

The sample results, validation qualifiers (VQL), and qualifier codes (QLCD) are presented in the enclosed data summary tables. A list of the qualifier codes, which provide the reasons for the validation qualifiers, is enclosed.

The analytical data from this SDG were evaluated based on the following parameters:

- Data Completeness
- * Holding Times
- * ICP-MS Tune
- * ICP-MS Internal Standard Performance
- * Calibration Verification
- Laboratory Blank Analyses
- * ICP Interference Check Sample Results
- * Matrix Spike/Matrix Spike Duplicate Results
- Laboratory Duplicate Results
- * Laboratory Control Sample/Laboratory Control Sample Duplicate Results
- * Field Duplicate Precision
- * ICP Serial Dilution Results

- Reporting Limits

* All quality control criteria were met for this parameter.

Data Completeness

Select samples exceeded the 20-character limit of the laboratory's software system. Therefore, the character "E" was omitted on all forms for these samples. The data summary tables reflect the complete sample IDs.

On January 7, 2010 the laboratory submitted the mercury raw data since it was missing from the original data package.

Laboratory Blank Analyses

The following table summarizes the maximum levels of laboratory blank contamination and blank action levels applied to the samples:

Analyte	Max. Conc. (µg/L)	Action Level (µg/L)	Affected Samples
Antimony	0.05	1.25*	EB-GW-MW01-112409
Arsenic	1.89	9.44*	All samples
Cadmium	0.02	0.5*	EB-GW-MW02-112409, EB-GW-MWDUP01-112409
Chromium	0.542	2.71*	All samples
Cobalt	0.04	1.0*	EB-GW-MW02-112409, EB-GW-MW03-112409, EB-GW-MWDUP01-112409
Copper	0.96	4.8	All samples
Iron	8.96	44.8	EB-GW-MW01-112409, EB-GW-MW03-112409
Lead	0.03	0.75*	All samples
Manganese	1.21	6.05	EB-GW-MW01-112409
Nickel	0.06	1.5*	All samples
Potassium	105	523	EB-GW-MW02-112409, EB-GW-MW03-112409, EB-GW-MWDUP01-112409
Selenium	1.084	5.42*	EB-GW-MW03-112409
Silver	0.02	0.5*	EB-GW-MW02-112409
Thallium	0.17	4.25*	EB-GW-MW02-112409

*Metal is analyzed by ICP-MS at a dilution factor of 5 for all samples. Blank action level reflects the x5 dilution for all samples.

The positive antimony, arsenic, cadmium, chromium, cobalt, copper, iron, lead, manganese, nickel, potassium, selenium, silver, and thallium results below the blank action level are changed to non-detected values (U) due to laboratory blank contamination.

Although antimony, cadmium, chromium, cobalt, copper, iron, lead, manganese, nickel, potassium, selenium, silver, and thallium were found in the laboratory blanks, the project sensitivity goals are not impacted since the affected sample results are lower than the project screening levels, or there are no regulatory limits established for the metals for the groundwater samples. The antimony, cadmium,

chromium, cobalt, copper, iron, lead, manganese, nickel, potassium, selenium, silver, and thallium results in the affected samples are usable as non-detected values at elevated reporting limits.

Arsenic was found in the laboratory blanks; therefore, the project sensitivity goals may be impacted. The arsenic results in all samples are usable as non-detected values at elevated reporting limits.

Laboratory Duplicate Results

The following table summarizes the analyte outside of the 20% relative percent difference (RPD) QC limit in the laboratory duplicate analysis of sample EB-GW-MW01-112409:

Analyte	Sample Result	Duplicate Result	RPD	Action	
	µg/L	µg/L		(+)	NDs
Iron	6.44	108.1	177.5	J	

The positive iron results are estimated (J) in all samples due to poor laboratory duplicate precision.

Although the results of the field duplicate analysis exceeded the QC limits for iron, the project precision goals are not impacted since the sample results are much lower than the project screening levels. The positive iron results in all samples are usable as estimated values for which the bias is indeterminate.

Reporting Limits

The laboratory reported non-detected metals results down to the method detection limit (MDLs). The positive results below than the laboratory's QL and above the MDL are estimated (J) due to uncertainty below the QL.

All project screening levels were achieved by the laboratory's quantitation limits except for arsenic and thallium. The laboratory's reporting limit (MDL) was below the project screening level for thallium, but not for arsenic. Data usability may be impacted for arsenic.

As discussed in the Laboratory Blanks section, reporting limits were raised for antimony, arsenic, cadmium, chromium, cobalt, copper, iron, lead, manganese, nickel, potassium, selenium, silver, and thallium in select samples due to laboratory blank contamination. Data usability may be impacted for arsenic in all samples.

Data Usability Assessment

The data usability assessment was performed to determine if the data met the project data quality objectives for acceptable accuracy, precision, sensitivity, and completeness; and to determine and define the impact of the exceeded quality control indicators on the technical usability of the data. Please refer to the specific sections in the above validation report for further details.

The project goals with respect to precision were met for the metals data set. Iron was qualified as estimated in all samples due to poor laboratory duplicate precision. Although specific method criteria were not met in this instance, data usability is not impacted and the affected positive results are usable as estimated values.

The project goals with respect to sensitivity were met for the metals data set with the following exceptions. All project screening levels were achieved by the laboratory's quantitation limits except for

arsenic and thallium. The laboratory's reporting limit (MDL) was below the project screening level for thallium, but not for arsenic. Data usability may be impacted for arsenic. In addition, reporting limits were raised for antimony, arsenic, cadmium, chromium, cobalt, copper, iron, lead, manganese, nickel, potassium, selenium, silver, and thallium in select samples due to laboratory blank contamination. Data usability may be impacted for arsenic in all samples.

The project goals with respect to accuracy and completeness were met for the metals data set. Data usability is not impacted with regards to accuracy and completeness.

Tables: Data Validation Qualifiers and Codes
Data Summary Tables

Enclosures: Data Validation Worksheets

Data Validation Qualifiers and Codes

Data Validation Qualifiers:

	=	No qualifier attached to value (positive hit)
J	=	Value is estimated
U	=	Value is not detected
UJ	=	Value is not detected and estimated
R	=	Value (positive hit) is not usable
UR	=	Value was reported as ND but is not usable

Qualifier Codes:

A	=	Lab Blank Contamination
B	=	Field Blank Contamination
C	=	Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01	=	GC/MS Tuning Noncompliance
D	=	MS/MSD Recovery Noncompliance
E	=	LCS/LCSD Recovery Noncompliance
F	=	Lab Duplicate Imprecision
G	=	Field Duplicate Imprecision
H	=	Holding Time Exceedance
I	=	ICP Serial Dilution Noncompliance
J	=	GFAA PDS - GFAA MSA's $r < 0.995$
K	=	ICP Interference - includes ICS % R Noncompliance
L	=	Instrument Calibration Range Exceedance
M	=	Sample Preservation Noncompliance
N	=	Internal Standard Noncompliance
N01	=	Internal Standard Recovery Noncompliance Dioxins
N02	=	Recovery Standard Noncompliance Dioxins
N03	=	Clean-up Standard Noncompliance Dioxins
O	=	Poor Instrument Performance (e.g. base-line drifting)
P	=	Uncertainty below quantitation limit (< QL but ≥ MDL)
Q	=	Other problems (can encompass a number of issues; e.g. chromatography,interferences, etc.)
R	=	Surrogates Recovery Noncompliance
S	=	Pesticide/PCB Resolution
T	=	% Breakdown Noncompliance for DDT and Endrin
U	=	% Difference between columns/detectors >25% for positive results determined via GC/HPLC
V	=	Non-linear calibrations; correlation coefficient $r < 0.995$
W	=	EMPC result
X	=	Signal to noise response drop
Y	=	Percent solids <30%
Z	=	Uncertainty at 2 sigma deviation is greater than sample activity

PROJ_NO: 01074	NSAMPLE	EB-GW-MW01-112409			EB-GW-MW02-112409			EB-GW-MW03-112409			EB-GW-MWDUP01-112409		
SDG: CTO127-6	LAB_ID	SC7413-004			SC7413-002			SC7413-005			SC7413-003		
FRACTION: M	SAMP_DATE	11/24/2009			11/24/2009			11/24/2009			11/24/2009		
MEDIA: WATER	QC_TYPE	NM			NM			NM			FD		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS												
	DUP_OF										EB-GW-MW02-112409		
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
ALUMINUM		12.5	U		203	J	P	81.6	J	P	376		
ANTIMONY		0.21	UJ	AP	0.15	U		0.15	U		0.15	U	
ARSENIC		1.8	UJ	AP	2.3	UJ	AP	2.4	UJ	AP	2.4	UJ	AP
BARIUM		26.4			9.1			4.8	J	P	9.4		
BERYLLIUM		0.05	U		0.09	J	P	0.05	U		0.09	J	P
CADMIUM		0.05	U		0.13	UJ	AP	0.05	U		0.06	UJ	AP
CALCIUM		24300			1340			1280			1330		
CHROMIUM		1.5	UJ	AP	2	UJ	AP	0.97	UJ	AP	2.4	UJ	AP
COBALT		0.1	U		0.38	UJ	AP	0.15	UJ	AP	0.38	UJ	AP
COPPER		1.2	UJ	AP	0.8	UJ	AP	0.81	UJ	AP	1	UJ	AP
IRON		6.4	UJ	AFP	258	J	F	31	UJ	AFP	291	J	F
LEAD		0.07	UJ	AP	0.38	UJ	AP	0.32	UJ	AP	0.44	UJ	AP
MAGNESIUM		1700			348			268			368		
MANGANESE		5	UJ	AP	54.7			210			56.6		
MERCURY		0.02	U		0.02	U		0.02	U		0.02	U	
NICKEL		0.34	UJ	AP	1.1	U	A	0.71	UJ	AP	1.1	U	A
POTASSIUM		6330			486	UJ	AP	452	UJ	AP	500	UJ	AP
SELENIUM		0.8	U		0.8	U		0.86	UJ	AP	0.8	U	
SILVER		0.05	U		0.08	UJ	AP	0.05	U		0.05	U	
SODIUM		3810			1650			1540			1660		
THALLIUM		0.1	U		0.2	UJ	AP	0.1	U		0.1	U	
VANADIUM		0.91	J	P	1.8	J	P	1.4	J	P	0.96	J	P
ZINC		1.73	U		2.8	J	P	1.73	U		2.6	J	P

TETRA TECH

INTERNAL CORRESPONDENCE

C-NAVY-01-10-3481W

Date: January 12, 2010

c: File G01074-4.10 (w/enc.-original)

To: Jane Connet (w/o enc.)

From: AF for Jennifer Cardinal (no copy)

Subject: Tier II Organic Data Validation, SDG CTO127-4
Katahdin Analytical Services
CTO 127, ECP Item 02, East Brunswick Remote Radio Transmitter Site, Naval Air Station Brunswick, Brunswick, Maine

VOC:

7/Soils/	EB-SO-SB01-1315	EB-SO-SB02-1719
	EB-SO-SB03-0709	EB-SO-SB04-1315
	EB-SO-SB05-1315	EB-SO-SB06-1719
	EB-SO-SBDUP01	

(Field Duplicate Pair: EB-SO-SB01-1315/EB-SO-SBDUP01)

1/Trip Blank/	EB-SO-TBSOIL-110609

SVOC/PAH:

10/Soils/	EB-SO-SB01-1315	EB-SO-SB02-1719
	EB-SO-SB02A-0910	EB-SO-SB03-0709
	EB-SO-SB04-1315	EB-SO-SB05-1315
	EB-SO-SB06-1719	EB-SO-SS04A-0004
	EB-SO-SS08-0012	EB-SO-SS09-0012

PCB:

12/Soils/	EB-SO-SB01-1315	EB-SO-SB02-1719
	EB-SO-SB02A-0910	EB-SO-SB03-0709
	EB-SO-SB04-1315	EB-SO-SS04A-0004
	EB-SO-SS04B-0004	EB-SO-SS04C-0004
	EB-SO-SS05B-0004	EB-SO-SS05C-0004
	EB-SO-SS06C-0004	EB-SO-SS08-0012

Herbicides:

1/Soil/	EB-SO-SS04A-0004

EPH:

3/Soils/	EB-SO-SB05-1315	EB-SO-SB06-1719
	EB-SO-SBDUP02	

(Field Duplicate Pair: EB-SO-SB05-1315/EB-SO-SBDUP02)

Tetra Tech NUS, Inc. (TtNUS) performed a Tier II data validation on the volatile organic compounds (VOC), semivolatile organic compounds (SVOC), polynuclear aromatic hydrocarbons (PAH), polychlorinated biphenyls (PCB), herbicides, and extractable petroleum hydrocarbons (EPH) analytical data for the soil samples in this SDG. The samples were collected at the East Brunswick Remote Radio Transmitter Site from November 5-11, 2009. Sample collection and analysis was performed according to the Sampling and Analysis Plan (Field Sampling Plan and Quality Assurance Project Plan for ECP Item 02, East Brunswick Remote Radio Transmitter Site, Naval Air Station Brunswick, Brunswick, Maine; October 2009).

The VOC analysis was performed according to USEPA SW-846 Method 8260B. The SVOC analysis was performed according to USEPA SW-846 Method 8270C. Selected SVOCs (PAHs and pentachlorophenol) were analyzed by Method 8270C in the selective ion monitoring (SIM) mode. The PCB and herbicide analyses were performed according to USEPA SW-846 Methods 8082 and 8151, respectively. The EPH analysis was performed according to the Massachusetts Department of Environmental Protection (MADEP) method.

The VOC, SVOC, PAH, and EPH data validation was performed in accordance with the Region I EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, December 1996. The PCB and herbicides validation was performed in accordance with the Region I, EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, Part III, February 2004.

The sample results, validation qualifiers (VQL), and qualifier codes (QLCD) are presented in the enclosed data summary tables. A list of the qualifier codes, which provide the reasons for the validation qualifiers, is enclosed. The semivolatiles-SIM (PAHs and pentachlorophenol) results are provided in the data summary table with fraction identified as "PAH". The QLCD "Q" (Other problems) represents qualification due to the Naphthalene Breakthrough parameter.

The data were evaluated based on the following parameters:

- Data Completeness
- Preservation and Technical Holding Times
- * GC/MS Instrument Performance Check (Tuning)
- Initial and Continuing Calibrations
- Blanks
- Surrogate Compounds
- Internal Standards
- Matrix Spike/Matrix Spike Duplicate
- Laboratory Control Sample/Laboratory Control Sample Duplicate
- Naphthalene Breakthrough (EPH analysis)
- * Field Duplicates
- * Analyte Identification/Quantitation
- * Percent Solids
- Reporting Limits

* All criteria were met for this parameter.

Data Completeness

On December 17, 2009 the laboratory clarified that laboratory derived limits were used for the surrogate and LCS acceptance limits for all analyses for the CTO127 project. The laboratory uses nominal limits for the SVOC (full scan and SIM) samples if the samples undergo a GPC cleanup until the laboratory can establish statistically-derived limits.

Volatiles

The VOC samples were all reported from the low-level analysis using the sodium bisulfate preserved vials, but the laboratory was not provided a sodium bisulfate preserved aliquot for the trip blank, EB-SO-TBSOIL-110609. Per instructions from TtNUS, the laboratory analyzed the methanol-preserved vial for medium level analysis of the trip blank.

There was no separate vial for total solids determination for sample EB-SO-SBDUP01, and the laboratory did not know that this sample was the field duplicate of sample EB-SO-SB01-1315. Consequently, the laboratory used a default value of 100% solids to quantitate VOCs for this sample. Since the percent solids of the field duplicate pair are likely to be very similar, the TtNUS data manager recalculated the results for sample EB-SO-SBDUP01 using the 88.0% solids value of sample EB-SO-SB01-1315. The recalculated results have been entered in the data base and in the data summary tables.

On December 17, 2009 the laboratory clarified that sample EB-SO-TBSOIL-110609 was analyzed outside of holding time due to analyst error. The analyst was not aware the sample required analysis since it was a methanol trip blank and all samples were low level.

The sample ID for EB-SO-TBSOIL-110609 was transcribed incorrectly by the laboratory. On December 18, 2009 the laboratory resubmitted all affected forms with the correct sample ID.

Semivolatiles (SIM)

The SVOC-SIM laboratory control sample (LCS) recoveries for pentachlorophenol and benzo(g,h,i)perylene were below 10%, which would require rejection of the non-detected results as possible false negatives in the affected samples. To obtain usable data for these samples, TtNUS requested the laboratory to resubmit the affected sample results and associated QC data for these compounds from the SVOC-full scan analysis. The laboratory resubmitted the appropriate forms on January 8, 2010. For affected samples in which the pentachlorophenol and benzo(g,h,i)perylene results from the SIM analysis were non-detected, the TtNUS data validator replaced the SIM values with the resubmitted full scan results in the data base and in the data summary tables (Fraction: OS). The samples for which pentachlorophenol is reported from the full scan analysis are EB-SO-SS04A-0004, EB-SO-SS08-0012, and EB-SO-SS09-0012. The samples for which benzo(g,h,i)perylene is reported from the full scan analysis are EB-SO-SB02-1719, EB-SO-SB03-0709, EB-SO-SB04-1315, EB-SO-SB05-1315, and EB-SO-SB06-1719.

Preservation and Technical Holding Times

Volatiles

Sample EB-SO-TBSOIL-110609 was analyzed 8 days beyond the 14-day technical holding time criterion. The non-detected volatile compound results for these samples are estimated (JUJ) due the exceeded holding time criterion.

Although the method required holding time criterion was not met for sample EB-SO-TBSOIL-110609, the project accuracy goals are not impacted since there are no regulatory limits established for the trip blank samples. The non-detected results in sample EB-SO-TBSOIL-110609 are usable as estimated reporting limits which may be biased low.

Initial and Continuing Calibrations

Volatiles

The following table summarizes the volatile compounds that failed to meet the initial calibration (IC) criterion of %RSD <15%:

Compound	%RSD	Action		Affected Samples
		(+)	NDs	
Acetone	15.118	J		All samples except EB-SO-TBSOIL-110609
Methyl acetate	17.195		UJ	

Although the RSDs were above the QC limit for acetone and methyl acetate, the project accuracy goals are not impacted since the affected sample results are much lower than the project action limits. The positive and non-detected acetone and methyl acetate results in the affected samples are usable as estimated values and estimated reporting limits.

The following table summarizes the volatile compound that failed to meet the initial calibration verification criterion of 75 < %R < 125:

Compound	%R	Action		Affected Sample
		(+)	ND	
Dichlorodifluoromethane	73.73		UJ	EB-SO-TBSOIL-110609

Although the initial calibration verification QC criteria were not met for dichlorodifluoromethane, the project accuracy goals are not impacted since there are no regulatory limits established for the trip blank samples. The non-detected dichlorodifluoromethane result in the affected sample is usable as an estimated reporting limit which may be biased low.

Semivolatiles (Full Scan)

The following table summarizes the semivolatile (full scan) compounds that failed to meet the initial calibration (IC) criterion of %RSD <15%, or the continuing calibration (CC) criterion of %D <20% for Calibration Check Compounds (CCCs) and %D <25% for all other compounds:

Compound	%RSD	%D	Action		Affected Samples
			(+)	NDs	
Benzaldehyde	45.28	-38.42		UJ	EB-SO-SB01-1315, EB-SO-SB02-1719, EB-SO-SB02A-0910, EB-SO-SB03-0709, EB-SO-SB04-1315, EB-SO-SB05-1315, EB-SO-SB06-1719
4-Nitrophenol	22.265	-		UJ	
Atrazine	21.749	-		UJ	
2,4,5-Trichlorophenol	15.925	-		UJ	EB-SO-SS04A-0004, EB-SO-SS08-0012, EB-SO-SS09-0012

- Criterion met

Although the %Ds were above the QC limit for benzaldehyde, 4-nitrophenol, atrazine, and 2,4,5-trichlorophenol; the project accuracy goals are not impacted since the affected sample results are much lower than the project action limits. The non-detected benzaldehyde, 4-nitrophenol, atrazine, and 2,4,5-trichlorophenol results in the affected samples are usable as estimated reporting limits.

The following table summarizes the semivolatile compounds that failed to meet the initial calibration verification criterion of 80 < %R < 120% for CCCs and 75 < %R < 125 for all other compounds:

Compound	%R	Action		Affected Samples
		(+)	NDs	
Benzaldehyde	47.00, 715.42	J	UJ	EB-SO-SB01-1315, EB-SO-SB02-1719, EB-SO-SB02A-0910, EB-SO-SB03-0709, EB-SO-SB04-1315, EB-SO-SB05-1315, EB-SO-SB06-1719, EB-SO-SS09-0012
2,4,5-Trichlorophenol	49.68		UJ	EB-SO-SB01-1315, EB-SO-SB02-1719, EB-SO-SB02A-0910, EB-SO-SB03-0709, EB-SO-SB04-1315, EB-SO-SB05-1315, EB-SO-SB06-1719
Bis(2-ethylhexyl)phthalate	132.57	J		EB-SO-SS09-0012

Although the initial calibration verification QC criteria were not met for benzaldehyde, 2,4,5-trichlorophenol, and bis(2-ethylhexyl)phthalate; the project accuracy goals are not impacted since the affected sample results are much lower than the project action limits. The positive and non-detected benzaldehyde results in the affected samples are usable as estimated values and estimated reporting limits for which the bias is indeterminate. The non-detected 2,4,5-trichlorophenol results in the affected samples are usable as estimated reporting limits which may be biased low. The positive bis(2-ethylhexyl)phthalate result in the affected sample is usable as an estimated value which may be biased high.

Semivolatiles (SIM)

The following table summarizes the semivolatile (SIM) compound that failed to meet the initial calibration verification criterion of 75 < %R < 125:

Compound	%R	Action		Affected Sample
		(+)	ND	
2-Methylnaphthalene	127.43	J		EB-SO-SB02A-0910

Although the initial calibration verification QC criteria were not met for 2-methylnaphthalene, the project accuracy goals are not impacted since the affected sample result is much lower than the project action limit. The positive 2-methylnaphthalene result in the affected sample is usable as an estimated value which may be biased high.

The following table summarizes the SVOC SIM compounds that failed to meet the continuing calibration criterion of %D < 30% for CCCs and %D <25% for all other compounds:

Compound	%D	Action		Affected Samples
		(+)	ND	
2-Methylnaphthalene	57.58, 59.91	J	UJ	EB-SO-SS04A-0004, EB-SO-SS08-0012, EB-SO-SS09-0012, EB-SO-SB01-1315, EB-SO-SB02-1719, EB-SO-SB03-0709, EB-SO-SB04-1315, EB-SO-SB05-1315, EB-SO-SB06-1719, EB-SO-SB02A-0910DL2
Acenaphthylene	-28.58, -29.53		UJ	
Indeno(1,2,3-cd)pyrene	34.26	J	UJ	EB-SO-SS04A-0004, EB-SO-SS08-0012, EB-SO-SS09-0012, EB-SO-SB01-1315, EB-SO-SB02-1719, EB-SO-SB03-0709, EB-SO-SB04-1315, EB-SO-SB05-1315, EB-SO-SB06-1719
Pentachlorophenol	47.55		UJ	EB-SO-SB01-1315, EB-SO-SB02-1719, EB-SO-SB03-0709, EB-SO-SB04-1315, EB-SO-SB05-1315, EB-SO-SB06-1719
Pyrene	-37.32	J		EB-SO-SB02A-0910DL

The %D was above the QC limit for pentachlorophenol and pyrene; therefore, the project accuracy goals may be impacted. The positive and non-detected pentachlorophenol and pyrene results in the affected samples are usable as estimated values and estimated reporting limits.

Although the %D was above the QC limit for 2-methylnaphthalene, acenaphthylene, and indeno(1,2,3-cd)pyrene; the project accuracy goals are not impacted since the affected sample results are much lower than the project action limit. The positive and non-detected 2-methylnaphthalene, acenaphthylene, and indeno(1,2,3-cd)pyrene results in the affected samples are usable as estimated values and estimated reporting limits.

Blanks

Volatiles

The following table summarizes the maximum level of blank contamination detected in the method blanks and the affected samples:

Compound	Type of Blank	Max. Conc. (µg/kg)	Action Level (µg/kg)	Affected Samples
Acetone	Method	7	70	All soil samples

Blank actions are applied to the affected soil samples due to acetone method blank contamination. The 10x rule applies to acetone to calculate the action limit. The positive results below the blank action levels were changed to non-detected values (U).

Although acetone contamination was found in the method blank, the project sensitivity goals are not impacted since the affected sample results are much lower than the project action limits. The results in the affected samples are usable as non-detected values.

Semivolatiles (SIM)

The following table summarizes the maximum level of blank contamination detected in the method blanks and the affected samples:

Compound	Type of Blank	Max. Conc. (µg/kg)	Action Level (µg/kg)	Affected Samples
Benzo(g,h,i)perylene	Method	11	55	EB-SO-SS04A-0004, EB-SO-SS08-0012, EB-SO-SS09-0012, EB-SO-SB01-1315
Indeno(1,2,3-cd)pyrene	Method	5	25	EB-SO-SS04A-0004, EB-SO-SB02-1719

Blank actions are applied to the affected soil samples due to benzo(g,h,i)perylene and indeno(1,2,3-cd)pyrene method blank contamination. The 5x rule applies to benzo(g,h,i)perylene and indeno(1,2,3-cd)pyrene to calculate the action limit. The positive results below the blank action levels were changed to non-detected values (U).

Although benzo(g,h,i)perylene and indeno(1,2,3-cd)pyrene contamination was found in the method blank, the project sensitivity goals are not impacted since the affected sample results are much lower than the project action limits. The results in the affected samples are usable as non-detected values.

Surrogate Compounds

Semivolatiles (Full Scan)

The following sample had surrogate spike recoveries outside of the recovery limits:

Sample	Surrogate	% Recovery	QC Limits	Action	
				(+)	NDs
EB-SO-SB03-0709*	Nitrobenzene-d5	10	47-100		UJ
	2-Fluorobiphenyl	43	49-114		
EB-SO-SB04-1315*	Nitrobenzene-d5	7	47-100		UJ
	2-Fluorobiphenyl	35	49-114		
EB-SO-SB02-1719**	2-Fluorophenol	22	43-99		UJ
	Phenol-d6	45	53-98		
	Nitrobenzene-d5	6	47-100		
	2-Fluorobiphenyl	28	49-114		
EB-SO-SB06-1719**	2-Fluorophenol	12	43-99		UJ
	Phenol-d6	40	53-98		
	Nitrobenzene-d5	5	47-100		
	2-Fluorobiphenyl	23	49-114		
	2,4,6-Tribromophenol	37	44-111		
EB-SO-SB05-1315**	2-Fluorophenol	10	43-99		UJ
	Phenol-d6	38	53-98		
	Nitrobenzene-d5	5	47-100		
	2-Fluorobiphenyl	30	49-114		
	2,4,6-Tribromophenol	40	44-111		
EB-SO-SB01-1315*	Nitrobenzene-d5	8	47-100		UJ
	2-Fluorobiphenyl	33	49-114		

*Qualify the base/neutral compounds (all compounds except phenols) in the sample.
**Quality all compounds in the sample.

The surrogates nitrobenzene-d5, 2-fluorobiphenyl, 2-fluorobiphenyl, 2,4,6-tribromophenol, and phenol-d6 recovered below the QC limits in the samples listed in the table above. The non-detected results for all compounds, or the non-detected results for all base and neutral compounds (all compounds except phenols), as noted in the table, are estimated (UJ) in the affected samples due to low surrogate recoveries.

The surrogate recovery QC criteria were not met for nitrobenzene-d5, 2-fluorobiphenyl, 2-fluorobiphenyl, 2,4,6-tribromophenol, and phenol-d6; therefore, the project accuracy goals may be impacted. The non-detected results for the select compounds in the affected samples are usable as estimated reporting limits which may be biased low.

Internal Standards

Semivolatiles (Full Scan)

The following table summarizes the semivolatile (Full Scan) internal standard that failed to meet the acceptance criteria:

Internal Standard	IS Area	Acceptable Range	Action		Affected Samples
			(+)	NDs	
Perylene-d12	161228	238765-955060		UJ	EB-SO-SB02A-0910

The internal standard area of perylene-d12 failed to meet the acceptable range for sample EB-SO-SB02A-0910. The target compound reported in this sample associated with perylene-d12 is di-n-octylphthalate. The non-detected result for di-n-octylphthalate is estimated (UJ) in the affected sample due to poor internal standard performance.

Although the QC criteria were not met for the internal standard area of perylene-d12 for sample EB-SO-SB02A-0910, the project accuracy goals for di-n-octylphthalate are not impacted since the affected sample result is much lower than the project action limit. The non-detected di-n-octylphthalate result in the affected sample is usable as an estimated reporting limit.

Matrix Spike/Matrix Spike Duplicate

Volatiles

The following table summarizes the volatile matrix spiking recoveries and relative percent differences (RPDs) that did not meet the QC limits in the matrix spike and matrix spike duplicate (MS/MSD) analysis and the qualifications applied to the affected sample:

Affected Sample: EB-SO-SB04-1315						
Compound	MS/MSD %REC	MS/MSD RPD	QC Limits		Action	
			%REC	RPD	(+)	ND
Methyl acetate	43 / 32	34	72-133	30		UJ
Methylene chloride	- / -	41	-	30		UJ
1,4-Dichlorobenzene	- / 79	-	80-127	-		UJ
1,2,4-Trichlorobenzene	- / -	32	-	30		UJ
1,2,3-Trichlorobenzene	- / -	31	-	30		UJ

-Criterion met

Although the MS/MSD recovery criteria were not met for methyl acetate and 1,4-dichlorobenzene, the project accuracy goals are not impacted since the affected sample results are much lower than the project action limit. The non-detected methyl acetate and 1,4-dichlorobenzene results in sample EB-SO-SB04-1315 are usable as estimated reporting limits which may be biased low.

Although the MS/MSD RPD criterion was not met for methyl acetate, 1,2,4-trichlorobenzene, and 1,2,3-trichlorobenzene; the project precision goals are not impacted since the affected sample results are much lower than the project action limits. The non-detected methyl acetate, 1,2,4-trichlorobenzene, and 1,2,3-trichlorobenzene results in sample EB-SO-SB04-1315 are usable as estimated reporting limits for which the bias is indeterminate.

The MS/MSD RPD criterion was not met for methylene chloride; consequently, the project precision goals may be impacted. The non-detected methylene chloride result in sample EB-SO-SB04-1315 is usable as an estimated reporting limit for which the bias is indeterminate.

Laboratory Control Sample/Laboratory Control Sample Duplicates

Semivolatiles (Full Scan)

The following table summarizes the semivolatile (full scan) compounds that failed to meet the LCS and/or laboratory control sample duplicate (LCSD) recovery QC limits:

Compound	% Rec.	% Rec. QC Limits	Action		Affected Samples
			(+)	NDs	
Caprolactam	0, 0, 0	20-100		UR	All samples
Bis(2-ethylhexyl)phthalate	107, 109	40-100	J		EB-SO-SB02A-0910
Benzaldehyde	268	10-100	J		EB-SO-SS09-0012

Although the LCS/LCSD recovery criteria were not met for bis(2-ethylhexyl)phthalate and benzaldehyde, the project accuracy goals are not impacted since the affected sample results are much lower than the project action limits. The positive bis(2-ethylhexyl)phthalate and benzaldehyde results in the affected samples are usable as estimated values which may be biased high.

Caprolactam did not recover in the LCS/LCSD analyses; therefore, the non-detected caprolactam results in all samples are rejected (UR). These results are not usable for project decisions and the data completeness goals are impacted.

Semivolatiles (SIM)

The following table summarizes the semivolatile (SIM) compounds that failed to meet the LCS and/or LCSD recovery QC limits:

Compound	% Rec.	% Rec. QC Limits	Action		Affected Samples
			(+)	NDs	
Benzo(g,h,i)perylene	7, 8, 37	40-100	J		EB-SO-SB01-1315, EB-SO-SB02A-0910-DL, EB-SO-SS04A-0004, EB-SO-SS08-0012, EB-SO-SS09-0012
Indeno(1,2,3-cd)pyrene	106	40-100	J		EB-SO-SS04A-0004, EB-SO-SS08-0012, EB-SO-SS09-0012
Pentachlorophenol	28, 18	30-150		UJ	EB-SO-SB01-1315, EB-SO-SB02-1719, EB-SO-SB02A-0910, EB-SO-SB03-0709, EB-SO-SB04-1315, EB-SO-SB05-1315, EB-SO-SB06-1719

Although the LCSLCSD recovery criteria were not met for benzo(g,h,i)perylene and indeno(1,2,3-cd)pyrene, the project accuracy goals are not impacted since the affected sample results are much lower than the project action limits. The positive benzo(g,h,i)perylene results in the affected samples are usable as estimated values which may be biased low. The positive indeno(1,2,3-cd)pyrene results in the affected samples are usable as estimated values which may be biased high.

The LCS/LCSD recovery criteria were not met for pentachlorophenol; therefore, the project accuracy goals may be impacted. The non-detected pentachlorophenol results in the affected samples are usable as estimated reporting limits which may be biased low.

PCB

The following table summarizes the Aroclor that failed to meet the LCS recovery QC limits:

Compound	% Rec.	% Rec. QC Limits	Action		Affected Samples
			(+)	NDs	
Aroclor-1260	76 / -	78-132	J	UJ	EB-SO-SB01-1315, EB-SO-SB02-1719, EB-SO-SB02A-0910, EB-SO-SB03-0709, EB-SO-SB04-1315

-Criterion met

The LCS recovery criteria were not met for Aroclor-1260; therefore, the project accuracy goals may be impacted. The positive and non-detected Aroclor-1260 results in the affected samples are usable as estimated values and estimated reporting limits which may be biased low.

EPH

The following table summarizes the hydrocarbon range that failed to meet the LCS/LCSD RPD QC limit:

Compound	RPD	RPD QC Limits	Action		Affected Samples
			(+)	NDs	
C19-C36 Aliphatics	46	25		UJ	All samples

Although the LCS RPD criterion was not met for C19-C36 aliphatics, the project precision goals are not impacted since the affected sample results are much lower than the project action limits. The non-detected C19-C36 aliphatics results in the affected samples are usable as estimated quantitation limits for which the bias is indeterminate.

<u>Naphthalene Breakthrough</u>

EPH

The following table summarizes the naphthalene breakthrough results that failed to meet the QC limit of <5% breakthrough:

Compound	% Rec.	Affected Samples
Naphthalene	14, 7	All samples
2-Methylnaphthalene	15, 11	

The non-detected C_{11}-C_{22} aromatic (adjusted and unadjusted) hydrocarbon ranges are estimated (UJ) in all samples due to poor analytical fraction separation as evidenced by the naphthalene breakthrough results.

Although the naphthalene breakthrough criteria were not met for all samples, the project accuracy goals are not impacted since the affected sample results are much lower than the project action limits. The non-detected C_{11}-C_{22} aromatic (adjusted and unadjusted) results in the affected samples are usable as estimated quantitation limits that may be biased low.

Reporting Limits

All non-detected volatile, semivolatile, PAH, PCB, and herbicide results are reported to the method detection limit (MDL). All non-detected EPH results are reported to the quantitation limit (QL). Positive results below the QL and above the MDL are qualified as estimated (J) due to uncertainty below the QL.

Volatiles

All project action limits were achieved by the laboratory's quantitation limits for the soil samples except for 1,2-dibromo-3-chloropropane and methylene chloride. However, all project action limits were met by the laboratory's reporting limits (MDLs).

Results for acetone in select samples were changed to non-detected results due to blank contamination. As discussed above in the Blanks section, data usability is not impacted.

Semivolatiles (Full Scan)

All project action limits were achieved by the laboratory's quantitation limits for the soil samples except for 2,3,4,6-tetrachlorophenol, 2,4-dimethylphenol, 2,6-dinitrotoluene, 2-chloronaphthalene, bis(2-chloroethoxy)methane, 2-chlorophenol, 4,6-dinitro-2-methylphenol, bis(2-chloroethyl)ether, butylbenzylphthalate, hexachlorobenzene, hexachlorobutadiene, n-nitroso-di-n-propylamine, and pentachlorophenol (due to reporting of select samples from the full scan analysis). All project action limits were achieved by the reporting limits (MDLs) for the soil samples except for 2,3,4,6-tetrachlorophenol, 2,4-dimethylphenol, 2,6-dinitrotoluene, 2-chloronaphthalene, 2-chlorophenol, 4,6-dinitro-2-methylphenol, hexachlorobutadiene, n-nitroso-di-n-propylamine, and pentachlorophenol. Data usability may be impacted for these target compounds.

Semivolatiles (SIM)

All project action limits were achieved by the laboratory's quantitation limits for the soil samples except for benzo(a)pyrene, dibenzo(a,h)anthracene, and pentachlorophenol. All project action limits were achieved by the reporting limits (MDLs) for the soil samples except for pentachlorophenol in sample EB-SO-SB02A-

0910DL2 (due to dilution). Data usability may be impacted for pentachlorophenol in sample EB-SO-SB02A-0910DL2.

Results for benzo(g,h,i)perylene and indeno(1,2,3-cd)pyrene in select samples were changed to non-detected results due to blank contamination. As discussed above in the Blanks section, data usability is not impacted.

Herbicides

All project action limits were achieved by the laboratory's quantitation limits for the soil samples except for MCPA, 2,4-D, and dinoseb. All project action limits were achieved by the reporting limits (MDLs) for the soil samples except for 2,4-D. Data usability may be impacted for 2,4-D.

Data Usability Assessment

The data usability assessment was performed to determine if the data met the project data quality objectives for acceptable accuracy, precision, sensitivity, and completeness; and to determine and define the impact of the exceeded quality control indicators on the technical usability of the data. Please refer to the specific sections in the above validation report for further details.

Volatiles

The project goals with respect to accuracy were met for the volatiles data set. Sample EB-SO-TBSOIL-110609 was qualified as estimated due to a holding time exceedance. Acetone and methyl acetate were qualified as estimated in all samples except EB-SO-TBSOIL-110609 due to instrument calibration variability. Dichlorodifluoromethane was qualified as estimated in sample EB-SO-TBSOIL-110609 due to a low initial calibration verification recovery. Methyl acetate and 1,4-dichlorobenzene were qualified as estimated in sample EB-SO-SB04-1315 due to low MS/MSD recoveries. Although specific method criteria were not met in these instances, data usability is not impacted and the affected positive and non-detected results are usable as estimated values and estimated reporting limits.

The project goals with respect to precision were met for the volatiles data set with the following exception. Methylene chloride was qualified as estimated in sample EB-SO-SB04-1315 due to poor MS/MSD precision. Although specific method criteria were not met in this instance, the affected non-detected result is usable as an estimated reporting limit which may have a minor impact on data usability. Additionally, methyl acetate, 1,2,4-trichlorobenzene, and 1,2,3-trichlorobenzene were qualified as estimated in sample EB-SO-SB04-1315 due to poor MS/MSD precision. Although specific method criteria were not met in this instance, data usability is not impacted and the affected non-detected results are usable as estimated reporting limits.

The project goals with respect to sensitivity were met for the volatiles data set with the following exception. All project action limits were achieved by the laboratory's quantitation limits for the soil samples except for 1,2-dibromo-3-chloropropane and methylene chloride. However, all project action limits were met by the laboratory's reporting limits (MDLs).

The project goals with respect to completeness were met for the volatiles data set. Data usability was not impacted with regards to completeness.

Semivolatiles (Full Scan)

The project goals with respect to accuracy were met for the semivolatiles (full scan) data set with the following exception. Select compounds in several samples were qualified as estimated due to low surrogate recoveries; the affected results may be biased low. Although specific method criteria were not met in this instance, the affected non-detected results are usable as estimated reporting limits which may have a minor impact on data usability. Additionally, benzaldehyde, 4-nitrophenol, atrazine, and 2,4,5-trichlorophenol were qualified as estimated in select samples due to instrument calibration variability. Benzaldehyde, 2,4,5-trichlorophenol, and bis(2-ethylhexyl)phthalate were qualified as estimated in select samples due to poor initial calibration verification recoveries. Di-n-octylphthalate was qualified as estimated in sample EB-SO-SB02A-0910 due to poor internal standard performance. Bis(2-ethylhexyl)phthalate and benzaldehyde were qualified as estimated in select samples due to high LCS/LCSD recoveries. Although specific method criteria were not met in these instances, data usability is not impacted and the affected positive and non-detected results are usable as estimated values and estimated reporting limits.

The project goals with respect to precision were met for the semivolatiles (full scan) data set. Data usability was not impacted with regards to precision.

The project goals with respect to sensitivity were met for the semivolatiles (full scan) data set with the following exceptions. All project action limits were achieved by the laboratory's quantitation limits for the soil samples except for 2,3,4,6-tetrachlorophenol, 2,4-dimethylphenol, 2,6-dinitrotoluene, 2-chloronaphthalene, bis(2-chloroethoxy)methane, 2-chlorophenol, 4,6-dinitro-2-methylphenol, bis(2-chloroethyl)ether, butylbenzylphthalate, hexachlorobenzene, hexachlorobutadiene, n-nitroso-di-n-propylamine, and pentachlorophenol (due to reporting of select samples from the full scan analysis). All project action limits were achieved by the reporting limits (MDLs) for the soil samples except for 2,3,4,6-tetrachlorophenol, 2,4-dimethylphenol, 2,6-dinitrotoluene, 2-chloronaphthalene, 2-chlorophenol, 4,6-dinitro-2-methylphenol, hexachlorobutadiene, n-nitroso-di-n-propylamine, and pentachlorophenol. Data usability may be impacted for these target compounds.

The project goals with respect to completeness were met for the semivolatiles (full scan) data set with the following exception. Caprolactam did not recover in the LCS/LCSD analyses; therefore, the non-detected caprolactam results in all samples are rejected (UR). These results are not usable for project decisions and the data completeness goals are impacted.

Semivolatiles (SIM)

The project goals with respect to accuracy were met for the semivolatiles (SIM) data set with the following exceptions. Pentachlorophenol and pyrene were qualified as estimated in select samples due to instrument calibration variability. Pentachlorophenol was qualified as estimated in select samples due to low LCS recoveries; the affected results may be biased low. Although specific method criteria were not met in these instances, the affected positive and non-detected results are usable as estimated values and estimated reporting limits which may have a minor impact on data usability. Additionally, 2-methylnaphthalene was qualified as estimated in sample EB-SO-SB02A-0910 due to a high initial calibration verification recovery. 2-Methylnaphthalene, acenaphthylene, and indeno(1,2,3-cd)pyrene were qualified as estimated in select samples due to instrument calibration variability. Benzo(g,h,i)perylene and indeno(1,2,3-cd)pyrene were qualified as estimated in select samples due to poor LCS/LCSD recoveries.

Although specific method criteria were not met in these instances, data usability is not impacted and the affected positive and non-detected results are usable as estimated values and estimated reporting limits.

The project goals with respect to precision and completeness were met for the semivolatiles (SIM) data set. Data usability was not impacted with regards to precision and completeness.

The project goals with respect to sensitivity were met for the semivolatiles (SIM) data set with the following exception. All project action limits were achieved by the laboratory's quantitation limits for the soil samples except for benzo(a)pyrene, dibenzo(a,h)anthracene, and pentachlorophenol. All project action limits were achieved by the reporting limits (MDLs) for the soil samples except for pentachlorophenol in sample EB-SO-SB02A-0910DL2 (due to dilution). Data usability may be impacted for pentachlorophenol in sample EB-SO-SB02A-0910DL2.

PCBs

The project goals with respect to accuracy were met for the PCB data set with the following exception. Aroclor-1260 was qualified as estimated in select samples due to a low LCS recovery; the affected results may be biased low. Although specific method criteria were not met in this instance, the affected positive and non-detected results are usable as estimated values and estimated reporting limits which may have a minor impact on data usability.

The project goals with respect to precision, sensitivity, and completeness were met for the PCB data set. Data usability was not impacted with regards to precision, sensitivity, and completeness.

Herbicides

The project goals with respect to sensitivity were met for the herbicides data set with the following exceptions. All project action limits were achieved by the laboratory's quantitation limits for the soil samples except for MCPA, 2,4-D, and dinoseb. All project action limits were achieved by the reporting limits (MDLs) for the soil samples except for 2,4-D. Data usability may be impacted for 2,4-D.

The project goals with respect to accuracy and completeness were met for the herbicides data set. Data usability was not impacted with regards to accuracy and completeness.

The project goals with respect to precision were not evaluated for the herbicides data set.

EPH

The project goals with respect to accuracy were met for the EPH data set. C_{11}-C_{22} aromatic (adjusted and unadjusted) were qualified as estimated in all samples due to poor analytical fraction separation as evidenced by the naphthalene breakthrough results. Although specific method criteria were not met in this instance, data usability is not impacted and the affected non-detected results are usable as estimated quantitation limits.

The project goals with respect to precision were met for the EPH data set. C19-C36 Aliphatics were qualified as estimated in all samples due to poor LCS/LCSD precision. Although specific method criteria were not met in this instance, data usability is not impacted and the affected non-detected results are usable as estimated quantitation limits.

The project goals with respect to sensitivity and completeness were met for the EPH data set. Data usability was not impacted with regards to sensitivity and completeness.

Tables: Data Validation Qualifiers and Codes
Data Summary Tables

Enclosures: Data Validation Worksheets

Data Validation Qualifiers and Codes

Data Validation Qualifiers:

= No qualifier attached to value (positive hit)
J = Value is estimated
U = Value is not detected
UJ = Value is not detected and estimated
R = Value (positive hit) is not usable
UR = Value was reported as ND but is not usable

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (e.g. base-line drifting)
P = Uncertainty below quantitation limit (< QL but ≥ MDL)
Q = Other problems (can encompass a number of issues; e.g. chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = % Difference between columns/detectors >25% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is greater than sample activity

PROJ_NO: 01074	NSAMPLE	EB-SO-SB01-1315			EB-SO-SB02-1719			EB-SO-SB03-0709			EB-SO-SB04-1315		
SDG: CTO127-4	LAB_ID	SC6982-3			SC6982-5			SC6982-1RA			SC6982-2RA		
FRACTION: OV	SAMP_DATE	11/5/2009			11/5/2009			11/5/2009			11/5/2009		
MEDIA: SOIL	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/KG			UG/KG			UG/KG			UG/KG		
	PCT_SOLIDS	88.0			84.9			94.9			91.4		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		0.4	U		0.4	U		0.5	U		0.5	U	
1,1,2,2-TETRACHLOROETHANE		0.7	U		0.9	U		1	U		1	U	
1,1,2-TRICHLOROETHANE		0.8	U		1	U		1	U		1	U	
1,1,2-TRICHLOROTRIFLUOROETHANE		0.8	U		0.9	U		1	U		1	U	
1,1-DICHLOROETHANE		1	U		2	U		2	U		2	U	
1,1-DICHLOROETHENE		0.8	U		1	U		1	U		1	U	
1,2,3-TRICHLOROBENZENE		0.6	U		0.8	U		0.9	U		0.9	UJ	D
1,2,4-TRICHLOROBENZENE		0.7	U		0.8	U		0.9	U		0.9	UJ	D
1,2-DIBROMO-3-CHLOROPROPANE		1	U		2	U		2	U		2	U	
1,2-DIBROMOETHANE		1	U		1	U		1	U		1	U	
1,2-DICHLOROBENZENE		0.7	U		0.8	U		0.9	U		0.9	U	
1,2-DICHLOROETHANE		0.9	U		1	U		1	U		1	U	
1,2-DICHLOROPROPANE		1	U		1	U		2	U		2	U	
1,3-DICHLOROBENZENE		0.5	U		0.6	U		0.7	U		0.7	U	
1,4-DICHLOROBENZENE		0.4	U		0.5	U		0.5	U		0.5	UJ	D
2-BUTANONE		5	U		6	U		7	U		7	U	
2-HEXANONE		4	U		5	U		5	U		6	U	
4-METHYL-2-PENTANONE		5	U		6	U		7	U		7	U	
ACETONE		11	UJ	ACP	16	UJ	ACP	21	UJ	ACP	20	UJ	ACP
BENZENE		0.8	U		1	U		1	U		1	U	
BROMOCHLOROMETHANE		0.8	U		1	U		1	U		1	U	
BROMODICHLOROMETHANE		0.5	U		0.6	U		0.7	U		0.7	U	
BROMOFORM		0.6	U		0.7	U		0.8	U		0.8	U	
BROMOMETHANE		1	U		1	U		1	U		1	U	
CARBON DISULFIDE		0.8	J	P	0.8	U		0.9	U		0.9	U	
CARBON TETRACHLORIDE		1	U		1	U		1	U		2	U	
CHLOROBENZENE		0.4	U		0.5	U		0.6	U		0.6	U	
CHLORODIBROMOMETHANE		0.9	U		1	U		1	U		1	U	
CHLOROETHANE		1	U		1	U		1	U		2	U	
CHLOROFORM		0.3	U		0.4	U		0.4	U		0.4	U	
CHLOROMETHANE		1	U		1	U		2	U		2	U	
CIS-1,2-DICHLOROETHENE		0.8	U		1	U		1	U		1	U	
CIS-1,3-DICHLOROPROPENE		0.6	U		0.8	U		0.8	U		0.8	U	
CYCLOHEXANE		1	U		1	U		2	U		2	U	
DICHLORODIFLUOROMETHANE		0.8	U		1	U		1	U		1	U	

PROJ_NO: 01074	NSAMPLE	EB-SO-SB05-1315			EB-SO-SB06-1719			EB-SO-SBDUP01			EB-SO-TBSOIL-110609		
SDG: CTO127-4	LAB_ID	SC6982-9			SC6982-6			SC6982-4			SC6982-8DL		
FRACTION: OV	SAMP_DATE	11/6/2009			11/5/2009			11/5/2009			11/6/2009		
MEDIA: SOIL	QC_TYPE	NM			NM			FD			TB		
	UNITS	UG/KG			UG/KG			UG/KG			UG/KG		
	PCT_SOLIDS	96.9			88.5			88.0					
	DUP_OF							EB-SO-SB01-1315					
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		0.3	U		0.4	U		0.6	U		250	UJ	H
1,1,2,2-TETRACHLOROETHANE		0.7	U		0.8	U		1	U		250	UJ	H
1,1,2-TRICHLOROETHANE		0.8	U		0.9	U		1	U		250	UJ	H
1,1,2-TRICHLOROTRIFLUOROETHANE		0.7	U		0.8	U		1	U		250	UJ	H
1,1-DICHLOROETHANE		1	U		2	U		2	U		250	UJ	H
1,1-DICHLOROETHENE		0.7	U		0.9	U		1	U		250	UJ	H
1,2,3-TRICHLOROBENZENE		0.6	U		0.7	U		0.9	U		250	UJ	H
1,2,4-TRICHLOROBENZENE		0.6	U		0.7	U		1	U		250	UJ	H
1,2-DIBROMO-3-CHLOROPROPANE		1	U		1	U		2	U		250	UJ	H
1,2-DIBROMOETHANE		0.9	U		1	U		1	U		250	UJ	H
1,2-DICHLOROBENZENE		0.6	U		0.7	U		1	U		250	UJ	H
1,2-DICHLOROETHANE		0.8	U		0.9	U		1	U		250	UJ	H
1,2-DICHLOROPROPANE		1	U		1	U		2	U		250	UJ	H
1,3-DICHLOROBENZENE		0.5	U		0.6	U		0.8	U		250	UJ	H
1,4-DICHLOROBENZENE		0.3	U		0.4	U		0.6	U		250	UJ	H
2-BUTANONE		5	U		6	U		8	U		1200	UJ	H
2-HEXANONE		4	U		4	U		6	U		1200	UJ	H
4-METHYL-2-PENTANONE		5	U		6	U		8	U		1200	UJ	H
ACETONE		24	UJ	AC	19	UJ	ACP	20	UJ	ACP	1200	UJ	H
BENZENE		0.7	U		0.9	U		1	U		250	UJ	H
BROMOCHLOROMETHANE		0.7	U		0.8	U		1	U		250	UJ	H
BROMODICHLOROMETHANE		0.5	U		0.6	U		0.8	U		250	UJ	H
BROMOFORM		0.6	U		0.6	U		0.9	U		250	UJ	H
BROMOMETHANE		0.9	U		1	U		1	U		250	UJ	H
CARBON DISULFIDE		0.6	U		0.7	U		1	U		250	UJ	H
CARBON TETRACHLORIDE		1	U		1	U		1	U		250	UJ	H
CHLOROBENZENE		0.4	U		0.5	U		0.7	U		250	UJ	H
CHLORODIBROMOMETHANE		0.8	U		0.9	U		1	U		250	UJ	H
CHLOROETHANE		1	U		1	U		1	U		250	UJ	H
CHLOROFORM		0.3	U		0.3	U		0.5	U		250	UJ	H
CHLOROMETHANE		1	U		1	U		2	U		250	UJ	H
CIS-1,2-DICHLOROETHENE		0.7	U		0.8	U		1	U		250	UJ	H
CIS-1,3-DICHLOROPROPENE		0.6	U		0.7	U		0.9	U		250	UJ	H
CYCLOHEXANE		1	U		1	U		2	U		250	UJ	H
DICHLORODIFLUOROMETHANE		0.7	U		0.9	U		1	U		250	UJ	CH

PROJ_NO: 01074	NSAMPLE	EB-SO-SB01-1315			EB-SO-SB02-1719			EB-SO-SB03-0709			EB-SO-SB04-1315		
SDG: CTO127-4	LAB_ID	SC6982-3			SC6982-5			SC6982-1RA			SC6982-2RA		
FRACTION: OV	SAMP_DATE	11/5/2009			11/5/2009			11/5/2009			11/5/2009		
MEDIA: SOIL	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/KG			UG/KG			UG/KG			UG/KG		
	PCT_SOLIDS	88.0			84.9			94.9			91.4		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
ETHYLBENZENE		0.6	U		0.7	U		0.7	U		0.8	U	
ISOPROPYLBENZENE		0.8	U		1	U		1	U		1	U	
M+P-XYLENES		1	U		2	U		2	U		2	U	
METHYL ACETATE		2	UJ	C	3	UJ	C	3	UJ	C	3	UJ	CD
METHYL CYCLOHEXANE		0.8	U		1	U		1	U		1	U	
METHYL TERT-BUTYL ETHER		1	U		1	U		1	U		1	U	
METHYLENE CHLORIDE		7	U		8	U		9	U		9	UJ	D
O-XYLENE		1	U		1	U		1	U		2	U	
STYRENE		0.4	U		0.5	U		0.6	U		0.6	U	
TETRACHLOROETHENE		1	U		1	U		1	U		1	U	
TOLUENE		1	U		1	U		2	U		2	U	
TOTAL XYLENES		1	U		1	U		1	U		2	U	
TRANS-1,2-DICHLOROETHENE		0.6	U		0.7	U		0.8	U		0.8	U	
TRANS-1,3-DICHLOROPROPENE		0.7	U		0.9	U		1	U		1	U	
TRICHLOROETHENE		0.5	U		0.6	U		0.7	U		0.7	U	
TRICHLOROFLUOROMETHANE		0.8	U		1	U		1	U		2	J	P
VINYL CHLORIDE		0.8	U		0.9	U		1	U		1	U	

PROJ_NO: 01074	NSAMPLE	EB-SO-SB05-1315			EB-SO-SB06-1719			EB-SO-SBDUP01			EB-SO-TBSOIL-110609		
SDG: CTO127-4	LAB_ID	SC6982-9			SC6982-6			SC6982-4			SC6982-8DL		
FRACTION: OV	SAMP_DATE	11/6/2009			11/5/2009			11/5/2009			11/6/2009		
MEDIA: SOIL	QC_TYPE	NM			NM			FD			TB		
	UNITS	UG/KG			UG/KG			UG/KG			UG/KG		
	PCT_SOLIDS	96.9			88.5			88.0					
	DUP_OF							EB-SO-SB01-1315					
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
ETHYLBENZENE		0.5	U		0.6	U		0.8	U		250	UJ	H
ISOPROPYLBENZENE		0.7	U		0.9	U		1	U		250	UJ	H
M+P-XYLENES		1	U		2	U		2	U		500	UJ	H
METHYL ACETATE		2	UJ	C	2	UJ	C	3	UJ	C	250	UJ	H
METHYL CYCLOHEXANE		0.8	U		0.9	U		1	U		250	UJ	H
METHYL TERT-BUTYL ETHER		0.9	U		1	U		1	U		250	UJ	H
METHYLENE CHLORIDE		6	U		7	U		10	U		1200	UJ	H
O-XYLENE		1	U		1	U		1	U		250	UJ	H
STYRENE		0.4	U		0.5	U		0.7	U		250	UJ	H
TETRACHLOROETHENE		0.9	U		1	U		1	U		250	UJ	H
TOLUENE		1	U		1	U		2	U		250	UJ	H
TOTAL XYLENES		1	U		1	U		1	U		750	UJ	H
TRANS-1,2-DICHLOROETHENE		0.6	U		0.7	U		0.9	U		250	UJ	H
TRANS-1,3-DICHLOROPROPENE		0.7	U		0.8	U		1	U		250	UJ	H
TRICHLOROETHENE		0.5	U		0.6	U		0.8	U		250	UJ	H
TRICHLOROFLUOROMETHANE		0.7	U		0.8	U		1	U		250	UJ	H
VINYL CHLORIDE		0.7	U		0.8	U		1	U		250	UJ	H

PROJ_NO: 01074	NSAMPLE	EB-SO-SB01-1315			EB-SO-SB02-1719			EB-SO-SB02A-0910			EB-SO-SB02A-0910-DL		
SDG: CTO127-4	LAB_ID	SC6982-3			SC6982-5			SC6982-7			SC6982-7DL		
FRACTION: OS	SAMP_DATE	11/5/2009			11/5/2009			11/5/2009			11/5/2009		
MEDIA: SOIL	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/KG			UG/KG			UG/KG			UG/KG		
	PCT_SOLIDS	88.0			84.9			62.5			62.5		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1-BIPHENYL		82	UJ	R	82	UJ	R	300	J	P			
1,2,4,5-TETRACHLOROBENZENE		150	UJ	R	150	UJ	R	200	U				
1,4-DIOXANE		61	UJ	R	61	UJ	R	82	U				
2,3,4,6-TETRACHLOROPHENOL		160	U		160	UJ	R	210	U				
2,4,5-TRICHLOROPHENOL		170	UJ	C	180	UJ	CR	230	UJ	C			
2,4,6-TRICHLOROPHENOL		170	U		180	UJ	R	680					
2,4-DICHLOROPHENOL		170	U		170	UJ	R	230	U				
2,4-DIMETHYLPHENOL		190	U		190	UJ	R	250	U				
2,4-DINITROPHENOL		420	U		420	UJ	R	570	U				
2,4-DINITROTOLUENE		96	UJ	R	96	UJ	R	130	U				
2,6-DINITROTOLUENE		89	UJ	R	89	UJ	R	120	U				
2-CHLORONAPHTHALENE		98	UJ	R	98	UJ	R	130	U				
2-CHLOROPHENOL		180	U		180	UJ	R	250	U				
2-METHYLPHENOL		220	U		220	UJ	R	300	U				
2-NITROANILINE		85	UJ	R	85	UJ	R	110	U				
2-NITROPHENOL		190	U		190	UJ	R	250	U				
3&4-METHYLPHENOL		210	U		210	UJ	R				22000		
3,3'-DICHLOROBENZIDINE		130	UJ	R	130	UJ	R	170	U				
3-NITROANILINE		110	UJ	R	110	UJ	R	140	U				
4,6-DINITRO-2-METHYLPHENOL		380	U		380	UJ	R	510	U				
4-BROMOPHENYL PHENYL ETHER		96	UJ	R	96	UJ	R	130	U				
4-CHLORO-3-METHYLPHENOL		190	U		190	UJ	R	250	U				
4-CHLOROANILINE		130	UJ	R	130	UJ	R	250	J	P			
4-CHLOROPHENYL PHENYL ETHER		88	UJ	R	88	UJ	R	120	U				
4-NITROANILINE		150	UJ	R	150	UJ	R	200	U				
4-NITROPHENOL		350	UJ	C	350	UJ	CR	470	UJ	C			
ACETOPHENONE		200	UJ	R	200	UJ	R	270	U				
ATRAZINE		100	UJ	CR	100	UJ	CR	140	UJ	C			
BENZALDEHYDE		140	UJ	CR	140	UJ	CR	180	UJ	C			
BENZO(G,H,I)PERYLENE					120	UJ	R						
BIS(2-CHLOROETHOXY)METHANE		110	UJ	R	110	UJ	R	140	U				
BIS(2-CHLOROETHYL)ETHER		91	UJ	R	91	UJ	R	120	U				
BIS(2-CHLOROISOPROPYL)ETHER		100	UJ	R	100	UJ	R	130	U				
BIS(2-ETHYLHEXYL)PHTHALATE		110	UJ	R	110	UJ	R	1500	J	E			
BUTYL BENZYL PHTHALATE		100	UJ	R	100	UJ	R	140	U				

PROJ_NO: 01074	NSAMPLE	EB-SO-SB03-0709			EB-SO-SB04-1315			EB-SO-SB05-1315			EB-SO-SB06-1719		
SDG: CTO127-4	LAB_ID	SC6982-1			SC6982-2			SC6982-9			SC6982-6		
FRACTION: OS	SAMP_DATE	11/5/2009			11/5/2009			11/6/2009			11/5/2009		
MEDIA: SOIL	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/KG			UG/KG			UG/KG			UG/KG		
	PCT_SOLIDS	94.9			91.4			96.9			88.5		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1-BIPHENYL		76	UJ	R	80	UJ	R	74	UJ	R	80	UJ	R
1,2,4,5-TETRACHLOROBENZENE		140	UJ	R	150	UJ	R	140	UJ	R	150	UJ	R
1,4-DIOXANE		56	UJ	R	59	UJ	R	55	UJ	R	59	UJ	R
2,3,4,6-TETRACHLOROPHENOL		150	U		150	U		140	UJ	R	150	UJ	R
2,4,5-TRICHLOROPHENOL		160	UJ	C	170	UJ	C	160	UJ	CR	170	UJ	CR
2,4,6-TRICHLOROPHENOL		160	U		170	U		160	UJ	R	170	UJ	R
2,4-DICHLOROPHENOL		160	U		160	U		150	UJ	R	160	UJ	R
2,4-DIMETHYLPHENOL		170	U		180	U		170	UJ	R	180	UJ	R
2,4-DINITROPHENOL		390	U		410	U		380	UJ	R	410	UJ	R
2,4-DINITROTOLUENE		89	UJ	R	93	UJ	R	86	UJ	R	93	UJ	R
2,6-DINITROTOLUENE		82	UJ	R	86	UJ	R	80	UJ	R	87	UJ	R
2-CHLORONAPHTHALENE		91	UJ	R	95	UJ	R	88	UJ	R	95	UJ	R
2-CHLOROPHENOL		170	U		180	U		160	UJ	R	180	UJ	R
2-METHYLPHENOL		210	U		220	U		200	UJ	R	220	UJ	R
2-NITROANILINE		78	UJ	R	82	UJ	R	76	UJ	R	82	UJ	R
2-NITROPHENOL		170	U		180	U		170	UJ	R	180	UJ	R
3&4-METHYLPHENOL		200	U		200	U		190	UJ	R	200	UJ	R
3,3'-DICHLOROBENZIDINE		120	UJ	R	120	UJ	R	120	UJ	R	120	UJ	R
3-NITROANILINE		98	UJ	R	100	UJ	R	95	UJ	R	100	UJ	R
4,6-DINITRO-2-METHYLPHENOL		350	U		370	U		340	UJ	R	370	UJ	R
4-BROMOPHENYL PHENYL ETHER		89	UJ	R	93	UJ	R	86	UJ	R	93	UJ	R
4-CHLORO-3-METHYLPHENOL		170	U		180	U		170	UJ	R	180	UJ	R
4-CHLOROANILINE		120	UJ	R	130	UJ	R	120	UJ	R	130	UJ	R
4-CHLOROPHENYL PHENYL ETHER		81	UJ	R	85	UJ	R	79	UJ	R	86	UJ	R
4-NITROANILINE		140	UJ	R	150	UJ	R	140	UJ	R	150	UJ	R
4-NITROPHENOL		320	UJ	C	340	UJ	C	310	UJ	CR	340	UJ	CR
ACETOPHENONE		180	UJ	R	190	UJ	R	180	UJ	R	200	UJ	R
ATRAZINE		95	UJ	CR	100	UJ	CR	92	UJ	CR	100	UJ	CR
BENZALDEHYDE		120	UJ	CR	130	UJ	CR	120	UJ	CR	130	UJ	CR
BENZO(G,H,I)PERYLENE		110	UJ	R	110	UJ	R	100	UJ	R	110	UJ	R
BIS(2-CHLOROETHOXY)METHANE		100	UJ	R	100	UJ	R	97	UJ	R	100	UJ	R
BIS(2-CHLOROETHYL)ETHER		84	UJ	R	89	UJ	R	82	UJ	R	89	UJ	R
BIS(2-CHLOROISOPROPYL)ETHER		93	UJ	R	97	UJ	R	90	UJ	R	98	UJ	R
BIS(2-ETHYLHEXYL)PHTHALATE		100	UJ	R	110	UJ	R	99	UJ	R	110	UJ	R
BUTYL BENZYL PHTHALATE		97	UJ	R	100	UJ	R	94	UJ	R	100	UJ	R

PROJ_NO: 01074	NSAMPLE	EB-SO-SS04A-0004			EB-SO-SS08-0012			EB-SO-SS09-0012		
SDG: CTO127-4	LAB_ID	SC7107-5			SC7107-1			SC7107-9		
FRACTION: OS	SAMP_DATE	11/11/2009			11/11/2009			11/11/2009		
MEDIA: SOIL	QC_TYPE	NM			NM			NM		
	UNITS	UG/KG			UG/KG			UG/KG		
	PCT_SOLIDS	84.9			89.2			84.4		
	DUP_OF									
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1-BIPHENYL		84	U		80	U		77	U	
1,2,4,5-TETRACHLOROBENZENE		160	U		150	U		140	U	
1,4-DIOXANE		62	U		60	U		57	U	
2,3,4,6-TETRACHLOROPHENOL		160	U		150	U		150	U	
2,4,5-TRICHLOROPHENOL		180	UJ	C	170	UJ	C	160	UJ	C
2,4,6-TRICHLOROPHENOL		180	U		170	U		160	U	
2,4-DICHLOROPHENOL		170	U		160	U		160	U	
2,4-DIMETHYLPHENOL		190	U		180	U		180	U	
2,4-DINITROPHENOL		440	U		420	U		400	U	
2,4-DINITROTOLUENE		98	U		94	U		90	U	
2,6-DINITROTOLUENE		91	U		87	U		84	U	
2-CHLORONAPHTHALENE		100	U		96	U		92	U	
2-CHLOROPHENOL		190	U		180	U		170	U	
2-METHYLPHENOL		230	U		220	U		210	U	
2-NITROANILINE		86	U		83	U		80	U	
2-NITROPHENOL		190	U		180	U		180	U	
3&4-METHYLPHENOL		220	U		210	U		200	U	
3,3'-DICHLOROBENZIDINE		130	U		120	U		120	U	
3-NITROANILINE		110	U		100	U		100	U	
4,6-DINITRO-2-METHYLPHENOL		390	U		370	U		360	U	
4-BROMOPHENYL PHENYL ETHER		98	U		94	U		90	U	
4-CHLORO-3-METHYLPHENOL		190	U		180	U		180	U	
4-CHLOROANILINE		140	U		130	U		130	U	
4-CHLOROPHENYL PHENYL ETHER		90	U		86	U		83	U	
4-NITROANILINE		150	U		150	U		140	U	
4-NITROPHENOL		360	U		340	U		330	U	
ACETOPHENONE		200	U		200	U		190	U	
ATRAZINE		100	U		100	U		97	U	
BENZALDEHYDE		140	U		130	U		380	J	CE
BENZO(G,H,I)PERYLENE										
BIS(2-CHLOROETHOXY)METHANE		110	U		100	U		100	U	
BIS(2-CHLOROETHYL)ETHER		94	U		89	U		86	U	
BIS(2-CHLOROISOPROPYL)ETHER		100	U		98	U		94	U	
BIS(2-ETHYLHEXYL)PHTHALATE		110	U		110	U		140	J	CP
BUTYL BENZYL PHTHALATE		110	U		100	U		99	U	

PROJ_NO: 01074	NSAMPLE	EB-SO-SB01-1315			EB-SO-SB02-1719			EB-SO-SB02A-0910			EB-SO-SB02A-0910-DL		
SDG: CTO127-4	LAB_ID	SC6982-3			SC6982-5			SC6982-7			SC6982-7DL		
FRACTION: OS	SAMP_DATE	11/5/2009			11/5/2009			11/5/2009			11/5/2009		
MEDIA: SOIL	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/KG			UG/KG			UG/KG			UG/KG		
	PCT_SOLIDS	88.0			84.9			62.5			62.5		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
CAPROLACTAM		160	UR	E	160	UR	E	220	UR	E			
CARBAZOLE		120	UJ	R	120	UJ	R	740					
DIBENZOFURAN		89	UJ	R	89	UJ	R	580					
DIETHYL PHTHALATE		90	UJ	R	90	UJ	R	120	U				
DIMETHYL PHTHALATE		88	UJ	R	88	UJ	R	120	U				
DI-N-BUTYL PHTHALATE		110	UJ	R	110	UJ	R	150	U				
DI-N-OCTYL PHTHALATE		240	UJ	R	240	UJ	R	320	UJ	N			
HEXACHLOROBENZENE		92	UJ	R	93	UJ	R	120	U				
HEXACHLOROBUTADIENE		94	UJ	R	94	UJ	R	120	U				
HEXACHLOROCYCLOPENTADIENE		92	UJ	R	93	UJ	R	120	U				
HEXACHLOROETHANE		110	UJ	R	110	UJ	R	140	U				
ISOPHORONE		85	UJ	R	85	UJ	R	110	U				
NITROBENZENE		100	UJ	R	100	UJ	R	140	U				
N-NITROSO-DI-N-PROPYLAMINE		94	UJ	R	94	UJ	R	120	U				
N-NITROSODIPHENYLAMINE		250	UJ	R	250	UJ	R	330	U				
PENTACHLOROPHENOL													
PHENOL		180	U		180	UJ	R	240	U				

PROJ_NO: 01074	NSAMPLE	EB-SO-SB03-0709			EB-SO-SB04-1315			EB-SO-SB05-1315			EB-SO-SB06-1719		
SDG: CTO127-4	LAB_ID	SC6982-1			SC6982-2			SC6982-9			SC6982-6		
FRACTION: OS	SAMP_DATE	11/5/2009			11/5/2009			11/6/2009			11/5/2009		
MEDIA: SOIL	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/KG			UG/KG			UG/KG			UG/KG		
	PCT_SOLIDS	94.9			91.4			96.9			88.5		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
CAPROLACTAM		150	UR	E	160	UR	E	140	UR	E	160	UR	E
CARBAZOLE		120	UJ	R	120	UJ	R	110	UJ	R	120	UJ	R
DIBENZOFURAN		82	UJ	R	86	UJ	R	80	UJ	R	87	UJ	R
DIETHYL PHTHALATE		83	UJ	R	88	UJ	R	81	UJ	R	88	UJ	R
DIMETHYL PHTHALATE		81	UJ	R	85	UJ	R	79	UJ	R	86	UJ	R
DI-N-BUTYL PHTHALATE		100	UJ	R	110	UJ	R	100	UJ	R	110	UJ	R
DI-N-OCTYL PHTHALATE		220	UJ	R	230	UJ	R	210	UJ	R	230	UJ	R
HEXACHLOROBENZENE		86	UJ	R	90	UJ	R	83	UJ	R	90	UJ	R
HEXACHLOROBUTADIENE		87	UJ	R	91	UJ	R	84	UJ	R	91	UJ	R
HEXACHLOROCYCLOPENTADIENE		86	UJ	R	90	UJ	R	83	UJ	R	90	UJ	R
HEXACHLOROETHANE		100	UJ	R	100	UJ	R	97	UJ	R	100	UJ	R
ISOPHORONE		78	UJ	R	82	UJ	R	76	UJ	R	82	UJ	R
NITROBENZENE		95	UJ	R	100	UJ	R	92	UJ	R	100	UJ	R
N-NITROSO-DI-N-PROPYLAMINE		87	UJ	R	91	UJ	R	84	UJ	R	91	UJ	R
N-NITROSODIPHENYLAMINE		230	UJ	R	240	UJ	R	220	UJ	R	240	UJ	R
PENTACHLOROPHENOL													
PHENOL		160	U		170	U		160	UJ	R	170	UJ	R

PROJ_NO: 01074	NSAMPLE	EB-SO-SS04A-0004			EB-SO-SS08-0012			EB-SO-SS09-0012		
SDG: CTO127-4	LAB_ID	SC7107-5			SC7107-1			SC7107-9		
FRACTION: OS	SAMP_DATE	11/11/2009			11/11/2009			11/11/2009		
MEDIA: SOIL	QC_TYPE	NM			NM			NM		
	UNITS	UG/KG			UG/KG			UG/KG		
	PCT_SOLIDS	84.9			89.2			84.4		
	DUP_OF									
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
CAPROLACTAM		170	UR	E	160	UR	E	150	UR	E
CARBAZOLE		130	U		120	U		120	U	
DIBENZOFURAN		91	U		87	U		84	U	
DIETHYL PHTHALATE		92	U		88	U		85	U	
DIMETHYL PHTHALATE		90	U		86	U		83	U	
DI-N-BUTYL PHTHALATE		120	U		110	U		110	U	
DI-N-OCTYL PHTHALATE		240	U		230	U		220	U	
HEXACHLOROBENZENE		95	U		90	U		87	U	
HEXACHLOROBUTADIENE		96	U		91	U		88	U	
HEXACHLOROCYCLOPENTADIENE		95	U		90	U		87	U	
HEXACHLOROETHANE		110	U		100	U		100	U	
ISOPHORONE		86	U		83	U		80	U	
NITROBENZENE		100	U		100	U		97	U	
N-NITROSO-DI-N-PROPYLAMINE		96	U		91	U		88	U	
N-NITROSODIPHENYLAMINE		250	U		240	U		230	U	
PENTACHLOROPHENOL		270	U		260	U		250	U	
PHENOL		180	U		170	U		160	U	

PROJ_NO: 01074	NSAMPLE	EB-SO-SB01-1315			EB-SO-SB02-1719			EB-SO-SB02A-0910			EB-SO-SB02A-0910-DL		
SDG: CTO127-4	LAB_ID	SC6982-3			SC6982-5			SC6982-7DL2			SC6982-7DL		
FRACTION: PAH	SAMP_DATE	11/5/2009			11/5/2009			11/5/2009			11/5/2009		
MEDIA: SOIL	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/KG			UG/KG			UG/KG			UG/KG		
	PCT_SOLIDS	88.0			84.9			62.5			62.5		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
2-METHYLNAPHTHALENE		2	UJ	C	2	UJ	C	650	J	C			
ACENAPHTHENE		2	U		2	U		790					
ACENAPHTHYLENE		1	UJ	C	1	UJ	C	5	UJ	C			
ANTHRACENE		1	U		1	U		890					
BENZO(A)ANTHRACENE		2	U		2	U					2400		
BENZO(A)PYRENE		4	U		4	U					1600		
BENZO(B)FLUORANTHENE		3	U		3	U					2400		
BENZO(G,H,I)PERYLENE		15	UJ	AEP							410	J	EP
BENZO(K)FLUORANTHENE		3	U		4	U					830		
CHRYSENE		2	U		2	U					2200		
DIBENZO(A,H)ANTHRACENE		2	U		2	U					320	J	P
FLUORANTHENE		2	U		2	U					5200		
FLUORENE		4	U		4	U		520					
INDENO(1,2,3-CD)PYRENE		2	UJ	C	6	UJ	ACP				1600		
NAPHTHALENE		3	U		3	U		660					
PENTACHLOROPHENOL		16	UJ	CE	16	UJ	CE	64	UJ	E			
PHENANTHRENE		2	U		2	U					5100		
PYRENE		2	U		2	U					4600	J	C

PROJ_NO: 01074	NSAMPLE	EB-SO-SB03-0709			EB-SO-SB04-1315			EB-SO-SB05-1315			EB-SO-SB06-1719		
SDG: CTO127-4	LAB_ID	SC6982-1			SC6982-2			SC6982-9			SC6982-6		
FRACTION: PAH	SAMP_DATE	11/5/2009			11/5/2009			11/6/2009			11/5/2009		
MEDIA: SOIL	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/KG			UG/KG			UG/KG			UG/KG		
	PCT_SOLIDS	94.9			91.4			96.9			88.5		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
2-METHYLNAPHTHALENE		2	UJ	C	2	UJ	C	2	UJ	C	2	UJ	C
ACENAPHTHENE		2	U		2	U		2	U		2	U	
ACENAPHTHYLENE		1	UJ	C	1	UJ	C	1	UJ	C	1	UJ	C
ANTHRACENE		1	U		1	U		1	U		1	U	
BENZO(A)ANTHRACENE		2	U		2	U		2	U		2	U	
BENZO(A)PYRENE		3	U		4	U		3	U		4	U	
BENZO(B)FLUORANTHENE		2	U		3	U		2	U		3	U	
BENZO(G,H,I)PERYLENE													
BENZO(K)FLUORANTHENE		3	U		3	U		3	U		3	U	
CHRYSENE		2	U		2	U		2	U		2	U	
DIBENZO(A,H)ANTHRACENE		2	U		2	U		2	U		2	U	
FLUORANTHENE		2	U		2	U		2	U		2	U	
FLUORENE		3	U		4	U		3	U		4	U	
INDENO(1,2,3-CD)PYRENE		2	UJ	C	2	UJ	C	2	UJ	C	2	UJ	C
NAPHTHALENE		3	U		3	U		3	U		3	U	
PENTACHLOROPHENOL		15	UJ	CE	15	UJ	CE	14	UJ	CE	15	UJ	CE
PHENANTHRENE		2	U		2	U		2	U		2	U	
PYRENE		2	U		2	U		2	U		2	U	

PROJ_NO: 01074	NSAMPLE	EB-SO-SS04A-0004			EB-SO-SS08-0012			EB-SO-SS08-0012-DL			EB-SO-SS09-0012		
SDG: CTO127-4	LAB_ID	SC7107-5			SC7107-1			SC7107-1DL			SC7107-9		
FRACTION: PAH	SAMP_DATE	11/11/2009			11/11/2009			11/11/2009			11/11/2009		
MEDIA: SOIL	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/KG			UG/KG			UG/KG			UG/KG		
	PCT_SOLIDS	84.9			89.2			89.2			84.4		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
2-METHYLNAPHTHALENE		2	UJ	C	2	UJ	C				2	UJ	C
ACENAPHTHENE		2	U		2	U					2	U	
ACENAPHTHYLENE		1	UJ	C	1	UJ	C				1	UJ	C
ANTHRACENE		1	U		14	J	P				8	J	P
BENZO(A)ANTHRACENE		10	J	P	61						33		
BENZO(A)PYRENE		11	J	P	40						29		
BENZO(B)FLUORANTHENE		36			120						55		
BENZO(G,H,I)PERYLENE		12	UJ	AEP	15	UJ	AEP				21	UJ	AE
BENZO(K)FLUORANTHENE		4	J	P	34						14	J	P
CHRYSENE		28			110						39		
DIBENZO(A,H)ANTHRACENE		3	J	P	12	J	P				2	U	
FLUORANTHENE		73						440			65		
FLUORENE		4	U		5	J	P				3	U	
INDENO(1,2,3-CD)PYRENE		24	UJ	ACE	58	J	CE				40	J	CE
NAPHTHALENE		3	U		3	U					3	J	P
PENTACHLOROPHENOL													
PHENANTHRENE		35			180						54		
PYRENE		62			280						67		

PROJ_NO: 01074	NSAMPLE	EB-SO-SB01-1315			EB-SO-SB02-1719			EB-SO-SB02A-0910			EB-SO-SB03-0709		
SDG: CTO127-4	LAB_ID	SC6982-3			SC6982-5			SC6982-7			SC6982-1		
FRACTION: PCB	SAMP_DATE	11/5/2009			11/5/2009			11/5/2009			11/5/2009		
MEDIA: SOIL	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/KG			UG/KG			UG/KG			UG/KG		
	PCT_SOLIDS	88.0			84.9			62.5			94.9		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
AROCLOR-1016		6.2	U		5.8	U		8.1	U		6.1	U	
AROCLOR-1221		14	U		14	U		19	U		14	U	
AROCLOR-1232		9.7	U		9.1	U		13	U		9.4	U	
AROCLOR-1242		6	U		5.7	U		580			5.9	U	
AROCLOR-1248		6.3	U		6	U		8.3	U		6.2	U	
AROCLOR-1254		4.9	U		4.6	U		6.4	U		4.8	U	
AROCLOR-1260		6.2	UJ	E	5.8	UJ	E	560	J	E	6.1	UJ	E
AROCLOR-1262		3.8	U		3.6	U		5	U		3.7	U	
AROCLOR-1268		2.7	U		2.5	U		3.5	U		2.6	U	
TOTAL AROCLOR		2.7	U		2.5	U		1100			2.6	U	

PROJ_NO: 01074	NSAMPLE	EB-SO-SB04-1315			EB-SO-SS04A-0004			EB-SO-SS04B-0004			EB-SO-SS04C-0004		
SDG: CTO127-4	LAB_ID	SC6982-2			SC7107-5			SC7107-8			SC7107-7		
FRACTION: PCB	SAMP_DATE	11/5/2009			11/11/2009			11/11/2009			11/11/2009		
MEDIA: SOIL	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/KG			UG/KG			UG/KG			UG/KG		
	PCT_SOLIDS	91.4			84.9			85.9			80.4		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
AROCLOR-1016		6.5	U		7	U		6.8	U		7.4	U	
AROCLOR-1221		15	U		16	U		16	U		17	U	
AROCLOR-1232		10	U		11	U		11	U		11	U	
AROCLOR-1242		6.3	U		6.7	U		6.6	U		7.1	U	
AROCLOR-1248		6.6	U		7.1	U		7	U		7.5	U	
AROCLOR-1254		5.1	U		5.5	U		5.4	U		5.8	U	
AROCLOR-1260		6.5	UJ	E	7	U		6.8	U		7.4	U	
AROCLOR-1262		4	U		4.3	U		4.2	U		4.6	U	
AROCLOR-1268		2.8	U		3	U		3	U		3.2	U	
TOTAL AROCLOR		2.8	U		3	U		3	U		3.2	U	

PROJ_NO: 01074	NSAMPLE	EB-SO-SS05B-0004			EB-SO-SS05C-0004			EB-SO-SS06C-0004			EB-SO-SS08-0012		
SDG: CTO127-4	LAB_ID	SC7107-6			SC7107-4			SC7107-3			SC7107-1		
FRACTION: PCB	SAMP_DATE	11/10/2009			11/10/2009			11/10/2009			11/11/2009		
MEDIA: SOIL	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/KG			UG/KG			UG/KG			UG/KG		
	PCT_SOLIDS	85.5			90.4			65.4			89.2		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
AROCLOR-1016		7	U		6.5	U		9.1	U		6.6	U	
AROCLOR-1221		16	U		15	U		21	U		15	U	
AROCLOR-1232		11	U		10	U		14	U		10	U	
AROCLOR-1242		6.8	U		6.2	U		8.8	U		6.4	U	
AROCLOR-1248		7.1	U		6.6	U		9.2	U		6.7	U	
AROCLOR-1254		5.5	U		5.1	U		7.1	U		5.2	U	
AROCLOR-1260		7	U		6.5	U		9.1	U		6.6	U	
AROCLOR-1262		4.3	U		4	U		5.6	U		4.1	U	
AROCLOR-1268		3	U		2.8	U		3.9	U		2.9	U	
TOTAL AROCLOR		3	U		2.8	U		3.9	U		2.9	U	

PROJ_NO: 01074	NSAMPLE	EB-SO-SS04A-0004		
SDG: CTO127-4	LAB_ID	SC7107-5		
FRACTION: HERB	SAMP_DATE	11/11/2009		
MEDIA: SOIL	QC_TYPE	NM		
	UNITS	UG/KG		
	PCT_SOLIDS	84.9		
	DUP_OF			
PARAMETER		RESULT	VQL	QLCD
2,4,5-T		18	U	
2,4,5-TP (SILVEX)		15	U	
2,4-D		38	U	
2,4-DB		27	U	
DALAPON		9.7	U	
DICAMBA		13	U	
DICHLOROPROP		22	U	
DINOSEB		3	U	
MCPA		2700	U	
MCPP		2600	U	

PROJ_NO: 01074	NSAMPLE	EB-SO-SB05-1315			EB-SO-SB06-1719			EB-SO-SBDUP02		
SDG: CTO127-4	LAB_ID	SC6982-9			SC6982-6			SC6982-10		
FRACTION: PETS	SAMP_DATE	11/6/2009			11/5/2009			11/6/2009		
MEDIA: SOIL	QC_TYPE	NM			NM			FD		
	UNITS	MG/KG			MG/KG			MG/KG		
	PCT_SOLIDS	96.9			88.5			97.1		
	DUP_OF							EB-SO-SB05-1315		
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
C11-C22 AROMATICS		18	UJ	Q	22	UJ	Q	18	UJ	Q
C11-C22 AROMATICS-UNADJ		18	UJ	Q	22	UJ	Q	18	UJ	Q
C19-C36 ALIPHATICS		18	UJ	E	22	UJ	E	18	UJ	E
C9-C18 ALIPHATICS		18	U		22	U		18	U	

TETRA TECH

INTERNAL CORRESPONDENCE

C-NAVY-02-10-3517W

Date: February 09, 2010

c: File G01074-4.10 (w/enc.-original)

To: Jane Connet (w/o enc.)

From: Jennifer Cardinal (no copy) JF (for)

Subject: Tier II Organic Data Validation, SDG CTO127-5, Revision 1
Katahdin Analytical Services
CTO 127, ECP Item 02, East Brunswick Remote Radio Transmitter Site, Naval Air Station Brunswick, Brunswick, Maine

SVOC:

3/Soils/	EB-SO-SS06A-0004	EB-SO-SS07A-0004
	EB-SO-SSDUP01	

(Field Duplicate Pair: EB-SO-SS06A-0004/EB-SO-SSDUP01)

This data validation memorandum provides a revision to the original CTO127-5 organics data validation memorandum dated January 12, 2010. This Revision 1 affects only the samples listed above for the semivolatiles organic compounds (SVOC) fraction and it summarizes only the changes made to the data since the original memorandum was issued.

The sample results, validation qualifiers (VQL), and qualifier codes (QLCD) are presented in the enclosed semivoltile "OS" data summary table. Changes to the data summary table have been affect results for bis92-chloroethyl)ether and phenol for samples listed above.

Changes were made to the data based on the following parameters:

- Data Completeness
- * Matrix Spike/Matrix Spike Duplicate
- * Field Duplicates

* All criteria met for this parameter for phenol and bis(2-chloroethyl)ether.

Data Completeness

At the request of Tetra Tech, on February 4, 2010, the laboratory reviewed and reissued the results for samples EB-SO-SS06A-0004 and EB-SO-SS07A-0004 (laboratory sample numbers SC7108-8 and SC7108-6, respectively). Sample EB-SO-SS07A-0004 was originally reported with a false positive detect for bis(2-chloroethyl)ether and sample EB-SO-SS06A-0004 was originally reported with false positive detects for phenol and bis(2-chloroethyl)ether. These false positives appeared to be the result of interference from a non-target SVOC compound, pinene. Pinene elutes at similar retention time as bis(2-chloroethyl)ether and phenol in the analytical column used for the SVOC analysis. Pinene has the same primary ion as bis(2-chloroethyl)ether. A corrective action report, CAR0022, was initiated by the laboratory's QA officer.

On February 8, 2010 the laboratory further explained that the phenol primary and secondary ions were present in the spectrum for this compound, however, the tertiary ion was not present at the correct retention time. A corrective action report, CAR0022a, was initiated by the laboratory's QA officer.

One of the affected samples EB-SO-SS06A-0004 was also used for laboratory matrix spike and matrix spike analysis. On February 8, 2010 the laboratory confirmed that the changes to this semivolatile sample results for bis(2-chloroethyl)ether did not impact the QC results for the semivolatile spike analyses. On February 8, 2010 the laboratory resubmitted the MS/MSD summary form for sample EB-SO-SS06A-0004 to show the correct sample concentrations.

Field Duplicates

The field duplicate pair EB-SO-SS06A-0004/EB-SO-SSDUP01 now met the field duplicate criteria for all semivolatile results.

Data Usability Assessment

The data usability assessment was performed to determine if the data met the project data quality objectives for acceptable accuracy, precision, sensitivity, and completeness; and to determine and define the impact of the exceeded quality control indicators on the technical usability of the data. Please refer to the specific sections in the above validation report for further details.

The following data usability assessment for the semivolatiles (Full Scan) data set includes the exceptions noted in the original data validation memorandum which have been updated due to changes explained in this Revision 1.

The project goals with respect to accuracy were met for the semivolatiles (Full Scan) data set with the following exception. Sample EB-SO-SS01B-0012 was qualified as estimated due to low surrogate recoveries; the affected results may be biased low. Although specific method criteria were not met in this instance, the affected positive and non-detected results are usable as estimated values and estimated reporting limits which may have a minor impact on data usability. Additionally, 2,4,5-trichlorophenol, 4-nitrophenol, and benzaldehyde were qualified as estimated in select samples due to instrument calibration variability. Benzaldehyde, dibenzofuran, and bis(2-ethylhexyl)phthalate were qualified as estimated in select samples due to poor initial calibration verification recoveries. Hexachlorocyclopentadiene, benzaldehyde, and bis(2-ethylhexyl)phthalate were qualified as estimated in select samples due to poor LCS/LCSD recoveries. Although specific method criteria were not met in these instances, data usability is not impacted and the affected positive and non-detected results are usable as estimated values and estimated reporting limits.

The project goals with respect to precision were met for the semivolatiles (Full Scan) data set. Hexachlorocyclopentadiene was qualified as estimated in the rinsate blank sample due to poor LCS/LCSD precision. Although specific method criteria were not met in this instance, data usability is not impacted and the affected non-detected result is usable as an estimated reporting limit.

The project goals with respect to sensitivity were met for the semivolatiles (Full Scan) data set with the following exceptions. All project action limits were achieved by the laboratory's quantitation limits for the

soil samples except for 2,3,4,6-tetrachlorophenol, 2,4-dimethylphenol, 2,6-dinitrotoluene, 2-chloronaphthalene, 2-chlorophenol, 4,6-dinitro-2-methylphenol, bis(2-chloroethoxy)methane, bis(2-chloroethyl)ether, butylbenzylphthalate, hexachlorobenzene, hexachlorobutadiene, n-nitrso-di-n-propylamine, and pentachlorophenol. All project action limits were achieved by the reporting limits (MDLs) for the soil samples except for 2,3,4,6-tetrachlorophenol, 2,4-dimethylphenol, 2,6-dinitrotoluene, 2-chloronaphthalene, 2-chlorophenol, 4,6-dinitro-2-methylphenol, hexachlorobutadiene, n-nitrso-di-n-propylamine, and pentachlorophenol. Data usability may be impacted for these target compounds.

The project goals with respect to completeness were met for the semivolatiles (Full Scan) data set with the following exceptions. 4-Chloroaniline, caprolactam, and 3,3'-dichlorobenzidine results in sample EB-SO-SS06A-0004 are rejected due to no recoveries in the MS/MSD. These results are not usable for project decisions and the data completeness goals are impacted. In addition, Caprolactam did not recover in the LCS analysis associated with the soil samples; therefore, the non-detected Caprolactam results in all soil samples are rejected. These results are not usable for project decisions and the data completeness goals are impacted.

Tables: Data Validation Qualifiers and Codes
Revised Data Summary Tables

Enclosures: Revised Data Validation Worksheets

PROJ_NO: 01074	NSAMPLE	EB-SO-SS01-0012			EB-SO-SS01A-0012			EB-SO-SS01B-0012			EB-SO-SS02-0012	
SDG: CTO127-5	LAB_ID	SC7108-2			SC7108-1			SC7108-4			SC7108-10	
FRACTION: OS	SAMP_DATE	11/11/2009			11/11/2009			11/11/2009			11/11/2009	
MEDIA: SOIL	QC_TYPE	NM			NM			NM			NM	
	UNITS	UG/KG			UG/KG			UG/KG			UG/KG	
	PCT_SOLIDS	93.7			90.5			62.6			87.3	
	DUP_OF											
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL
1,1-BIPHENYL		75	U		80	U		110	UJ	R	81	U
1,2,4,5-TETRACHLOROBENZENE		140	U		150	U		210	UJ	R	150	U
1,4-DIOXANE		56	U		59	U		84	UJ	R	60	U
2,3,4,6-TETRACHLOROPHENOL		140	U		150	U		220	UJ	R	150	U
2,4,5-TRICHLOROPHENOL		160	UJ	C	170	UJ	C	240	UJ	CR	170	UJ
2,4,6-TRICHLOROPHENOL		160	U		170	U		240	UJ	R	170	U
2,4-DICHLOROPHENOL		150	U		160	U		230	UJ	R	160	U
2,4-DIMETHYLPHENOL		170	U		180	U		260	UJ	R	180	U
2,4-DINITROPHENOL		390	U		410	U		590	UJ	R	420	U
2,4-DINITROTOLUENE		88	U		93	U		130	UJ	R	94	U
2,6-DINITROTOLUENE		82	U		87	U		120	UJ	R	87	U
2-CHLORONAPHTHALENE		90	U		95	U		140	UJ	R	96	U
2-CHLOROPHENOL		170	U		180	U		260	UJ	R	180	U
2-METHYLPHENOL		210	U		220	U		310	UJ	R	220	U
2-NITROANILINE		77	U		82	U		120	UJ	R	83	U
2-NITROPHENOL		170	U		180	U		260	UJ	R	180	U
3&4-METHYLPHENOL		190	U		200	U		290	UJ	R	210	U
3,3'-DICHLOROBENZIDINE		120	U		120	U		180	UJ	R	120	U
3-NITROANILINE		97	U		100	U		150	UJ	R	100	U
4,6-DINITRO-2-METHYLPHENOL		350	U		370	U		530	UJ	R	370	U
4-BROMOPHENYL PHENYL ETHER		88	U		93	U		130	UJ	R	94	U
4-CHLORO-3-METHYLPHENOL		170	U		180	U		260	UJ	R	180	U
4-CHLOROANILINE		120	U		130	U		190	UJ	R	130	U
4-CHLOROPHENYL PHENYL ETHER		80	U		86	U		120	UJ	R	86	U
4-NITROANILINE		140	U		150	U		210	UJ	R	150	U
4-NITROPHENOL		320	U		340	U		480	UJ	R	340	UJ
ACETOPHENONE		180	U		200	U		280	UJ	R	200	U
ATRAZINE		94	U		100	U		140	UJ	R	100	U
BENZALDEHYDE		120	UJ	C	130	UJ	C	190	UJ	CR	130	UJ
BIS(2-CHLOROETHOXY)METHANE		99	U		100	U		150	UJ	R	110	U
BIS(2-CHLOROETHYL)ETHER		84	U		89	U		130	UJ	R	90	U
BIS(2-CHLOROISOPROPYL)ETHER		92	U		98	U		140	UJ	R	98	U
BIS(2-ETHYLHEXYL)PHTHALATE		100	U		200	J	CEP	150	UJ	R	110	U
BUTYL BENZYL PHTHALATE		96	U		100	U		140	UJ	R	100	U
CAPROLACTAM		150	UR	E	160	UR	E	220	UR	E	160	UR
CARBAZOLE		270	J	P	120	U		220	J	PR	390	
DIBENZOFURAN		82	U		87	U		280	J	CPR	190	J

PROJ_NO: 01074	NSAMPLE	EB-SO-SS01-0012			EB-SO-SS01A-0012			EB-SO-SS01B-0012			EB-SO-SS02-0012	
SDG: CTO127-5	LAB_ID	SC7108-2			SC7108-1			SC7108-4			SC7108-10	
FRACTION: OS	SAMP_DATE	11/11/2009			11/11/2009			11/11/2009			11/11/2009	
MEDIA: SOIL	QC_TYPE	NM			NM			NM			NM	
	UNITS	UG/KG			UG/KG			UG/KG			UG/KG	
	PCT_SOLIDS	93.7			90.5			62.6			87.3	
	DUP_OF											
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL
DIETHYL PHTHALATE		82	U		88	U		120	UJ	R	88	U
DIMETHYL PHTHALATE		80	U		86	U		120	UJ	R	86	U
DI-N-BUTYL PHTHALATE		100	U		110	U		160	UJ	R	110	U
DI-N-OCTYL PHTHALATE		220	U		230	U		330	UJ	R	230	U
HEXACHLOROBENZENE		85	U		90	U		130	UJ	R	91	U
HEXACHLOROBUTADIENE		86	U		91	U		130	UJ	R	92	U
HEXACHLOROCYCLOPENTADIENE		85	U		90	U		130	UJ	R	91	U
HEXACHLOROETHANE		99	U		100	U		150	UJ	R	110	U
ISOPHORONE		77	U		82	U		120	UJ	R	83	U
NITROBENZENE		94	U		100	U		140	UJ	R	100	U
N-NITROSO-DI-N-PROPYLAMINE		86	U		91	U		130	UJ	R	92	U
N-NITROSODIPHENYLAMINE		230	U		240	U		340	UJ	R	240	U
PENTACHLOROPHENOL		240	U		260	U		370	UJ	R	260	U
PHENOL		160	U		170	U		240	UJ	R	170	U

PROJ_NO: 01074	NSAMPLE		EB-SO-SS03-0012			EB-SO-SS05A-0004			EB-SO-SS06A-0004		
SDG: CTO127-5	LAB_ID		SC7108-11			SC7108-12			SC7108-8		
FRACTION: OS	SAMP_DATE		11/11/2009			11/10/2009			11/10/2009		
MEDIA: SOIL	QC_TYPE		NM			NM			NM		
	UNITS		UG/KG			UG/KG			UG/KG		
	PCT_SOLIDS		83.4			94.7			80.2		
	DUP_OF										
PARAMETER		QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1-BIPHENYL			82	U		75	U		86	U	
1,2,4,5-TETRACHLOROBENZENE			150	U		140	U		160	U	
1,4-DIOXANE			61	U		55	U		64	U	
2,3,4,6-TETRACHLOROPHENOL			160	U		140	U		160	U	
2,4,5-TRICHLOROPHENOL		C	180	UJ	C	160	UJ	C	180	UJ	C
2,4,6-TRICHLOROPHENOL			180	U		160	U		180	U	
2,4-DICHLOROPHENOL			170	U		150	U		180	U	
2,4-DIMETHYLPHENOL			190	U		170	U		200	U	
2,4-DINITROPHENOL			430	U		380	U		450	U	
2,4-DINITROTOLUENE			96	U		87	U		100	U	
2,6-DINITROTOLUENE			89	U		81	U		94	U	
2-CHLORONAPHTHALENE			98	U		89	U		100	U	
2-CHLOROPHENOL			180	U		170	U		190	U	
2-METHYLPHENOL			230	U		200	U		240	U	
2-NITROANILINE			85	U		77	U		89	U	
2-NITROPHENOL			190	U		170	U		200	U	
3&4-METHYLPHENOL			210	U		190	U		220	U	
3,3'-DICHLOROBENZIDINE			130	U		120	U		130	UR	D
3-NITROANILINE			110	U		96	U		110	U	
4,6-DINITRO-2-METHYLPHENOL			380	U		340	U		400	U	
4-BROMOPHENYL PHENYL ETHER			96	U		87	U		100	U	
4-CHLORO-3-METHYLPHENOL			190	U		170	U		200	U	
4-CHLOROANILINE			130	U		120	U		140	UR	D
4-CHLOROPHENYL PHENYL ETHER			88	U		80	U		92	U	
4-NITROANILINE			150	U		140	U		160	U	
4-NITROPHENOL		C	350	UJ	C	320	UJ	C	360	U	
ACETOPHENONE			200	U		180	U		210	U	
ATRAZINE			100	U		93	U		110	U	
BENZALDEHYDE		C	140	UJ	C	120	UJ	C	140	UJ	C
BIS(2-CHLOROETHOXY)METHANE			110	U		98	U		110	U	
BIS(2-CHLOROETHYL)ETHER			92	U		83	U		2000	J	G
BIS(2-CHLOROISOPROPYL)ETHER			100	U		91	U		100	U	
BIS(2-ETHYLHEXYL)PHTHALATE			110	U		100	U		120	U	
BUTYL BENZYL PHTHALATE			100	U		95	U		110	U	
CAPROLACTAM		E	160	UR	E	150	UR	E	170	UR	DE
CARBAZOLE			120	U		110	U		130	U	
DIBENZOFURAN		P	89	U		81	U		94	U	

PROJ_NO: 01074	NSAMPLE		EB-SO-SS03-0012			EB-SO-SS05A-0004			EB-SO-SS06A-0004		
SDG: CTO127-5	LAB_ID		SC7108-11			SC7108-12			SC7108-8		
FRACTION: OS	SAMP_DATE		11/11/2009			11/10/2009			11/10/2009		
MEDIA: SOIL	QC_TYPE		NM			NM			NM		
	UNITS		UG/KG			UG/KG			UG/KG		
	PCT_SOLIDS		83.4			94.7			80.2		
	DUP_OF										
PARAMETER		QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
DIETHYL PHTHALATE			90	U		82	U		95	U	
DIMETHYL PHTHALATE			88	U		80	U		92	U	
DI-N-BUTYL PHTHALATE			110	U		100	U		120	U	
DI-N-OCTYL PHTHALATE			240	U		220	U		250	U	
HEXACHLOROBENZENE			93	U		84	U		97	U	
HEXACHLOROBUTADIENE			94	U		85	U		98	U	
HEXACHLOROCYCLOPENTADIENE			93	U		84	U		97	U	
HEXACHLOROETHANE			110	U		98	U		110	U	
ISOPHORONE			85	U		77	U		89	U	
NITROBENZENE			100	U		93	U		110	U	
N-NITROSO-DI-N-PROPYLAMINE			94	U		85	U		98	U	
N-NITROSODIPHENYLAMINE			250	U		220	U		260	U	
PENTACHLOROPHENOL			270	U		240	U		280	U	
PHENOL			180	U		160	U		220	J	P

PROJ_NO: 01074	NSAMPLE	EB-SO-SS07A-0004			EB-SO-SSDUP01			EB-SO-SSDUP02		
SDG: CTO127-5	LAB_ID	SC7108-6			SC7108-9			SC7108-13		
FRACTION: OS	SAMP_DATE	11/10/2009			11/10/2009			11/10/2009		
MEDIA: SOIL	QC_TYPE	NM			FD			FD		
	UNITS	UG/KG			UG/KG			UG/KG		
	PCT_SOLIDS	87.6			79.9			94.9		
	DUP_OF				EB-SO-SS06A-0004			EB-SO-SS05A-0004		
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1-BIPHENYL		80	U		89	U		74	U	
1,2,4,5-TETRACHLOROBENZENE		150	U		160	U		140	U	
1,4-DIOXANE		59	U		66	U		55	U	
2,3,4,6-TETRACHLOROPHENOL		150	U		170	U		140	U	
2,4,5-TRICHLOROPHENOL		170	UJ	C	190	UJ	C	160	UJ	C
2,4,6-TRICHLOROPHENOL		170	U		190	U		160	U	
2,4-DICHLOROPHENOL		160	U		180	U		150	U	
2,4-DIMETHYLPHENOL		180	U		200	U		170	U	
2,4-DINITROPHENOL		410	U		460	U		380	U	
2,4-DINITROTOLUENE		93	U		100	U		87	U	
2,6-DINITROTOLUENE		87	U		96	U		80	U	
2-CHLORONAPHTHALENE		96	U		110	U		89	U	
2-CHLOROPHENOL		180	U		200	U		170	U	
2-METHYLPHENOL		220	U		240	U		200	U	
2-NITROANILINE		82	U		91	U		76	U	
2-NITROPHENOL		180	U		200	U		170	U	
3&4-METHYLPHENOL		200	U		230	U		190	U	
3,3'-DICHLOROBENZIDINE		120	U		140	U		120	U	
3-NITROANILINE		100	U		110	U		96	U	
4,6-DINITRO-2-METHYLPHENOL		370	U		410	U		340	U	
4-BROMOPHENYL PHENYL ETHER		93	U		100	U		87	U	
4-CHLORO-3-METHYLPHENOL		180	U		200	U		170	U	
4-CHLOROANILINE		130	U		140	U		120	U	
4-CHLOROPHENYL PHENYL ETHER		86	U		95	U		80	U	
4-NITROANILINE		150	U		160	U		140	U	
4-NITROPHENOL		340	U		380	UJ	C	320	UJ	C
ACETOPHENONE		200	U		220	U		180	U	
ATRAZINE		100	U		110	U		93	U	
BENZALDEHYDE		160	J	CEP	150	UJ	C	120	UJ	C
BIS(2-CHLOROETHOXY)METHANE		100	U		120	U		98	U	
BIS(2-CHLOROETHYL)ETHER		770			99	UJ	G	82	U	
BIS(2-CHLOROISOPROPYL)ETHER		98	U		110	U		91	U	
BIS(2-ETHYLHEXYL)PHTHALATE		110	U		120	U		100	U	
BUTYL BENZYL PHTHALATE		100	U		110	U		95	U	
CAPROLACTAM		160	UR	E	180	UR	E	150	UR	E
CARBAZOLE		120	U		140	U		110	U	
DIBENZOFURAN		87	U		96	U		80	U	

PROJ_NO: 01074	NSAMPLE	EB-SO-SS07A-0004			EB-SO-SSDUP01			EB-SO-SSDUP02		
SDG: CTO127-5	LAB_ID	SC7108-6			SC7108-9			SC7108-13		
FRACTION: OS	SAMP_DATE	11/10/2009			11/10/2009			11/10/2009		
MEDIA: SOIL	QC_TYPE	NM			FD			FD		
	UNITS	UG/KG			UG/KG			UG/KG		
	PCT_SOLIDS	87.6			79.9			94.9		
	DUP_OF				EB-SO-SS06A-0004			EB-SO-SS05A-0004		
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
DIETHYL PHTHALATE		88	U		98	U		82	U	
DIMETHYL PHTHALATE		86	U		95	U		80	U	
DI-N-BUTYL PHTHALATE		110	U		120	U		100	U	
DI-N-OCTYL PHTHALATE		230	U		260	U		220	U	
HEXACHLOROBENZENE		90	U		100	U		84	U	
HEXACHLOROBUTADIENE		91	U		100	U		85	U	
HEXACHLOROCYCLOPENTADIENE		90	U		100	U		84	U	
HEXACHLOROETHANE		100	U		120	U		98	U	
ISOPHORONE		82	U		91	U		76	U	
NITROBENZENE		100	U		110	U		93	U	
N-NITROSO-DI-N-PROPYLAMINE		91	U		100	U		85	U	
N-NITROSODIPHENYLAMINE		240	U		270	U		220	U	
PENTACHLOROPHENOL		260	U		290	U		240	U	
PHENOL		170	U		190	U		160	U	

TETRA TECH

INTERNAL CORRESPONDENCE

C-NAVY-01-10-3487W

Date: January 14, 2010

c: File G01074-4.10 (w/enc.-original)

To: Jane Connet (w/o enc.)

From: AF for Jennifer Cardinal (no copy)

Subject: Tier II Organic Data Validation, SDG CTO127-6
Katahdin Analytical Services
CTO 127, ECP Item 02, East Brunswick Remote Radio Transmitter Site, Naval Air Station Brunswick, Brunswick, Maine

VOC/SVOC/PAH/EPH:
4/Groundwaters/ EB-GW-MW01-112409 EB-GW-MW02-112409
EB-GW-MW03-112409 EB-GW-MWDUP01-112409

(Field Duplicate Pairs: EB-GW-MW02-112409/EB-GW-MWDUP01-112409)

VOC:
1/Trip Blank/ EB-GW-TB112409

Tetra Tech NUS, Inc. (TtNUS) performed a Tier II data validation on the volatile organic compound (VOC), semivolatile organic compound (SVOC), polynuclear aromatic hydrocarbon (PAH), and extractable petroleum hydrocarbon (EPH) analytical data for the groundwater samples in this SDG. The samples were collected at the East Brunswick Remote Radio Transmitter Site on November 24, 2009. Sample collection and analysis was performed according to the Sampling and Analysis Plan (Field Sampling Plan and Quality Assurance Project Plan for ECP Item 02, East Brunswick Remote Radio Transmitter Site, Naval Air Station Brunswick, Brunswick, Maine; October 2009).

The VOC analysis was performed according to USEPA SW-846 Method 8260B. The SVOC analysis was performed according to USEPA SW-846 Method 8270C. Selected SVOCs (PAHs and pentachlorophenol) were analyzed by Method 8270C in the selective ion monitoring (SIM) mode. The EPH analysis was performed according to the Massachusetts Department of Environmental Protection (MADEP) method.

The VOC, SVOC, PAH, and EPH data validation was performed in accordance with the Region I EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, December 1996.

The sample results, validation qualifiers (VQL), and qualifier codes (QLCD) are presented in the enclosed data summary tables. A list of the qualifier codes, which provide the reasons for the validation qualifiers, is enclosed. The semivolatiles-SIM results (PAHs and pentachlorophenol) are provided in the data summary table with fraction identified as "PAH". The "Q" qualifier used in the EPH data summary tables represents a naphthalene breakthrough non-compliance.

The data were evaluated based on the following parameters:

- Data Completeness

* • Preservation and Technical Holding Times
* • GC/MS Instrument Performance Check (Tuning)
• Initial and Continuing Calibrations
• Blanks
* • Surrogate Compounds
* • Internal Standards
• Matrix Spike/Matrix Spike Duplicate
• Laboratory Control Sample/Laboratory Control Sample Duplicate
• Naphthalene Breakthrough (EPH analysis)
* • Field Duplicates
• Reporting Limits

* All criteria were met for this parameter.

Data Completeness

Select samples exceeded the 20-character limit of the laboratory's software system. Therefore, the characters "E" or "EB-" were omitted on all forms for these samples. The data summary tables reflect the complete sample IDs.

Semivolatiles (Full Scan)

Due to laboratory error, LCS/LCSD WG71944-2 and 3RA and the MS/MSD WG71944-6 and 7 were not spiked with the additional target analyte 1,2,4,5-tetrachlorobenzene. On January 6, 2010 the MS/MSD summary form was resubmitted by the laboratory to show that 1,2,4,5-tetrachlorobenzene was not spiked, since the original form showed that the analyte was spiked.

On January 7, 2010 the laboratory clarified that 3&4-methylphenol are isomers which cannot be separated. The laboratory's calibration mixture contains both isomers, therefore, the results are reported as 3&4-methylphenol rather than 3-methylphenol and 4-methylphenol separately.

Initial and Continuing Calibrations

Volatiles

The following table summarizes the volatile compounds that failed to meet the continuing calibration (CC) criterion of %D <20% for CCCs and %D <25% for all other compounds:

Compound	%D	Action		Affected Samples
		(+)	NDs	
1,1,2-Trichlorotrifluoromethane	26.3		UJ	All samples
1,2-Dibromo-3-chloropropane	-27.3		UJ	

Although the %D was above the QC limit for 1,1,2-trichlorotrifluoromethane; the project accuracy goals are not impacted since the affected sample results are much lower than the project action limit. The non-

detected 1,1,2-trichlorotrifluoromethane results in the affected samples are usable as estimated reporting limits.

The %D was above the QC limit for 1,2-dibromo-3-chloropropane; therefore, the project accuracy goals may be impacted. The non-detected 1,2-dibromo-3-chloropropane results in the affected samples are usable as estimated reporting limits.

Semivolatiles (Full Scan)

The following table summarizes the semivolatile (Full Scan) compounds that failed to meet the initial calibration (IC) criterion of %RSD <30% for CCs and <15% for all other compounds, or the continuing calibration (CC) criterion of %D <20% for CCCs and %D <25% for all other compounds:

Compound	%RSD or %D	Action		Affected Samples
		(+)	NDs	
2-Chloronaphthalene	21.5		UJ	All samples
4-Nitrophenol	18.2, 26.6		UJ	
Benzaldehyde	-84.0		UJ	

Although %RSD or %D were above the QC limit for 2-chloronaphthalene, 4-nitrophenol, and benzaldehyde; the project accuracy goals are not impacted since the affected sample results are much lower than the project action limits. The non-detected 2-chloronaphthalene, 4-nitrophenol, and benzaldehyde results in the affected samples are usable as estimated reporting limits.

The following table summarizes the semivolatile compounds that failed to meet the initial calibration verification criterion of 80 < %R < 120% for CCCs and 75 < %R < 125 for all other compounds:

Compound	%R	Action		Affected Samples
		(+)	NDs	
Benzaldehyde	11.8		UJ	All samples
4-Nitrophenol	71.3		UJ	

Although the initial calibration verification QC criteria were not met for benzaldehyde and 4-nitrophenol; the project accuracy goals are not impacted since the affected sample results are much lower than the project action limits. The non-detected benzaldehyde and 4-nitrophenol results in the affected samples are usable as estimated reporting limits which may be biased low.

EPH

The following table summarizes the EPH range that failed to meet the continuing calibration (CC) criterion of %D <25%:

Compound	%D	Action		Affected Samples
		(+)	ND	
C_9-C_{18} Aliphatics	-26.3		UJ	All samples

Although the %D was above the QC limit for C_9-C_{18} aliphatics; the project accuracy goals are not impacted since the affected sample results are much lower than the project action limit. The non-detected C_9-C_{18} aliphatics results in the affected samples are usable as estimated reporting limits.

Blanks

Volatiles

The following table summarizes the maximum level of blank contamination detected in the trip blanks and the affected samples:

Compound	Type of Blank	Max. Conc. (µg/L)	Action Level (µg/L)	Affected Samples
Carbon disulfide	Trip	0.6	3	EB-GW-MW01-112409, EB-GW-MW03-112409

Blank actions are applied to the affected samples due to carbon disulfide trip blank contamination. The 5x rule applies to carbon disulfide to calculate the action limit. The positive results below the blank action levels were changed to non-detected values (U) at the sample result.

Although carbon disulfide contamination was found in the trip blank, the project sensitivity goals are not impacted since the affected sample results are much lower than the project action limit. The results in the affected samples are usable as non-detected values.

Matrix Spike/Matrix Spike Duplicate

Volatiles

The following table summarizes the volatile matrix spiking recoveries that did not meet the QC limits in the matrix spike and matrix spike duplicate (MS/MSD) analysis and the qualifications applied to the affected sample:

EB-GW-MW01-112409						
Compound	MS/MSD %REC	RPD	QC Limits		Action	
			%REC	RPD	(+)	ND
Chloroethane	-	27	-	20		UJ
Bromoform	- / 82	-	86-117	-		UJ

EB-GW-MW01-112409						
Compound	MS/MSD %REC	RPD	QC Limits		Action	
			%REC	RPD	(+)	ND
1,2-Dibromo-3-chloropropane	- / 65	-	67-124	-		UJ

-Criterion met

Although the MS/MSD RPD criterion was not met for chloroethane, the project precision goals are not impacted since the affected sample results are much lower than the project action limit. The non-detected chloroethane result in sample EB-GW-MW01-112409 is usable as an estimated reporting limit for which the bias is indeterminate.

The MS/MSD recovery criteria were not met for bromoform and 1,2-dibromo-3-chloropropane; therefore, the project accuracy goals may be impacted. The non-detected bromoform and 1,2-dibromo-3-chloropropane results in sample EB-GW-MW01-112409 are usable as estimated reporting limits which may be biased low.

Semivolatiles (Full Scan)

The following table summarizes the semivolatile (Full Scan) matrix spiking recoveries that did not meet the QC limits in the matrix spike and matrix spike duplicate (MS/MSD) analysis and the qualifications applied to the affected sample:

EB-GW-MW01-112409						
Compound	MS/MSD %REC	RPD	QC Limits		Action	
			%REC	RPD	(+)	ND
1,4-Dioxane	35 / 36	-	38-72	-		UJ
Benzaldehyde	-	38	-	30		UJ
4-Chloroaniline	-	32	-	30		UJ
Caprolactam	13 / 7	64	15-35	30		UJ
Dimethyl phthalate	-	54	-	30		UJ
2,4-Dinitrophenol	-	49	-	30		UJ
4-Nitrophenol	-	50	-	30		UJ
4-Bromophenyl-phenylether	72 / 70	-	76-114	-		UJ
Hexachlorobenzene	73 / 70	-	75-109	-		UJ

-Criterion met

The MS/MSD recovery criteria were not met for Caprolactam, 1,4-dioxane and hexachlorobenzene; therefore, the project accuracy goals may be impacted. The non-detected 1,4-dioxane and

hexachlorobenzene results in sample EB-GW-MW01-112409 are usable as estimated reporting limits which may be biased low.

Although the MS/MSD recovery criteria were not met for 4-bromophenyl-phenylether; the project accuracy goals are not impacted since there are no regulatory limits established for 4-bromophenyl-phenylether in the groundwater samples. The non-detected 4-bromophenyl-phenylether results in sample EB-GW-MW01-112409 are usable as estimated reporting limits which may be biased low.

The MS/MSD RPD criterion was not met for 4-chloroaniline and 2,4-dinitrophenol; therefore, the project precision goals may be impacted. The non-detected 4-chloroaniline and 2,4-dinitrophenol results in sample EB-GW-MW01-112409 are usable as estimated reporting limits for which the bias is indeterminate.

Although the MS/MSD RPD criterion was not met for benzaldehyde, dimethyl phthalate and 4-nitrophenol, the project precision goals are not impacted since the affected sample results are much lower than the project action limits. The non-detected dimethyl phthalate and 4-nitrophenol results in sample EB-GW-MW01-112409 are usable as estimated reporting limits for which the bias is indeterminate.

Semivolatiles (SIM)

The following table summarizes the semivolatile-SIM matrix spiking recoveries that did not meet the QC limits in the matrix spike and matrix spike duplicate (MS/MSD) analysis and the qualifications applied to the affected sample:

EB-GW-MW01-112409						
Compound	MS/MSD %REC	RPD	QC Limits		Action	
			%REC	RPD	(+)	ND
2-Methylnaphthalene	44 / -	31	51-125	30		UJ
Benzo(k)fluoranthene	-	35	-	30		UJ
Benzo(a)pyrene	62 / -	35	63-113	30		UJ
Indeno(1,2,3-cd)pyrene	-	62	-	30		UJ
Dibenzo(a,h)anthracene	-	69	-	30		UJ
Benzo(g,h,i)perylene	-	60	-	30		UJ
Pentachlorophenol	-	75	-	30		UJ

-Criterion met

The MS/MSD recovery criteria were not met for benzo(a)pyrene; therefore, the project accuracy goals may be impacted. The non-detected benzo(a)pyrene result in sample EB-GW-MW01-112409 is usable as an estimated reporting limit which may be biased low.

Although the MS/MSD recovery criteria were not met for 2-methylnaphthalene; the project accuracy goals are not impacted since the 2-methylnaphthalene result is much lower than the project action limit. The non-detected 2-methylnaphthalene result in sample EB-GW-MW01-112409 is usable as an estimated reporting limit which may be biased low.

The MS/MSD RPD criterion was not met for benzo(k)fluoranthene, indeno(1,2,3-cd)pyrene, dibenzo(a,h)anthracene, and pentachlorophenol; therefore, the project precision goals may be impacted. The non-detected indeno(1,2,3-cd)pyrene, dibenzo(a,h)anthracene, and pentachlorophenol results in sample EB-GW-MW01-112409 are usable as estimated reporting limits for which the bias is indeterminate.

Although the MS/MSD RPD criterion was not met for benzo(g,h,i)perylene, the project precision goals are not impacted since the affected sample results are much lower than the project action limits. The non-detected benzo(g,h,i)perylene results in sample EB-GW-MW01-112409 are usable as estimated reporting limits for which the bias is indeterminate.

Laboratory Control Sample/Laboratory Control Sample Duplicates

Volatiles

The following table summarizes the volatile compounds that failed to meet the laboratory control sample (LCS) recovery QC limits:

Compound	% Rec.	% Rec. QC Limits	Action		Affected Samples
			(+)	NDs	
Bromoform	85	86-117		UJ	All samples
1,2-Dibromo-3-chloropropane	65	67-124		UJ	

The LCS recovery criteria were not met for bromoform and 1,2-dibromo-3-chloropropane; therefore, the project accuracy goals may be impacted. The non-detected bromoform and 1,2-dibromo-3-chloropropane results in the affected samples are usable as estimated reporting limits which may be biased low.

Naphthalene Breakthrough

EPH

The following table summarizes the naphthalene breakthrough results that failed to meet the QC limit of <5% breakthrough:

Compound	% Rec.	% Rec. QC Limit	Action		Affected Samples
			(+)	NDs	
Naphthalene	25	<5		UJ*	All samples
2-Methylnaphthalene	27				

*The non-detected C_{11}-C_{22} aromatic hydrocarbon range (adjusted and unadjusted) is estimated (UJ) in the affected samples due to poor analytical fraction separation as evidenced by the naphthalene breakthrough results.

Although the naphthalene breakthrough criteria were not met for the samples listed above; the project accuracy goals are not impacted since the affected sample results are much lower than the project action limit. The non-detected C_{11}-C_{22} aromatic hydrocarbon (adjusted and unadjusted) results in the affected

samples are usable as estimated quantitation limits. The non-detected C_{11}-C_{22} aromatic values may be biased low, and thus, the C_9-C_{18} aliphatic results may be biased high.

Reporting Limits

All non-detected volatiles, semivolatiles, and PAH results are reported to the method detection limit (MDL). All non-detected EPH results are reported to the quantitation limit (QL). Positive results below the QL and above the MDL are qualified as estimated (J) due to uncertainty below the QL.

Volatiles

The laboratory quantitation limits met the project action limits for all compounds except for 1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, 1,1-dichloroethane, 1,1-dichloroethene, 1,2,4-trichlorobenzene, 1,2-dibromo-3-chloropropane, 1,2-dibromoethane, 1,2-dichloroethane, 1,2-dichloropropane, 1,4-dichlorobenzene, benzene, bromodichloromethane, bromomethane, carbon tetrachloride, chloroform, chloromethane, cis-1,3-dichloropropene, dibromochloromethane, ethylbenzene, methylene chloride, tetrachloroethene, trans-1,3-dichloropropene, trichloroethene, and vinyl chloride. However, the laboratory reporting limits (MDLs) met all project action limits except for 1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, 1,2-dibromo-3-chloropropane, 1,2-dibromoethane, 1,2-dichloroethane, bromodichloromethane, chloroform, dibromochloromethane, tetrachloroethene, and vinyl chloride. Data usability may be impacted for these target compounds.

Results for carbon disulfide in select samples were changed to non-detected results due to blank contamination. As discussed above in the Blanks section, data usability is not impacted.

Semivolatiles (Full Scan)

The laboratory quantitation limits met the project action limits for all compounds except for 1,4-dioxane, 1,2,4,5-tetrachlorobenzene, bis(2-chloroisopropyl)ether, 2,4,6-trichlorophenol, 2,4-dinitrophenol, 2,4-dinitrotoluene, 2,6-dinitrotoluene, 2-nitroaniline, 2-nitrophenol, 3,3'-dichlorobenzidine, 4,6-dinitro-2-methylphenol, 4-chloro-3-methyl phenol, 4-chloroaniline, 4-methylphenol, 4-nitroaniline, atrazine, bis(2-chloroethyl)ether, bis(2-ethylhexyl)phthalate, hexachlorobenzene, hexachlorobutadiene, hexachloroethane, nitrobenzene, and n-nitrosodi-n-propylamine. However, the laboratory reporting limits (MDLs) met all project action limits except for 1,2,4,5-tetrachlorobenzene, bis(2-chloroisopropyl)ether, 2,4-dinitrotoluene, 2,6-dinitrotoluene, 3,3'-dichlorobenzidine, 4,6-dinitro-2-methylphenol, 4-chloroaniline, 4-methylphenol, atrazine, bis(2-chloroethyl)ether, hexachlorobenzene, hexachlorobutadiene, nitrobenzene, and n-nitrosodi-n-propylamine. Data usability may be impacted for these target compounds.

Semivolatiles (SIM)

The laboratory quantitation limits met the project action limits for all compounds except for pentachlorophenol, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene, and naphthalene. However, the laboratory reporting limits (MDLs) met all project action limits except for benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene. Data usability may be impacted for these target compounds.

Data Usability Assessment

The data usability assessment was performed to determine if the data met the project data quality objectives for acceptable accuracy, precision, sensitivity, and completeness; and to determine and define the impact of the exceeded quality control indicators on the technical usability of the data. Please refer to the specific sections in the above validation report for further details.

Volatiles

The project goals with respect to accuracy were met for the volatiles data set with the following exceptions. 1,2-Dibromo-3-chloropropane was qualified as estimated in select samples due to instrument calibration variability. Bromoform and 1,2-dibromo-3-chloropropane were qualified as estimated in sample EB-GW-MW01-112409 due to low MSD recoveries; the affected results may be biased low. Bromoform and 1,2-dibromo-3-chloropropane were qualified as estimated in all samples due to low LCS recoveries; the affected results may be biased low. Although specific method criteria were not met in these instances, the affected non-detected results are usable as estimated reporting limits which may have a minor impact on data usability. In addition, 1,1,2-trichlorotrifluoromethane was qualified as estimated in select samples due to instrument calibration variability. Although specific method criteria were not met in this instance, data usability is not impacted and the affected non-detected results are usable as estimated reporting limits.

The project goals with respect to precision were met for the volatiles data set. Chloroethane was qualified as estimated in sample EB-GW-MW01-112409 due to poor MS/MSD precision. Although specific method criteria were not met in this instance, data usability is not impacted and the affected non-detected results are usable as estimated reporting limits.

The project goals with respect to sensitivity were met for the volatiles data set with the following exceptions. The laboratory quantitation limits met the project action limits for all compounds except for 1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, 1,1-dichloroethane, 1,1-dichloroethene, 1,2,4-trichlorobenzene, 1,2-dibromo-3-chloropropane, 1,2-dibromoethane, 1,2-dichloroethane, 1,2-dichloropropane, 1,4-dichlorobenzene, benzene, bromodichloromethane, bromomethane, carbon tetrachloride, chloroform, chloromethane, cis-1,3-dichloropropene, dibromochloromethane, ethylbenzene, methylene chloride, tetrachloroethene, trans-1,3-dichloropropene, trichloroethene, and vinyl chloride. However, the laboratory reporting limits (MDLs) met all project action limits except for 1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, 1,2-dibromo-3-chloropropane, 1,2-dibromoethane, 1,2-dichloroethane, bromodichloromethane, chloroform, dibromochloromethane, tetrachloroethene, and vinyl chloride. Data usability may be impacted for these target compounds.

The project goals with respect to completeness were met for the volatiles data set. Data usability was not impacted with regards to completeness.

Semivolatiles (Full Scan)

The project goals with respect to accuracy were met for the semivolatiles (Full Scan) data set with the following exceptions. 1,4-Dioxane, caprolactam, and hexachlorobenzene were qualified as estimated in sample EB-GW-MW01-112409 due to low MS/MSD recoveries; the affected results may be biased low. Although specific method criteria were not met in these instances, the affected non-detected results are usable as estimated reporting limits which may have a minor impact on data usability. Additionally, 2-

chloronaphthalene, 4-nitrophenol, and benzaldehyde were qualified as estimated in select samples due to instrument calibration variability. Benzaldehyde and 4-nitrophenol were qualified as estimated in select samples due to low initial calibration verification recoveries. 4-Bromophenyl-phenylether was qualified as estimated in sample EB-GW-MW01-112409 due to low MS/MSD recoveries. Although specific method criteria were not met in these instances, data usability is not impacted and the affected non-detected results are usable as estimated reporting limits.

The project goals with respect to precision were met for the semivolatiles (Full Scan) data set with the following exception. 4-Chloroaniline and 2,4-dinitrophenol were qualified as estimated in sample EB-GW-MW01-112409 due to poor MS/MSD precision. Although specific method criteria were not met in this instance, the affected non-detected results are usable as estimated reporting limits which may have a minor impact on data usability. Additionally, benzaldehyde, dimethyl phthalate and 4-nitrophenol were qualified as estimated in sample EB-GW-MW01-112409 due to poor MS/MSD precision. Although specific method criteria were not met in these instances, data usability is not impacted and the affected non-detected results are usable as estimated reporting limits.

The project goals with respect to sensitivity were met for the semivolatiles (Full Scan) data set with the following exceptions. The laboratory quantitation limits met the project action limits for all compounds except for 1,4-dioxane, 1,2,4,5-tetrachlorobenzene, bis(2-chloroisopropyl)ether, 2,4,6-trichlorophenol, 2,4-dinitrophenol, 2,4-dinitrotoluene, 2,6-dinitrotoluene, 2-nitroaniline, 2-nitrophenol, 3,3'-dichlorobenzidine, 4,6-dinitro-2-methylphenol, 4-chloro-3-methyl phenol, 4-chloroaniline, 4-methylphenol, 4-nitroaniline, atrazine, bis(2-chloroethyl)ether, bis(2-ethylhexyl)phthalate, hexachlorobenzene, hexachlorobutadiene, hexachloroethane, nitrobenzene, and n-nitrosodi-n-propylamine. However, the laboratory reporting limits (MDLs) met all project action limits except for 1,2,4,5-tetrachlorobenzene, bis(2-chloroisopropyl)ether, 2,4-dinitrotoluene, 2,6-dinitrotoluene, 3,3'-dichlorobenzidine, 4,6-dinitro-2-methylphenol, 4-chloroaniline, 4-methylphenol, atrazine, bis(2-chloroethyl)ether, hexachlorobenzene, hexachlorobutadiene, nitrobenzene, and n-nitrosodi-n-propylamine. Data usability may be impacted for these target compounds.

The project goals with respect to completeness were met for the semivolatiles (Full Scan) data set. Data usability was not impacted with regards to completeness.

Semivolatiles (SIM)

The project goals with respect to accuracy were met for the semivolatiles (SIM) data set with the following exception. Benzo(a)pyrene was qualified as estimated in sample EB-GW-MW01-112409 due to a low MS recovery; the affected result may be biased low. Although specific method criteria were not met in this instance, the affected non-detected results are usable as estimated reporting limits which may have a minor impact on data usability. Additionally, 2-methylnaphthalene was qualified as estimated in sample EB-GW-MW01-112409 due to a low MS recovery. Although specific method criteria were not met in this instance, data usability is not impacted and the affected non-detected results are usable as reporting limits.

The project goals with respect to precision were met for the semivolatiles (SIM) data set with the following exception. Indeno(1,2,3-cd)pyrene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, and pentachlorophenol were qualified as estimated in sample EB-GW-MW01-112409 due to poor MS/MSD precision. Although specific method criteria were not met in this instance, the affected non-detected results are usable as estimated reporting limits which may have a minor impact on data usability. Additionally, benzo(g,h,i)perylene was qualified as estimated in sample EB-GW-MW01-112409 due to poor MS/MSD

precision. Although specific method criteria were not met in this instance, data usability is not impacted and the affected non-detected results are usable as estimated reporting limits.

The project goals with respect to sensitivity were met for the semivolatiles (SIM) data set with the following exceptions. The laboratory quantitation limits met the project action limits for all compounds except for pentachlorophenol, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene, and naphthalene. However, the laboratory reporting limits (MDLs) met all project action limits except for benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene. Data usability may be impacted for these target compounds.

The project goals with respect to completeness were met for the semivolatiles (SIM) data set. Data usability was not impacted with regards to completeness.

EPH

The project goals with respect to accuracy were met for the EPH data set. C_9-C_{18} aliphatics were qualified as estimated in all samples due to instrument calibration variability. C_{11}-C_{22} aromatic hydrocarbon (adjusted and unadjusted) were qualified as estimated in all samples due to poor analytical fraction separation as evidenced by the naphthalene breakthrough results. Although specific method criteria were not met in these instances, data usability is not impacted and the affected non-detected results are usable as estimated quantitation limits.
The project goals with respect to precision, sensitivity, and completeness were met for the EPH data set. Data usability was not impacted with regards to precision, sensitivity, and completeness.

Tables: Data Validation Qualifiers and Codes
Data Summary Tables

Enclosures: Data Validation Worksheets

INTERNAL CORRESPONDENCE

C-NAVY-01-10-3487W

Date: January 14, 2010 c: File G01074-4.10 (w/enc.-original)

To: Jane Connet (w/o enc.)

From: Jennifer Cardinal (no copy)

Subject: Tier II Organic Data Validation, SDG CTO127-6
Katahdin Analytical Services
CTO 127, ECP Item 02, East Brunswick Remote Radio Transmitter Site, Naval Air Station Brunswick, Brunswick, Maine

VOC/SVOC/PAH/EPH:
4/Groundwaters/ EB-GW-MW01-112409 EB-GW-MW02-112409
EB-GW-MW03-112409 EB-GW-MWDUP01-112409

(Field Duplicate Pairs: EB-GW-MW02-112409/EB-GW-MWDUP01-112409)

VOC:
1/Trip Blank/ EB-GW-TB112409

Tetra Tech NUS, Inc. (TtNUS) performed a Tier II data validation on the volatile organic compound (VOC), semivolatile organic compound (SVOC), polynuclear aromatic hydrocarbon (PAH), and extractable petroleum hydrocarbon (EPH) analytical data for the groundwater samples in this SDG. The samples were collected at the East Brunswick Remote Radio Transmitter Site on November 24, 2009. Sample collection and analysis was performed according to the Sampling and Analysis Plan (Field Sampling Plan and Quality Assurance Project Plan for ECP Item 02, East Brunswick Remote Radio Transmitter Site, Naval Air Station Brunswick, Brunswick, Maine; October 2009).

The VOC analysis was performed according to USEPA SW-846 Method 8260B. The SVOC analysis was performed according to USEPA SW-846 Method 8270C. Selected SVOCs (PAHs and pentachlorophenol) were analyzed by Method 8270C in the selective ion monitoring (SIM) mode. The EPH analysis was performed according to the Massachusetts Department of Environmental Protection (MADEP) method.

The VOC, SVOC, PAH, and EPH data validation was performed in accordance with the Region I EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, December 1996.

The sample results, validation qualifiers (VQL), and qualifier codes (QLCD) are presented in the enclosed data summary tables. A list of the qualifier codes, which provide the reasons for the validation qualifiers, is enclosed. The semivolatiles-SIM results (PAHs and pentachlorophenol) are provided in the data summary table with fraction identified as "PAH". The "Q" qualifier used in the EPH data summary tables represents a naphthalene breakthrough non-compliance.

The data were evaluated based on the following parameters:

- Data Completeness

* • Preservation and Technical Holding Times
* • GC/MS Instrument Performance Check (Tuning)
  • Initial and Continuing Calibrations
  • Blanks
* • Surrogate Compounds
* • Internal Standards
  • Matrix Spike/Matrix Spike Duplicate
  • Laboratory Control Sample/Laboratory Control Sample Duplicate
  • Naphthalene Breakthrough (EPH analysis)
* • Field Duplicates
  • Reporting Limits

* All criteria were met for this parameter.

Data Completeness

Select samples exceeded the 20-character limit of the laboratory's software system. Therefore, the characters "E" or "EB-" were omitted on all forms for these samples. The data summary tables reflect the complete sample IDs.

Semivolatiles (Full Scan)

Due to laboratory error, LCS/LCSD WG71944-2 and 3RA and the MS/MSD WG71944-6 and 7 were not spiked with the additional target analyte 1,2,4,5-tetrachlorobenzene. On January 6, 2010 the MS/MSD summary form was resubmitted by the laboratory to show that 1,2,4,5-tetrachlorobenzene was not spiked, since the original form showed that the analyte was spiked.

On January 7, 2010 the laboratory clarified that 3&4-methylphenol are isomers which cannot be separated. The laboratory's calibration mixture contains both isomers, therefore, the results are reported as 3&4-methylphenol rather than 3-methylphenol and 4-methylphenol separately.

Initial and Continuing Calibrations

Volatiles

The following table summarizes the volatile compounds that failed to meet the continuing calibration (CC) criterion of %D <20% for CCCs and %D <25% for all other compounds:

Compound	%D	Action		Affected Samples
		(+)	NDs	
1,1,2-Trichlorotrifluoromethane	26.3		UJ	All samples
1,2-Dibromo-3-chloropropane	-27.3		UJ	

Although the %D was above the QC limit for 1,1,2-trichlorotrifluoromethane; the project accuracy goals are not impacted since the affected sample results are much lower than the project action limit. The non-

detected 1,1,2-trichlorotrifluoromethane results in the affected samples are usable as estimated reporting limits.

The %D was above the QC limit for 1,2-dibromo-3-chloropropane; therefore, the project accuracy goals may be impacted. The non-detected 1,2-dibromo-3-chloropropane results in the affected samples are usable as estimated reporting limits.

Semivolatiles (Full Scan)

The following table summarizes the semivolatile (Full Scan) compounds that failed to meet the initial calibration (IC) criterion of %RSD <30% for CCs and <15% for all other compounds, or the continuing calibration (CC) criterion of %D <20% for CCCs and %D <25% for all other compounds:

Compound	%RSD or %D	Action		Affected Samples
		(+)	NDs	
2-Chloronaphthalene	21.5		UJ	All samples
4-Nitrophenol	18.2, 26.6		UJ	
Benzaldehyde	-84.0		UJ	

Although %RSD or %D were above the QC limit for 2-chloronaphthalene, 4-nitrophenol, and benzaldehyde; the project accuracy goals are not impacted since the affected sample results are much lower than the project action limits. The non-detected 2-chloronaphthalene, 4-nitrophenol, and benzaldehyde results in the affected samples are usable as estimated reporting limits.

The following table summarizes the semivolatile compounds that failed to meet the initial calibration verification criterion of 80 < %R < 120% for CCCs and 75 < %R < 125 for all other compounds:

Compound	%R	Action		Affected Samples
		(+)	NDs	
Benzaldehyde	11.8		UJ	All samples
4-Nitrophenol	71.3		UJ	

Although the initial calibration verification QC criteria were not met for benzaldehyde and 4-nitrophenol; the project accuracy goals are not impacted since the affected sample results are much lower than the project action limits. The non-detected benzaldehyde and 4-nitrophenol results in the affected samples are usable as estimated reporting limits which may be biased low.

EPH

The following table summarizes the EPH range that failed to meet the continuing calibration (CC) criterion of %D <25%:

Compound	%D	Action		Affected Samples
		(+)	ND	
C_9-C_{18} Aliphatics	-26.3		UJ	All samples

Although the %D was above the QC limit for C_9-C_{18} aliphatics; the project accuracy goals are not impacted since the affected sample results are much lower than the project action limit. The non-detected C_9-C_{18} aliphatics results in the affected samples are usable as estimated reporting limits.

Blanks

Volatiles

The following table summarizes the maximum level of blank contamination detected in the trip blanks and the affected samples:

Compound	Type of Blank	Max. Conc. (µg/L)	Action Level (µg/L)	Affected Samples
Carbon disulfide	Trip	0.6	3	EB-GW-MW01-112409, EB-GW-MW03-112409

Blank actions are applied to the affected samples due to carbon disulfide trip blank contamination. The 5x rule applies to carbon disulfide to calculate the action limit. The positive results below the blank action levels were changed to non-detected values (U) at the sample result.

Although carbon disulfide contamination was found in the trip blank, the project sensitivity goals are not impacted since the affected sample results are much lower than the project action limit. The results in the affected samples are usable as non-detected values.

Matrix Spike/Matrix Spike Duplicate

Volatiles

The following table summarizes the volatile matrix spiking recoveries that did not meet the QC limits in the matrix spike and matrix spike duplicate (MS/MSD) analysis and the qualifications applied to the affected sample:

EB-GW-MW01-112409						
Compound	MS/MSD %REC	RPD	QC Limits		Action	
			%REC	RPD	(+)	ND
Chloroethane	-	27	-	20		UJ
Bromoform	- / 82	-	86-117	-		UJ

EB-GW-MW01-112409						
Compound	MS/MSD %REC	RPD	QC Limits		Action	
			%REC	RPD	(+)	ND
1,2-Dibromo-3-chloropropane	- / 65	-	67-124	-		UJ

-Criterion met

Although the MS/MSD RPD criterion was not met for chloroethane, the project precision goals are not impacted since the affected sample results are much lower than the project action limit. The non-detected chloroethane result in sample EB-GW-MW01-112409 is usable as an estimated reporting limit for which the bias is indeterminate.

The MS/MSD recovery criteria were not met for bromoform and 1,2-dibromo-3-chloropropane; therefore, the project accuracy goals may be impacted. The non-detected bromoform and 1,2-dibromo-3-chloropropane results in sample EB-GW-MW01-112409 are usable as estimated reporting limits which may be biased low.

Semivolatiles (Full Scan)

The following table summarizes the semivolatile (Full Scan) matrix spiking recoveries that did not meet the QC limits in the matrix spike and matrix spike duplicate (MS/MSD) analysis and the qualifications applied to the affected sample:

EB-GW-MW01-112409						
Compound	MS/MSD %REC	RPD	QC Limits		Action	
			%REC	RPD	(+)	ND
1,4-Dioxane	35 / 36	-	38-72	-		UJ
Benzaldehyde	-	38	-	30		UJ
4-Chloroaniline	-	32	-	30		UJ
Caprolactam	13 / 7	64	15-35	30		UJ
Dimethyl phthalate	-	54	-	30		UJ
2,4-Dinitrophenol	-	49	-	30		UJ
4-Nitrophenol	-	50	-	30		UJ
4-Bromophenyl-phenylether	72 / 70	-	76-114	-		UJ
Hexachlorobenzene	73 / 70	-	75-109	-		UJ

-Criterion met

The MS/MSD recovery criteria were not met for Caprolactam, 1,4-dioxane and hexachlorobenzene; therefore, the project accuracy goals may be impacted. The non-detected 1,4-dioxane and

hexachlorobenzene results in sample EB-GW-MW01-112409 are usable as estimated reporting limits which may be biased low.

Although the MS/MSD recovery criteria were not met for 4-bromophenyl-phenylether; the project accuracy goals are not impacted since there are no regulatory limits established for 4-bromophenyl-phenylether in the groundwater samples. The non-detected 4-bromophenyl-phenylether results in sample EB-GW-MW01-112409 are usable as estimated reporting limits which may be biased low.

The MS/MSD RPD criterion was not met for 4-chloroaniline and 2,4-dinitrophenol; therefore, the project precision goals may be impacted. The non-detected 4-chloroaniline and 2,4-dinitrophenol results in sample EB-GW-MW01-112409 are usable as estimated reporting limits for which the bias is indeterminate.

Although the MS/MSD RPD criterion was not met for benzaldehyde, dimethyl phthalate and 4-nitrophenol, the project precision goals are not impacted since the affected sample results are much lower than the project action limits. The non-detected dimethyl phthalate and 4-nitrophenol results in sample EB-GW-MW01-112409 are usable as estimated reporting limits for which the bias is indeterminate.

Semivolatiles (SIM)

The following table summarizes the semivolatile-SIM matrix spiking recoveries that did not meet the QC limits in the matrix spike and matrix spike duplicate (MS/MSD) analysis and the qualifications applied to the affected sample:

EB-GW-MW01-112409						
Compound	MS/MSD %REC	RPD	QC Limits		Action	
			%REC	RPD	(+)	ND
2-Methylnaphthalene	44 / -	31	51-125	30		UJ
Benzo(k)fluoranthene	-	35	-	30		UJ
Benzo(a)pyrene	62 / -	35	63-113	30		UJ
Indeno(1,2,3-cd)pyrene	-	62	-	30		UJ
Dibenzo(a,h)anthracene	-	69	-	30		UJ
Benzo(g,h,i)perylene	-	60	-	30		UJ
Pentachlorophenol	-	75	-	30		UJ

-Criterion met

The MS/MSD recovery criteria were not met for benzo(a)pyrene; therefore, the project accuracy goals may be impacted. The non-detected benzo(a)pyrene result in sample EB-GW-MW01-112409 is usable as an estimated reporting limit which may be biased low.

Although the MS/MSD recovery criteria were not met for 2-methylnaphthalene; the project accuracy goals are not impacted since the 2-methylnaphthalene result is much lower than the project action limit. The non-detected 2-methylnaphthalene result in sample EB-GW-MW01-112409 is usable as an estimated reporting limit which may be biased low.

The MS/MSD RPD criterion was not met for benzo(k)fluoranthene, indeno(1,2,3-cd)pyrene, dibenzo(a,h)anthracene, and pentachlorophenol; therefore, the project precision goals may be impacted. The non-detected indeno(1,2,3-cd)pyrene, dibenzo(a,h)anthracene, and pentachlorophenol results in sample EB-GW-MW01-112409 are usable as estimated reporting limits for which the bias is indeterminate.

Although the MS/MSD RPD criterion was not met for benzo(g,h,i)perylene, the project precision goals are not impacted since the affected sample results are much lower than the project action limits. The non-detected benzo(g,h,i)perylene results in sample EB-GW-MW01-112409 are usable as estimated reporting limits for which the bias is indeterminate.

Laboratory Control Sample/Laboratory Control Sample Duplicates

Volatiles

The following table summarizes the volatile compounds that failed to meet the laboratory control sample (LCS) recovery QC limits:

Compound	% Rec.	% Rec. QC Limits	Action		Affected Samples
			(+)	NDs	
Bromoform	85	86-117		UJ	All samples
1,2-Dibromo-3-chloropropane	65	67-124		UJ	

The LCS recovery criteria were not met for bromoform and 1,2-dibromo-3-chloropropane; therefore, the project accuracy goals may be impacted. The non-detected bromoform and 1,2-dibromo-3-chloropropane results in the affected samples are usable as estimated reporting limits which may be biased low.

Naphthalene Breakthrough

EPH

The following table summarizes the naphthalene breakthrough results that failed to meet the QC limit of <5% breakthrough:

Compound	% Rec.	% Rec. QC Limit	Action		Affected Samples
			(+)	NDs	
Naphthalene	25	<5		UJ*	All samples
2-Methylnaphthalene	27				

*The non-detected C_{11}-C_{22} aromatic hydrocarbon range (adjusted and unadjusted) is estimated (UJ) in the affected samples due to poor analytical fraction separation as evidenced by the naphthalene breakthrough results.

Although the naphthalene breakthrough criteria were not met for the samples listed above; the project accuracy goals are not impacted since the affected sample results are much lower than the project action limit. The non-detected C_{11}-C_{22} aromatic hydrocarbon (adjusted and unadjusted) results in the affected

samples are usable as estimated quantitation limits. The non-detected C_{11}-C_{22} aromatic values may be biased low, and thus, the C_9-C_{18} aliphatic results may be biased high.

Reporting Limits

All non-detected volatiles, semivolatiles, and PAH results are reported to the method detection limit (MDL). All non-detected EPH results are reported to the quantitation limit (QL). Positive results below the QL and above the MDL are qualified as estimated (J) due to uncertainty below the QL.

Volatiles

The laboratory quantitation limits met the project action limits for all compounds except for 1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, 1,1-dichloroethane, 1,1-dichloroethene, 1,2,4-trichlorobenzene, 1,2-dibromo-3-chloropropane, 1,2-dibromoethane, 1,2-dichloroethane, 1,2-dichloropropane, 1,4-dichlorobenzene, benzene, bromodichloromethane, bromomethane, carbon tetrachloride, chloroform, chloromethane, cis-1,3-dichloropropene, dibromochloromethane, ethylbenzene, methylene chloride, tetrachloroethene, trans-1,3-dichloropropene, trichloroethene, and vinyl chloride. However, the laboratory reporting limits (MDLs) met all project action limits except for 1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, 1,2-dibromo-3-chloropropane, 1,2-dibromoethane, 1,2-dichloroethane, bromodichloromethane, chloroform, dibromochloromethane, tetrachloroethene, and vinyl chloride. Data usability may be impacted for these target compounds.

Results for carbon disulfide in select samples were changed to non-detected results due to blank contamination. As discussed above in the Blanks section, data usability is not impacted.

Semivolatiles (Full Scan)

The laboratory quantitation limits met the project action limits for all compounds except for 1,4-dioxane, 1,2,4,5-tetrachlorobenzene, bis(2-chloroisopropyl)ether, 2,4,6-trichlorophenol, 2,4-dinitrophenol, 2,4-dinitrotoluene, 2,6-dinitrotoluene, 2-nitroaniline, 2-nitrophenol, 3,3'-dichlorobenzidine, 4,6-dinitro-2-methylphenol, 4-chloro-3-methyl phenol, 4-chloroaniline, 4-methylphenol, 4-nitroaniline, atrazine, bis(2-chloroethyl)ether, bis(2-ethylhexyl)phthalate, hexachlorobenzene, hexachlorobutadiene, hexachloroethane, nitrobenzene, and n-nitrosodi-n-propylamine. However, the laboratory reporting limits (MDLs) met all project action limits except for 1,2,4,5-tetrachlorobenzene, bis(2-chloroisopropyl)ether, 2,4-dinitrotoluene, 2,6-dinitrotoluene, 3,3'-dichlorobenzidine, 4,6-dinitro-2-methylphenol, 4-chloroaniline, 4-methylphenol, atrazine, bis(2-chloroethyl)ether, hexachlorobenzene, hexachlorobutadiene, nitrobenzene, and n-nitrosodi-n-propylamine. Data usability may be impacted for these target compounds.

Semivolatiles (SIM)

The laboratory quantitation limits met the project action limits for all compounds except for pentachlorophenol, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene, and naphthalene. However, the laboratory reporting limits (MDLs) met all project action limits except for benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene. Data usability may be impacted for these target compounds.

Data Usability Assessment

The data usability assessment was performed to determine if the data met the project data quality objectives for acceptable accuracy, precision, sensitivity, and completeness; and to determine and define the impact of the exceeded quality control indicators on the technical usability of the data. Please refer to the specific sections in the above validation report for further details.

Volatiles

The project goals with respect to accuracy were met for the volatiles data set with the following exceptions. 1,2-Dibromo-3-chloropropane was qualified as estimated in select samples due to instrument calibration variability. Bromoform and 1,2-dibromo-3-chloropropane were qualified as estimated in sample EB-GW-MW01-112409 due to low MSD recoveries; the affected results may be biased low. Bromoform and 1,2-dibromo-3-chloropropane were qualified as estimated in all samples due to low LCS recoveries; the affected results may be biased low. Although specific method criteria were not met in these instances, the affected non-detected results are usable as estimated reporting limits which may have a minor impact on data usability. In addition, 1,1,2-trichlorotrifluoromethane was qualified as estimated in select samples due to instrument calibration variability. Although specific method criteria were not met in this instance, data usability is not impacted and the affected non-detected results are usable as estimated reporting limits.

The project goals with respect to precision were met for the volatiles data set. Chloroethane was qualified as estimated in sample EB-GW-MW01-112409 due to poor MS/MSD precision. Although specific method criteria were not met in this instance, data usability is not impacted and the affected non-detected results are usable as estimated reporting limits.

The project goals with respect to sensitivity were met for the volatiles data set with the following exceptions. The laboratory quantitation limits met the project action limits for all compounds except for 1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, 1,1-dichloroethane, 1,1-dichloroethene, 1,2,4-trichlorobenzene, 1,2-dibromo-3-chloropropane, 1,2-dibromoethane, 1,2-dichloroethane, 1,2-dichloropropane, 1,4-dichlorobenzene, benzene, bromodichloromethane, bromomethane, carbon tetrachloride, chloroform, chloromethane, cis-1,3-dichloropropene, dibromochloromethane, ethylbenzene, methylene chloride, tetrachloroethene, trans-1,3-dichloropropene, trichloroethene, and vinyl chloride. However, the laboratory reporting limits (MDLs) met all project action limits except for 1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, 1,2-dibromo-3-chloropropane, 1,2-dibromoethane, 1,2-dichloroethane, bromodichloromethane, chloroform, dibromochloromethane, tetrachloroethene, and vinyl chloride. Data usability may be impacted for these target compounds.

The project goals with respect to completeness were met for the volatiles data set. Data usability was not impacted with regards to completeness.

Semivolatiles (Full Scan)

The project goals with respect to accuracy were met for the semivolatiles (Full Scan) data set with the following exceptions. 1,4-Dioxane, caprolactam, and hexachlorobenzene were qualified as estimated in sample EB-GW-MW01-112409 due to low MS/MSD recoveries; the affected results may be biased low. Although specific method criteria were not met in these instances, the affected non-detected results are usable as estimated reporting limits which may have a minor impact on data usability. Additionally, 2-

chloronaphthalene, 4-nitrophenol, and benzaldehyde were qualified as estimated in select samples due to instrument calibration variability. Benzaldehyde and 4-nitrophenol were qualified as estimated in select samples due to low initial calibration verification recoveries. 4-Bromophenyl-phenylether was qualified as estimated in sample EB-GW-MW01-112409 due to low MS/MSD recoveries. Although specific method criteria were not met in these instances, data usability is not impacted and the affected non-detected results are usable as estimated reporting limits.

The project goals with respect to precision were met for the semivolatiles (Full Scan) data set with the following exception. 4-Chloroaniline and 2,4-dinitrophenol were qualified as estimated in sample EB-GW-MW01-112409 due to poor MS/MSD precision. Although specific method criteria were not met in this instance, the affected non-detected results are usable as estimated reporting limits which may have a minor impact on data usability. Additionally, benzaldehyde, dimethyl phthalate and 4-nitrophenol were qualified as estimated in sample EB-GW-MW01-112409 due to poor MS/MSD precision. Although specific method criteria were not met in these instances, data usability is not impacted and the affected non-detected results are usable as estimated reporting limits.

The project goals with respect to sensitivity were met for the semivolatiles (Full Scan) data set with the following exceptions. The laboratory quantitation limits met the project action limits for all compounds except for 1,4-dioxane, 1,2,4,5-tetrachlorobenzene, bis(2-chloroisopropyl)ether, 2,4,6-trichlorophenol, 2,4-dinitrophenol, 2,4-dinitrotoluene, 2,6-dinitrotoluene, 2-nitroaniline, 2-nitrophenol, 3,3'-dichlorobenzidine, 4,6-dinitro-2-methylphenol, 4-chloro-3-methyl phenol, 4-chloroaniline, 4-methylphenol, 4-nitroaniline, atrazine, bis(2-chloroethyl)ether, bis(2-ethylhexyl)phthalate, hexachlorobenzene, hexachlorobutadiene, hexachloroethane, nitrobenzene, and n-nitrosodi-n-propylamine. However, the laboratory reporting limits (MDLs) met all project action limits except for 1,2,4,5-tetrachlorobenzene, bis(2-chloroisopropyl)ether, 2,4-dinitrotoluene, 2,6-dinitrotoluene, 3,3'-dichlorobenzidine, 4,6-dinitro-2-methylphenol, 4-chloroaniline, 4-methylphenol, atrazine, bis(2-chloroethyl)ether, hexachlorobenzene, hexachlorobutadiene, nitrobenzene, and n-nitrosodi-n-propylamine. Data usability may be impacted for these target compounds.

The project goals with respect to completeness were met for the semivolatiles (Full Scan) data set. Data usability was not impacted with regards to completeness.

Semivolatiles (SIM)

The project goals with respect to accuracy were met for the semivolatiles (SIM) data set with the following exception. Benzo(a)pyrene was qualified as estimated in sample EB-GW-MW01-112409 due to a low MS recovery; the affected result may be biased low. Although specific method criteria were not met in this instance, the affected non-detected results are usable as estimated reporting limits which may have a minor impact on data usability. Additionally, 2-methylnaphthalene was qualified as estimated in sample EB-GW-MW01-112409 due to a low MS recovery. Although specific method criteria were not met in this instance, data usability is not impacted and the affected non-detected results are usable as reporting limits.

The project goals with respect to precision were met for the semivolatiles (SIM) data set with the following exception. Indeno(1,2,3-cd)pyrene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, and pentachlorophenol were qualified as estimated in sample EB-GW-MW01-112409 due to poor MS/MSD precision. Although specific method criteria were not met in this instance, the affected non-detected results are usable as estimated reporting limits which may have a minor impact on data usability. Additionally, benzo(g,h,i)perylene was qualified as estimated in sample EB-GW-MW01-112409 due to poor MS/MSD

precision. Although specific method criteria were not met in this instance, data usability is not impacted and the affected non-detected results are usable as estimated reporting limits.

The project goals with respect to sensitivity were met for the semivolatiles (SIM) data set with the following exceptions. The laboratory quantitation limits met the project action limits for all compounds except for pentachlorophenol, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene, and naphthalene. However, the laboratory reporting limits (MDLs) met all project action limits except for benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene. Data usability may be impacted for these target compounds.

The project goals with respect to completeness were met for the semivolatiles (SIM) data set. Data usability was not impacted with regards to completeness.

EPH

The project goals with respect to accuracy were met for the EPH data set. C_9-C_{18} aliphatics were qualified as estimated in all samples due to instrument calibration variability. C_{11}-C_{22} aromatic hydrocarbon (adjusted and unadjusted) were qualified as estimated in all samples due to poor analytical fraction separation as evidenced by the naphthalene breakthrough results. Although specific method criteria were not met in these instances, data usability is not impacted and the affected non-detected results are usable as estimated quantitation limits.
The project goals with respect to precision, sensitivity, and completeness were met for the EPH data set. Data usability was not impacted with regards to precision, sensitivity, and completeness.

Tables: Data Validation Qualifiers and Codes
Data Summary Tables

Enclosures: Data Validation Worksheets

Data Validation Qualifiers and Codes

Data Validation Qualifiers:

= No qualifier attached to value (positive hit)
J = Value is estimated
U = Value is not detected
UJ = Value is not detected and estimated
R = Value (positive hit) is not usable
UR = Value was reported as ND but is not usable

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (e.g. base-line drifting)
P = Uncertainty below quantitation limit (< QL but ≥ MDL)
Q = Other problems (can encompass a number of issues; e.g. chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = % Difference between columns/detectors >25% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is greater than sample activity

PROJ_NO: 01074	NSAMPLE	EB-GW-MW01-112409			EB-GW-MW02-112409			EB-GW-MW03-112409			EB-GW-MWDUP01-112409		
SDG: CTO127-6	LAB_ID	SC7413-4			SC7413-2			SC7413-5			SC7413-3		
FRACTION: OV	SAMP_DATE	11/24/2009			11/24/2009			11/24/2009			11/24/2009		
MEDIA: WATER	QC_TYPE	NM			NM			NM			FD		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS												
	DUP_OF										EB-GW-MW02-112409		
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		0.2	U		0.2	U		0.2	U		0.2	U	
1,1,2,2-TETRACHLOROETHANE		0.4	U		0.4	U		0.4	U		0.4	U	
1,1,2-TRICHLOROETHANE		0.3	U		0.3	U		0.3	U		0.3	U	
1,1,2-TRICHLOROTRIFLUOROETHANE		0.3	UJ	C	0.3	UJ	C	0.3	UJ	C	0.3	UJ	C
1,1-DICHLOROETHANE		0.2	U		0.2	U		0.2	U		0.2	U	
1,1-DICHLOROETHENE		0.4	U		0.4	U		0.4	U		0.4	U	
1,2,3-TRICHLOROBENZENE		0.3	U		0.3	U		0.3	U		0.3	U	
1,2,4-TRICHLOROBENZENE		0.4	U		0.4	U		0.4	U		0.4	U	
1,2-DIBROMO-3-CHLOROPROPANE		0.5	UJ	CDE	0.5	UJ	CE	0.5	UJ	CE	0.5	UJ	CE
1,2-DIBROMOETHANE		0.2	U		0.2	U		0.2	U		0.2	U	
1,2-DICHLOROBENZENE		0.2	U		0.2	U		0.2	U		0.2	U	
1,2-DICHLOROETHANE		0.2	U		0.2	U		0.2	U		0.2	U	
1,2-DICHLOROPROPANE		0.2	U		0.2	U		0.2	U		0.2	U	
1,3-DICHLOROBENZENE		0.3	U		0.3	U		0.3	U		0.3	U	
1,4-DICHLOROBENZENE		0.2	U		0.2	U		0.2	U		0.2	U	
2-BUTANONE		1	U		1	U		1	U		1	U	
2-HEXANONE		2	U		2	U		2	U		2	U	
4-METHYL-2-PENTANONE		1	U		1	U		1	U		1	U	
ACETONE		2	U		2	U		2	U		2	U	
BENZENE		0.3	U		0.3	U		0.3	U		0.3	U	
BROMOCHLOROMETHANE		0.2	U		0.2	U		0.2	U		0.2	U	
BROMODICHLOROMETHANE		0.3	U		0.3	U		0.3	U		0.3	U	
BROMOFORM		0.2	UJ	DE	0.2	UJ	E	0.2	UJ	E	0.2	UJ	E
BROMOMETHANE		0.5	U		0.5	U		0.5	U		0.5	U	
CARBON DISULFIDE		0.2	UJ	AP	0.2	U		0.2	UJ	AP	0.2	U	
CARBON TETRACHLORIDE		0.2	U		0.2	U		0.2	U		0.2	U	
CHLOROBENZENE		0.2	U		0.2	U		0.2	U		0.2	U	
CHLORODIBROMOMETHANE		0.3	U		0.3	U		0.3	U		0.3	U	
CHLOROETHANE		0.6	UJ	D	0.6	U		0.6	U		0.6	U	
CHLOROFORM		0.3	U		0.3	U		0.3	U		0.3	U	
CHLOROMETHANE		0.4	U		0.4	U		0.4	U		0.4	U	
CIS-1,2-DICHLOROETHENE		0.2	U		0.2	U		0.2	U		0.2	U	
CIS-1,3-DICHLOROPROPENE		0.2	U		0.2	U		0.2	U		0.2	U	
CYCLOHEXANE		0.3	U		0.3	U		0.3	U		0.3	U	
DICHLORODIFLUOROMETHANE		0.2	U		0.2	U		0.2	U		0.2	U	
ETHYLBENZENE		0.2	U		0.2	U		0.2	U		0.2	U	
ISOPROPYLBENZENE		0.2	U		0.2	U		0.2	U		0.2	U	
M+P-XYLENES		0.6	U		0.6	U		0.6	U		0.6	U	
METHYL ACETATE		0.5	U		0.5	U		0.5	U		0.5	U	
METHYL CYCLOHEXANE		0.3	U		0.3	U		0.3	U		0.3	U	
METHYL TERT-BUTYL ETHER		0.6	U		0.6	U		0.6	U		0.6	U	

PROJ_NO: 01074	NSAMPLE	EB-GW-MW01-112409			EB-GW-MW02-112409			EB-GW-MW03-112409			EB-GW-MWDUP01-112409		
SDG: CTO127-6	LAB_ID	SC7413-4			SC7413-2			SC7413-5			SC7413-3		
FRACTION: OV	SAMP_DATE	11/24/2009			11/24/2009			11/24/2009			11/24/2009		
MEDIA: WATER	QC_TYPE	NM			NM			NM			FD		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS												
	DUP_OF										EB-GW-MW02-112409		
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
METHYLENE CHLORIDE		1	U		1	U		1	U		1	U	
O-XYLENE		0.2	U		0.2	U		0.2	U		0.2	U	
STYRENE		0.2	U		0.2	U		0.2	U		0.2	U	
TETRACHLOROETHENE		0.9	U		0.9	U		0.9	U		0.9	U	
TOLUENE		0.3	U		0.3	U		0.3	U		0.3	U	
TOTAL XYLENES		0.2	U		0.2	U		0.2	U		0.2	U	
TRANS-1,2-DICHLOROETHENE		0.2	U		0.2	U		0.2	U		0.2	U	
TRANS-1,3-DICHLOROPROPENE		0.2	U		0.2	U		0.2	U		0.2	U	
TRICHLOROETHENE		0.3	U		0.3	U		0.3	U		0.3	U	
TRICHLOROFLUOROMETHANE		0.2	U		0.2	U		0.2	U		0.2	U	
VINYL CHLORIDE		0.2	U		0.2	U		0.2	U		0.2	U	

PROJ_NO: 01074	NSAMPLE	EB-GW-TB112409		
SDG: CTO127-6	LAB_ID	SC7413-1		
FRACTION: OV	SAMP_DATE	11/24/2009		
MEDIA: WATER	QC_TYPE	TB		
	UNITS	UG/L		
	PCT_SOLIDS			
	DUP_OF			
PARAMETER		RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		0.2	U	
1,1,2,2-TETRACHLOROETHANE		0.4	U	
1,1,2-TRICHLOROETHANE		0.3	U	
1,1,2-TRICHLOROTRIFLUOROETHANE		0.3	UJ	C
1,1-DICHLOROETHANE		0.2	U	
1,1-DICHLOROETHENE		0.4	U	
1,2,3-TRICHLOROBENZENE		0.3	U	
1,2,4-TRICHLOROBENZENE		0.4	U	
1,2-DIBROMO-3-CHLOROPROPANE		0.5	UJ	CE
1,2-DIBROMOETHANE		0.2	U	
1,2-DICHLOROBENZENE		0.2	U	
1,2-DICHLOROETHANE		0.2	U	
1,2-DICHLOROPROPANE		0.2	U	
1,3-DICHLOROBENZENE		0.3	U	
1,4-DICHLOROBENZENE		0.2	U	
2-BUTANONE		1	U	
2-HEXANONE		2	U	
4-METHYL-2-PENTANONE		1	U	
ACETONE		2	U	
BENZENE		0.3	U	
BROMOCHLOROMETHANE		0.2	U	
BROMODICHLOROMETHANE		0.3	U	
BROMOFORM		0.2	UJ	E
BROMOMETHANE		0.5	U	
CARBON DISULFIDE		0.6	J	P
CARBON TETRACHLORIDE		0.2	U	
CHLOROBENZENE		0.2	U	
CHLORODIBROMOMETHANE		0.3	U	
CHLOROETHANE		0.6	U	
CHLOROFORM		0.3	U	
CHLOROMETHANE		0.4	U	
CIS-1,2-DICHLOROETHENE		0.2	U	
CIS-1,3-DICHLOROPROPENE		0.2	U	
CYCLOHEXANE		0.3	U	
DICHLORODIFLUOROMETHANE		0.2	U	
ETHYLBENZENE		0.2	U	
ISOPROPYLBENZENE		0.2	U	
M+P-XYLENES		0.6	U	
METHYL ACETATE		0.5	U	
METHYL CYCLOHEXANE		0.3	U	
METHYL TERT-BUTYL ETHER		0.6	U	

PROJ_NO: 01074	NSAMPLE	EB-GW-TB112409		
SDG: CTO127-6	LAB_ID	SC7413-1		
FRACTION: OV	SAMP_DATE	11/24/2009		
MEDIA: WATER	QC_TYPE	TB		
	UNITS	UG/L		
	PCT_SOLIDS			
	DUP_OF			
PARAMETER		RESULT	VQL	QLCD
METHYLENE CHLORIDE		2	J	P
O-XYLENE		0.2	U	
STYRENE		0.2	U	
TETRACHLOROETHENE		0.9	U	
TOLUENE		0.3	U	
TOTAL XYLENES		0.2	U	
TRANS-1,2-DICHLOROETHENE		0.2	U	
TRANS-1,3-DICHLOROPROPENE		0.2	U	
TRICHLOROETHENE		0.3	U	
TRICHLOROFLUOROMETHANE		0.2	U	
VINYL CHLORIDE		0.2	U	

PROJ_NO: 01074	NSAMPLE	EB-GW-MW01-112409			EB-GW-MW02-112409			EB-GW-MW03-112409			EB-GW-MWDUP01-112409		
SDG: CTO127-6	LAB_ID	SC7413-4			SC7413-2			SC7413-5			SC7413-3		
FRACTION: OS	SAMP_DATE	11/24/2009			11/24/2009			11/24/2009			11/24/2009		
MEDIA: WATER	QC_TYPE	NM			NM			NM			FD		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS												
	DUP_OF										EB-GW-MW02-112409		
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1-BIPHENYL		2	U		3	U		2	U		2	U	
1,2,4,5-TETRACHLOROBENZENE		2	U		2	U		2	U		2	U	
1,4-DIOXANE		2	UJ	D	2	U		2	U		2	U	
2,3,4,6-TETRACHLOROPHENOL		2	U		3	U		2	U		2	U	
2,4,5-TRICHLOROPHENOL		3	U		4	U		3	U		3	U	
2,4,6-TRICHLOROPHENOL		2	U		3	U		2	U		3	U	
2,4-DICHLOROPHENOL		3	U		3	U		3	U		3	U	
2,4-DIMETHYLPHENOL		4	U		4	U		4	U		4	U	
2,4-DINITROPHENOL		1	UJ	D	1	U		1	U		1	U	
2,4-DINITROTOLUENE		2	U		2	U		2	U		2	U	
2,6-DINITROTOLUENE		2	U		2	U		2	U		2	U	
2-CHLORONAPHTHALENE		3	UJ	C	3	UJ	C	3	UJ	C	3	UJ	C
2-CHLOROPHENOL		3	U		3	U		3	U		3	U	
2-METHYLPHENOL		4	U		4	U		4	U		4	U	
2-NITROANILINE		2	U		2	U		2	U		2	U	
2-NITROPHENOL		2	U		3	U		2	U		2	U	
3&4-METHYLPHENOL		5	U		6	U		5	U		5	U	
3,3'-DICHLOROBENZIDINE		1	U		1	U		1	U		1	U	
3-NITROANILINE		1	U		1	U		1	U		1	U	
4,6-DINITRO-2-METHYLPHENOL		2	U		2	U		2	U		2	U	
4-BROMOPHENYL PHENYL ETHER		2	UJ	D	2	U		2	U		2	U	
4-CHLORO-3-METHYLPHENOL		3	U		4	U		3	U		3	U	
4-CHLOROANILINE		2	UJ	D	2	U		2	U		2	U	
4-CHLOROPHENYL PHENYL ETHER		2	U		2	U		2	U		2	U	
4-NITROANILINE		2	U		2	U		2	U		2	U	
4-NITROPHENOL		2	UJ	CD	2	UJ	C	2	UJ	C	2	UJ	C
ACETOPHENONE		4	U		4	U		4	U		4	U	
ATRAZINE		3	U		3	U		3	U		3	U	
BENZALDEHYDE		0.9	UJ	CD	1	UJ	C	0.9	UJ	C	0.9	UJ	C
BIS(2-CHLOROETHOXY)METHANE		2	U		2	U		2	U		2	U	
BIS(2-CHLOROETHYL)ETHER		2	U		2	U		2	U		2	U	
BIS(2-CHLOROISOPROPYL)ETHER		2	U		2	U		2	U		2	U	
BIS(2-ETHYLHEXYL)PHTHALATE		2	U		2	U		2	U		2	U	
BUTYL BENZYL PHTHALATE		2	U		2	U		2	U		2	U	
CAPROLACTAM		0.4	UJ	D	0.4	U		0.4	U		0.4	U	
CARBAZOLE		2	U		2	U		2	U		2	U	
DIBENZOFURAN		1	U		2	U		1	U		2	U	
DIETHYL PHTHALATE		2	U		2	U		2	U		2	U	
DIMETHYL PHTHALATE		2	UJ	D	2	U		2	U		2	U	
DI-N-BUTYL PHTHALATE		2	U		2	U		2	U		2	U	
DI-N-OCTYL PHTHALATE		2	U		2	U		2	U		2	U	

PROJ_NO: 01074	NSAMPLE	EB-GW-MW01-112409			EB-GW-MW02-112409			EB-GW-MW03-112409			EB-GW-MWDUP01-112409		
SDG: CTO127-6	LAB_ID	SC7413-4			SC7413-2			SC7413-5			SC7413-3		
FRACTION: PAH	SAMP_DATE	11/24/2009			11/24/2009			11/24/2009			11/24/2009		
MEDIA: WATER	QC_TYPE	NM			NM			NM			FD		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS												
	DUP_OF										EB-GW-MW02-112409		
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
2-METHYLNAPHTHALENE		0.07	UJ	D	0.08	U		0.07	U		0.07	U	
ACENAPHTHENE		0.06	U		0.06	U		0.06	U		0.06	U	
ACENAPHTHYLENE		0.05	U		0.05	U		0.05	U		0.05	U	
ANTHRACENE		0.04	U		0.04	U		0.04	U		0.04	U	
BENZO(A)ANTHRACENE		0.04	U		0.04	U		0.04	U		0.04	U	
BENZO(A)PYRENE		0.06	UJ	D	0.06	U		0.06	U		0.06	U	
BENZO(B)FLUORANTHENE		0.08	U		0.09	U		0.08	U		0.08	U	
BENZO(G,H,I)PERYLENE		0.06	UJ	D	0.06	U		0.06	U		0.06	U	
BENZO(K)FLUORANTHENE		0.05	UJ	D	0.05	U		0.05	U		0.05	U	
CHRYSENE		0.03	U		0.04	U		0.03	U		0.03	U	
DIBENZO(A,H)ANTHRACENE		0.07	UJ	D	0.07	U		0.07	U		0.07	U	
FLUORANTHENE		0.07	U		0.07	U		0.07	U		0.07	U	
FLUORENE		0.06	U		0.06	U		0.06	U		0.06	U	
INDENO(1,2,3-CD)PYRENE		0.05	UJ	D	0.05	U		0.05	U		0.05	U	
NAPHTHALENE		0.06	U		0.06	U		0.06	U		0.06	U	
PENTACHLOROPHENOL		0.3	UJ	D	0.3	U		0.3	U		0.3	U	
PHENANTHRENE		0.05	U		0.05	U		0.05	U		0.05	U	
PYRENE		0.06	U		0.06	U		0.06	U		0.06	U	

PROJ_NO: 01074	NSAMPLE	EB-GW-MW01-112409			EB-GW-MW02-112409			EB-GW-MW03-112409			EB-GW-MWDUP01-112409		
SDG: CTO127-6	LAB_ID	SC7413-4			SC7413-2			SC7413-5			SC7413-3		
FRACTION: OS	SAMP_DATE	11/24/2009			11/24/2009			11/24/2009			11/24/2009		
MEDIA: WATER	QC_TYPE	NM			NM			NM			FD		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS												
	DUP_OF										EB-GW-MW02-112409		
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
HEXACHLOROBENZENE		2	UJ	D	2	U		2	U		2	U	
HEXACHLOROBUTADIENE		2	U		2	U		2	U		2	U	
HEXACHLOROCYCLOPENTADIENE		1	U		1	U		1	U		1	U	
HEXACHLOROETHANE		2	U		2	U		2	U		2	U	
ISOPHORONE		2	U		2	U		2	U		2	U	
NITROBENZENE		3	U		3	U		3	U		3	U	
N-NITROSO-DI-N-PROPYLAMINE		2	U		2	U		2	U		2	U	
N-NITROSODIPHENYLAMINE		3	U		4	U		3	U		4	U	
PHENOL		2	U		2	U		2	U		2	U	

PROJ_NO: 01074	NSAMPLE	EB-GW-MW01-112409			EB-GW-MW02-112409			EB-GW-MW03-112409			EB-GW-MWDUP01-112409		
SDG: CTO127-6	LAB_ID	SC7413-4			SC7413-2			SC7413-5			SC7413-3		
FRACTION: PETS	SAMP_DATE	11/24/2009			11/24/2009			11/24/2009			11/24/2009		
MEDIA: WATER	QC_TYPE	NM			NM			NM			FD		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS												
	DUP_OF										EB-GW-MW02-112409		
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
C11-C22 AROMATICS		94	UJ	Q	100	UJ	Q	94	UJ	Q	100	UJ	Q
C11-C22 AROMATICS-UNADJ		94	UJ	Q	100	UJ	Q	94	UJ	Q	100	UJ	Q
C19-C36 ALIPHATICS		94	U		120			94	U		100	U	
C9-C18 ALIPHATICS		94	UJ	C	100	UJ	C	94	UJ	C	100	UJ	C

APPENDIX G

RESPONSES TO COMMENTS

June 15, 2010

Navy Responses to Maine Department of Environmental Protection (MEDEP) Comments Dated May 3, 2010, on the Draft Environmental Condition of Property Update Investigation, Technical Memorandum for East Brunswick Remote Radio Transmitter Site, dated April 2010

General Comments:

1. *The Maine Remedial Action Guidelines (RAGs) are [not] generally not appropriate for use as screening criteria, and have been updated as of January 2010. However, the values in Appendix 3 of the 2010 guidelines are more current than the 1997 values, and reflect conservative cleanup values where no risk assessment will be completed. Revision of the tables will require updating many of the comparisons summarized in Section 4, but will not significantly alter the conclusions or compounds that exceed the chosen screening criteria. It does not appear (based on a review of the data compared to the new RAGs) that the outcome of the investigation will change significantly, except that many detects that were below the older RAGs will now be listed as exceedances, providing further support for the proposed removal actions. The new RAGs can be found at http://www.maine.gov/dep/rwm/publications/guidance/rags/Final%201-13-2010/1-ME-RAGS_Jan-13-2010-V9-rhd.pdf .*

Response:

The Navy agrees that the outcome of the investigation would not change significantly if the 2010 RAGs were used, and so the suggested revisions to tables and text will not be made. As reported in the Final SAP, during the July 9, 2009, conference call about preliminary draft SAP Worksheets 1-11, the Project Team including MEDEP agreed that the human health screening criteria for soil would be EPA residential soil RSLs (1/10th values for non-cancer RSLs) and Maine Remedial Action Guidelines (1997 RAGs) (1/2 values for residential RAGs) for soil samples. RAGs were accepted for screening use in this specific case. The RAGS used were those in effect for the State of Maine at the time the SAP was developed and data were collected for the project.

Specific Comments:

2. *Section 2.10, Modifications to the SAP, Bullet 2: "Instead of placing SB03 at the distribution box, SBO3 was moved to the southwest of the leach field at the request of MEDEP."*

   At the time, there was confusion as to whether the buried brick structure was the distribution box so it was proposed to move SBO3 to the southwest side of the leachfield. MEDEP agreed with that proposal. Please revise to "…SBO3 was moved to the southwest of the leach field with the agreement of ~~at the request of~~ MEDEP."

Response:

The Navy concurs. The text has been revised.

3. *Section 3.5 Groundwater Results: The EPH detection was 120 rather than 20 µg/L, as noted in the text, please revise as needed.*

Response:

The Navy concurs. The typographical error has been corrected in the text.

4. *Section 4.6, Table: The heading indicates the table is for surface soil rather than subsurface soil. Please confirm and revise as necessary.*

Response:

The Navy concurs. The heading on the in-text table of Section 4.6 has been changed to "Subsurface Soil".

5. *Section 4.6 Septic Tank: Based on the description of debris inside the tank establishing that it has been pumped or cleaned adequately will be difficult to establish. It might be simpler to remove the tank and disposed of with the sludge.*

Response:

The Navy concurs that it will be easier to remove the tank than to clean it. The recommendation has been changed to indicate that the septic tank and any sludge will be removed.

6. *Section 4.7.1, Human Health Screening: The human health screening for the antenna field uses EPA's regional screening levels for Polycyclic Aromatic Hydrocarbons (PAHs) and then multiplies them by 10. Without a basis for multiplying the RSL by 10 it cannot be used. MEDEP suggests that the Navy look at all the PAH data for surface soil to determine if there is evidence of wide spread PAHs in surface soil.*

Response:

Following consultation with MEDEP, the following text expanding on the occurrence of PAHs will be substituted for the risk analysis in Section 4.7.1.

The PAH soil sampling conducted in the antenna field was biased towards the immediate vicinity of the former poles because PAHs, if present, are likely due to weathering of utility poles that were used to support these antennas. The data collected to date do not suggest there is widespread PAH contamination across the antenna field because only one out of four sampled locations had levels above screening criteria. Because the utility poles are the presumed source of the PAHs, concentrations are likely to decrease with distance from the poles. PAH concentrations in the small areas (100 sq ft estimated) at the former pole location are not representative of the 66-acre parcel as a whole. The area can be addressed through removal of the surface soil in the small area near the SS05A former pole location.

7. Section 5.1, Conclusions, Bullet 3: See comment 6 above.

Response:

Bullet 3 has been revised as follows:

- PAHs were present at concentrations exceeding human health screening criteria and background in surface soil near the former antenna pole in one of four representative samples (SS05A). The data collected to date do not suggest there is widespread PAH contamination across the antenna field because only one out of four sampled locations had levels exceeding screening criteria. The utility poles are the presumed source of the PAHs, and concentrations are likely to decrease with distance from the poles. PAH concentrations in the small areas (100 sq ft estimated) at the former pole locations are not representative of the 66-acre antenna field as a whole.

8. Section 5.2, Recommendations, Bullet 4: See comment 5 above.

Response:

The text in the recommendations has been revised as follows:

Bullet 4

- No action is recommended for the septic system distribution box and leach field areas. The concrete septic tank and any sludge should be removed and properly disposed.

Bullet 7

- At the antenna pole location SS05A, surface soil (0-6 in) in the approximately 100 sq ft area should be removed.

9. *Appendix A-2, Boring Logs: The logs for locations other than SB-06 are missing from the CD, please add them to the appendix.*

Response:

The missing boring logs will be included on the final CD.